

SUPPLEMENTS TO LIBYA ANTIQUA — V

---

**EXCAVATIONS AT  
SIDI KHREBISH  
BENGAZI (BERENICE)**

VOLUME II

Published by:  
SOCIALIST PEOPLE'S LIBYAN ARAB JAMAHIRIYA  
SECRETARIAT OF EDUCATION  
DEPARTMENT OF ANTIQUITIES  
TRIPOLI

This Supplement is published by the Department of Antiquities  
Its editorial board is supervised by the General Direction of Archaeological Research.

All correspondence relating to this Supplement should be addressed  
to the Director General of Archaeological Research, As-Saray al-Hamra  
(Castle) Tripoli, Arab Libyan Jamahiriya.

Orders for the purchase of the Supplement should be sent to the same  
address.

Price for each copy: 15 Libyan Dinars

EXCAVATIONS AT SIDI KHREBISH  
BENGHASI (BERENICE)

VOLUME II

ECONOMIC LIFE AT BERENICE

by

GRAEME BARKER

SCULPTURE AND TERRACOTTAS

by

A. BONANNO

COARSE POTTERY

by

J. A. RILEY

EDITED BY J. A. LLOYD

Excavations conducted

by

THE DEPARTMENT OF ANTIQUITIES OF THE ARAB LIBYAN JAMAHIRIYA  
and

THE SOCIETY FOR LIBYAN STUDIES, LONDON

Published by:

SOCIALIST PEOPLE'S LIBYAN ARAB JAMAHIRIYA  
SECRETARIAT OF EDUCATION  
DEPARTMENT OF ANTIQUITIES  
TRIPOLI

*In Memoriam*

AWAD MUSTAPHA SADAWIYA    DONALD EMRYS STRONG

Publication Committee of the Society For Libyan Studies

C. M. Daniels Esq., F.S.A. (Chairman)

J. A. Allan, Ph.D., F.R.G.S.

J. Boardman Esq., F.B.A., F.S.A.

Professor G. D. B. Jones, D.Phil., F.S.A.

Professor J. J. Wilkes, Ph.D., F.S.A.

# Contents

|   | page      |
|---|-----------|
| Dedication  | v         |
| Preface   | vi        |
| <b>1. Economic Life at Berenice: the Animal and Fish Bones, Marine Molluscs and Plant Remains</b> | <b>1</b>  |
| GRAEME BARKER<br>(with contributions by Alwyne Wheeler and Derrick Webley)                        |           |
| I. Introduction   | 1         |
| II. The Natural Landscape   | 4         |
| III. The Animal and Bird Bones  | 11        |
| IV. Fish Bones and Marine Molluscs  | 26        |
| V. Plant Remains  | 31        |
| VI. Hellenistic and Roman Agriculture in Cyrenaica  | 32        |
| Appendix: Metric Data from the Berenice Animal Bones  | 39        |
| Bibliography  | 47        |
| Acknowledgements  | 49        |
| <b>2. Sculpture</b>   | <b>51</b> |
| A. BONANNO  |           |
| <b>3. Terracottas</b>   | <b>65</b> |
| A. BONANNO  |           |
| <b>4. The Coarse Pottery from Berenice</b>  | <b>91</b> |
| J. A. RILEY   |           |
| I. Introduction   | 91        |
| II. The Benghazi Local Pottery Fabrics  | 93        |
| III. The Classification and Quantification of the Pottery   | 97        |
| IV. Typology of the Hellenistic and Roman Coarse Pottery of Berenice                              | 112       |

## CONTENTS

---

|  |     |
|--|-----|
| <i>Amphoras</i>  | 112 |
| Introduction   | 112 |
| Hellenistic  | 113 |
| Early Roman  | 145 |
| Mid Roman  | 177 |
| Late Roman   | 212 |
| <i>Cooking Wares</i>   |     |
| Introduction   | 237 |
| Hellenistic  | 240 |
| Early Roman  | 246 |
| Mid Roman  | 259 |
| Late Roman   | 267 |
| <i>Plain Wares</i>   | 277 |
| Introduction   | 277 |
| Hellenistic  | 279 |
| Early Roman  | 329 |
| Mid Roman  | 339 |
| Late Roman   | 360 |
| <i>Islamic Wares</i>   | 371 |
| <i>Jugs</i>  | 373 |
| Introduction   | 373 |
| Hellenistic  | 374 |
| Early Roman  | 382 |
| Mid Roman  | 384 |
| Late Roman   | 393 |
| V. Technical Changes during the Hellenistic and Roman Periods  | 399 |
| VI. The Marketing and Distribution of the Coarse Pottery of Berenice                                     | 401 |
| VII. The Contribution of the Study of the Coarse Pottery of Berenice to the Economic History of the City | 402 |
| Appendix I: Quantified Lists of RBH from Amalgamated Deposits at Berenice                                | 419 |
| Appendix II: Summaries of the Quantified Amphora Data from Ostia   | 443 |
| Bibliography   | 450 |
| Acknowledgements   | 466 |

## Preface

This is the second volume in the series of final reports on the excavations at *Berenice* (Benghazi) conducted between 1971 and 1976 by the Libyan Department of Antiquities and the Society For Libyan Studies, London. Volume I dealt with the buildings, coins, inscriptions and architectural decoration of the site, and included a 'Summary of Dated Deposits' upon which much of the dating of the buildings and the artefacts depends.

This volume comprises further specialist reports on the coarse pottery, sculpture, terracottas and faunal remains. This directly reflects the order of completion of the final reports; it was felt that to have held any of them back until more closely related subjects could have been presented together would have delayed their publication unnecessarily.

It is anticipated at the time of writing that two further volumes will complete the publication programme. Volume III is scheduled to contain reports on the fine pottery and the lamps, while volume IV will deal with the mosaics, wall paintings, glass and other small finds, and will include a full description of the Dated Deposits. A revised account of 'The City and its Development' (volume I, pp. 17-33) is also planned for volume IV.

The contents of the series reflect the considerable emphasis that is being placed on publishing as fully as possible the humblest material from the excavations — pottery, lamps, glass, bones and so on. Although the potential contribution of such minor objects to our understanding of classical antiquity has long been appreciated, attention in Cyrenaica has centred mainly on impressive structural remains and handsome *objets d'art* (a notable exception being the work of J. Boardman and J. W. Hayes at Tocra: *Excavations at Tocra 1963-5*, 2 vols.). At Sidi Khrebish the chronological span of the site (from c. 200 B.C. to beyond the seventh century A.D.), the large size of the sample and the isolation of well-stratified contexts within this period have made the study of the minor objects particularly rewarding. The credit for achieving this study belongs to a dedicated team of specialists with whom it is an honour to be associated. Their work should go some way towards broadening the range and quality of archaeological information available to the student of Cyrenaican history and of the classical Mediterranean world.

In this volume an attempt has been made to give some indication of the reliability of the site dating evidence associated with the catalogued objects. Whenever a deposit number (e.g. Deposit 52) is used at the end of a catalogue entry, this denotes that the object comes from one of the contexts at Sidi Khrebish which provide dating evidence of the highest quality, in local terms. The Summary of Dated Deposits published in volume I of this report carries details of the nature, contents and suggested date of each deposit.

The number of such contexts was relatively small, however, and many finds came from elsewhere. In these cases, especially in the chapters on Sculpture and Terracottas, a number of different terms replace the deposit number at the end of the catalogue entry. Some of these are self-explanatory (e.g. 'unstratified') but others require some clarification:

'Context date' is applied to an object which does not derive from a numbered deposit but whose findspot and associated fine pottery (studied by P. M. Kenrick) allow it to be linked, with a fair degree of certainty, to a well-dated horizon on the site (as, for example, a construction or abandonment level of a particular building).

## PREFACE

---

'Late level' means a context which on the basis of its associated fine ware and stratigraphical relationship should post-date the mid third century A.D., but where greater precision of date is impossible.

'Building A1' (for example) means that the object comes from the area of Building A1 but that nothing further can be said with certainty about its date, for any one of a variety of reasons.

It is a pleasure to be able to acknowledge once again the efforts of all who have contributed to the excavations and to the production of these reports. The authors' acknowledgements can be found in the appropriate chapters of this volume. Here renewed thanks is expressed to all the individuals and corporate bodies mentioned at the beginning of volume I, in particular to the President of the Libyan Department of Antiquities and all his staff and to the Council and Officers of the Society For Libyan Studies, London. Of the latter, Dr. J. A. Allan, Chairman from 1976 to 1979, selflessly devoted much of his energy and skill to the publication programme, and Miss Joyce Reynolds, Mr. P. M. Kenrick and Dr. J. A. Riley gave generous advice on editorial matters. Dr. A. Bonanno (University of Malta) provided major assistance in seeing the volume through the press.

J. A. Lloyd  
September 1979



# 1. Economic Life at Berenice: The Animal and Fish Bones, Marine Molluscs and Plant Remains

GRAEME BARKER

Department of Prehistory and Archaeology,  
Sheffield University

*with contributions by Alwyne Wheeler, Department of Zoology, British Museum (Natural History) and Derrick Webley, Agricultural Advisory and Development Service, Ministry of Agriculture and Fisheries, Wales*

## I. Introduction

Much has been written about agricultural life in the Hellenistic and Roman world, but very little of it has made use of the most direct kind of archaeological evidence—the bones of the animals that were bred and the carbonised remains of the crops that were cultivated. For the prehistorian, animal bones and plant remains have to be the primary data in the reconstruction of early agricultural systems; the student of the classical world, however, can make use of a wide range of material such as literary sources, inscriptions, and indirect archaeological evidence such as corn mills, olive presses, irrigation systems and so on. Likewise in medieval studies archaeology is an adjunct to history in the study of agricultural development, and yet for some years now the recovery and analysis of animal bones and plant remains have been a normal part of medieval archaeology in the Mediterranean because it has been found that such evidence can amplify considerably the documentary record (Barker, 1978). It is still unfortunately true to say that this kind of 'economic archaeology' is rarely an important part of the excavation programme on many classical sites in the Mediterranean. In North Africa, for example, although hundreds of sites discovered from surface remains are presumed to be farmsteads of the classical period (Goodchild, 1952–53; Raven, 1969; Reynolds, 1976), the direct archaeological evidence in the form of animal bones and plants remains for the economy or economies practised by their inhabitants is still very rare. The evidence from the Benghazi excavations is therefore extremely important as the first sample of its kind from classical Cyrenaica. I hope to demonstrate by the analysis of the material that this kind of archaeology does not simply tell us what ancient people ate: it can be an invaluable key to their social and economic organisation.

The archaeological evidence for the ancient economy of Berenice consists of mammal and

fish bones, marine molluscs, carbonised plant remains and charcoal fragments recovered from the excavations in the Sidi Khrebish area of Benghazi. All the samples are very small given the size, complexity and length of occupation of the ancient town. The faunal sample, the main part of the economic evidence, consisted of less than 6000 identifiable specimens; by way of comparison, recent excavations in Roman and medieval Exeter in southern England produced a faunal sample of over 100,000 fragments (Maltby, 1977). The shell sample from Berenice totals about 1400 specimens, but the fish sample consisted of only thirty identifiable bones. Flotation for plant remains in the final season of the excavations recovered only one sample, from an earlier phase of the site. Clearly the data can only be a very limited record of the ancient economy of Berenice.

The area of the Sidi Khrebish excavations was used from the Hellenistic period until modern times, but the bulk of the economic material can be lumped into four main phases: phase 1, from the second century B.C. until the later first century; phase 2, from the later first century until the mid third century A.D.; phase 3, a destruction period *c.* 250 A.D., and phase 4, the fourth to seventh centuries A.D. The faunal sample was divided into three groups of material: first, from Cistern 2 in Building H, excavated in 1975 using intensive sieving procedures<sup>1</sup>; second, from Area CC—occupation and dump layers excavated in 1975, most of which were also sieved<sup>2</sup>; and third, material from the excavations prior to 1975. The latter has been lumped into four groups according to the four-phase chronology described above: SK (Sidi Khrebish) 1, 2, 3 and 4. Prior to 1975, sieving for animal bones was not carried out and only a small faunal sample had been collected from the site. That sample was divided into some 380 separate units from a wide range of contexts including cisterns, pits, destruction levels, clearance and levelling operations, road surface debris and robber trenches.

Two cautionary points about this analysis have to be emphasised at the outset. The first concerns the recovery techniques used at Sidi Khrebish. Payne (1972) has shown convincingly from a series of experiments at a number of sites that normal recovery methods (using students and/or hired labour) tend to result in a biased faunal sample: small bones are missed and so smaller animals such as dog, pig, sheep and goat are usually under-represented compared with larger animals such as cow and horse. The corollary to this is that only intensive dry or wet sieving methods using small-size meshes can ensure the collection of an adequate faunal sample, one that adequately represents the original sample in the earth before excavation. At Sidi Khrebish only the H 2 and Area CC samples were recovered by these procedures and hence the third component of the collection, the faunal material from the pre-1975 excavations, has to be considered a potentially biased sample, although there is no means of knowing the degree of bias.

The second point concerns context. It is still the practice on many sites to lump the animal bones into groups which correlate with the major phases of cultural occupation. This may perhaps be justified in the case of 'simple' sites such as small agricultural settlements (although it is arguable on several counts), but lumping contemporary deposits from the different parts of a complex site such as a city may well produce misleading results, masking a wide variety of contexts. For example, Maltby's analysis of the faunal sample from Exeter demonstrated a considerable amount of lateral variation across the site (Maltby, 1977). There were distinct

<sup>1</sup> This deposit is referred to hereafter as the H2 cistern; it is dated to the early third century A.D. See volume I, Deposit 82, for the dating evidence.

<sup>2</sup> See volume I, Deposits 21 and 23, 35 and 70 for the CC dating evidence.

## ECONOMIC LIFE AT BERENICE

---

differences at Exeter between contemporary samples from different areas of the city: obvious examples were areas of different wealth and function—administrative centres, industrial quarters, rich and poor suburbs, market areas and so on. Such differences may well have existed in the ancient city of Berenice, but they cannot be discerned because of the nature of the sample. Lumping the non-sieved material recovered prior to 1975 was unavoidable since most of the 380 units were so small that they could never be related to the specific context in any meaningful way. Fortunately most of the Sidi Khrebish material comes from a relatively uniform suburb of the town, although one which would have included both citizens and slaves. It has to be hoped that the cumulative data from the samples from one phase make sense together and can be compared legitimately with the collected data from the other phases, but this can only be an assumption given the individual sample sizes. We also have to assume that the economic trends seen in the Sidi Khrebish material are a guide to economic change in the town as a whole.

The potential pitfalls are very clear but, given the pioneering nature of the Sidi Khrebish material, I would argue that a vigorous rather than an over-cautious analysis is needed at this stage. In the first place any conclusions are simply preliminary hypotheses which can be tested by further work on better material; secondly, the hypotheses suggested by the Sidi Khrebish material, limited though they may be, are nevertheless convincing testimony to the potential role of such studies for classical Cyrenaica.

## II. The Natural Landscape

The archaeological evidence from the ancient town has to be understood in terms of the ancient landscape around the town. This section consists of a brief discussion of present conditions in Cyrenaica in general and in the Benghazi area in particular and, on that basis, an attempt to reconstruct the classical landscape.

The morphology of Cyrenaica consists of three main features: a coastal plain (fig. 1a: 1), a plateau escarpment called the Jebel Akhdar or Green Mountain (fig. 1a: 2), and a further high plateau inland (fig. 1a: 3). Although the environment of Benghazi is dominated by the coastal plain, the ancient economy probably embraced at least two and perhaps all three of these features. The Jebel Akhdar is a limestone plateau about 250 by 80 kilometres in extent, which rises up to between 200 and 300 metres above sea level over much of its length and in places to 800 metres. The coastal plain separating the Jebel Akhdar from the sea varies considerably in width: at Benghazi the Jebel Akhdar is some 25 kilometres from the sea (fig. 2), but the plain then narrows steadily to the east and disappears a few kilometres east of Tocra. On the seaward side the Jebel Akhdar is a series of sharp steps or escarpments, widely separated at the west but drawing to within a few kilometres of each other to the north and east. On the other side of the Jebel lies a high plateau which extends inland for about 200 kilometres, rising gradually and then breaking off sharply at the Sahara.

The climate, vegetation and soils of the three features are distinct. The coastal plain has a Mediterranean climate, with hot dry summers and cool wet winters. Benghazi itself is less humid than the rest of the plain, with an annual rainfall today of about 250/300 mm (*Area Handbook for Libya*, 1969: 12-14; *Handbook of Libya*, 1921: 27-28), most of which falls between November and February. The aridity of the area is exacerbated by the *ghibli*, a hot searing wind which blows from the Sahara in the spring and autumn and which can have a disastrous effect on crops (*Area Handbook for Libya*, 1969: 13). Both summer and winter temperatures are significantly cooler in the Jebel Akhdar and snow may lie briefly on the highest ground in the winter. Rainfall (fig. 1b) also is much higher here than on the plain—most of the Jebel receives 400/650 mm a year and parts of it as much as 600 mm (*Economic Development of Libya*, 1960: 29). The inland plateau is semi-desert and receives only 10/20 mm of rain a year. As 200 mm of rain per year is generally considered the minimum necessary for dry agriculture, rainfall is really adequate only in the Jebel Akhdar and is barely sufficient in the Benghazi area; however, the irregularity of rainfall is at least as severe a constraint on agriculture as the annual amount, particularly as water conservation is very difficult.

There is no permanent fresh water on most of the plain. Wells are common (fig. 2), but most of them are dry in the summer months. There are few impermeable rock layers in the Jebel Akhdar to hold the rain, most of which is quickly lost through deep fissures in the limestone. The most reliable water supply consists of a series of springs at the foot of the Jebel on the edge of the coastal plain. Benghazi itself has a subsurface supply of brackish water today (*Economic Development of Libya*, 1960: 30), and in classical times the town obtained its water from wells, cisterns and an aqueduct (which perhaps tapped an underground stream, sometimes identified as Lethe, in the vicinity).

The soils of the coastal plain today are in general poor and very thin, although there are

ECONOMIC LIFE AT BERENICE

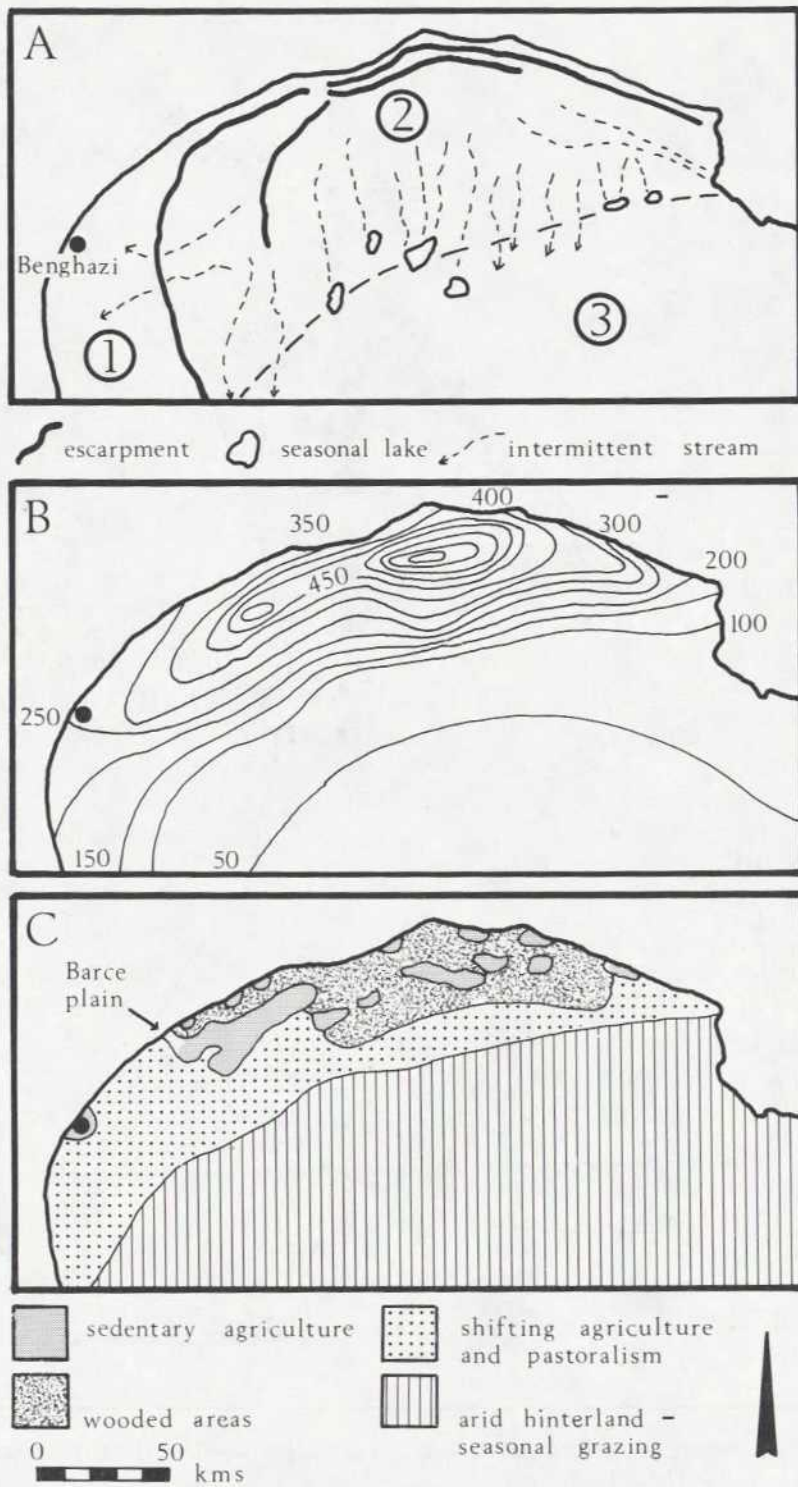


Fig. 1. Cyrenaica. (A) Morphology, after Johnson, 1973. 1: coastal plain; 2: Jebel Akhdar; 3: inland plateau. (B) Annual rainfall, in millimetres, after Economic Development of Libya, 1960. (C) Traditional land use, after Economic Development of Libya, 1960.

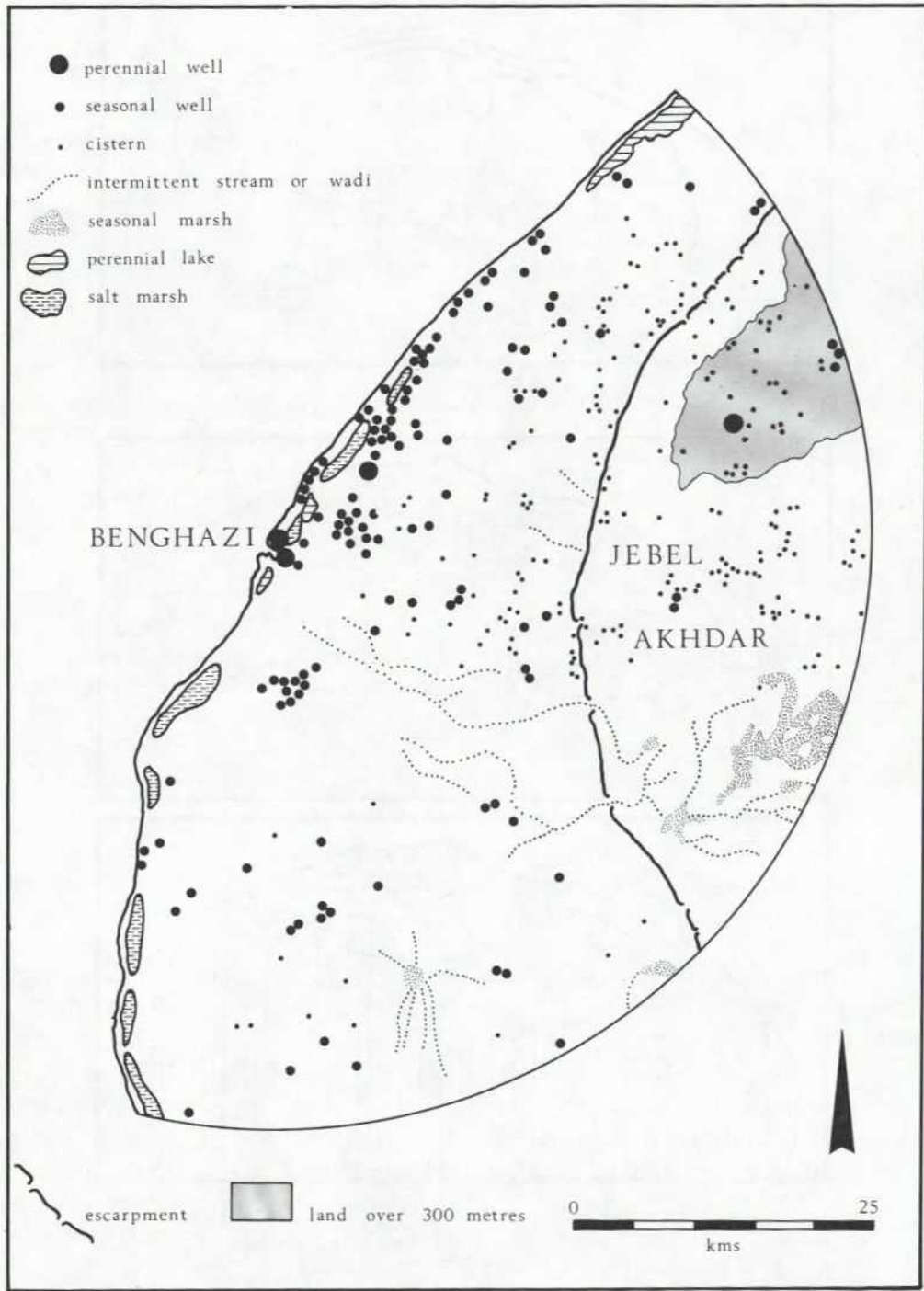


Fig. 2. The territory within 50 kilometres of Benghazi. Data taken from 1:250,000 Egypt and Cyrenaica map series, sheet 1 Benghazi, War Office 1943.

fans of better soil near the wadi mouths at the junction between the Jebel Akhdar and the plain. In the Jebel the soil cover is variable: in the areas of hard limestone there are pockets of soil in depressions varying from a few tens of square metres to hundreds of hectares in extent. The softer chalky limestone decomposes into light rich soil, the best of which covers the Barce plain—traditionally the richest agricultural resource in Cyrenaica (fig. 1c). The limestone soils in general are rich in potash and phosphorus but poor in nitrogen as a result of the arid climate (*Area Handbook for Libya*, 1969: 12).

The discovery and exploitation of oil is of course having an enormous impact on the Libyan economy, but the traditional pattern of land use in Cyrenaica of the last few centuries until the last war is shown in Figure 1c (after *Area Handbook for Libya*, 1969; *Economic Development of Libya*, 1960; *Handbook of Libya*, 1921). A little market gardening took place in the vicinity of Benghazi (dependent on irrigation) and areas of good soil like the Barce plain were used for permanent dry farming. Because of the problems of water supply, rainfall irregularity and the *ghibli*, even this agriculture tended to be hard pressed. Methods were often primitive, the major crop was barley (hardier than wheat, with better resistance to drought), but in good rainfall years a cereal surplus could be produced for export (*Handbook of Libya*, 1921: 112). Much of the Jebel Akhdar was (and still is) wooded, mainly with pine, juniper, cypresses and wild olives. Most of the Jebel, however, as well as the coastal plain, was used for shifting cultivation and animal grazing (*Area Handbook for Libya*, 1969: 198; *Handbook of Libya*, 1921; Fisher, 1952–53). In 1918, for example, it was said that 'the population of Cyrenaica is almost entirely nomadic and pastoral' (*Handbook of Libya*, 1921: 106); apart from at Benghazi, Derna and Barce, the population was stationary only during the rains, moving in the dry season from pasture to pasture with its flocks and herds.

Within the pastoral economy, different systems are possible combining herding and shifting cultivation. Johnson (1973) defines four main groups: coastal goat herders, sheep and goat herders, camel herders, and a group combining sheep, goats and camels. The model suggested by his work is shown in Figure 3; it involves the logical and efficient exploitation of the different seasonal pastures and different growing periods between the coast and the inland plateau. His work was carried out in the eastern part of the Jebel, but the model is just as relevant to the Benghazi area. The first group, the goat herders, remains on the coastal plain throughout the year, keeping just enough goats to support a family, moving across the maquis but never far inland, growing a little barley at the same time. These people are at the lowest level of subsistence with the least opportunity for economic intensification—the limited maquis is a strict control on the numbers of stock which can be kept. Local goat herders exist today on the plains around Benghazi. The sheep and goat herders, the second group in the model, plant their crops on the northern part of the Jebel when the rains come in late September and early October. Part of the group then moves south into the Jebel and plants a second crop (normally to be used for fodder) in early October. The flocks are taken south to this area in December, and winter in the southern Jebel where there is surface water and grazing for the ewes at the peak of their milk production. The southern crop is harvested and the group then returns north to harvest the first crop in late April and May. The summer is the most difficult period, as the flocks have to be taken far afield to graze on withered pasture and stubble and brought back to cisterns for watering every two or three days. The southern Jebel used by this group in the winter supports the camel herders in the summer, for they can take their animals away from water for several days at a time in search of pasture. In the winter and spring they take their camels far to the south across the inland plateau. The final group which combines camels

BARKER

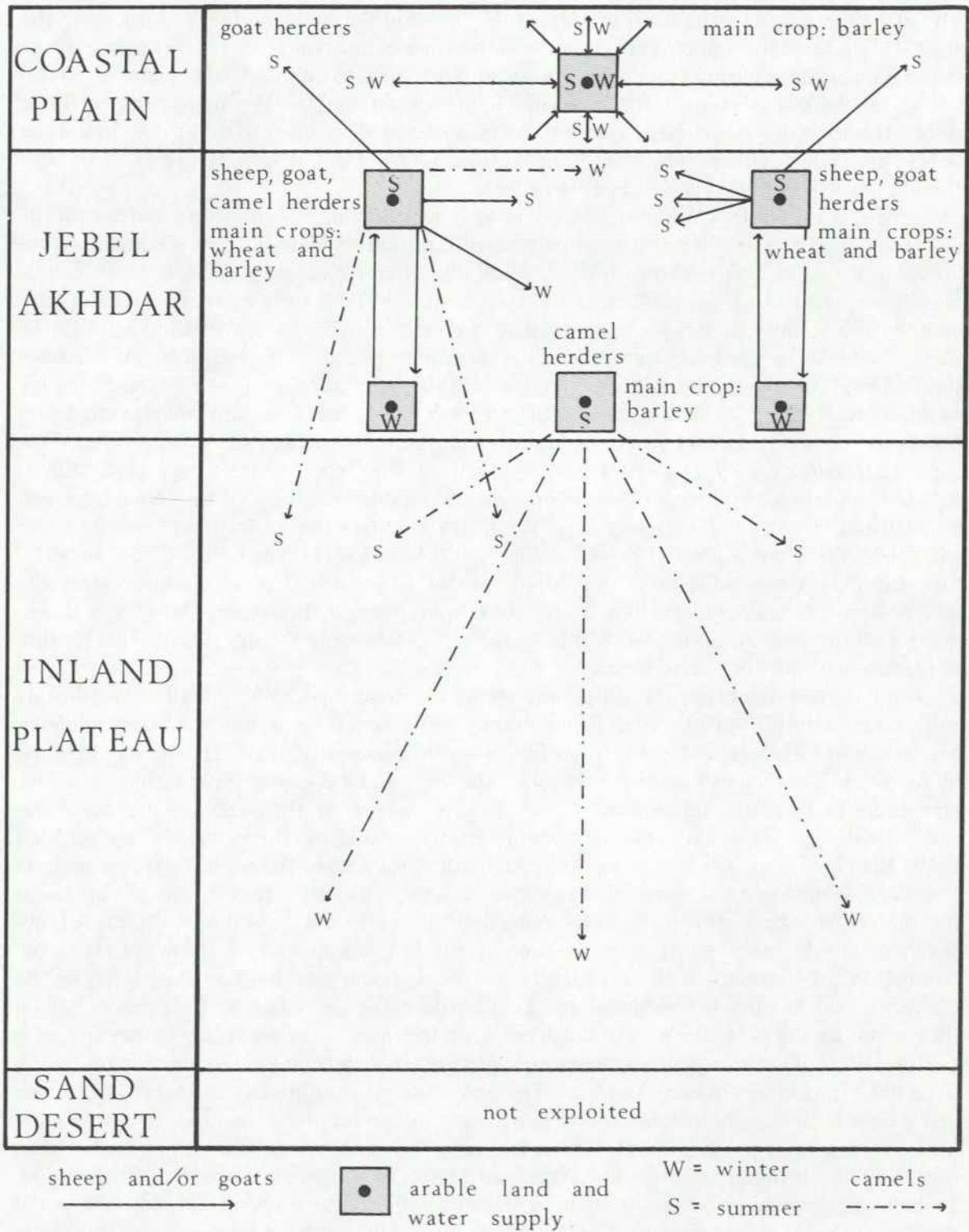


Fig. 3. A model of traditional land use in Cyrenaica, adapted from Johnson, 1973.



## THE MAIN STOCK ANIMALS

Although chicken bones occur in small numbers in many deposits, their food value is extremely limited compared to stock: for example, one Roman cow probably supplied about 500 pounds of meat, one sheep 60 pounds, one pig 100 pounds, and one chicken perhaps one pound. Table 1 clearly suggests that virtually all the meat eaten at Berenice was provided by the farmyard stock—ovicaprids (sheep and goats), cattle and pigs. (The term ovicaprid is used because most small bone fragments cannot be identified securely as either sheep or goat). No game is represented apart from gazelle. In Table 2 I have listed the numbers and percentages of the three main types of stock. The nine units have been arranged as far as possible in chronological order. The asterisked deposits are those that were sieved. On the basis of the number of fragments, it is clear that sheep and goats were the main animals killed at Berenice for most of the period of settlement. In the unsieved units from SK 1, ovicaprid bones make up over 40 per cent of the total; and the contemporary sieved deposits from the Area CC part of the site suggest that sheep and goats were by far the most common animals killed at the site. Ovicaprid bones also dominate the SK 2 units dating from the later first century A.D. until the mid third century and the SK 4 units of the fourth to seventh centuries A.D.; and, as both groups of units were unsieved, it is quite likely that the ovicaprid bones are under-represented. In other words, sheep and goat frequencies could well have been extremely high—80 to 90 per cent of the total stock—from the earliest phase of the site until the mid third century, and again after the end of the third century. At the same time cattle and pig bones are relatively unimportant, occurring in roughly equal numbers in all these deposits.

The two groups of material which are clearly different in Table 2 are the H 2 cistern and the SK 3 units, of the early and middle third century A.D. respectively. First, sheep and goat bones make up only 30 per cent of the total; and second, the frequencies of the other two animals are inconsistent—pig bones make up about 55 per cent of the sieved H 2 sample dating to the early third century A.D., but cattle bones make up the same percentage in the SK 3 units of the mid third century A.D. In fact the H 2 pig sample is unlike any other unit on the site in that it contains the bones of several extremely young pigs thrown in probably as complete carcasses. At the same time recovery methods could well have biased the SK 3

Table 2. *Berenice: number and percentages of the main stock animals (\*sieved units).*

| Context           | Approximate date<br>(in centuries) | Cattle |      | Ovicaprid |      | Pig |      |
|-------------------|------------------------------------|--------|------|-----------|------|-----|------|
|                   |                                    | N      | %    | N         | %    | N   | %    |
| SK 1              | 2nd B.C.—late 1st A.D.             | 80     | 36.0 | 91        | 41.0 | 51  | 23.0 |
| * Area CC<br>9/11 | 2nd B.C.                           | 24     | 46.2 | 27        | 52.0 | 1   | 2.0  |
| * Area CC<br>7.2  | 1st B.C.                           | 7      | 8.3  | 74        | 88.1 | 3   | 3.6  |
| * Area CC<br>7.1  | 1st A.D.                           | 11     | 4.9  | 197       | 87.6 | 17  | 7.5  |
| * Area CC<br>2/4  | 1st A.D.                           | 5      | 6.3  | 71        | 89.9 | 3   | 3.8  |
| SK 2              | late 1st A.D.—mid<br>3rd A.D.      | 255    | 22.1 | 641       | 55.8 | 255 | 22.1 |
| * H 2             | early 3rd A.D.                     | 76     | 15.6 | 142       | 29.4 | 264 | 54.8 |
| SK 3              | mid 3rd A.D.                       | 114    | 54.5 | 63        | 30.1 | 32  | 15.4 |
| SK 4              | 4th—7th A.D.                       | 38     | 20.0 | 110       | 57.9 | 42  | 22.1 |

### III. The Animal and Bird Bones

The sample consisted of 14,055 fragments, 5733 of which (40.8%) were identifiable. Table 1 gives the basic analysis of the three collections of material: the pre-1975 units lumped into the four phases, the Area CC deposit and the H 2 cistern. The bones can be divided into two groups—food animals and complete, discarded carcasses. The former are represented by splinters of bone, produced in the butchering process and further broken up, in some cases, for the extraction of marrow. Complete bones of such animals were very rare, apart from small bones such as phalanges and astragali. The dumped carcasses contrasted clearly with the food refuse, for many long bones were complete and the manner and position of the breaks where they did occur differed from the butchery cuts on the other material and were presumably the result of natural damage suffered during deposition. Such bones were also found in groups together, although articulated specimens were extremely rare. The bird bones were usually complete but are presumably food refuse, as little breakage would result from their preparation for the table. Most of the discarded specimens are those of cats and dogs, but donkeys, horses and camels are also represented. These animals are considered separately, after the discussion of the main stock animals killed for food.

Table 1. *Berenice: number of identifiable fragments.*

| Context:                               | SK 1                          | SK 2                                  | SK 3               | SK 4            | Area<br>CC<br>2/4 | Area<br>CC<br>7.1 | Area<br>CC<br>7.2 | Area<br>CC<br>9/11 | H 2               |
|--|-------------------------------|---------------------------------------|--------------------|-----------------|-------------------|-------------------|-------------------|--------------------|-------------------|
| Approximate<br>date (in<br>centuries): | 2nd B.C.<br>-late<br>1st A.D. | late 1st<br>A.D. -<br>mid<br>3rd A.D. | mid<br>3rd<br>A.D. | 4th-7th<br>A.D. | 1st A.D.          | 1st A.D.          | 1st B.C.          | 2nd B.C.           | early<br>3rd A.D. |
| Bird (chicken)                         | 6                             | 58                                    | 3                  | 6               | —                 | —                 | 3                 | 1                  | 19                |
| Camel                                  | —                             | 1                                     | 10                 | 1               | —                 | —                 | —                 | —                  | 4                 |
| Cat                                    | 1                             | 42                                    | 3                  | —               | —                 | —                 | —                 | —                  | 62                |
| Cattle                                 | 80                            | 255                                   | 114                | 38              | 5                 | 11                | 7                 | 24                 | 76                |
| Dog                                    | 12                            | 146                                   | 120                | 46              | —                 | —                 | —                 | —                  | 2254              |
| Donkey                                 | —                             | 68                                    | 30                 | 4               | —                 | 3                 | —                 | —                  | 58                |
| Fox                                    | —                             | —                                     | 2                  | —               | —                 | —                 | —                 | —                  | —                 |
| Gazelle                                | 1                             | 2                                     | —                  | 1               | —                 | —                 | —                 | —                  | —                 |
| Horse                                  | 3                             | 53                                    | 15                 | 1               | —                 | —                 | —                 | 1                  | 1                 |
| Ovicaprid                              | 91                            | 641                                   | 63                 | 110             | 71                | 197               | 74                | 27                 | 142               |
| Pig                                    | 51                            | 255                                   | 32                 | 42              | 1                 | 17                | 3                 | 1                  | 264               |
| Total identifiable                     | 245                           | 1521                                  | 392                | 249             | 77                | 228               | 87                | 54                 | 2880              |
| Total<br>unidentifiable                | 110                           | 1780                                  | 450                | 412             | 67                | 200               | 115               | 53                 | 5135              |
| Total                                  | 355                           | 3301                                  | 842                | 661             | 144               | 428               | 202               | 107                | 8015              |

today. The limestone hills of the Jebel were probably then, as today, a major pastoral resource, and the depressions within the Jebel would also have been a major arable resource and erosion from the hills into the depressions would not really alter the balance of these resources.

The subsistence systems described by Johnson are therefore to my mind a very useful guide to low-technology subsistence in the past, for they are adapted to a pattern of soil distribution and seasonal pasture which has not changed significantly for millennia. This is certainly not to say that we can simply implant Johnson's model on the classical landscape. For one thing, the camel was a comparatively late introduction (in any numbers at least) to classical Cyrenaica, and without the camel the seasonal grazing resources far from water on the inland plateau would have been inaccessible. Secondly, the less attractive soils as well as the primary arable soils could be cultivated with an improved technology and labour organisation, and the distribution of classical 'farmsteads' on the Benghazi plain implies that crop cultivation was practised in this area in classical times. Be that as it may, however, the impression from the historical evidence is that the pattern of land use shown in Figure 1c is very similar to that of the native subsistence systems in Cyrenaica at the time of the Hellenic colonisation. Herodotus writes in Book IV that the coast of Libya was occupied by nomads living on milk and meat, and Theophrastus (*Enquiry into Plants* VI.3.6) tells us that the native flocks were driven inland for the winter. Cyrenaica in general was noted for its sheep and goat pastoralism. Herodotus also says that Cyrenaica produced three harvests—first on the coast, then in the hills behind, then in the highest country—and the traditional systems of mixed herding and cultivation on the plain and Jebel described by Johnson are adapted to exactly this phenomenon. We cannot make one-to-one comparisons, but it is useful to remember that the pattern of subsistence recorded in the recent past by Johnson is a very efficient and successful low-technology adaptation to the Cyrenaican landscape; and, as I have argued, that landscape has probably altered little since classical times. It is within that landscape that the economic growth of Berenice is considered in the following sections.

with sheep and goats has an economic cycle similar to that of the sheep and goat herders, apart from the fact that they can take their camels far from water in each season in search of grazing.

The environmental and economic data presented so far are of course those of the present day. The only direct environmental evidence from the Sidi Khrebish excavations are the plant remains and the charcoal fragments. From his analysis of the cereal remains in section V, Webley suggests that poor acid soils of the kind which surround Benghazi today already existed on the coastal plain near the site in the early Roman period. The charcoal fragments are all from pine and juniper and the variable growth rings suggest that they come from a hilly region—presumably the Jebel; the same trees are the dominant forms on the Jebel today. Hence the little evidence available from the site does not suggest massive environmental change. Other evidence tends to support this hypothesis. In the first place, the broad outline of the vegetation as presented by the classical authors parallels modern conditions. Strabo (*Geography* XVII.3.23), Pliny (*Natural History* V.5) and Diodorus (*Library of History* III.50.1–4) divide Cyrenaica into four zones from north to south: a forested and fertile zone along the coast, a zone suitable for grazing, a zone good for silphium, and then the desert. Although these authors were referring primarily to the Cyrene area, 'the banding of climatic and floral tracts corresponds closely to the pattern of maquis, subhumid steppe, and steppe and desert found in Cyrenaica today' (Johnson, 1973: 93). The evidence for the export of cereals and other produce from North Africa, especially from the western provinces, to Rome in the imperial period (Goodchild, 1952–53; Haywood, 1938; Raven, 1969) has sometimes been taken to indicate a more favourable climate in the southern Mediterranean regions than today, but most authorities agree that the surplus was achieved by technology rather than by a kinder environment, by the conservation of soil and water. Run-off ditches were cut to carry water down hillsides in a controlled flow to cisterns, and small dams and terrace walls were built in wadi bottoms to trap water and soil and prevent erosion (Goodchild, 1952–53; Raven, 1969; Vita-Finzi, 1960). What little climatic data are available from North Africa do not indicate a rainfall regime significantly different from that of today.

The major changes to the landscape have been as a result of soil erosion and aggradation (Vita-Finzi, 1960, 1969). In Cyrenaica Vita-Finzi found evidence for both an older fill or soil build-up dated to the Upper Pleistocene and a younger deposit dated to the historical period, in particular to late Roman/early medieval times (Vita-Finzi, 1969: 45–9); Erosion carried soil down the wadis and deposited floodplains in the lower wadis, and deltas or fans at the wadi exits. In the Jebel Akhdar, for example, erosion has carried soil down into depressions, and sherds contained in sections cut through some of these (for example, in the Barce plain) demonstrated that the process went back at least into the Roman period (Vita-Finzi, 1969: 45–6).

The process of erosion in the Jebel Akhdar, and the related process of soil accumulation in the Jebel depressions and wadi exits, have clearly altered the Cyrenaican landscape to an appreciable degree, but I do not believe that they have altered the territory around Benghazi (fig. 2) out of all recognition; in particular, I would argue that the basic constraints to human subsistence have not altered to any significant extent since the classical period. For example, whilst the fans at the wadi exits at the edge of the Jebel are very valuable for agriculture and their creation or enlargement by wadi erosion would have provided important new arable resources on the coastal plain, there is no evidence that alluviation has caused massive soil change across the Benghazi plain. It is unlikely therefore that the soils of the plain, now primarily a grazing resource, were significantly different in the classical period from those of

## ECONOMIC LIFE AT BERENICE

material towards the larger bones and so towards cattle. Taking both factors into consideration, however, Table 2 still suggests two main conclusions: first, that the ratio of stock killed at Berenice was relatively stable and that sheep and goats were the most important throughout the history of the town; and second, that this stability was upset in the course of the third century A.D.

The second indicator of animal frequencies is the minimum number of individuals represented in the sample. In Table 3 I have listed the occurrence of fragments of various parts of the mammalian skeleton. In the most reliable sample of food refuse, the Area CC deposit, the table clearly underlines the dominance of sheep and goats. Their overall preponderance exists to a lesser extent in the unsieved SK 1, SK 2 and SK 4 deposits. The bias towards cattle in SK 3 and pigs in the H 2 cistern occurs for most bones. Hence both the count of fragments and the calculation of the minimum number of individuals suggest first, a stock economy based on sheep and goats throughout the life of the Berenice settlement and second, a significant interruption in that economy during the third century A.D. The occurrence of head and foot bones as well as the main meat-bearing bones in most levels suggests that the animals were being butchered on site.

Table 3. *Berenice: minimum number of individuals.*

|              |           | mandible | tooth | scapula | humerus | radius | ulna | metacarpal | pelvis | femur | tibia | calcaneum | astragalus | metatarsal | phalange |
|--------------|-----------|----------|-------|---------|---------|--------|------|------------|--------|-------|-------|-----------|------------|------------|----------|
| SK 1         | cattle    | 5        | 7     | 4       | —       | —      | —    | 9          | 4      | 7     | 8     | —         | 2          | 4          | 6        |
|              | ovicaprid | 7        | 7     | 12      | 3       | 2      | —    | 2          | 5      | 9     | 10    | —         | 4          | 3          | —        |
|              | pig       | 3        | 12    | 1       | 11      | —      | —    | —          | —      | 3     | 8     | 1         | —          | 1          | 1        |
| Area CC 9/11 | cattle    | 1        | —     | —       | 2       | 1      | —    | —          | —      | 4     | 7     | —         | —          | —          | —        |
|              | ovicaprid | 1        | —     | 1       | 1       | 9      | —    | —          | 2      | 3     | 4     | —         | 1          | —          | 2        |
|              | pig       | —        | —     | —       | —       | —      | —    | —          | —      | —     | —     | —         | —          | —          | —        |
| Area CC 7.2  | cattle    | —        | —     | —       | —       | —      | —    | —          | —      | —     | 2     | —         | —          | —          | 3        |
|              | ovicaprid | 5        | 6     | 4       | 2       | 1      | —    | —          | —      | 17    | 17    | 2         | 4          | 4          | —        |
|              | pig       | 1        | 1     | —       | —       | 1      | —    | —          | —      | —     | —     | —         | —          | —          | —        |
| Area CC 7.1  | cattle    | 3        | 1     | —       | —       | 1      | —    | 1          | —      | 1     | 1     | 1         | —          | —          | 1        |
|              | ovicaprid | 16       | 33    | 12      | 13      | 13     | 1    | 2          | 3      | 16    | 40    | —         | 4          | 4          | 6        |
|              | pig       | 2        | 2     | —       | 1       | —      | 1    | 1          | —      | —     | 4     | 1         | —          | —          | 1        |
| Area CC 2/4  | cattle    | —        | —     | 2       | 1       | —      | —    | —          | —      | —     | 1     | —         | —          | —          | 1        |
|              | ovicaprid | 5        | 10    | 2       | 13      | 4      | —    | 2          | 2      | 5     | 10    | —         | —          | 1          | 1        |
|              | pig       | —        | —     | —       | —       | —      | —    | —          | —      | —     | —     | —         | —          | —          | —        |
| SK 2         | cattle    | 21       | 21    | 11      | 15      | 11     | 6    | 11         | 3      | 10    | 25    | 2         | 3          | 8          | 16       |
|              | ovicaprid | 49       | 51    | 45      | 27      | 35     | 8    | 8          | 35     | 60    | 64    | 5         | 6          | 33         | 5        |
|              | pig       | 30       | 59    | 10      | 22      | 18     | 6    | 18         | 3      | 7     | 20    | 10        | 5          | 15         | 36       |
| H 2          | cattle    | —        | 2     | 1       | 4       | 2      | 1    | 1          | —      | 2     | 13    | 1         | 4          | —          | 4        |
|              | ovicaprid | 10       | 15    | 8       | 11      | 3      | 4    | 3          | 6      | 19    | 23    | 2         | 2          | 10         | 5        |
|              | pig       | 22       | 11    | 24      | 47      | 19     | 17   | 3          | 23     | 28    | 30    | 1         | 6          | 2          | 4        |
| SK 3         | cattle    | 5        | 10    | 9       | 9       | 7      | 3    | 1          | 3      | 14    | 9     | 3         | 4          | 4          | 2        |
|              | ovicaprid | 5        | 4     | 7       | 2       | 3      | 3    | 4          | 4      | 14    | 6     | 1         | 1          | 1          | 2        |
|              | pig       | 5        | 4     | 1       | 3       | —      | —    | 2          | —      | 1     | 1     | 1         | 1          | 1          | 2        |
| SK 4         | cattle    | —        | 1     | —       | 6       | 6      | —    | —          | —      | 3     | 4     | —         | 2          | —          | 2        |
|              | ovicaprid | 12       | 6     | 8       | 11      | 7      | 1    | 3          | 3      | 15    | 11    | 1         | 4          | 6          | 2        |
|              | pig       | 8        | 8     | 2       | 4       | 1      | 1    | 1          | —      | 2     | 4     | 1         | —          | —          | 1        |

However, meat need not necessarily be the primary reason for keeping stock such as cattle and sheep, and the best guide to the stock policy is the mortality evidence. The ages at which animals were killed can be estimated from tooth eruption and wear and from the fusion of long bone epiphyses to the shaft of the long bone (Silver, 1969). These ages are known for modern stock and the ages at death of jaw and long bone specimens in the Berenice sample are shown in Table 4. There are two main problems with this evidence. In the first place, it is known that modern breeds have been improved for fast maturity and hence the ages shown in the table, being those of modern stock, are almost certainly too young by a factor of several months. Secondly, whilst tooth eruption and wear can usually be dated fairly accurately, most long bone fragments can only be dated crudely to either before or after a particular fusion stage: thus although a particular bone fuses today at about 36 months, the ancient specimen will either be unfused and so younger than 36 months or fused and older than 36 months—but whether by six months or two years one cannot say. Hence the long bone specimens in Table 4 are either older than (+) or younger than (–) a particular age. Tooth eruption has been aged according to Silver (1969), tooth wear according to Grant (1975). I have lumped the data into four major groups of material. Group 1 is derived from units which date from the second century B.C. until the later first century A.D., group 2 is from the later first century A.D. until the early third century A.D., group 3 is the ‘anomalous’ H 2 and SK 3 material of the first half and middle of the third century, and group 4 is from the fourth to seventh century deposits. Very old animals according to Grant’s system are shown as ++ in the tooth eruption stage in Table 4.

Table 4. *Berenice: mortality data of the main stock.*

|   | Tooth eruption |                     |               |                     | Long-bone fusion |                     |               |                     |
|---|----------------|---------------------|---------------|---------------------|------------------|---------------------|---------------|---------------------|
|   | Age in months  | Number of specimens | Age in months | Number of specimens | Age in months    | Number of specimens | Age in months | Number of specimens |
| <b>CATTLE</b>                             |                |                     |               |                     |                  |                     |               |                     |
| Group 1                                   | c. 15/18       | 1                   | 15/18+        | 1                   | 18+              | 9                   | 24/30–        | 3                   |
| 2nd century B.C.–<br>later 1st A.D.       | 17/36++        | 1                   |               |                     | 24/30+           | 3                   | 36/42–        | 1                   |
| Group 2                                   | 18/30–         | 1                   | 18/30+        | 1                   | 12/18–           | 1                   | 18+           | 13                  |
| later 1st century A.D.–<br>early 3rd A.D. | c. 24/30       | 1                   | 24/30++       | 3                   | 12/18+           | 12                  | 24/30–        | 1                   |
|   | 28/36++        | 3                   |               |                     | 24/30+           | 6                   | 24/36–        | 1                   |
|   |                |                     |               |                     | 24/36+           | 2                   | 27/36+        | 3                   |
|   |                |                     |               |                     | 36/42–           | 1                   | 42–           | 1                   |
|   |                |                     |               |                     | 42/48–           | 1                   | 47/48+        | 1                   |
| Group 3                                   | c. 6/15        | 1                   | c. 15/18      | 1                   | 12/18+           | 9                   | 18+           | 4                   |
| early/mid 3rd<br>century A.D.             | 18/24++        | 2                   | 21/24++       | 2                   | 24/30–           | 2                   | 24/30+        | 4                   |
|   | 24/30++        | 1                   |               |                     | 36/42–           | 3                   | 36/42+        | 1                   |
|   |                |                     |               |                     | 42+              | 2                   | 42/48–        | 4                   |
|   |                |                     |               |                     | 42/48+           | 8                   |               |                     |
| Group 4                                   |                |                     |               |                     | 12/18+           | 2                   | 18+           | 2                   |
| 4th–7th<br>centuries A.D.                 |                |                     |               |                     | 42+              | 1                   | 42/48+        | 2                   |

ECONOMIC LIFE AT BERENICE

Table 4. (continued)

|                        | Tooth eruption  |                     |                 |                     | Long-bone fusion |                     |               |                     |
|------------------------|-----------------|---------------------|-----------------|---------------------|------------------|---------------------|---------------|---------------------|
|                        | Age in months   | Number of specimens | Age in months   | Number of specimens | Age in months    | Number of specimens | Age in months | Number of specimens |
| <b>OVICAPRID</b>       |                 |                     |                 |                     |                  |                     |               |                     |
| Group 1                | <i>c.</i> 6     | 2                   | <i>c.</i> 9/12  | 8                   | 10+              | 5                   | 13/16+        | 7                   |
| 2nd century B.C.–      | <i>c.</i> 12    | 4                   | <i>c.</i> 12/18 | 1                   | 18/24–           | 1                   | 18/24+        | 4                   |
| later 1st A.D.         | 18/24+          | 2                   | 21/24+          | 3                   | 30/36–           | 7                   | 30/36+        | 3                   |
|                        |                 |                     |                 |                     | 36–              | 1                   | 36/42–        | 3                   |
|                        |                 |                     |                 |                     | 36/42+           | 1                   |               |                     |
| Group 2                | <i>c.</i> 9/12  | 3                   | 9/12+           | 5                   | 10–              | 2                   | 10+           | 9                   |
| later 1st century A.D. | <i>c.</i> 12    | 2                   | <i>c.</i> 18/24 | 2                   | 13/16+           | 1                   | 18/24–        | 3                   |
| –early 3rd A.D.        | 18/24+          | 8                   | <i>c.</i> 21/24 | 1                   | 18/24+           | 7                   | 18/28+        | 1                   |
|                        | 21/24+          | 3                   |                 |                     | 20/28–           | 1                   | 20/28+        | 3                   |
|                        |                 |                     |                 |                     | 30–              | 1                   | 36–           | 1                   |
|                        |                 |                     |                 |                     | 36+              | 1                   | 36/42–        | 2                   |
|                        |                 |                     |                 |                     | 36/42+           | 2                   |               |                     |
| Group 3                | <i>c.</i> 3/5   | 1                   | <i>c.</i> 6     | 1                   | 13/16+           | 6                   | 18/24–        | 2                   |
| early/mid 3rd          | 9/12–           | 1                   | 18/24+          | 4                   | 18/28–           | 6                   | 20/28–        | 2                   |
| century A.D.           | 21/24+          | 3                   |                 |                     | 30+              | 1                   | 30/36–        | 2                   |
|                        |                 |                     |                 |                     | 36–              | 1                   | 36/42–        | 2                   |
|                        |                 |                     |                 |                     | 36/42+           | 1                   |               |                     |
| Group 4                | <i>c.</i> 9/12  | 1                   | 18/24+          | 3                   | 10+              | 1                   | 13/16+        | 1                   |
| 4th–7th                |                 |                     |                 |                     | 18/24+           | 3                   | 18/28–        | 1                   |
| centuries A.D.         |                 |                     |                 |                     | 20/28–           | 1                   | 20/28+        | 1                   |
|                        |                 | 1                   |                 |                     | 30+              | 1                   | 30/36–        | 1                   |
|                        |                 |                     |                 |                     | 30/36+           | 1                   | 36–           | 2                   |
|                        |                 |                     |                 |                     | 36/42–           | 1                   |               |                     |
| <b>PIG</b>             |                 |                     |                 |                     |                  |                     |               |                     |
| Group 1                | <i>c.</i> 4/6   | 3                   | 7/13+           | 1                   | 12–              | 1                   | 12+           | 6                   |
| 2nd century B.C.–      | 8/12+           | 1                   | 12–             | 4                   | 24/27–           | 1                   | 24/30–        | 1                   |
| later 1st A.D.         | 12/16+          | 1                   | 12/20+          | 1                   | 42–              | 1                   |               |                     |
|                        | 17/22+          | 4                   |                 |                     |                  |                     |               |                     |
| Group 2                | 7/13–           | 4                   | 8/12+           | 10                  | 12–              | 4                   | 12+           | 22                  |
| later 1st century      | 12–             | 4                   | 12/16+          | 10                  | 24–              | 17                  | 24+           | 3                   |
| –early 3rd A.D.        | <i>c.</i> 8/20  | 2                   | 8/20+           | 5                   | 27–              | 7                   | 27+           | 3                   |
|                        | <i>c.</i> 13/17 | 11                  | 17/22+          | 2                   | 24/27–           | 9                   | 24/27+        | 9                   |
|                        |                 |                     |                 |                     | 24/30–           | 8                   | 36/42–        | 1                   |
|                        |                 |                     |                 |                     | 36/42+           | 1                   | 42–           | 7                   |
| Group 3                | 8/12+           | 6                   | 12–             | 14                  | 12–              | 28                  | 12+           | 7                   |
| early/mid 3rd          | 12/16+          | 8                   | <i>c.</i> 13/17 | 2                   | 24–              | 14                  | 24+           | 1                   |
| century A.D.           | <i>c.</i> 16/17 | 3                   | 8/20+           | 3                   | 24/27–           | 1                   | 21/27+        | 2                   |
|                        | 17/22+          | 2                   |                 |                     | 27–              | 1                   | 24/30–        | 1                   |
|                        |                 |                     |                 |                     | 36/42–           | 1                   | 42–           | 10                  |
| Group 4                | <i>c.</i> 4/6   | 1                   | 8/12+           | 5                   | 12+              | 1                   | 24–           | 2                   |
| 4th–7th                | 12–             | 2                   | 12/16+          | 1                   | 24/27–           | 1                   | 24/30–        | 1                   |
| centuries A.D.         | <i>c.</i> 13/17 | 1                   | <i>c.</i> 17/22 | 1                   | 42–              | 1                   |               |                     |

Many of the ovicaprids killed at Berenice were clearly immature, for they died in their first and to a lesser extent in their second years. The remaining jaws are from animals two or three years old, but none of the wear is very advanced and the fusion data corroborate this, for few of those bones which fuse in the third and fourth years were in fact fused. The mortality data suggest that two kinds of animal were normally brought to the city: yearlings—lambs or kids—and older animals in their prime, normally under four years old. A logical interpretation of the two groups is that the young animals were subadult males, the older animals breeding females. Whether they were sheep or goats, or both, is difficult to say, but the horn core and metric data suggest that there was a preponderance of goats. Few horn cores were found, but those that were all belonged to goats. As Figures 4 and 5 show, most of the Berenice specimens are larger than equivalent ovicaprid bones from two prehistoric and medieval sites in the Mediterranean. The bones from the prehistoric site, Buccino, are probably mostly of sheep (Barker, 1975); the medieval specimens from Tuscania are also probably mainly sheep, but of a large breed adapted like the Merino to long distance transhumance (Barker, 1973). Most of the Berenice tibiae, humeri and metapodials are larger and stockier, others are much smaller and more slender; the former are probably goat, the latter sheep. Whatever the nature of the economic change represented by the fall of ovicaprid frequencies in the H 2 and SK 3 units, the mortality data suggest that the killing policy at least remained the same.

It has sometimes been suggested that Cyrenaica exported wool in classical times, although essentially this has been an assumption based on the presumed abundance of pasture rather than on documentary evidence. Coster, for example, writes that 'wool or woollen cloth doubtlessly was exported in great quantities, though I have not found any classical text in evidence of this statement' (Coster, 1951: 15). What is probably a sheep is depicted on a fragment of wall plaster from House H at Sidi Khrebish<sup>3</sup>, and the excavations also recovered numbers of loomweights and spindle whorls, but the faunal sample suggests that the latter are evidence of wool production for domestic use rather than for an export market. Whilst it is possible that the older ovicaprids in the sample include mature male sheep (wethers) kept primarily for their meat, an intensive wool industry would raise sheep to a greater age than the Berenice ovicaprids in order to obtain as many clips of wool as possible from each animal. Furthermore, of course, the metric data suggest that sheep were probably subsidiary to goats at Berenice. The most likely interpretation of the ovicaprid sample from Sidi Khrebish is that a generalised subsistence economy was being practised in the area around the town, and that sheep and goats were being raised, in the classic Mediterranean fashion, for dairy products, wool and hides, and meat, rather than for a specialised product. Young males were brought to the town when they were about a year old and worth killing, the rest of the flock was kept for dairy products (probably the basis of peasant subsistence) and it was from this population that the older animals represented at the site were selected as their fertility and milk yields dropped. Of course the sheep in this population yielded wool, but wool production is unlikely to have been a major element in the ovicaprid economy.

Such an economy has been the traditional herding system in Cyrenaica in general and in the Benghazi area in particular, and the preponderance of goats in the sample is not really surprising. In Cyrenaica, for example, 'goats are a source of meat and milk as well as hair and skin;

<sup>3</sup> For illustration of this and other graffito drawings from Building H referred to in the text, see volume IV.



ECONOMIC LIFE AT BERENICE

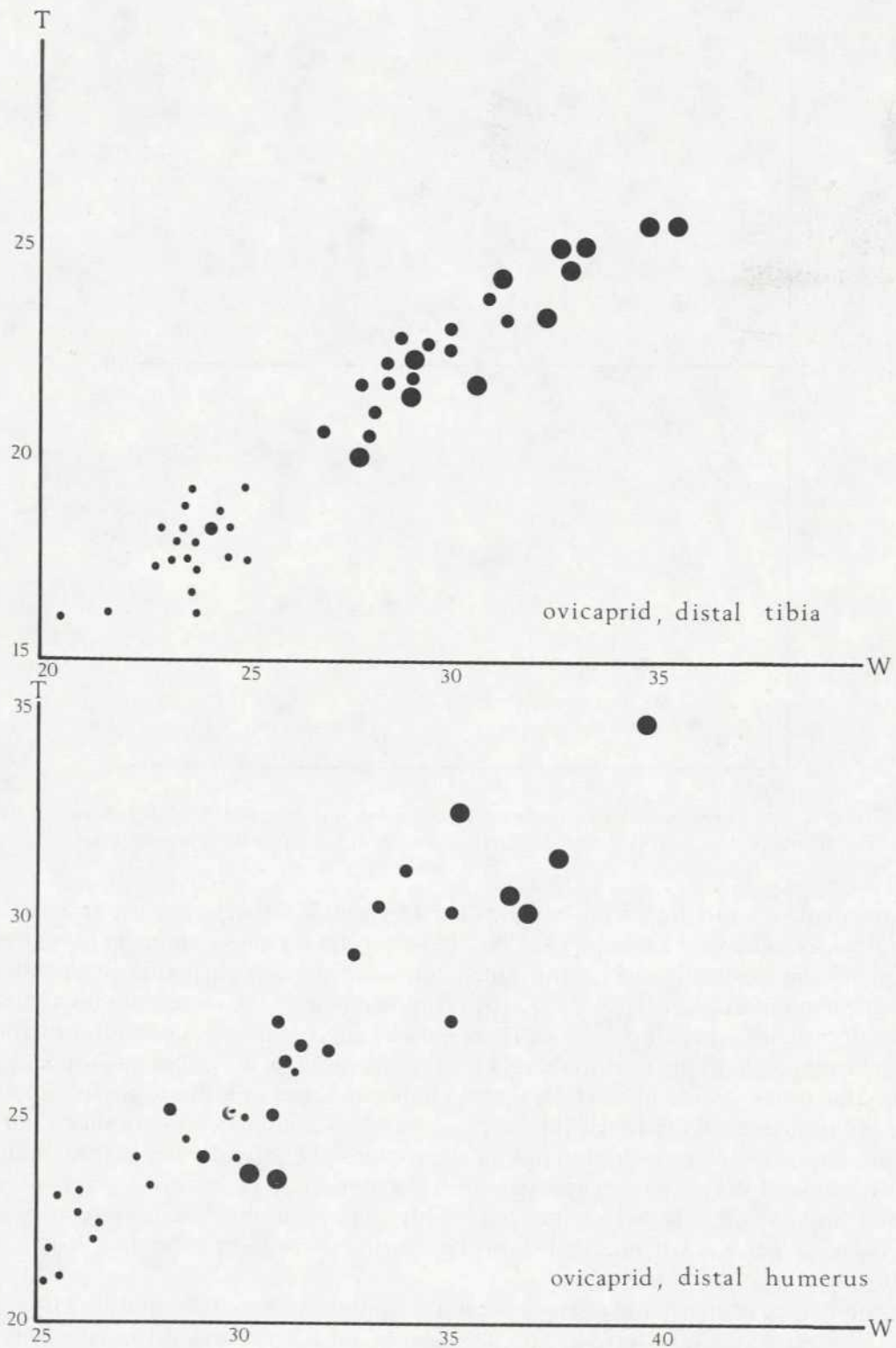


Fig. 4. Ovicaprids: maximum width (W) and thickness (T) of distal tibia and humerus. Large circle: Berenice. Medium circle: Tuscania (medieval). Small circle: Buccino (prehistoric). Measurements in millimetres.

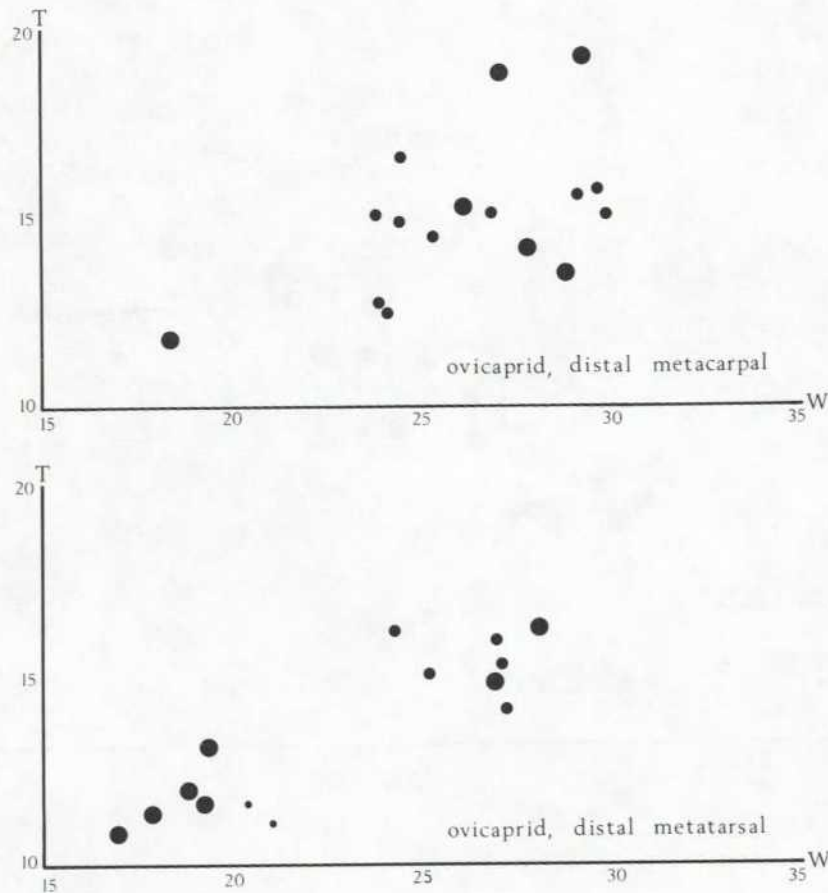


Fig. 5. Ovicaprids: maximum width ( $W$ ) and thickness ( $T$ ) of distal metacarpal and metatarsal. Large circle: Berenice. Medium circle: Tuscania (medieval). Small circle: Buccino (prehistoric). Measurements in millimetres.

they also adapt better to the Libyan climate than do sheep. The sheep provides meat, milk and wool' (*Area Handbook for Libya*, 1969: 199). 'In spring great flocks used to be brought down to Benghazi, the principal market, returning later to the plateau, where they remained till the rainy season' (*Handbook of Libya*, 1921: 107). This is precisely the pattern found by Johnson in the eastern Jebel, where the sheep and goat herders moved up to the coast for the harvest in April, returning then to the northern Jebel for the summer (Johnson, 1973: 57). Today in the summer the rocky plains around Benghazi support coastal goat herders, Johnson's first group, and the slopes of the Jebel Akhdar nearest the town support flocks of sheep and goats which are then taken into the hinterland for the winter—the second group in the model. Traditionally some of the sheep and goats in the area belonged to pastoralists, others to townsmen who hired shepherds. We cannot tell whether one or both of these systems operated in the classical period, but in either case the grazing cycle and the herding policy would probably have been much the same.

The dominance of sheep and goats in the stock economy of Berenice is hardly surprising in that both animals were (and have always been) far better adapted to local grazing conditions than either cattle or pigs. With the possible exception of the third century A.D., neither cattle nor pigs seem to have been very important at any time in the life of the town. The documentary sources do not refer to the pig as an important economic resource of Cyrenaica and

## ECONOMIC LIFE AT BERENICE

Herodotus (IV.186) suggests that some Libyans had a taboo on pork, but the Sidi Khrebish faunal sample shows that a few pigs at least were kept at Berenice. Clearly most of the pigs killed were relatively young (Table 4). This is normal pig-breeding policy: as the animal is remarkably prolific, and is being raised primarily for its meat and lard, all of the herd apart from a small breeding population can be killed off just as soon as the animals are fat enough. The Roman agronomists make it clear that swine were bred not only for the pork and bacon pig, which was killed when it was two or three years old, but also (at least in the *fundus suburbanus* with access to a city market) for the suckling pig (White, 1970: 316–21), and the occasional specimens of very young pigs at Sidi Khrebish could be suckling pigs. Be that as it may, most of the pigs were clearly killed as pork and bacon animals, and the few measurements available (for example the tibia and metapodial data in Figure 6) suggest that the Berenice animal was a fairly hefty specimen compared with prehistoric and medieval examples—it must have thrived on the rubbish around the town!

Beef was probably as rare an element in ordinary people's diet as pork or bacon. Many of the cattle killed were immature—few animals seem to have been older than three or four years (Table 4). Such an age structure suggests that the young animals were being raised for meat, presumably surplus males kept for a year or two and then brought into the city for butchering.

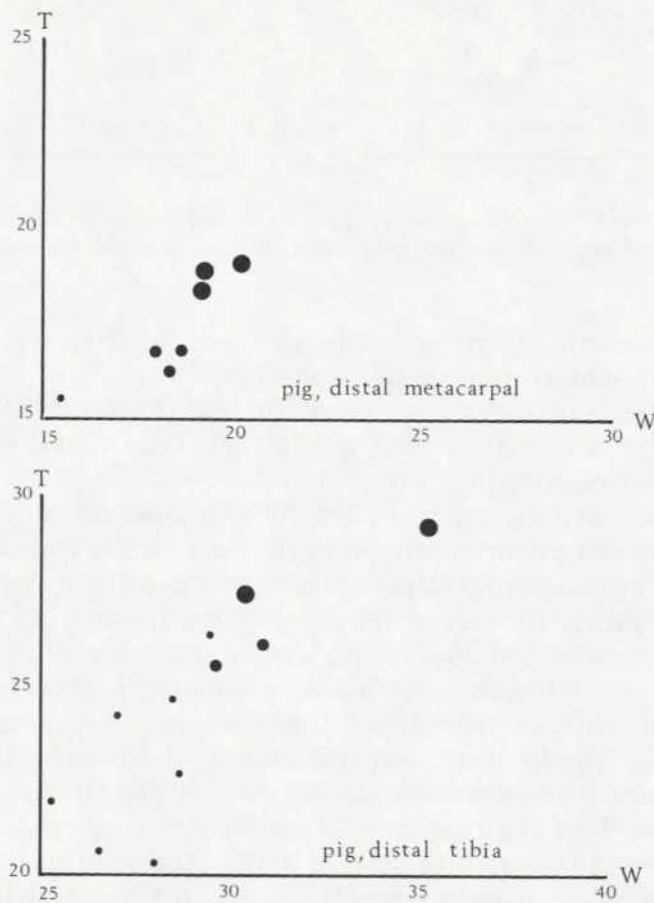


Fig. 6. Pigs: maximum width (*W*) and thickness (*T*) of distal metacarpal and tibia. Large circle: Berenice. Medium circle: Tuscania (medieval). Small circle: Buccino (prehistoric). Measurements in millimetres.

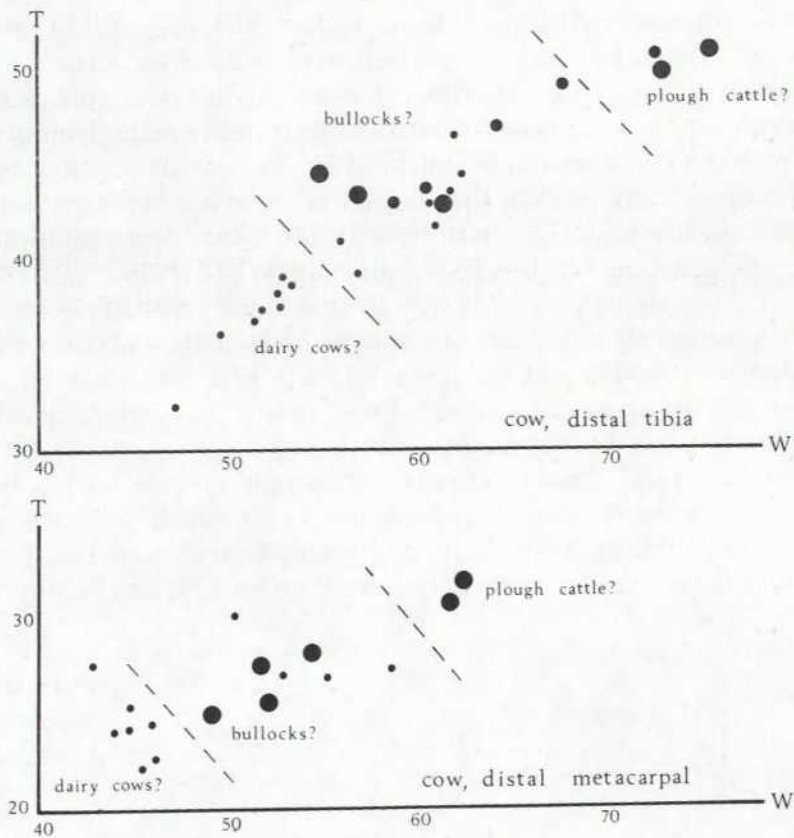


Fig. 7 Cattle: maximum width ( $W$ ) and thickness ( $T$ ) of distal tibia and metacarpal. Large circle: Berenice. Medium circle: Tuscania (medieval). Small circle: Buccino (prehistoric). Measurements in millimetres.

At the same time there are several mandibles and maxillae from very old animals. Cattle samples which I have studied from several prehistoric, classical and medieval sites in Italy, where the communities were living at a subsistence level (Barker, 1973, 1975, 1976, 1977a), often have a far higher percentage of very old animals. These beasts were probably plough cattle killed when their working lives were finished.

The metric data corroborate the hypothesis of two kinds of cattle at Berenice. In the case of the distal tibia, for example, two specimens from the site are very large—as large as and larger than the biggest medieval examples—and these are probably from old plough cattle (fig. 7); but the others are in the middle range in the diagram, like the smaller medieval and larger prehistoric cattle. Buccino, the prehistoric site, was exceptional in that the mortality data from the cattle sample suggest that the community kept dairy cattle and these are presumably represented in the smaller group. The middle range specimens could therefore be meat animals, bullocks. The distal metacarpal measurements show the same groups and again suggest that at Berenice there were two kinds of cattle, old plough cattle and subadult males.

Dairy cattle in fact were extremely rare in the Mediterranean in both classical (White, 1970: 277) and medieval (Jones, 1966: 381–2) times, because of the paucity of fodder. In Roman Italy, for example, 'except in the most favoured parts of the Po valley, or in the few shady upland valleys in the remainder of the peninsula, there was virtually no natural pasture after the end of June' (White, 1970: 284). According to Columella, from July 1st until

November 1st cattle had to be fed 'their fill of leaves . . . elm foliage has the highest repute, after that ash, and finally poplar; the worst is that of evergreen oak, oak, and laurel; but you will have to use these after the summer, when all other kinds fail' (White, 1970: 284). At Berenice, evergreen foliage was probably the main natural fodder available in the area. Columella also advises using acorns, grape skins and chaff—clearly anything and everything had to be used to keep the working cattle alive. To raise a few beef cattle for the Berenice market, it was probably necessary to take them inland to the Jebel with the sheep and goats, and bring them down to the town with the flocks in the spring. Keeping alive cattle for ploughing on the coastal plain throughout the year would have been an enormous burden for the small farmer living outside Berenice, and donkeys were probably preferred for the task (see below).

### CAMELS

Although camels are extremely common today in Cyrenaica—and in 1892 there were five million, compared with eight million sheep and goats and 50,000 cattle (*Handbook of Libya*, 1921: 106)—the entire faunal sample from Berenice produced a total of only sixteen camel bones. In the H 2 cistern were four specimens, three first phalanges and a metapodial shaft fragment. SK 2 produced a metatarsal, SK 4 a mandible. The SK 3 sample consisted of two metatarsals, two femurs, two tibiae, three lower molars and a skull fragment. All of the SK 3 longbones were immature. Apart from the rarity of camel bones in the sample, the fact that the bones that were found are mostly complete specimens suggests that camel meat was not eaten at Berenice.

The historical evidence for the spread of the camel across north Africa is rather ambiguous. The animal probably became common in Egypt under the Ptolemies: Ptolemy II Philadelphus, for example, exhibited camels in his procession in honour of Dionysius in 274 B.C. (Brogan, 1954: 127; Rostovtzeff, 1941). It is not until the fourth century A.D., however, that there is clear evidence for camels in large numbers to the west: in A.D. 363, for example, Count Romanus demanded 4000 camels from Lepcis Magna (Ammianus Marcellinus XXVIII.6.5), and in the early fifth century Synesius wrote that camels comprised a great part of his wealth (*Letters* 130). Camels were certainly familiar before this time in North Africa west of Egypt. The earliest reference is a note by Caesar that twenty two camels belonging to King Juba were captured in 45 B.C. during the Thapsus campaign (*Bellum Africanum* 68.4), whilst coins of Cyrenaica issued by a legate of Antonius in about 39 B.C. have a camel on the reverse (Robinson, 1927, plate 42: 1–5). Lady Brogan has argued that the camel was probably in Cyrenaica by the Augustan period, that it spread westwards from there as a transport animal, and that it was commonly used for plough traction across North Africa by the second or third century A.D. (Brogan, 1954). Away from the coast the shortage of fodder made conditions very unfavourable for cattle as plough animals and the spread of cultivation southwards into the hinterlands of Cyrenaica and Tripolitania made the camel invaluable to the peasant farmers there.

Even if camels had been common at Berenice, we would not expect to find their bones in any numbers in the Sidi Khrebish suburb, given that they do not seem to have provided a normal meat supply. That being said, at least the appearance of the animal in the faunal sample from SK 2 units onwards (that is, in the imperial period) fits in generally with Lady Brogan's hypothesis.

## HORSES, DONKEYS, MULES

Equine bones occur sporadically in all three groups of material from the site. Horse bones make up 2.5 per cent of the total number of fragments, donkey bones 5.6 per cent. (The possibility that some of these bones belong to mules is discussed at the end of the section.) The frequencies are very similar to the estimates for horses and donkeys in recent years—in 1969, for example, horses made up 1 per cent and donkeys 4 per cent of the total stock (*Area Handbook for Libya*, 1969: 199).

All the major parts of the donkey skeleton are represented in the sample and, with the exception of the H 2 material, all the bones and teeth are from adult animals. The H 2 cistern contained the remains of two immature donkeys, under three and probably under two years old. The main parts of the horse skeleton are also equally represented and the bones are from mature animals. Only two bones were found showing signs of butchery: a horse metacarpal from SK 2 and a donkey metacarpal from the H 2 cistern had both been sawn neatly off a few centimetres below the proximal epiphysis—probably the strong and straight cannon bones were used for bone tools. Apart from these specimens, the horse and donkey bones are not broken up to the same extent as those of the main stock animals and the sample also includes complete bones: like the camel, it seems that these animals were not normally used for meat.

Horses were bred for three purposes in Roman times—for cavalry, chariot racing at the circus, and for riding and pulling carriages. They do not seem to have been used for the plough or for heavy haulage (White, 1970: 288). The documentary evidence tells us that Cyrenaica produced excellent riding and chariot horses in classical times. Herodotus, for example (IV.170, 183), describes how the native Libyans drove four horse chariots and the *quadriga* is common on Cyrenaican coins (Robinson, 1927). Rostovtzeff (1941: 293, 385, 396) argues that Cyrenaica exported large numbers of horses to Egypt, and Synesius (*Letters* 40) apparently sent a horse abroad as a present to a friend. The few measurements available from the faunal sample suggest that the Berenice horses were indeed thoroughbreds. The animals stood some 15–16 hands high, much larger than the specimens known from comparable faunal samples: in Roman Britain, for example, the horses in the Hemel Hempstead villa seem to have been ponies of about 13–14 hands (Harcourt, 1974a: 260) and the horses at Roman Exeter were of this size or even smaller (Maltby, 1977). Representations of horses on wall plaster from House H at Sidi Khrebish also show what look like riding thoroughbreds—high-stepping horses with elegant bridles and carefully trimmed manes.

Donkey bones are more frequent than horse bones at the site and this is to be expected, for the donkey played an essential role in Roman agriculture—it was the essential pack and draught animal. Apart from providing power for the mill, it was frequently used for ploughing in areas of light soil such as southern Spain, Campania and, according to Columella (VII.1.2), 'all over Africa' (White, 1970: 294). In size the Berenice animal was much the same as the modern donkey. Presumably the donkey was an important plough animal on the light limestone soils around the town. The animal was well suited in this respect (for deep ploughing would in any case have been harmful), and it would also have been an invaluable pack animal for transporting agricultural produce to the town.

Apart from the large horses and the donkeys, there are a few bones in the sample which are intermediate in size. These animals are as large as the small Roman ponies at Exeter. They could just be small horses, but they might perhaps be mules. Mules were used extensively in the Roman world for vehicular transport and road haulage (White, 1970: 300).

## ECONOMIC LIFE AT BERENICE

### CATS AND DOGS

Just over one hundred fragments of cat were found, most of them from either the H 2 cistern or the SK 2 units. At least three individuals had been thrown into the H 2 cistern. Roman domestic cats vary in size to a considerable degree. The Berenice cats seem to have been fairly large specimens, similar in size to the cats of Roman Exeter and a cat found in the Latimer villa (Branigan and King, 1965). All the cats were adult. No butchery was observed—presumably the cats were kept as pets around the town and their carcasses were thrown onto the town rubbish tips (and into the cistern) when they died.

Dog bones were far more numerous, occurring in all four of the SK phases and, in enormous numbers, in the H 2 cistern, which contained the remains of at least twenty dogs. Like the cat bones, the dog bones show no signs of deliberate butchery and are mostly complete, suggesting that complete skeletons were discarded. The mortality data from the material from the SK units and the H 2 cistern show that the dogs varied considerably in age, but that most were adult: no puppies were found, several animals had died under a year or eighteen months old, but most were at least two years old when they died and tooth wear showed that some

*Table 5. Berenice: shoulder heights of the dogs compared with dogs from Lepcis Magna (Caloi, 1969–70), miscellaneous Romano-British sites (Harcourt, 1974b) and Roman Exeter (Maltby, 1977).*

|                | Number of specimens | Maximum length of bone (mm):<br>observed range | Estimated shoulder height (cm) |
|----------------|---------------------|--|--------------------------------|
| <i>Humerus</i> |                     |  |                                |
| H 2            | 12                  | 108–185  | 34–61                          |
| SK 2           | 3                   | 170–187  | 56–62                          |
| SK 3           | 1                   | 172  | 56                             |
| Lepcis Magna   |                     |  | 49–56                          |
| Romano-British |                     |  | 24–69                          |
| Exeter         |                     |  | 23–34                          |
| <i>Radius</i>  |                     |  |                                |
| H 2            | 7                   | 138–185  | 46–61                          |
| SK 2           | 2                   | 170–175  | 56–58                          |
| Lepcis Magna   |                     |  | 48–55                          |
| Romano-British |                     |  | 23–72                          |
| Exeter         |                     |  | 23–57                          |
| <i>Femur</i>   |                     |  |                                |
| H 2            | 5                   | 152–174  | 46–53                          |
| SK 2           | 1                   | 202  | 62                             |
| SK 3           | 1                   | 158  | 48                             |
| Lepcis Magna   |                     |  | 51–58                          |
| Romano-British |                     |  | 26–72                          |
| Exeter         |                     |  | 31                             |
| <i>Tibia</i>   |                     |  |                                |
| H 2            | 5                   | 142–190  | 42–56                          |
| SK 2           | 1                   | 205  | 61                             |
| SK 3           | 3                   | 163–205  | 49–61                          |
| Lepcis Magna   |                     |  | 49–55                          |
| Romano-British |                     |  | 25–68                          |

were much older. The deposition of so many dogs in the H 2 cistern may be connected with plague in the town (see section VI).

Specialised breeds seem to have been developed by the Roman period. Harcourt, for example, examined many hundreds of dogs from various Romano-British sites and pointed to the enormous amount of variability in size, from 25 to 70 centimetres in shoulder height (Harcourt, 1974b). In Table 5 I have calculated the shoulder heights of the Berenice specimens using Harcourt's formulae; the table includes his data and Maltby's data from the Exeter material for comparison (Maltby, 1977), and measurements taken from six dogs at Lepcis Magna (Caloi, 1969-70). The smallest of the specimens examined by Harcourt and Maltby are as small as the modern toy poodle and the largest are larger than the modern Alsatian. The Berenice dogs are as large as the Alsatian or rather smaller, but there is no evidence for the very small pets or 'lap-dogs' found on the British sites. Size alone is an unreliable guide to function, but the Berenice dogs could be working dogs—a fine hunting dog, for example, with a spiked collar and an Alsatian-like head, is shown on a fragment of wall plaster from House H—or (perhaps more likely in this urban context) scavengers like the 'pi-dogs' of the modern town. The Lepcis Magna dogs are very similar in their size range to those of Berenice.

#### WILD ANIMALS

The one game animal represented in the faunal collection is the gazelle, three fragments of which were found in SK 1 and SK 2. The only other evidence for hunting at Berenice is the graffito drawing of an antelope in a hunting scene depicted on wall plaster from House H. The curvature and marking of the horns, the stripe on the lower flank, the tufted tail and the enlarged hoofs all suggest that the animal is the scimitar-horned oryx *Oryx dammah* (Cretzschmar) (Dorst and Dandelot, 1972: 201).

In earlier times game roamed Cyrenaica in some numbers (Higgs, 1967) and gazelle were common in the Benghazi area: 10,000-12,000 years ago, for example, towards the end of the last glaciation, an upper palaeolithic hunting band occupied the Hagfet et Tera, a cave 25 kilometres east of Benghazi at the foot of the Jebel Akhdar, and the faunal sample was dominated by horses and 'an exceptionally high gazelle content unequalled elsewhere' (Higgs, 1967: 33). Horses of the kind killed at that site became extinct after the last glaciation, but gazelle continued to live in the area. Why, then, is there so little evidence for systematic hunting at Berenice? There are probably two reasons. In the first place, the preferred range of gazelle and oryx would have been on the Jebel Akhdar and not on the coastal plain (and thus the prehistoric group at Hagfet et Tera had chosen a cave which allowed them to hunt horses on the plain and gazelle on the hills). Second, gazelle and oryx were probably few in number and were being hunted out on the Jebel, as they would have been in competition with sheep and goats for grazing and the latter were clearly the crucial element in the stock economy of the town.

The other wild animals represented at the site are the ostrich and the fox. Fifty-four fragments of ostrich shell were found in a dozen contexts ranging from Hellenistic to Islamic in date, seemingly with no significant distribution emphasis in any of the SK units. Two fox mandibles were found in an SK 3 unit; fox bones were also found in the Lepcis Magna excavations (Caloi, 1969-70: 281).



## IV. Fish Bones and Marine Molluscs

Figure 8 is a simplified illustration of marine habitats off Mediterranean coasts (after Luther and Fiedler, 1976: 15-20). Most of the fish at Berenice were probably caught in zone 2 and most of the shellfish were collected in zones 1 and 2.

### FISH REMAINS (A. Wheeler)

The fish bones from Berenice consist of one freshwater species, the catfish, and four species of relatively large marine fish (Table 6).

The discovery of the bones of the catfish *Clarias lazera* in a first century B.C. deposit is of exceptional interest. The present range of this species is the Nile system of Africa and the Middle East as far north as Syria, although Pellegrin (1923) reported its occurrence also in the Tibesti region of Chad. This last and the Nile in Egypt seem to be the nearest to Benghazi that *Clarias* is found today. Members of the family Claridae are able to breath atmospheric air by means of arborescent respiratory breathing organs developed above two gill arches on each side, and gas exchange takes place both through the tissue of the arborescent organs and the lining of the suprabranchial cavity. This ability to utilise atmospheric oxygen enables these catfishes to live in water which contains little dissolved oxygen and indeed to survive desiccation so long as the body, gill cavity and the associated organs are kept moist. In natural conditions they rely heavily on atmospheric air to survive. This capacity to survive in poorly oxygenated conditions results in their being well equipped for transport either in a container of water, or possibly wrapped in a damp cloth.

Table 6. Berenice: fish remains.

| Context     | Species                  |                   | Estimated total length<br>(cm) | Bone(s) identified   |
|-------------|--------------------------|-------------------|--------------------------------|--|
| SK 1        | <i>Sparus aurata</i>     | Gilt-head bream   | 45                             | Right dentary  |
| SK 2        | <i>Pagrus pagrus</i>     | Couch's sea bream | 70                             | Right dentary  |
|             | <i>Epinephelus guaza</i> | Grouper           | 60-80                          | Right maxilla (2 specimens), 2 anterior centra, 1 caudal centrum, right peropercular |
| Area CC 7.1 | <i>Epinephelus guaza</i> | Grouper           | 60                             | Left dentary   |
|             | <i>Sparus aurata</i>     | Gilt-head bream   | 25-30                          | Left dentary (2 specimens), left premaxillary  |
|             | <i>Dentex dentex</i>     | Sea bream         | 20                             | Right premaxillary   |
| Area CC 7.2 | <i>Clarias lazera</i>    | Catfish           | 55-65                          | 4 pectoral fin spines and numerous cranial fragments                                 |
| H 2         | <i>Epinephelus guaza</i> | Grouper           | 80                             | Right premaxillary   |
| SK 4        | <i>Dentex dentex</i>     | Sea bream         | 55                             | Left dentary   |

It is possible to account for the presence of *Clarias* at Berenice in two ways. It may be evidence that the species had a wider distribution originally and the remains are of locally caught fish from the coastal lakes (figs. 2 and 8). Alternatively the species may have been imported from the Nile basin or the Middle East, most probably as a food fish (its flesh is rich and palatable) or even as an exotic fish of bizarre appearance to be kept alive in captivity. Certainly its ability to survive in water with little dissolved oxygen would enable it to be carried in a coastal vessel. *Clarias* has been reported from the necropolis at Salamis on Cyprus, from tomb 79 (Greenwood and Howes, 1973) and as Cyprus also lies outside the natural range of *Clarias* and as they are intolerant of sea water, there can be little doubt that they had been imported to the island. Catfish remains were found in 12 of the 17 bowls in the tomb.

The other species identified are all marine fishes mostly growing to a large size and with palatable flesh and include some of the prime food fish of the Mediterranean today. The grouper or sea perch *Epinephelus guaza* is the largest of its family (Serranidae) in the Mediterranean and is reputed to have attained a length of over a metre and weight of about 30 kilograms (Palombi and Santarelli, 1961), although for various reasons such large fish are rarely found today. It lives in inshore waters from depths of 5 to 300 metres (fig. 8), although it makes forays into open water. The gilt-head bream *Sparus aurata* is a small sea bream attaining a maximum length of 60 centimetres and weight of 5 kilograms. It lives on mud and gravelly grounds in beds of vegetation in relatively shallow water. It shares this habitat with the other sea bream *Pagrus pagrus*, which grows to much the same size and is also found at depths down to 200 metres. Both feed on molluscs and crustaceans and have rounded molariform teeth in the rear of their jaws. The third member of the family Sparidae (sea breams) is *Dentex dentex*, a large fish attaining a length of 90 centimetres and a weight of 12 kilograms. It too can be captured in shallow water but feeds on more active prey, such as fishes and cephalopods. All these sea breams are most commonly caught in spring and summer on the northern coasts of the Mediterranean today. The sea breams and the grouper are all fishes which are likely to have been captured by hook and line from a boat in shallow water and not far offshore. The same methods are used by the few fishermen operating off Benghazi today (Higgins, 1952: 51) and all were probably captured close to the port of Berenice.

#### MARINE MOLLUSCS

Marine molluscs were found in small numbers in most units and several large caches were also recovered. The sample totalled about 1400 specimens from 28 species. In Table 7 I have divided the sample into four main chronological units, indicating habitats according to the zones in Figure 8 (following Luther and Fiedler, 1976) and also the possible use of each specimen as a source of food or as decorative material (following Davidson, 1972; Luther and Fiedler, 1976).

Some of the species listed as edible are of marginal food value and some of the specimens may have had more than one use. *Patella*, for example, (the limpet), which occurs in large numbers on the site, was probably collected mainly for food; however it also has a decorative value, for an attractive ring can be made by cutting out the centre of the shell—and several of these were found. *Murex* also is more or less edible, though fairly tough, but it was particularly valued in the ancient world as a source of purple dye. This dye (secreted from a gland

## ECONOMIC LIFE AT BERENICE

Table 7. Berenice: marine molluscs (Zones according to Figure 8; F = Food, D = Decoration).

| Approximate date (in centuries)                | Species  | Common name                  | Number of specimens | Use    | Zone   |     |
|--|--|------------------------------|---------------------|--------|--------|-----|
| 2nd B.C. – late 1st A.D.                       | <i>Arca diluvii</i>                            | Ark shell                    | 1                   | F      | 2      |     |
|  | <i>Cardium edule</i>                           | Cockle                       | 110                 | F      | 1/2    |     |
|  | <i>Conus mediterraneus</i>                     | Cone shell                   | 3                   | D      | 2      |     |
|  | <i>Donax trunculus</i>                         | Wedge shell                  | 2                   | F      | lagoon |     |
|  | <i>Haliotis tuberculata</i>                    | Ormer                        | 2                   | F/D    | 2      |     |
|  | <i>Murex brandaris</i> and <i>M. trunculus</i> | Murex                        | 99                  | F/D    | 2      |     |
|  | <i>Nassa reticula</i>                          | Netted dog whelk             | 2                   | F      | 2      |     |
|  | <i>Nassa variabilis</i>                        | Smooth dog whelk             | 1                   | F      | 2      |     |
|  | <i>Natica hebraea</i>                          | Necklace shell               | 1                   | ?      | 2      |     |
|  | <i>Ostrea edulis</i>                           | Oyster                       | 1                   | F      | 2      |     |
|  | <i>Patella coerulea</i>                        | Limpet                       | 11                  | F      | 1      |     |
|  | <i>Pisania maculosa</i>                        | —                            | 1                   | ?      | 2      |     |
|  | <i>Scrobicularia plana</i>                     | Peppery furrow-shell         | 2                   | D      | 2      |     |
|  | <i>Trivia europea</i>                          | Cowrie (European)            | 1                   | D      | 2      |     |
|  | <i>Tritonium nodiferum</i>                     | —                            | 1                   | D      | 3      |     |
|  | <i>Turritella communis</i>                     | —                            | 3                   | D      | 2/3    |     |
|  | <i>Zizyphinus granulatus</i>                   | —                            | 1                   | D      | 3      |     |
|  | late 1st A.D. – 3rd A.D.                       | <i>Cardium edule</i>         | Cockle              | 27     | F      | 1/2 |
|  |  | <i>Cardium paucicostatum</i> | —                   | 1      | F      | 2   |
|  |  | <i>Conus mediterraneus</i>   | Cone shell          | 1      | D      | 2   |
| <i>Dolium galea</i>                            |  | —                            | 2                   | D      | 3      |     |
| <i>Donax trunculus</i>                         |  | Wedge shell                  | 1                   | F      | lagoon |     |
| <i>Glycimeris glycimeris</i>                   |  | Dog cockle                   | 1                   | F      | 1/2    |     |
| <i>Murex brandaris</i> and <i>M. trunculus</i> |  | Murex                        | 53                  | F/D    | 2      |     |
| <i>Nassa variabilis</i>                        |  | Smooth dog whelk             | 1                   | F      | 2      |     |
| <i>Patella coerulea</i>                        |  | Limpet                       | 92                  | F      | 1      |     |
| <i>Ranella gigantea</i>                        |  | —                            | 1                   | D      | 4      |     |
| <i>Scrobicularia plana</i>                     |  | Peppery furrow-shell         | 1                   | D      | 2      |     |
| <i>Sepia officinalis</i>                       |  | Cuttlefish                   | 3                   | F      | 2      |     |
| <i>Tellina nitida</i>                          |  | Tellin                       | 1                   | F      | 1/2    |     |
| <i>Turbo rugosus</i>                           |  | —                            | 1                   | D      | 2      |     |
| <i>Venus gallina</i>                           |  | Venus shell                  | 1                   | D      | 1/2    |     |
| 4th – 7th A.D.                                 | <i>Cardium edule</i>                           | Cockle                       | 1                   | F      | 1/2    |     |
|  | <i>Cerithium vulgatum</i>                      | Needle shell                 | 1                   | F      | 2      |     |
|  | <i>Cypraea pyrum</i>                           | Cowrie                       | 1                   | D      | 3      |     |
|  | <i>Murex brandaris</i> and <i>M. trunculus</i> | Murex                        | 2                   | F/D    | 2      |     |
|  | <i>Patella coerulea</i>                        | Limpet                       | 5                   | F/D    | 1      |     |
|  | <i>Scrobicularia plana</i>                     | Peppery furrow-shell         | 1                   | D      | 2      |     |
|  | <i>Trivia europea</i>                          | Cowrie (European)            | 3                   | D      | 2      |     |
|  | <i>Venus verrucosa</i>                         | Warty venus shell            | 1                   | F      | 1/2    |     |
|  | 7th A.D.                                       | <i>Patella coerulea</i>      | Limpet              | c. 950 | F/D    | 1   |

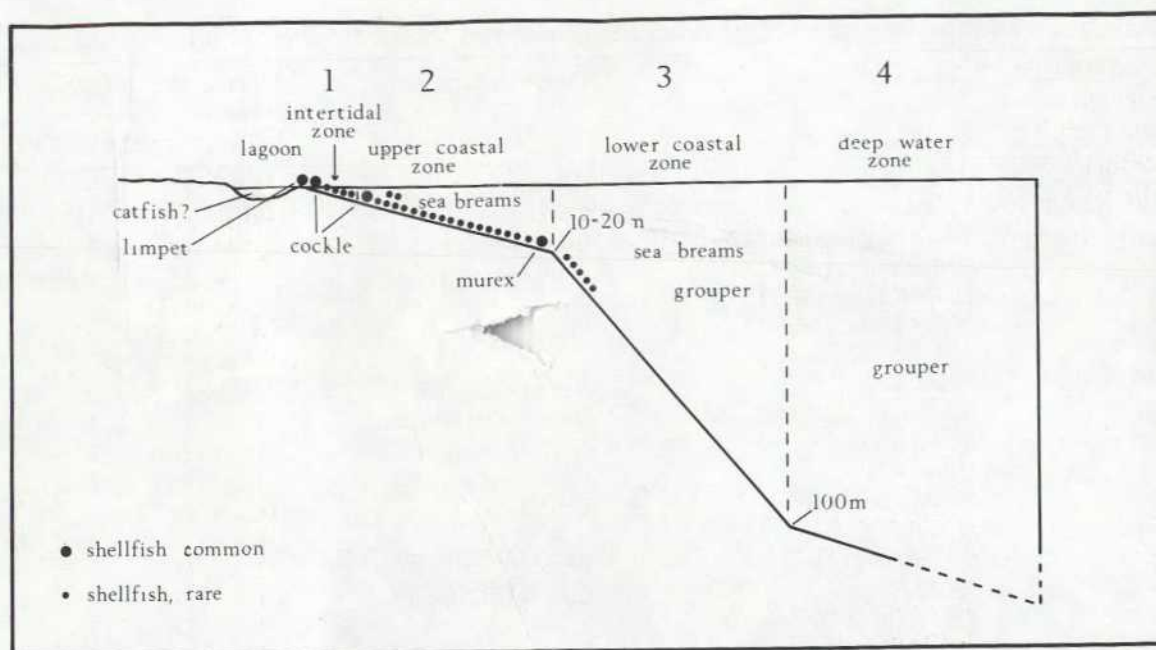


Fig. 8. Coastal and marine exploitation at Berenice. Marine habitats after Luther and Fiedler, 1976.

in the mantle cavity of the mollusc), was produced in north Africa throughout the Roman period (Haywood, 1938: 54), and Pliny (*N.H.* IX.Lx.127) mentions a dye factory on the Syrtic coast and there may also have been a dye industry at Lepcis Magna. The three main species represented at Berenice are the cockle, the limpet and murex; all the other 25 species occur in very small numbers and do not seem to have been of any real importance. The three occur in roughly equal numbers in the three groups of material. The latest deposit, the seventh century limpets, is from two vats, one containing about 450 and the other about 500 specimens.

There are two main points of interest about the molluscs. The first is the information they provide about their habitats and therefore about the ancient coastal environment of Berenice. The wedge shell *Donax trunculus*, for example, which occurs in two deposits, is adapted to brackish waters and is found today in coastal lagoons or brackish drainage ditches, and was presumably collected from the coastal lagoons near Berenice (fig. 2). Six species are derived from the intertidal zone, 21 from the upper coastal zone, and 6 from lower depths (fig. 8). However, although the majority of the species lives in the upper coastal zone, the water above 10/20 metres depth, the shellfish divide into distinct groups adapted to half a dozen different habitats: rocks and harbour piles, gravels, sandy muddy ground, silty water and sea grass meadows. These different habitats can all be found in the vicinity of Benghazi today and suggest that the shellfish, like the fish, were harvested nearby.

The second point of interest is why we have some species but not others in the sample, and this is dealt with in the discussion of marine exploitation below.

## DISCUSSION

It is difficult to estimate the importance of marine resources in the economic life of the ancient town. References to fishing are few and far between. For example, apart from the

comment by King Ptolemy Evergetes on the fish of the river Lethe near Berenice, there is an enigmatic comment by Synesius that Andronicus, sometime governor of Cyrenaica, had been a fisherman at Berenice. One bronze fish hook was found in a sixth century A.D. context at Sidi Khrebish. Today the Libyan sea is extremely productive and yet 'there is practically no inshore fishing in Libya, despite the length of the coastline and the abundance of fish' (Higgins, 1952: 51). The absence of tunny remains perhaps suggests that their distribution in classical times was similar to that of the present day: the modern tunny fishing industry is based in Tripoli, and postwar attempts to start a tunny factory at Benghazi failed because of low production (Higgins, 1952: 52).

The absence of certain kinds of fish and shellfish is perhaps as significant as the presence of the species listed in Tables 6 and 7. The Romans knew the art of oyster culture and Roman sites in Britain and elsewhere frequently contain large deposits of oysters. At Latimer villa, for example, the proportions of shellfish were: oysters—93 per cent, mussels—4 per cent, whelks—2 per cent and cockles—1 per cent (Branigan, 1967: 167). Oysters have also been found at several classical farmsteads in Molise, southern Italy (Barker, 1977b). Yet at Berenice, a major coastal town, there is only one oyster specimen. There are three possible explanations: that it was eaten but simply has not been found on the site, that it did not exist in the area, or that it existed but was not collected. The first explanation seems unlikely in view of the extent of the excavations at Sidi Khrebish and the recovery in them of several kinds of edible shellfish. It is possible that the Berenice coast, which is exposed to strong winds and currents, did not suit the oyster, for in disturbed water sand works its way into the hinge of the shell and quickly kills the oyster. Alternatively, the oyster may have existed in the area—the single specimen could imply this—but was simply not collected: both cockles and limpets, the main shellfish brought to the town as food, could be collected easily at the water's edge, whereas oysters have to be gathered by diving or dredging techniques. Whilst we can only speculate about these hypotheses, the fish evidence supports the third hypothesis, that the oyster was simply not collected because it needed too much effort.

The oddest omission from the list of fish in Table 6 is the red mullet *Mullus barbatus*, because this fish was one of the most valued and famous in the ancient world. Today it is one of the two high quality fish (the other being the stone bass *Polyprion americanum*) which make up the most valuable part of the Libyan catch (*Economic Development of Libya*, 1960: 201). Davidson (1972: 109) has an apt description of the fascination and curious esteem held for the mullet in the ancient world: 'The Greeks displayed a proper respect for and interest in the fish and regarded it as sacred to Hecate, but they did not go mad over it as the Romans seem to have done during the first century A.D. Cicero, Horace, Juvenal, Martial, Pliny, Seneca and Suetonius have left abundant and interesting testimony to the red mullet fever which began to affect wealthy Romans during the last years of the Republic and really gripped them in the early empire. The main symptoms were a preoccupation with size, the consequent rise to absurd heights of the prices of large specimens, a habit of keeping red mullet in captivity, and the enjoyment of the highly specialised aesthetic experience induced by watching the colour of the dying fish change.'

The absence of the red mullet, like that of the oyster, may simply be the result of poor sampling; but there is the possibility that it reflects the unsophisticated nature of the diet and economy of the Sidi Khrebish suburb—the kind of subsistence economy already suggested by the faunal data. The fish represented in the sample could all be caught easily by hook and line in shallow water, whereas the mullet and the stone bass are deep water fish. The shellfish used for food could also be collected with the least effort possible at the

water's edge. The mullet and the oyster required more effort and more technology. The technology seems to have been available, for it was used for industrial purposes: dye production was founded on the collection of murex shells from shallow water, presumably by diving, and sponge diving may also have been an important industry here as it was further west (Pliny N.H. IX.149, XXXI.130-1; Martial IV.10, 5-6). The fact that the technology was not used for exotic marine foods suggests that it was not worthwhile and that most food for most people was provided from the land. If this interpretation is correct, then it is more likely that the catfish were caught in the coastal lakes than that they were exotic imports for a sophisticated urban market. In eastern Cyrenaica today, where peasant life is based essentially on sheep, goats and crops, 'despite living almost their entire lives within a stone's throw of the sea, coast dwellers never engage in either subsistence or commercial fishing activities and many of them have never tasted fish' (Johnson, 1973: 50).

## V. Plant Remains (D. Webley)

Apart from the sample of plant remains retrieved from the Area CC deposit by flotation, one other collection of plant residues was found during the excavations, a cache of over fifty fruit stones of *Prunus*, probably *Prunus institia*, the wild plum. This deposit was dated to the mid third century A.D. The seeds present in the Area CC sample (Table 8) were recovered from a deposit of the early imperial period; all were carbonised.

It is impossible to know whether the sample represents one field, one season, or one site, but on the assumption that the cereals were grown near the site, the seeds can be regarded as a 'closed' local assemblage related to agricultural activity. If this hypothesis is accepted, then the mixture of species is perfectly understandable as a barley crop. Half the barley grains were poorly formed, suggesting that the crop was poor and that the oats and grasses filled up the gaps. Since barley is sensitive to acid soils and spurrey (which grows under acid conditions) is present in the sample, the obvious conclusion is that the crop was grown in acid soils and suffered as a result.

Table 8. *Berenice (Area CC): plant remains.*

| Number of<br>Seeds |  |                            |
|--------------------|--|----------------------------|
| 24                 | <i>Hordeum vulgare</i>                           | Barley                     |
| 5                  | <i>Avena strigosa</i>                            | Bristle-pointed (sand) oat |
| 5                  | <i>Lolium rigidum</i>                            | Rye grass                  |
| 4                  | <i>Malva alcea</i>                               | Mallow                     |
| 3                  | <i>Trifolium repens</i>                          | White clover               |
| 2                  | <i>Anthyllis vulneraria</i>                      | Kidney vetch               |
| 2                  | <i>Pisum sativum</i> var. <i>arvensis</i>        | Pea                        |
| 2                  | <i>Myosotis arvensis</i>                         | Forget-me-not              |
| 1                  | <i>Vicia faba</i>                                | Horse bean                 |
| 1                  | <i>Vicia ervilia</i>                             | Bitter vetch               |
| 1                  | <i>Plantago lanceolata</i>                       | Ribgrass                   |
| 1                  | <i>Bromus stęgalis</i>                           | Barren brome               |
| 1                  | <i>Chenopodium album</i>                         | Fat hen                    |
| 1                  | <i>Spergula arvensis</i>                         | Spurrey                    |
| 6                  | <i>Brassicae</i> , possibly <i>B. sinapis</i>    | Charlock                   |
| 7                  | <i>Gramineae</i> (indeterminate grass fragments) |                            |

## VI. Hellenistic and Roman Agriculture in Cyrenaica

To Pindar, the land of Cyrene was 'the choicest garden of Zeus' (*Pyth.* 9.57) and some historians have held as lyrical a view of classical Cyrenaica in general. Coster (1951) provides the most optimistic exposition of this thesis. During the early Roman empire 'the coastal plain and the terraces of the Jebel were one of the granaries of the ancient world; reference to the region is seldom made without mention of its fertility' (Coster, 1951: 16). 'Real wealth lay in its herds of horses and camels and cattle' (Coster, 1951: 15). The Berenice data are obviously at considerable variance with Coster's descriptions. The single crop sample recovered from the excavations (from an early imperial context) was poor, harvested from a poor soil; sheep and goats (the latter in particular) were the mainstay of the stock economy rather than cattle, camels or horses; and the only other additions to the diet of the citizens were a few cockles and limpets collected on the shores and fish caught in the shallows nearby. In other words, the diet for the urban population of the Sidi Khrebish suburb seems to have been much the same as that of the rural population of Libya in recent times: in terms of Johnson's model of traditional land use in Cyrenaica (fig. 3), the ancient diet was, at worst, like that of the modern goat herders of the coastal plain and, at best, like that of the sheep and goat herders of the Jebel Akhdar. 'In every sense the standard of living capable of being supported in the *sahil* (the coastal plain) is low' (Johnson, 1973: 50).

From the architectural remains at Sidi Khrebish, the city (or at least this part of it) seems to have been relatively prosperous until the early to mid third century A.D., but it then suffered some kind of social and economic collapse and, although city life revived to some extent in later centuries, was never as prosperous as it had been in the early empire. There were presumably always a few rich people with a better standard of living than the rest of the population; but the fact that the food refuse from the prosperous suburban houses prior to c. 250 A.D. at Sidi Khrebish is identical to that of the poorer industrial quarter which grew up on the site in the late empire suggests that most people in the city shared in the traditional unsophisticated diet. Around the city there must have been a small area of agricultural land, very much as today (fig. 1c), tilled by peasants living on the land or in the city. These holdings probably supplied the old plough cattle and pigs eaten in the city. Where the sheep and goats (the main component of the meat economy) came from, as well as the meat cattle, is open to speculation. As I suggested in section III, the most efficient methods of stock keeping by which they could have been raised would have been the traditional methods of pastoralism using the different areas of seasonal grazing on the coastal plain and Jebel Akhdar (fig. 3). What we cannot tell from the Berenice faunal sample is whether the citizens owned stock and hired shepherds and herdsmen, or the town bought the animals from the inland pastoral population. The crucial factor in the town economy must have been the relationship between the town and the inland population (discussed below) but, in peaceful times at least, it is likely that—as in recent historical times—the two systems operated side by side.

What then of trade, the other element in the Berenice economy? By all accounts the most valuable product of Cyrenaica was silphium, prized by the Greeks for its medicinal properties. The plant was widely exported from Cyrenaica until its virtual disappearance by the first century A.D. Whatever the plant may have been—various species of *Ferula* or *Thapsia* have



been suggested—there is no direct archaeological evidence for its existence. The documentary sources also suggest that olive oil may have been an important export product over a long period (Theophrastus *Enquiry Into Plants* IV.31; Synesius *Letters* 134, 138). The study of the coarse ware from the Sidi Khrebish excavations (Riley, this volume) did not find direct evidence for the export of oil or wine from late Hellenistic times onwards—no amphoras were made locally after the late third or early second century B.C. On the other hand it has been suggested that imported amphoras could have been re-used for export, and certainly olive presses are frequently found on late Roman farms in the Jebel Akhdar (Goodchild, 1952–53).

None of the products mentioned by Synesius are being sent abroad—ostriches, ostrich eggs, salt, saffron, hides, and a little wine (*Letters* 129, 130, 134, 148)—would have been staple export commodities with the exception of wine and perhaps salt. Although there are frequent documentary references to the pastures of Cyrenaica, there is no historical evidence for a wool trade and this is supported by the bias towards goats in the ovicaprid sample from Sidi Khrebish (section III). Industries at the town probably included sponge diving and dye manufacture from murex and the latter in particular could have been important for export—although the same technology does not seem to have been used to provide additional food for the community (section IV). The only other likely candidate for export, silphium and oil apart, is grain. An inscription from Cyrene, for example, tells us that between 330 and 326 B.C. the city sent some 805,000 *medimni* of grain to famine-stricken areas of Greece (*S.E.G.* IX.2). Cyrenaica may also have provided Pompey with grain in preparation for his war with Caesar (Caesar *Civil War* III.5). It is very difficult to assess the extent to which Cyrenaica exported grain in the imperial period—the main ‘granary’ areas of North Africa were Egypt and Tunisia. However, Berenice was certainly an important port in the Roman period, and it is difficult to postulate non-agricultural produce (other than dye, perhaps) as principal export commodities. Riley (this volume) reaches much the same conclusion about grain export from his study of the coarse wares.

Of course one archaeological plant sample does not make an arable economy, and the Berenice sample could be atypical, or it could reflect a short-term situation. Nevertheless, it remains true that the Area CC cereal sample is exactly the kind of crop we would expect to find grown around Benghazi. The principal agricultural soils—easily worked, well watered, well drained—were the fans at the foot of the Jebel and the wadis and depressions within the Jebel. It is extremely unlikely that the soils of the coastal plain around Berenice could have provided anything more than the immediate needs of the city; the most likely interpretation of Berenice’s economic success remains that it was an exporting agency, a port of trade, rather than a producer.

To my mind, therefore, a principal conclusion suggested by the analysis of the economic data from Sidi Khrebish is that Berenice was a port with poor land resources—the real arable wealth of Cyrenaica lay further inland. The implication of this conclusion is that a real understanding of the economic history of Berenice will depend as much on the archaeology of the hinterland as on the archaeology of the town. The relationships between town and country, coast and Jebel, and above all between farmer and pastoralist, were surely fundamental to the success or failure of the coastal cities. The relationships between farmer and pastoralist are many and various. At one end of the spectrum, with low populations and an abundance of space, a pastoral and an arable system may exist side by side with virtually no contact. At the other end, with dense settlement and competition for space, the land requirements of agricultural settlement may be diametrically (and often fatally) opposed to the grazing needs of the pastoralist, and dramatic change of some kind within either or both of the systems is inevi-

table. In between these extremes is a series of more or less integrated relationships of economic interdependence. For example, there are many instances in the ethnographic record of pastoral and farming communities depending on each other for staple foodstuffs and for other resources—the flocks of the pastoralist frequently graze (and manure at the same time) the fallow fields of the farmer, and the pastoralist may provide labour for the farmer at peak times of the agricultural year such as the harvest. In Cyrenaica we can discern, albeit indistinctly most of the time, such changing relationships during the Hellenistic and Roman periods.

I have therefore closed this report on the Berenice material by putting forward a model of agricultural development in Cyrenaica which attempts to illustrate the changing relationship between town and country that seems to me to be the cornerstone of the economic history of the area. The model is undoubtedly primitive in the extreme, but it can be tested and refined by urban archaeology similar to that of Sidi Khrebish and above all by the excavation of different kinds of rural site on the coastal plain and in the Jebel. If it helps to stimulate rural archaeology in Cyrenaica oriented towards the economic issues it raises (however simplistically), it will have served its purpose.

The descriptions of the indigenous peoples of Cyrenaica by the Greek authors suggest that the pre-colonial exploitation of the Jebel Akhdar and the coastal plain by pastoral tribes was much as in Johnson's model of recent systems (fig. 9: 1), economies which can be traced back to neolithic times in Cyrenaica (Higgs, 1967). Such pastoral/arable systems could adapt easily to limited colonisation of the coastal plain by agriculturalists; they could adapt, but with difficulty, if deprived of the plain altogether; but the appropriation of arable land in the northern Jebel as well would mean eventual catastrophe for them, even though the process was to take several centuries. The coastal plain and the northern slopes of the Jebel consisted of land which 'was territory held by the native tribes and was essential to the smooth operation of their balanced agricultural-pastoral economy. . . . Moreover, because the camel had not reached northern Africa, a nomadic society exclusively dependent on sheep and goats, and cut off from access to dependable drought-free agricultural land, would have an increasingly difficult time establishing a *modus vivendi* in the more marginal districts' (Johnson, 1973: 101).

At Benghazi, for example, the first colony at Euhesperides would probably have been supported by agricultural land within a few kilometres of the site and by stock grazed on the plain and the Jebel (fig. 9:2). Although the new Greek colonies took the best arable land between Benghazi and Cyrene, large tracts of country remained in between the towns which must have been free for use by the pastoral tribes as before, and the main Jebel population would have been scarcely affected. From Herodotus (IV.171), for example, we learn that the Auschisae, who dwelt above Barca, came down to the sea near Euhesperides and the territory of the Bacales reached the coast near Tauchira. However, as the settlement network grew, the pastoral tribes would have been excluded gradually from access to the plain and the northern Jebel: thus Herodotus tells us in the same passage that the territory of the Asbystae, a tribe with the same way of life as those above Euhesperides and Tauchira, did not extend to the coast for this was occupied by the Cyrenaeans. Occasional conflict was inevitable. Strabo (*Geography* XVII.3.21) said that the Cyrenaeans had to defend themselves against the barbarians living 'above' them—presumably on the Jebel. In 568 B.C. the native Libyans revolted when population expansion within the territory of Cyrene resulted in 'its encroachment upon the territory of its neighbours' (Herodotus IV.159), whilst Pausanias (*Description of Greece* IV.26.2), writing of events in the late fifth century B.C., states that 'at least one settlement,

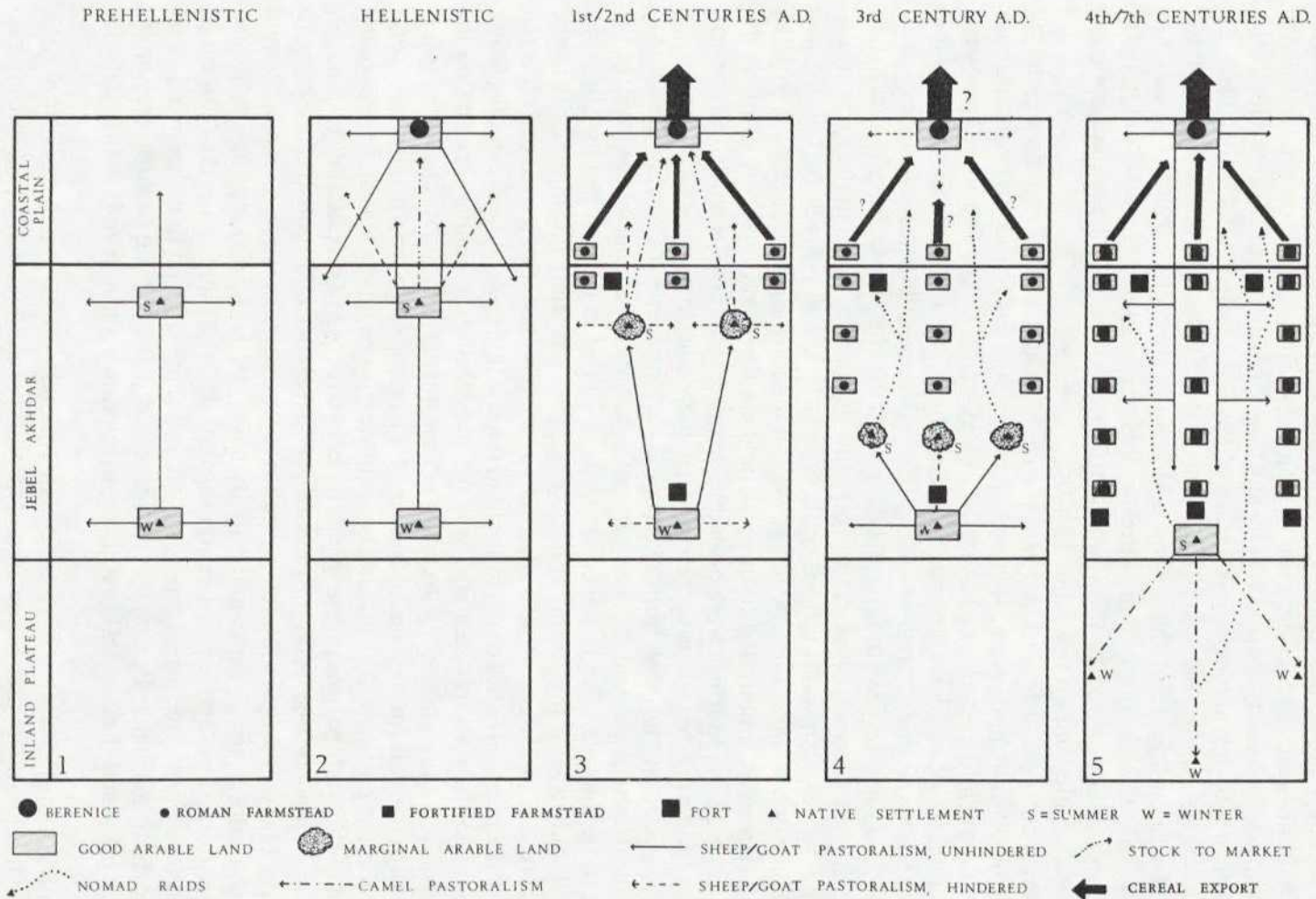


Fig. 9. A model of agricultural development in Cyrenaica. An indigenous pastoral population raising sheep and goats (1) adapts without difficulty to Hellenistic colonisation (2), but is pushed into marginal situations by the extension of agricultural settlement into the Jebel during the early Roman empire (3). The process leads to an inevitable deterioration in relationships between farmer and nomad in the third century A.D. (4). The appropriation of the Jebel for agriculture in the fourth and fifth centuries A.D. forces the nomads to change their subsistence basis from the sheep and goat to the camel (5), with disastrous consequences for the security of the agricultural population.

Euhesperides, was so hardpressed by barbarian attacks that its citizens encouraged any and all available Greeks to join them' (Johnson, 1973: 102). Inscriptions from Cyrene, Apollonia and Tauchira also imply hostile relations between cities and natives, but the paucity of references to really large-scale conflict between colonies and hinterland compared with later times suggests that the Hellenistic period was by and large one of comparative stability in the relationship between Greek and native, a situation which is illustrated in the model (fig. 9: 2). Epigraphic evidence also shows that some of the nomadic tribes changed to a sedentary mode of existence under the influence of the colonies. Hostilities there may well have been, but clearly there was still 'slack in the system'—presumably the coastal settlements did not present a total and unavoidable threat to the nomadic tribes, who would still have had sufficient water supplies and arable land on the Jebel Akhdar.

In the first and second centuries A.D., however (fig. 9: 3), agricultural expansion into the Jebel took place on an enormous scale, aided by improved communication networks (Goodchild, 1952–53; Goodchild papers 11, 13 and 15 in Reynolds, 1976). The new farms were situated on the pockets of good arable soil, either on the wadi fans at the foot of the Jebel escarpment or in the wadis and depressions in the Jebel. The archaeological evidence of these sites is eloquent testimony to the labour and effort put in by the new farmers to make their land profitable: hillside channels were cut to trap run-off, cisterns hewn in the rock to conserve the precious water, dams and terrace walls built to hold and protect the soil. Despite their success as productive units, the new farms were in the long term incompatible with the native pastoral economies, amounting to an onslaught on the traditional way of life in the Jebel Akhdar (fig. 9: 3). Some tribes were probably incorporated into the agricultural workforce, but those that were not clearly presented an increasingly dangerous threat to the expanding arable economy: the new farms were defended by a series of forts in the areas of densest agricultural settlement and at the limits of agricultural expansion, to control the nomads' access to the plateau. The Berenice area was defended in the first instance by a fort at Tailimun 50 kilometres to the south; and a second fort was built 120 kilometres to the south-east at Msus, situated on the desert edge near a major watering place—clearly located to keep an eye on the pastoral tribes of the hinterland (Goodchild paper 13 in Reynolds, 1976).

A critical factor in the pastoral economy was the availability of summer grazing on the northern Jebel and coastal plain and the freedom of movement to exploit it. The summer was the critical period of the year for the nomad and any stock on the new farms was in direct competition for the limited pastures. At the same time the new farms on the fans at the foot of the escarpment and in the wadi bottoms were using the land with the best resistance to drought, the land which must have been crucial for the barley cultivation of the nomad economies. In sum, the process of land appropriation for agricultural settlement in inland Cyrenaica would have forced the pastoral tribes onto increasingly marginal land, making the traditional economy at best precarious and, in bad years, suicidal. Relationships with the indigenous population therefore must have been increasingly fraught, but the fact that sheep and goats were being brought to market at Berenice at this time makes it clear that pastoral economies using the coastal plain and the Jebel were still able to operate in the first and second centuries A.D.

The social and cultural decline witnessed at Sidi Khrebish during the third century A.D. coincides with considerable evidence for a catastrophic breakdown in the relationship between Roman and nomad in Cyrenaica (fig. 9: 4), in a context of empire-wide problems of frontier control. Fortified farmhouses were constructed in the Jebel Akhdar and on the coastal plain during the third and fourth centuries A.D. (Goodchild, 1952–53). An expedition against

the Marmaridae was mounted in about A.D. 270 (Goodchild paper 17, in Reynolds, 1976) and an inscription of the late third or early fourth century shows that fresh troops were probably brought into the area as further protection (Goodchild and Reynolds, 1962). The level of nomadic raids steadily increased, reaching a crescendo of violence in the lifetime of Synesius. The steady appropriation of traditional grazing and arable lands in the Jebel during the late Roman empire would in time have destroyed native pastoralism based on sheep and goats, for such an economy had to have access to summer and winter pastures on the Jebel or disintegrate. It is surely no coincidence that the adoption of the camel by the native tribes coincided with the restriction of their traditional way of life to increasingly marginal areas of the Jebel Akhdar. The development of nomadic camel herding after about 400 A.D. enabled the pastoral tribes to move into the arid plateau formerly uninhabited, where their new mobility posed an even greater threat to the coastal cities than ever before (fig. 9:5).

At Berenice the cultural collapse of the third century may be reflected in the archaeological record of the H 2 cistern and SK 3 units. In the first place, a reasonable interpretation of the fall in sheep and goat frequencies in both groups of material is that the normal grazing systems embracing the coastal plain and the Jebel had broken down and that the freedom of movement needed for pastoralism no longer existed. In such a situation the town would have had to seek its meat in the local stock, the cattle and pigs, and this change in diet seems to be recorded in the H 2 and SK 3 samples. The collapse of the normal grazing systems is shown in Figure 9:4.

The other contents of the H 2 cistern probably throw further light on the period. Apart from the food refuse, the twenty dogs, four cats, donkey and horse bones, there was a large collection of human skeletal material—the remains of two adults (male and female), a girl in her late teens, a young child about five years old, and about forty very young babies. The bones were jumbled in the cistern, but there was no evidence such as skull damage or butchery cuts to suggest dismemberment. There were no visible signs of disease. The nature of the graffiti on the walls of House H suggests that the place was in use as a hotel or perhaps as a brothel shortly before the cistern was filled up in the early third century. The enormous numbers of babies might just be evidence of normal rates of infant mortality, but the large numbers of cats and dogs associated with them are difficult to explain as the normal refuse of a domestic backyard. The absence of human remains from the other cisterns filled with rubbish at Sidi Khrebish again underlines the uniqueness of the H 2 deposit, and the occurrence of two adults, a teenager and a five year old child as well as all the babies suggests that the cistern fill cannot be regarded as the result of normal burial procedures.

Lloyd has argued in volume I that plague may have been a factor contributing to the decline in the prosperity of Berenice in the third century A.D. The age range of the human bodies in the cistern fits that hypothesis. Human burial in rubbish dumps was clearly not a feature of normal life in the town and the H 2 deposit could well represent an unusual and desperate response to widespread sudden death. Moreover, the cat and dog carcasses in the cistern can perhaps be integrated into the plague hypothesis. In medieval England, for example, scavenging animals were commonly regarded as carriers of plague. 'Dogs were thought to be carriers and were exterminated as soon as possible' (Willcox, 1940: 227). A man in Gloucester is recorded as being 'paid . . . for a horseshoe to kill dogs in time of infection' and in 1636 plague in Chipping Norton was said to be caused by 'an infected dead dog, which was thrown against growing hemp and infected those which gathered the hemp a month later' (Willcox, 1940: 227).

Thus plague may have struck the town in the third century and be reflected in the archaeo-

logical record. However, as in the case of the Black Death in medieval Europe, it is likely to have been a symptom rather than the cause of economic decline in the city. The collapse of the economic order may have been a result of simple catastrophe falling on the city out of the blue such as a plague or an earthquake, but a more likely explanation is that a number of factors—economic, social, demographic, for example—conspired together, and that a root cause was the collapse of the complex economic relationships which had existed between the coastal port, the inland farms and the pastoral tribes. However that may be, the rise in sheep and goat frequencies in the fourth and fifth centuries A.D. suggests that pastoral stock-keeping resumed as an important element in the economic life of the city. (Synesius in fact suggests that rural life flourished more than urban life at this time). If we are right in thinking that the native Jebel population had been either assimilated into agricultural systems or pushed back into the southern Jebel and the inland plateau, then a return to mobile stock systems pivoting on Berenice would have been feasible: as Rome controlled (however uneasily) all of Cyrenaica from the coast to the *limes*, the summer and winter pastures of the Jebel would have been available for sheep and goats owned by the town (fig. 9: 5).

This analysis of the economic data from the Sidi Khrebish excavations is inevitably a series of tentative hypotheses constructed from limited material. Even so, whilst some of the evidence corroborates what we knew already from the historical record, some of it differs to a remarkable degree and throws fresh light on what life was like in ancient Cyrenaica. As the first analysis of economic material from a classical excavation in the area, this study also raises many more questions than it answers, particularly of the relationship between Hellenistic and Roman colonisation on the one hand and the traditional system of land use on the other. It is obvious that the study of the economic basis of Berenice has to be integrated not simply with the economic archaeology of the other coastal towns but above all with that of inland farmsteads and native settlements. Archaeology still has a massive contribution to make to our understanding of the formation of the Cyrenaican landscape and people, in the classical period perhaps more than any other. As I said at the outset, I believe that the study of the ancient economy through the archaeological record must be an essential part of that undertaking in the future.

## Appendix: Metric Data from the Berenice Animal Bones

The measurements listed below were taken where possible. Only maximum lengths were measured in the case of some of the small bones of cat and dog. All measurements are in millimetres. (L) = maximum length of a complete bone.

*Mandible and Maxilla:* (1) maximum length M3; (2) maximum length M3-M1; (3) maximum length P4-P2.

*Humerus:* (1) maximum width distal epiphysis; (2) maximum thickness distal epiphysis; (3) maximum height distal articulation; (4) maximum width distal articulation.

*Radius:* (1) maximum width proximal epiphysis; (2) maximum width distal epiphysis.

*Metacarpal:* (1) maximum width proximal epiphysis; (2) maximum thickness proximal epiphysis; (3) maximum width distal fusion point; (4) maximum thickness distal fusion point.

*Tibia:* (1) maximum width distal epiphysis; (2) maximum thickness distal epiphysis.

*Calcaneum:* (1) length from most posterior point of bone to most anterior part of articular surface; (2) length of articular surface; (3) height of bone from superior surface of articular surface to base.

*Astragalus:* (1) maximum length lateral side; (2) maximum thickness lateral side, measured from baseline to anterior side; (3) maximum length medial side.

*Metatarsal:* (1) maximum width distal fusion point; (4) maximum thickness distal fusion point.

|        | Context    | Bone                        | (1)                    | (2)  | (3)  | (4)  | (L)   |
|--------|------------|-----------------------------|------------------------|------|------|------|-------|
| CAMEL  | SK 2       | metatarsal                  | 61.6                   | 44.2 | —    | —    |       |
|        | SK 3       | metatarsal                  | 65.0                   | 52.0 | —    | —    |       |
|        | SK 3       | metatarsal                  | 64.6                   | 52.2 | —    | —    |       |
| CAT    | SK 2       | humerus                     | 22.0                   | 15.1 | 12.6 | 15.5 |       |
|        | SK 3       | humerus                     | 21.9                   | 15.7 | 13.2 | 15.6 |       |
|        | SK 3       | humerus                     | 21.0                   | 16.0 | 12.8 | 14.6 |       |
|        | H 2        | humerus                     | 22.0                   | 15.7 | 12.4 | 15.6 | 90.0  |
|        | H 2        | humerus                     | 18.3                   | 13.2 | 10.8 | 12.1 | 75.0  |
|        | H 2        | humerus                     | 22.1                   | 15.2 | 12.4 | 15.1 | 90.0  |
|        | H 2        | humerus                     | 21.8                   | 15.1 | 11.6 | 15.4 | 91.0  |
|        | H 2        | radius                      | 10.0                   | 12.5 |      |      | 64.0  |
|        | H 2        | radius                      | 11.8                   | 14.0 |      |      | 85.0  |
|        | H 2        | femur                       | (L): 98.0, 107.0, 78.0 |      |      |      |       |
|        | SK 2       | tibia                       | 14.6                   | 10.2 |      |      |       |
|        | H 2        | tibia                       | 16.4                   | 13.0 |      |      | 100.0 |
|        | H 2        | tibia                       | 16.1                   | 13.2 |      |      | 97.0  |
|        | H 2        | tibia                       | 13.0                   | 9.0  |      |      | 73.0  |
|        | H 2        | tibia                       | 14.5                   | 11.0 |      |      |       |
| H 2    | tibia      | 14.1                        | 11.0                   |      |      |      |       |
| SK 2   | calcaneum  | (L): 26.9                   |                        |      |      |      |       |
| H 2    | calcaneum  | (L): 27.4, 27.3, 26.3, 26.5 |                        |      |      |      |       |
| H 2    | astragalus | (L): 18.3, 19.1             |                        |      |      |      |       |
| CATTLE | SK 1       | mandible                    | 38.0                   | —    | —    |      |       |
|        | SK 1       | mandible                    | 35.3                   | —    | —    |      |       |

BARKER

|     | <i>Context</i> | <i>Bone</i> | (1)  | (2)  | (3)  | (4)  | (L)   |
|-----|----------------|-------------|------|------|------|------|-------|
|     | SK 2           | mandible    | 34.2 | —    | —    |      |       |
|     | SK 2           | mandible    | 36.0 | —    |      |      |       |
|     | SK 2           | humerus     | 83.6 | 84.3 | 54.1 | 81.7 |       |
|     | SK 3           | humerus     | 77.0 | 73.8 | 41.0 | 73.2 |       |
|     | SK 3           | humerus     | 79.5 | 60.0 | 42.6 | 72.6 |       |
|     | SK 4           | humerus     | 52.6 | 45.0 | 34.1 | 51.7 |       |
|     | SK 2           | radius      | 73.0 | —    |      |      |       |
|     | SK 3           | radius      | 77.8 | —    |      |      |       |
|     | SK 3           | radius      | —    | 97.5 |      |      |       |
|     | SK 3           | radius      | —    | 83.0 |      |      |       |
|     | SK 1           | metacarpal  | —    | —    | 62.1 | 31.5 |       |
|     | SK 1           | metacarpal  | —    | —    | 62.0 | 31.1 |       |
|     | SK 2           | metacarpal  | 69.8 | 41.6 | —    | —    |       |
|     | SK 2           | metacarpal  | —    | —    | 51.5 | 27.5 |       |
|     | SK 2           | metacarpal  | —    | —    | 54.1 | 28.2 |       |
|     | SK 2           | metacarpal  | —    | —    | 51.8 | 25.4 |       |
|     | SK 2           | metacarpal  | —    | —    | 56.0 | 30.3 |       |
|     | H 2            | metacarpal  | —    | —    | 48.5 | 24.7 |       |
|     | SK 1           | tibia       | 53.7 | 44.3 |      |      |       |
|     | SK 2           | tibia       | 61.0 | 43.2 |      |      |       |
|     | SK 2           | tibia       | 56.4 | 43.6 |      |      |       |
|     | SK 3           | tibia       | 72.5 | 50.0 |      |      |       |
|     | SK 2           | calcaneum   | 48.2 | 26.4 | 51.9 |      |       |
|     | SK 2           | calcaneum   | 49.2 | 28.5 | 50.1 |      |       |
|     | SK 3           | calcaneum   | 59.0 | 33.2 | 62.0 |      |       |
|     | SK 3           | calcaneum   | 65.8 | 34.1 | 68.4 |      |       |
|     | SK 3           | calcaneum   | 66.5 | 37.5 | 68.5 |      |       |
|     | H 2            | calcaneum   | 60.9 | 31.1 | 64.1 |      |       |
|     | H 2            | calcaneum   | 58.7 | 33.2 | 60.1 |      |       |
|     | SK 1           | astragalus  | 48.2 | 26.6 | 44.1 |      |       |
|     | SK 2           | astragalus  | 70.0 | 38.0 | 57.0 |      |       |
|     | SK 2           | astragalus  | 72.0 | 41.0 | 66.5 |      |       |
|     | SK 2           | astragalus  | 69.0 | 41.0 | —    |      |       |
|     | SK 2           | astragalus  | —    | 39.4 | 65.6 |      |       |
|     | SK 3           | astragalus  | 84.3 | 51.2 | 75.2 |      |       |
|     | SK 3           | astragalus  | 85.0 | 51.3 | 77.3 |      |       |
|     | SK 3           | astragalus  | 66.0 | 37.5 | 60.1 |      |       |
|     | SK 5           | astragalus  | 68.2 | 37.5 | 62.3 |      |       |
|     | SK 5           | astragalus  | 62.6 | 34.5 | 55.5 |      |       |
|     | H 2            | astragalus  | 73.2 | 40.5 | 68.0 |      |       |
|     | H 2            | astragalus  | 81.7 | 44.8 | 74.7 |      |       |
|     | H 2            | astragalus  | 72.0 | 43.7 | 68.8 |      |       |
|     | H 2            | astragalus  | 77.7 | 44.2 | 71.5 |      |       |
|     | SK 1           | metatarsal  | 55.5 | 48.0 | —    | —    |       |
|     | SK 2           | metatarsal  | 45.0 | 48.3 | 58.2 | 32.0 | 220.0 |
|     | SK 2           | metatarsal  | 51.7 | 47.0 | 54.7 | 32.0 | 245.0 |
|     | SK 3           | metatarsal  | 71.1 | 72.9 | —    | —    |       |
| DOG | SK 2           | humerus     | 33.3 | 25.7 | 19.7 | 22.0 | 170.0 |
|     | SK 2           | humerus     | 31.4 | 25.0 | 18.7 | 22.3 | 175.0 |
|     | SK 2           | humerus     | 33.7 | 26.1 | 19.6 | 22.3 | 187.0 |
|     | SK 2           | humerus     | 33.4 | 25.1 | 18.5 | 21.1 |       |
|     | SK 2           | humerus     | 26.1 | 19.1 | 14.1 | 17.3 |       |
|     | SK 2           | humerus     | 28.7 | 20.0 | 17.8 | 19.8 |       |



ECONOMIC LIFE AT BERENICE

| <i>Context</i> | <i>Bone</i> | (1)  | (2)  | (3)  | (4)  | (L)   |
|----------------|-------------|------|------|------|------|-------|
| SK 3           | humerus     | 34.4 | 25.7 | 19.6 | 23.5 | 172.0 |
| SK 3           | humerus     | 27.6 | 20.2 | 17.0 | 18.8 |       |
| SK 3           | humerus     | 28.5 | 23.0 | 17.3 | 23.4 |       |
| SK 3           | humerus     | 28.0 | 20.0 | 16.2 | 18.0 |       |
| SK 3           | humerus     | 32.4 | 25.6 | 18.4 | 23.0 |       |
| SK 3           | humerus     | 28.8 | 22.3 | 18.0 | 18.2 |       |
| SK 3           | humerus     | —    | —    | 17.3 | 23.0 |       |
| H 2            | humerus     | 27.0 | 21.3 | 17.0 | 19.3 | 134.0 |
| H 2            | humerus     | 28.2 | 21.4 | 16.2 | 18.6 | 108.0 |
| H 2            | humerus     | 28.7 | 22.1 | 17.0 | 20.0 | 145.0 |
| H 2            | humerus     | 27.1 | 21.4 | 18.2 | 18.4 | 135.0 |
| H 2            | humerus     | 27.0 | 20.6 | 17.3 | 19.1 | 132.0 |
| H 2            | humerus     | 27.8 | 21.0 | 15.5 | 19.4 | 125.0 |
| H 2            | humerus     | 24.6 | 18.7 | 15.5 | 17.5 | 140.0 |
| H 2            | humerus     | 34.6 | 27.0 | 20.3 | 23.2 | 185.0 |
| H 2            | humerus     | 31.7 | 25.0 | 19.4 | 20.5 | 160.0 |
| H 2            | humerus     | 25.0 | 19.6 | 16.2 | 17.0 | 128.0 |
| H 2            | humerus     | 28.0 | 21.6 | 16.6 | 18.8 | 145.0 |
| H 2            | humerus     | 26.8 | 20.4 | 16.0 | 17.8 | 130.0 |
| H 2            | humerus     | 34.0 | 26.7 | 20.3 | 23.3 |       |
| H 2            | humerus     | 24.8 | 20.2 | 16.4 | 17.2 |       |
| H 2            | humerus     | 34.6 | 27.4 | 20.4 | 23.0 |       |
| H 2            | humerus     | 35.0 | 27.6 | 21.0 | 22.1 |       |
| H 2            | humerus     | 33.5 | 27.0 | 19.1 | 22.0 |       |
| H 2            | humerus     | 26.0 | 20.2 | 15.6 | 19.1 |       |
| H 2            | humerus     | 26.1 | 20.0 | 15.5 | 18.9 |       |
| H 2            | humerus     | 31.1 | 24.1 | 19.2 | 20.1 |       |
| H 2            | humerus     | 28.6 | 21.6 | 16.1 | 20.1 |       |
| H 2            | humerus     | 24.6 | 18.3 | 14.0 | 17.0 |       |
| H 2            | humerus     | 24.5 | 20.1 | 14.6 | 17.5 |       |
| H 2            | humerus     | 24.4 | 18.2 | 13.8 | 16.5 |       |
| H 2            | humerus     | 31.6 | 25.0 | 19.3 | 21.7 |       |
| H 2            | humerus     | 26.1 | 20.0 | 14.6 | 18.2 |       |
| H 2            | humerus     | 27.3 | 21.0 | 16.7 | 18.5 |       |
| H 2            | humerus     | 31.0 | 24.2 | 19.4 | 19.8 |       |
| H 2            | humerus     | 32.0 | 25.8 | 19.1 | 21.0 |       |
| H 2            | humerus     | 26.0 | 19.6 | 15.6 | 17.6 |       |
| H 2            | humerus     | 26.7 | 16.0 | 17.1 | 17.4 |       |
| H 2            | humerus     | 33.2 | 26.0 | 20.5 | 22.2 |       |
| H 2            | humerus     | 31.0 | 26.0 | 19.4 | 21.0 |       |
| H 2            | humerus     | 30.5 | 24.1 | 19.2 | 21.1 |       |
| H 2            | humerus     | 28.2 | 21.0 | 15.7 | 18.6 |       |
| H 2            | humerus     | 24.5 | 18.5 | 15.6 | 17.4 |       |
| H 2            | humerus     | 28.4 | 21.9 | 17.0 | 20.2 |       |
| H 2            | humerus     | 30.1 | 24.6 | 19.1 | 20.7 |       |
| SK 2           | radius      | 18.0 | 23.5 |      |      | 170.0 |
| SK 2           | radius      | 20.0 | 18.7 |      |      | 175.0 |
| SK 2           | radius      | 20.2 | —    |      |      |       |
| SK 2           | radius      | 16.9 | —    |      |      |       |
| SK 2           | radius      | 19.3 | —    |      |      |       |
| SK 2           | radius      | —    | 18.4 |      |      |       |
| SK 3           | radius      | 16.1 | —    |      |      |       |
| SK 3           | radius      | 16.7 | —    |      |      |       |

BARKER

| <i>Context</i> | <i>Bone</i> | (1)  | (2)  | (3) | (4) | (L)   |
|----------------|-------------|------|------|-----|-----|-------|
| SK 3           | radius      | 18.8 | —    |     |     |       |
| SK 3           | radius      | 14.6 | —    |     |     |       |
| SK 3           | radius      | —    | 20.1 |     |     |       |
| SK 3           | radius      | —    | 24.1 |     |     |       |
| SK 3           | radius      | —    | 17.0 |     |     |       |
| H 2            | radius      | 20.1 | 24.1 |     |     | 180.0 |
| H 2            | radius      | 15.4 | 16.8 |     |     | 138.0 |
| H 2            | radius      | 14.5 | 19.4 |     |     | 156.0 |
| H 2            | radius      | 15.0 | 18.5 |     |     | 138.0 |
| H 2            | radius      | 18.5 | 22.0 |     |     | 185.0 |
| H 2            | radius      | 19.7 | 22.6 |     |     |       |
| H 2            | radius      | 16.4 | 17.4 |     |     |       |
| H 2            | radius      | 17.6 | 20.1 |     |     |       |
| H 2            | radius      | 20.0 | 22.8 |     |     |       |
| H 2            | radius      | 18.3 | 20.0 |     |     |       |
| H 2            | radius      | 17.6 | 19.7 |     |     |       |
| H 2            | radius      | 21.0 | 23.0 |     |     |       |
| H 2            | radius      | 22.1 | 24.6 |     |     |       |
| H 2            | radius      | 20.2 | 21.5 |     |     |       |
| H 2            | radius      | 18.2 | 19.1 |     |     |       |
| H 2            | radius      | 17.9 | 19.1 |     |     |       |
| H 2            | radius      | 18.4 | 18.8 |     |     |       |
| H 2            | radius      | 16.8 | 18.4 |     |     |       |
| H 2            | radius      | 16.5 | —    |     |     |       |
| H 2            | radius      | 13.5 | —    |     |     |       |
| H 2            | radius      | 18.2 | —    |     |     |       |
| H 2            | radius      | 20.4 | —    |     |     |       |
| H 2            | radius      | 14.5 | —    |     |     |       |
| H 2            | radius      | 19.1 | —    |     |     |       |
| H 2            | radius      | 13.6 | —    |     |     |       |
| H 2            | radius      | 14.4 | —    |     |     |       |
| H 2            | radius      | 15.2 | —    |     |     |       |
| H 2            | radius      | 16.5 | —    |     |     |       |
| H 2            | radius      | 17.8 | —    |     |     |       |
| H 2            | radius      | 14.1 | —    |     |     |       |
| H 2            | radius      | 17.0 | —    |     |     |       |
| H 2            | radius      | 18.4 | —    |     |     |       |
| H 2            | radius      | 17.2 | —    |     |     |       |
| H 2            | radius      | 14.8 | —    |     |     |       |
| H 2            | radius      | 13.3 | —    |     |     |       |
| H 2            | radius      | 14.6 | —    |     |     |       |
| H 2            | radius      | 16.6 | —    |     |     |       |
| H 2            | radius      | 15.7 | —    |     |     |       |
| H 2            | radius      | 14.1 | —    |     |     |       |
| H 2            | radius      | 15.0 | —    |     |     |       |
| H 2            | radius      | 16.1 | —    |     |     |       |
| H 2            | radius      | 16.4 | —    |     |     |       |
| H 2            | radius      | 14.1 | —    |     |     |       |
| H 2            | radius      | 18.2 | —    |     |     |       |
| H 2            | radius      | 18.5 | —    |     |     |       |
| H 2            | radius      | 17.0 | —    |     |     |       |
| H 2            | radius      | —    | 20.2 |     |     |       |
| H 2            | radius      | —    | 21.4 |     |     |       |
| H 2            | radius      | —    | 22.0 |     |     |       |

ECONOMIC LIFE AT BERENICE

| <i>Context</i> | <i>Bone</i> | (1)                                    | (2)  | (3) | (4) | (L)   |
|----------------|-------------|--|------|-----|-----|-------|
| H 2            | radius      | —                                      | 16.3 |     |     |       |
| H 2            | radius      | —                                      | 18.7 |     |     |       |
| H 2            | radius      | —                                      | 19.5 |     |     |       |
| H 2            | radius      | —                                      | 20.4 |     |     |       |
| H 2            | radius      | —                                      | 19.2 |     |     |       |
| H 2            | radius      | —                                      | 21.0 |     |     |       |
| H 2            | radius      | —                                      | 22.0 |     |     |       |
| H 2            | radius      | —                                      | 18.5 |     |     |       |
| SK 2           | femur       | (L): 202.0                             |      |     |     |       |
| SK 3           | femur       | (L): 158.0                             |      |     |     |       |
| H 2            | femur       | (L): 174.0, 160.0, 160.0, 169.0, 152.0 |      |     |     |       |
| SK 2           | tibia       | 22.8                                   | 18.3 |     |     | 205.0 |
| SK 2           | tibia       | 22.7                                   | 17.3 |     |     |       |
| SK 2           | tibia       | 21.0                                   | 16.4 |     |     |       |
| SK 2           | tibia       | 21.4                                   | 15.3 |     |     |       |
| SK 3           | tibia       | 24.0                                   | 18.3 |     |     | 205.0 |
| SK 3           | tibia       | 18.2                                   | 13.1 |     |     | 163.0 |
| SK 3           | tibia       | 24.2                                   | 18.8 |     |     | 204.0 |
| SK 3           | tibia       | 17.0                                   | 12.5 |     |     |       |
| SK 3           | tibia       | 18.2                                   | 13.6 |     |     |       |
| SK 3           | tibia       | 20.0                                   | 15.0 |     |     |       |
| SK 3           | tibia       | 16.4                                   | 15.0 |     |     |       |
| SK 3           | tibia       | 21.0                                   | 16.4 |     |     |       |
| SK 3           | tibia       | 19.5                                   | 15.1 |     |     |       |
| SK 3           | tibia       | 25.2                                   | 18.5 |     |     |       |
| SK 3           | tibia       | 20.0                                   | 15.0 |     |     |       |
| H 2            | tibia       | 21.7                                   | 17.0 |     |     | 190.0 |
| H 2            | tibia       | 21.1                                   | 16.0 |     |     | 184.0 |
| H 2            | tibia       | 18.2                                   | 13.2 |     |     | 157.0 |
| H 2            | tibia       | 17.0                                   | 13.4 |     |     | 142.0 |
| H 2            | tibia       | 22.5                                   | 16.5 |     |     |       |
| H 2            | tibia       | 22.0                                   | 16.4 |     |     |       |
| H 2            | tibia       | 25.3                                   | 18.6 |     |     |       |
| H 2            | tibia       | 22.0                                   | 16.4 |     |     |       |
| H 2            | tibia       | 19.5                                   | 15.0 |     |     |       |
| H 2            | tibia       | 20.0                                   | 15.0 |     |     |       |
| H 2            | tibia       | 20.4                                   | 14.9 |     |     |       |
| H 2            | tibia       | 24.1                                   | 18.4 |     |     |       |
| H 2            | tibia       | 17.5                                   | 12.6 |     |     |       |
| H 2            | tibia       | 22.0                                   | 16.9 |     |     |       |
| H 2            | tibia       | 17.0                                   | 12.6 |     |     |       |
| H 2            | tibia       | 23.6                                   | 17.1 |     |     |       |
| H 2            | tibia       | 23.4                                   | 17.5 |     |     |       |
| H 2            | tibia       | 18.2                                   | 13.6 |     |     |       |
| H 2            | tibia       | 21.4                                   | 16.4 |     |     |       |
| H 2            | tibia       | 20.3                                   | 14.1 |     |     |       |
| H 2            | tibia       | 19.3                                   | 13.7 |     |     |       |
| H 2            | tibia       | 23.2                                   | 17.2 |     |     |       |
| H 2            | tibia       | 18.7                                   | 14.5 |     |     |       |
| H 2            | tibia       | 19.1                                   | 14.1 |     |     |       |
| H 2            | tibia       | 17.0                                   | 12.6 |     |     |       |
| H 2            | tibia       | 20.2                                   | 18.8 |     |     |       |
| H 2            | tibia       | 19.4                                   | 14.1 |     |     |       |
| H 2            | tibia       | 22.1                                   | 16.4 |     |     |       |

BARKER

|           | <i>Context</i> | <i>Bone</i> | (1)   | (2)   | (3)  | (4)  | (L)   |  |
|-----------|----------------|-------------|---|-------|------|------|-------|--|
|           | H 2            | tibia       | 21.6  | 15.4  |      |      |       |  |
|           | H 2            | tibia       | 21.7  | 15.4  |      |      |       |  |
|           | H 2            | tibia       | 19.0  | 13.7  |      |      |       |  |
|           | H 2            | tibia       | 18.8  | 13.7  |      |      |       |  |
|           | H 2            | tibia       | 16.5  | 14.3  |      |      |       |  |
|           | H 2            | tibia       | 17.1  | 13.4  |      |      |       |  |
|           | SK 1           | calcaneum   | (L): 38.6   |       |      |      |       |  |
|           | SK 2           | calcaneum   | (L): 39.1   |       |      |      |       |  |
|           | SK 3           | calcaneum   | (L): 34.1   |       |      |      |       |  |
|           | H 2            | calcaneum   | (L): 47.0, 46.4, 34.7, 35.5, 37.3, 44.9, 35.5, 37.0, 38.9, 38.5, 39.7, 38.2, 34.1, 35.0, 38.4, 42.6, 34.5, 39.3, 37.0, 30.1, 31.5, 43.4, 46.1, 50.1, 40.3, 40.1, 36.0, 33.6, 45.2, 34.6, 36.5, 39.0, 40.7, 31.8, 36.5, 42.0, 50.0, 41.1, 44.2, 40.3 |       |      |      |       |  |
|           | H 2            | astragalus  | (L): 22.1, 24.0, 20.0, 23.2, 22.5, 27.0, 22.4, 20.0, 28.5, 30.4, 23.8, 24.1, 23.0, 25.1, 22.4, 27.0, 30.4, 27.5, 21.4, 27.0, 22.5, 24.3, 20.9, 26.5, 22.6   |       |      |      |       |  |
| DONKEY    | SK 2           | mandible    | 28.3  | —     | —    |      |       |  |
|           | SK 2           | mandible    | 26.1  | —     | —    |      |       |  |
|           | CC 7.1         | mandible    | 25.5  | —     | —    |      |       |  |
|           | SK 3           | humerus     | 78.2  | 76.0  | 52.8 | 78.3 |       |  |
|           | SK 2           | radius      | 55.0  | —     | —    |      | 275.0 |  |
|           | SK 2           | radius      | 63.0  | —     | —    |      |       |  |
|           | SK 2           | radius      | 59.1  | —     | —    |      |       |  |
|           | SK 2           | radius      | 53.4  | —     | —    |      |       |  |
|           | H 2            | radius      | —   | 56.5  | —    |      |       |  |
|           | SK 2           | metacarpal  | 41.0  | 26.3  | 35.9 | 23.7 | 195.0 |  |
|           | SK 2           | metacarpal  | 40.4  | 26.4  | 37.3 | 21.3 | 197.0 |  |
|           | SK 3           | metacarpal  | 40.8  | 25.7  | —    | —    | 196.0 |  |
|           | SK 3           | metacarpal  | 39.1  | 24.7  | —    | —    |       |  |
|           | SK 3           | metacarpal  | 37.8  | 25.1  | —    | —    |       |  |
|           | SK 2           | tibia       | 51.1  | 34.0  |      |      |       |  |
|           | SK 2           | tibia       | 56.5  | 35.0  |      |      |       |  |
|           | SK 2           | tibia       | 56.0  | 33.4  |      |      |       |  |
|           | SK 3           | tibia       | 46.0  | 34.6  |      |      |       |  |
|           | SK 3           | tibia       | 60.1  | 39.5  |      |      |       |  |
|           | SK 2           | metatarsal  | —   | —     | 37.3 | 19.0 |       |  |
|           | SK 2           | metatarsal  | —   | —     | 31.1 | 32.0 |       |  |
|           | SK 2           | metatarsal  | —   | —     | 36.0 | 20.0 |       |  |
|           | SK 2           | metatarsal  | —   | —     | 36.5 | 23.6 |       |  |
|           | SK 3           | metatarsal  | —   | —     | 35.8 | 19.7 |       |  |
|           | SK 3           | metatarsal  | 41.0  | 33.7  | 36.1 | 26.1 | 245.0 |  |
| HORSE     | SK 1           | mandible    | 30.0  | —     | —    |      |       |  |
|           | SK 2           | mandible    | 32.5  | —     | —    |      |       |  |
|           | SK 2           | mandible    | 32.5  | —     | —    |      |       |  |
|           | SK 3           | humerus     | 95.2  | 101.1 | 68.8 | 93.3 |       |  |
|           | H 2            | metacarpal  | 44.4  | 28.3  | —    | —    |       |  |
| OVICAPRID | SK 1           | mandible    | —   | —     | 24.0 |      |       |  |
|           | SK 2           | mandible    | 24.1  | —     | —    |      |       |  |
|           | SK 6           | mandible    | 23.3  | —     | —    |      |       |  |
|           | H 2            | mandible    | 23.0  | —     | —    |      |       |  |
|           | SK 2           | maxilla     | 18.7  | —     | —    |      |       |  |
|           | SK 4           | maxilla     | 18.7  | —     | —    |      |       |  |
|           | CC 7.2         | maxilla     | 16.0  | 40.0  | —    |      |       |  |

ECONOMIC LIFE AT BERENICE

| <i>Context</i> | <i>Bone</i> | (1)  | (2)  | (3)  | (4)  | (L)   |
|----------------|-------------|------|------|------|------|-------|
| SK 2           | humerus     | 30.7 | 23.5 | 18.0 | 30.0 |       |
| SK 2           | humerus     | 36.5 | 30.3 | 21.6 | 33.8 |       |
| SK 2           | humerus     | 39.8 | 34.5 | 24.0 | 38.6 |       |
| SK 2           | humerus     | 37.7 | 31.3 | 23.0 | 35.7 |       |
| SK 2           | humerus     | 36.7 | 30.0 | 21.6 | 35.7 |       |
| SK 6           | humerus     | 35.1 | 32.4 | 21.6 | 35.1 |       |
| CC 4           | humerus     | 30.8 | 30.0 | 20.0 | 30.1 |       |
| SK 2           | radius      | 22.0 | —    |      |      |       |
| SK 2           | radius      | 40.0 | —    |      |      |       |
| SK 2           | radius      | 31.1 | —    |      |      |       |
| SK 2           | radius      | 32.3 | —    |      |      |       |
| SK 2           | radius      | —    | 28.3 |      |      |       |
| SK 2           | radius      | —    | 29.7 |      |      |       |
| SK 2           | radius      | —    | 34.6 |      |      |       |
| CC 4           | radius      | 22.1 | —    |      |      |       |
| CC 4           | radius      | —    | 18.5 |      |      |       |
| SK 1           | metacarpal  | —    | —    | 27.8 | 14.1 |       |
| SK 1           | metacarpal  | —    | —    | 26.0 | 15.1 |       |
| SK 2           | metacarpal  | 18.6 | 14.1 | 18.4 | 11.8 | 163.0 |
| SK 2           | metacarpal  | 24.2 | 17.4 | —    | —    |       |
| SK 2           | metacarpal  | 21.9 | 16.0 | —    | —    |       |
| SK 2           | metacarpal  | —    | —    | 28.7 | 13.5 |       |
| SK 3           | metacarpal  | 27.0 | 18.7 | —    | —    |       |
| SK 6           | metacarpal  | 29.2 | 19.1 | —    | —    |       |
| SK 1           | tibia       | 30.5 | 21.6 |      |      |       |
| SK 2           | tibia       | 32.8 | 24.5 |      |      |       |
| SK 2           | tibia       | 35.4 | 26.5 |      |      |       |
| SK 2           | tibia       | 31.3 | 24.1 |      |      |       |
| SK 2           | tibia       | 33.2 | 25.0 |      |      |       |
| SK 2           | tibia       | 34.7 | 25.6 |      |      |       |
| SK 2           | tibia       | 32.3 | 23.2 |      |      |       |
| SK 4           | tibia       | 32.8 | 25.0 |      |      |       |
| SK 5           | tibia       | 29.0 | 22.2 |      |      |       |
| SK 5           | tibia       | 27.8 | 20.0 |      |      |       |
| CC 7.1         | tibia       | 29.1 | 21.5 |      |      |       |
| SK 2           | calcaneum   | 19.1 | 10.8 | 18.8 | 51.6 |       |
| SK 2           | calcaneum   | 25.5 | 15.5 | 26.3 | 63.3 |       |
| SK 2           | calcaneum   | 22.6 | 11.8 | 23.0 |      |       |
| SK 2           | calcaneum   | 27.0 | 15.7 | 28.3 |      |       |
| SK 1           | astragalus  | 32.4 | 17.0 | 30.2 |      |       |
| SK 1           | astragalus  | 34.4 | 18.2 | 32.6 |      |       |
| SK 1           | astragalus  | 32.1 | 18.0 | 30.1 |      |       |
| SK 1           | astragalus  | 29.6 | 15.3 | —    |      |       |
| SK 2           | astragalus  | 31.0 | 16.0 | 29.6 |      |       |
| SK 2           | astragalus  | 36.7 | 21.5 | 35.4 |      |       |
| SK 2           | astragalus  | 34.5 | 19.3 | 33.8 |      |       |
| SK 2           | astragalus  | 34.6 | 19.6 | 32.1 |      |       |
| SK 2           | astragalus  | —    | 15.7 | 28.2 |      |       |
| SK 3           | astragalus  | 33.0 | 19.1 | 29.8 |      |       |
| SK 4           | astragalus  | 31.2 | 17.3 | 30.0 |      |       |
| SK 5           | astragalus  | 33.2 | 18.3 | 32.1 |      |       |
| SK 5           | astragalus  | 30.7 | 15.0 | 29.6 |      |       |
| CC 7.1         | astragalus  | 31.6 | 16.4 | 30.1 |      |       |
| CC 7.1         | astragalus  | 31.4 | 16.1 | 29.1 |      |       |

BARKER

|     | <i>Context</i> | <i>Bone</i> | (1)  | (2)  | (3)  | (4)  | (L)   |
|-----|----------------|-------------|------|------|------|------|-------|
|     | CC 7.1         | astragalus  | 28.0 | 14.5 | 24.5 |      |       |
|     | CC 7.2         | astragalus  | 33.0 | 17.9 | 29.1 |      |       |
|     | CC 7.2         | astragalus  | 33.2 | 16   | 30.6 |      |       |
|     | CC 7.2         | astragalus  | 32.5 | 17.5 | 30.7 |      |       |
|     | CC 7.2         | astragalus  | 30.3 | 16.7 | 28.5 |      |       |
|     | CC 7.2         | astragalus  | 29.7 | 14.8 | 27.3 |      |       |
|     | H 2            | astragalus  | 34.4 | 18.2 | 32.1 |      |       |
|     | SK 1           | metatarsal  | 20.2 | 18.7 | —    | —    |       |
|     | SK 1           | metatarsal  | 23.2 | 21.7 | —    | —    |       |
|     | SK 2           | metatarsal  | 16.0 | 16.9 | —    | —    |       |
|     | SK 2           | metatarsal  | 22.5 | 25.5 | —    | —    |       |
|     | SK 2           | metatarsal  | 20.4 | 18.4 | —    | —    |       |
|     | SK 2           | metatarsal  | 18.0 | 11.9 | —    | —    |       |
|     | SK 2           | metatarsal  | 21.6 | 20.6 | —    | —    |       |
|     | SK 2           | metatarsal  | —    | —    | 27.0 | 14.8 |       |
|     | SK 2           | metatarsal  | —    | —    | 19.3 | 13.1 |       |
|     | SK 2           | metatarsal  | —    | —    | 17.7 | 11.5 |       |
|     | SK 2           | metatarsal  | —    | —    | 17.0 | 10.9 |       |
|     | SK 2           | metatarsal  | —    | —    | 19.0 | 11.9 |       |
|     | SK 2           | metatarsal  | —    | —    | 19.1 | 11.9 |       |
|     | SK 6           | metatarsal  | —    | —    | 28.3 | 16.1 |       |
|     | CC 7.1         | metatarsal  | 22.9 | 21.5 | —    | —    |       |
|     | H 2            | metatarsal  | 23.5 | 22.2 | —    | —    |       |
|     | H 2            | metatarsal  | 21.5 | 18.8 | —    | —    |       |
|     | H 2            | metatarsal  | 15.6 | 16.6 | —    | —    |       |
|     | H 2            | metatarsal  | 15.8 | 16.7 | —    | —    |       |
| PIG | SK 2           | mandible    | 28.3 | —    | —    |      |       |
|     | SK 2           | mandible    | 33.7 | —    | —    |      |       |
|     | SK 3           | mandible    | 30.6 | 64.3 | —    |      |       |
|     | SK 5           | mandible    | 26.7 | —    | —    |      |       |
|     | SK 5           | mandible    | —    | —    | 31.7 |      |       |
|     | SK 2           | maxilla     | 31.7 | 64.0 | —    |      |       |
|     | SK 2           | maxilla     | 31.8 | 66.4 | —    |      |       |
|     | SK 1           | humerus     | 33.3 | 29.5 | 21.0 | 30.6 |       |
|     | SK 1           | humerus     | 36.0 | —    | 23.7 | 35.9 |       |
|     | SK 1           | humerus     | 35.6 | 31.5 | —    | —    |       |
|     | SK 2           | humerus     | 36.1 | 31.0 | 22.6 | 32.0 |       |
|     | SK 2           | humerus     | 37.0 | 31.0 | 23.0 | 35.5 |       |
|     | SK 2           | humerus     | 37.4 | 38.1 | 26.0 | 31.6 |       |
|     | SK 2           | humerus     | 40.1 | 32.6 | 24.1 | 33.1 |       |
|     | SK 5           | humerus     | 35.5 | 30.2 | 22.1 | 33.1 |       |
|     | H 2            | humerus     | 35.2 | 30.8 | 22.4 | 31.0 |       |
|     | H 2            | humerus     | 39.7 | 40.1 | 28.7 | 30.2 |       |
|     | SK 2           | radius      | 25.0 | —    |      |      |       |
|     | SK 2           | radius      | 33.5 | —    |      |      |       |
|     | H 2            | radius      | 29.6 | —    |      |      |       |
|     | SK 2           | metacarpal  | —    | —    | 20.1 | 19.1 | 100.0 |
|     | SK 2           | metacarpal  | —    | —    | 19.1 | 18.5 | 99.0  |
|     | SK 2           | metacarpal  | —    | —    | 19.2 | 18.6 | 80.0  |
|     | H 2            | metacarpal  | —    | —    | 18.6 | 17.5 |       |
|     | H 2            | metacarpal  | —    | —    | 18.4 | 15.8 |       |
|     | SK 2           | tibia       | 35.2 | 29.2 |      |      |       |
|     | H 2            | tibia       | 30.3 | 27.4 |      |      |       |
|     | SK 2           | calcaneum   | 32.7 | 16.1 | 36.4 |      |       |

## ECONOMIC LIFE AT BERENICE

| Context | Bone       | (1)  | (2)  | (3)  | (4)  | (L)   |
|---------|------------|------|------|------|------|-------|
| SK 2    | calcaneum  | 35.8 | 17.4 | 35.5 |      |       |
| SK 2    | calcaneum  | 27.3 | 18.2 | 27.5 |      |       |
| SK 2    | calcaneum  | 28.5 | 15.6 | 28.7 |      |       |
| SK 2    | calcaneum  | 27.3 | 16.1 | 26.0 |      |       |
| SK 5    | calcaneum  | 25.2 | 13.2 | 25.0 |      |       |
| H 2     | calcaneum  | 28.6 | 17.0 | 27.0 |      |       |
| SK 2    | astragalus | 41.5 | 20.1 | 38.2 |      |       |
| SK 2    | astragalus | 46.7 | 23.8 | 42.3 |      |       |
| SK 2    | astragalus | 48.0 | 24.4 | 43.0 |      |       |
| SK 2    | astragalus | 47.5 | 23.8 | 43.2 |      |       |
| SK 2    | astragalus | 44.8 | 22.5 | 41.3 |      |       |
| SK 3    | astragalus | 45.5 | 23.5 | 42.0 |      |       |
| H 2     | astragalus | 42.1 | 21.4 | 35.6 |      |       |
| H 2     | astragalus | 43.3 | 22.1 | 40.6 |      |       |
| H 2     | astragalus | 41.4 | 20.0 | 38.2 |      |       |
| H 2     | astragalus | 40.1 | 20.8 | 37.6 |      |       |
| SK 2    | metatarsal | —    | —    | 20.5 | 19.6 | 100.0 |
| SK 2    | metatarsal | —    | —    | 20.4 | 19.9 | 99.0  |
| SK 3    | metatarsal | —    | —    | 16.4 | 16.1 |       |

## Bibliography

- Area Handbook for Libya* (1969) Washington D.C., U.S. Government Printing Office.
- Barker, G. W. W. (1973) The economy of medieval Tuscania: the archaeological evidence. *Papers of the British School at Rome* 41: 155–77.
- Barker, G. W. W. (1975) The stock economy of Tufariello. pp. 59–72 in R. Ross Holloway 'Buccino: the Early Bronze Age village of Tufariello'. *Journal of Field Archaeology* 2: 11–81.
- Barker, G. W. W. (1976) An Apennine Bronze Age settlement at Petrella, Molise. *Papers of the British School at Rome* 44: 133–56.
- Barker, G. W. W. (1977a) Animal husbandry and economic change at Monte Irsi. In A. Small (ed.) *Excavations at Monte Irsi*. Oxford, *British Archaeological Reports* 20: 265–73.
- Barker, G. W. W. (1977b) The archaeology of Samnite settlement. *Antiquity* 51: 20–24.
- Barker, G. W. W. (1978) Dry bones? Economic studies and historical archaeology in Italy. In H. Blake, T. W. Potter and D. B. Whitehouse (eds.) *Papers in Italian Archaeology I* Oxford, *British Archaeological Reports, Supplementary Series*: 35–49.
- Branigan, K. (1971) *Latimer Chess Valley Archaeological and Historical Society*.
- Branigan, K. and King, J. E. (1965) A Roman cat from Latimer villa, Chesham. *Annals and Magazine of Natural History* 85: 461–3.
- Brogan, O. (1954) The camel in Roman Tripolitania. *Papers of the British School at Rome* 22: 126–31.
- Caloi, L. (1969–70) Resti di cani da uno scavo a Leptis Magna. *Libya Antiqua* 6–7: 281–317.
- Coster, C. H. (1951) The economic position of Cyrenaica in classical times. In P. R. Coleman-Norton (ed.) *Studies in Roman Economic and Social History* Princeton, University Press: 4–26.

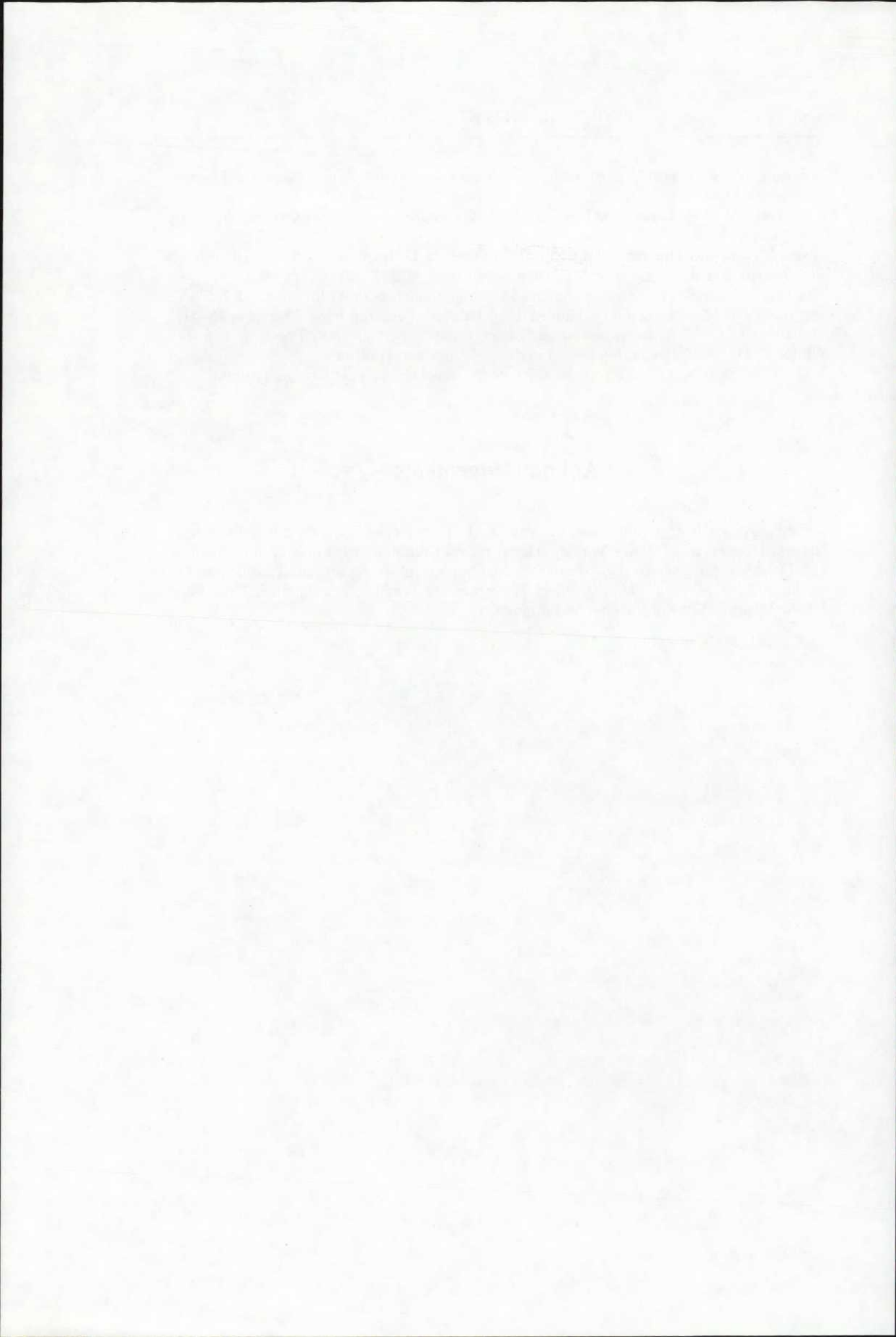
- Davidson, A. (1972) *Mediterranean Sea Food* London, Penguin.
- Dorst, J. and Dandelot, P. (1972) *A Field Guide to the Larger Mammals of Africa* London, Collins.
- Economic Development of Libya* (1960) Baltimore, John Hopkins Press. (International Bank for Reconstruction and Development).
- Fisher, W. B. (1952-53) Agriculture in modern Libya. *Geographical Magazine* 25: 184-94.
- Goodchild, R. G. (1952-53) Farming in Roman Libya. *Geographical Magazine* 25: 70-80.
- Goodchild, R. G. and Reynolds, J. M. (1962) Some military inscriptions from Cyrenaica. *Papers of the British School at Rome* 30:41.
- Grant, A. (1975) The animal bones. In B Cunliffe (ed.) *Excavations at Portchester Castle Volume I: Roman*. Reports of the Society of Antiquaries of London 32:378-408, 437-50.
- Greenwood, P. H. and Howes, G. J. (1973) Fish remains. In V. Karageorghis (ed.) *Excavations in the Necropolis of Salamis III, Appendix III*. *Salamis* 5: 259-68.
- Handbook of Libya* (1921) London, HMSO. Geographical Section of the Naval Intelligence Division, Naval Staff, Admiralty.
- Harcourt, R. A. (1974a) The animal bones. In D. S. Neal (ed.) *The Excavation of the Roman Villa in Gadebridge Park, Hemel Hempstead*. Reports of the Society of Antiquaries of London 31: 256-61.
- Harcourt, R. A. (1974b) The dog in prehistoric and early historic Britain. *Journal of Archaeological Science* 1: 151-76.
- Haywood, R. M. (1938) Roman Africa. In Tenney Frank (ed.) *An Economic Survey of Ancient Rome*. Baltimore, John Hopkins Press: 1-119.
- Higgins, B. (1952) *The Economic and Social Development of Libya*. FAO and UNESCO.
- Higgs, E. S. (1967) Environment and chronology: the evidence from mammalian fauna, and Domestic animals. In C. B. M. McBurney *The Haua Fteah (Cyrenaica)*. Cambridge, University Press: 16-44, 313-9.
- Johnson, D. L. (1973) *Jabal al-Akhdar, Cyrenaica: an Historical Geography of Settlement and Livelihood*. Chicago, University of Chicago Press. (Department of Geography Research Paper No. 148).
- Jones, P. (1966) Italy. In Chapter VII Medieval agrarian society in its prime, in M. M. Postan (ed.) *The Cambridge Economic History of Europe. Volume I. The Agrarian Life of the Middle Ages*. Cambridge, University Press: 340-431.
- Luther, W. and Fiedler, K. (1976) *A Field Guide to the Mediterranean Sea Shore*. London, Collins.
- Maltby, J. M. (1977) *The Animal Remains from the Excavations in the City of Exeter*. Unpublished M. A. thesis, Sheffield University.
- Palombi, A. and Santarelli, M. (1961) *Gli Animali Commestibili dei Mari d'Italia*, Milan, Ulrico Hoepli.
- Payne, S. (1972) Partial recovery and sample bias: the results of some sieving experiments. In E. S. Higgs (ed.) *Papers in Economic Prehistory*. Cambridge, University Press: 49-64.
- Pellegrin, J. (1924) Les poissons du Sahara. *Compte Rendu de l'Association française pour l'Avancement des Sciences* 54: 58-61.
- Raven, S. (1969) *Rome in Africa*. London, Evans Brothers.
- Reynolds, J. M. (1976) *Libyan Studies—Selected Papers of the Late R. G. Goodchild*. London, Paul Elek.



- Robinson, E. S. G. (1927) *British Museum Catalogue of Greek Coins: Cyrenaica*. London, British Museum.
- Rostovzeff, M. (1941) *Social and Economic History of the Hellenistic World*. Oxford, University Press.
- Silver, I. A. (1969) The ageing of domestic animals. In D. Brothwell and E. S. Higgs (eds.) *Science in Archaeology*. London, Thames and Hudson: 283–302.
- Vita-Finzi, C. (1960) Post-Roman changes in Wadi Lebda. In S. G. Willimott and J. I. Clarke (eds.) *Field Studies in Libya*. University of Durham Research Papers Series 4: 46–51.
- Vita-Finzi, C. (1969) *The Mediterranean Valleys*. Cambridge, University Press.
- White, K. D. (1970) *Roman Farming*. London, Thames and Hudson.
- Willcox, W. B. (1940) *Gloucestershire 1590–1640*. New Haven, Yale University Press.

### Acknowledgements

I am particularly grateful to Alwyne Wheeler (Department of Zoology, British Museum—Natural History) and Derrick Webley (Department of Entomology, Ministry of Agriculture and Fisheries, Bangor) for their specialist contributions to this report; and I would also like to thank Ruth Morgan (Department of Prehistory and Archaeology, Sheffield University) for the identifications of the charcoal fragments.



## 2. Sculpture

A. BONANNO

Department of Classics,  
University of Malta

### INTRODUCTION

A cursory survey of the following catalogue of sculpture from the excavations at Sidi Khrebish might give a somewhat negative, and perhaps distorted, impression of the economic status of Berenice and its artistic achievement from its foundation in the middle of the third century B.C. to the Arab conquest in A.D. 642/3. Both in quantity and in quality the sculpture discovered is, by Cyrenaican standards, very poor. The majority of the forty-five pieces consist of tiny fragments, and only four can be considered, with some generosity, to be in a good state of preservation. Of the well-preserved specimens none reveal exceptional artistic qualities, though some of the small fragments of drapery and human limbs show great skill and finish and suggest the existence in ancient Berenice of good large-scale sculpture. The few chance finds of statuary from elsewhere in the city (reviewed in brief on p. 10 of vol. I of this publication) confirm this suggestion.

The rather poor impression of Berenice suggested by the sculpture from Sidi Khrebish can be accounted for by the very strong probability that the area excavated was a peripheral quarter, outside the monumental centre of the city. The main area of exploration lies near the Hellenistic defences and outside the third century A.D. city wall, and the only religious building on the site, apart from the Byzantine church, is a temple of very unpretentious dimensions and appearance (Building X). On the other hand the disappointing dearth of statuary from the excavations may well be due to the systematic spoliation of the buildings and their contents soon after A.D. 250, on the occasion of the construction of the third century defensive wall and the withdrawal of the city within the same wall.

The same reasons can be brought forward to account for the small size of the greater part of the fragments, a size that would fit better private dwellings, or a modest sanctuary like Building X, than large public buildings. Besides, it is less likely that major-scale sculpture would have escaped the attention of the spoliator. The forearm of a colossal statue (No. 26) from the street surface outside Building J 1 might, in fact, suggest the existence, originally, of such monumental sculpture in the neighbourhood. This particular fragment, however, shows evidence of re-use, and a good amount of sculpture could well have found its way into lime-kilns in later times. In fact, many of the surviving pieces seem to have been subjected to a certain amount of burning, although no lime-kiln was positively identified within the excavated area.

The fragmentary and often eroded condition of the Sidi Khrebish sculpture presents serious difficulties for dating the individual pieces. Iconographically, most of the better pre-

served fragments are derived from Hellenistic prototypes, such as the various figures of Aphrodite (Nos. 3, 13-17) and Asklepios (Nos. 8-10), Cybele (No. 1) and the 'Little Refugee' (No. 6). But an assessment of the actual date of their execution, which is normally based on style and technique, is rarely possible. Thus the head of Aphrodite (No. 3) can be tentatively dated to the Antonine period because of the wide use of the running drill. Similar and other carving techniques assign the 'Little Refugee' (No. 6) to the second century A.D. or later. The polished, porcelain-like surfaces of the two toes (No. 22) are very characteristic of second and third century A.D. sculpture. Stratification is helpful in a small number of cases where the fragments come from sealed or reliably dated levels. It seems, for example, that the upper part of an Aphrodite (No. 14) can be dated to not later than the third century A.D., the nude female torso (No. 16) to not later than the middle of the third century A.D. and the fragment of a female head (No. 4) to probably not later than the third quarter of the first century A.D. The majority of the best pieces, however, were found during clearance operations, or in the wake of the initial bulldozer devastation of the site, or in disturbed contexts.

The pieces carved in local stone, even when in good condition, such as the Cybele (No. 1) and the chariot relief (No. 38), are difficult to date because they are carved in a style which, as yet, cannot be assigned to a particular period. Indeed, to some extent their style is determined by their material, which ranges from a sugary sandstone to a chalky limestone. Of these, the fragment of a female head (No. 4) can be dated to not later than the second half of the first century A.D. on the basis of stratification. On the same grounds the chariot stele (No. 38) can probably be assigned a date not later than the mid first century A.D., and the two relief tablets (Nos. 39-40) are not later than the third quarter of the first century A.D.

A statistic assessment of the sculpture reveals that two divinities, Asklepios and Aphrodite, seem to have enjoyed some popularity in Berenice, at least in this quarter of the city. None of the representations of these two gods are associated with the religious building X. They all come from houses (P1, R3 and L3), and perhaps a public building (L1). Closely connected with the temple are two tablets with figures in relief (Nos. 39-40). They may have been votive reliefs (their provenance rules out any funerary significance) or, perhaps more plausibly, part of the architectural decoration (some kind of metope), although no traces of an architrave were found. A possible identification of the figure in one tablet as a centaur might suggest a series of metopes with Centauromachy, but the atmosphere of the whole scene is too quiet for such a theme. The scene in the other tablet is indeed much livelier but the figure looks more like a rearing horse and rider. The peaceful atmosphere of the former seems to fit more our second interpretation, that of a sacrifice.

The following abbreviations are used in this chapter:

- |                            |  |
|----------------------------|--|
| Bieber:                    | M. Bieber, <i>The Sculpture of the Hellenistic Age</i> (New York, 1955).                                     |
| Paribeni:                  | E. Paribeni, <i>Catalogo delle Sculture di Cirene: statue e rilievi di carattere religioso</i> (Roma, 1959). |
| Reinach <i>Rep. Stat.:</i> | S. Reinach, <i>Repertoire de la Statuaire Grecque et Romaine</i> (Paris, 1904-30).                           |
| Rosenbaum:                 | E. Rosenbaum, <i>A catalogue of the Cyrenaican Portrait Sculpture</i> (London, 1960).                        |

## CATALOGUE

## G1. Statuette of Cybele

(1401). H. 0.30 m. W. at base 0.17 m.

pl. I

Very friable sandstone. Part of the back of the throne missing. Right hand lion disfigured by a small break.

The goddess Cybele is represented seated on a high throne and flanked by two lions. She wears earrings and a *polos*. In her right hand she holds a *patera* and in her left a *tympanon*. The lions are treated as part of the throne and only their front parts are carved.

There exist many similar representations of Cybele and several have been found in Cyrene (Paribeni nos. 232–236). The nearest to ours is Paribeni's no. 232, which is, however, headless and carries a small lion on her lap.

It is most probably a votive statuette belonging to a theme which became widely diffused from the fourth century B.C. onwards, and whose prototype is variously assigned to Phidias or Agoracritos.<sup>1</sup>

The 'archaic' look of the face of the goddess and the summary treatment of the drapery are due to the difficulty in carving such friable material. In its own class the statuette is a pleasant piece of sculpture.

Unstratified.

## G2. Female bust

(2430). H. total 0.32 m. Head 0.18 m.

pl. I

Soft and crumbly white sandstone discoloured to a reddish tinge. Preserved in a very bad condition. Surface badly corroded. Bust chipped on both sides of neck, on hair and on right cheek. (The piece was discovered after bulldozer demolition of part of Area J).

The bust seems to have been flat at the back. At the bottom a deep rectangular hole must have served for securing the bust onto a statue or base.

The features of the somewhat long face are totally unrecognisable. One can only guess the position of the eyes, nose, cheeks and mouth. The neck is a little inclined to the right. The hair, parts of which are better preserved, was probably divided at the centre above the forehead and drawn backwards in long smooth strands separated by regular grooves. Since the round object on top of the hair is plain, it is not possible to decide whether it was a chignon or a *polos*. If it was part of the hairstyle, the head might have represented a female portrait of the early Antonine period, with the characteristic hairstyle.<sup>2</sup> If it was a simple *polos*, it probably represented a female divinity, such as Demeter or Cybele.

Unstratified (Area J).

## G3. Head of Aphrodite (?)

(1464). H. total 0.17 m. Head 0.13 m.

pl. I

Fine grain white marble. An oblique break from top of head to base of neck deprives us of back of head. Nose missing. Corrosion in many parts especially in hair.

<sup>1</sup> E. Langlotz, *Phidiasprobleme* (Frankfurt on Main, 1947) 65–6; L. Budde and R. Nicholls, *A Catalogue of the Greek and Roman sculpture in the Fitzwilliam*

*Museum, Cambridge* (Cambridge, 1964) 23, n. 2; 24, n. 1.

<sup>2</sup> See Rosenbaum nos. 248–53.

The head belonged to a statue represented with the right hand brought up over the top-knot of the hair. Judging by the long hair and the delicacy of the hand and facial features, it probably belonged to a female figure, perhaps an Aphrodite at the bath or squeezing her hair dry.<sup>3</sup> But it could just as well represent an adaptation of the Apollo Lykeios by Praxiteles.<sup>4</sup> The eyes seem to have been hardly open, and, together with the slightly open lips and strong inclination of the head, suggest a languid smiling expression. The hair is formed of long curly strands swept up in a disorderly fashion towards the top of the head. The use of the drill in the hair suggests a date in the Antonine period. The treatment of both face and hand is fine.

Unstratified.

**G4. Part of female head**

(1941). Max. H. 0.068 m. Max. W. 0.095 m.

pl. I

White sandstone. Only top frontal section of head is preserved. Head broken at the back and below the level of the eyes.

The hair is parted centrally at the front and drawn in two plaits down the sides of the face. The plaits are marked by incised wavy lines. A few incised lines behind the plaits provide, perhaps, further evidence of the hair. The brow is low, the eyes large and round. The pupils are not indicated.

The hairstyle suggests that the fragment formed part of an iconic statue rather than a portrait.

In style this fragment, together with the other pieces of sculpture in local limestone or sandstone, falls in a class of plastic production of inferior quality and more or less primitive workmanship of the Cyrenaican province. Several other examples of sculpture of this type, and in the same material, come from different parts of Cyrenaica (Rosenbaum nos. 286-94).

Deposit 66.

**G5. Part of statuette**

(1703). Max. H. 0.06 m. W. at shoulders 0.045 m.

pl. I

Fine grain white marble. Only upper part of statuette survives. Back of head and left eye missing. Surface badly corroded.

Most probably male, the figure folds its arms and brings its hands towards the neck. The hands seem to grab at an object, a necklace or torque, hanging from the neck. The head is slightly raised backwards. The shoulders are comparatively broad, though the present state of preservation suggests an overall impression of leanness.

No parallels are known to the writer.

Deposit 73.

**G6. Torso of nude figure holding animal**

(1400). Max. H. 0.36 m. W. at shoulders 0.18 m.

pl. II

Fine grain white marble. Head, part of left arm and legs missing. Lower part of animal also missing.

<sup>3</sup> Reinach *Rep. Stat.* v. II, 334-44.

<sup>4</sup> Bieber 18, 160, Figures 17-21; G. Kaschnitz-

Weinberg, *Sculture del Magazzino del Museo Vaticano* (Vatican City, 1937) no. 154.

The group consists of a nude torso with both arms engaged in pressing an animal against the chest. The delicate forms of the body and the complete lack of muscles, together with a marked obesity in the abdominal region, suggest either a somewhat plump woman or a well-fed child. The sex cannot be determined with any certainty.

It was first suggested that the group represented the nymph Cyrene strangling a lion,<sup>5</sup> a motif which occurs very often in connection with the neighbouring city of Cyrene: from the sixth century B.C. relief from the Treasury of the Cyrenaicans in Olympia to the various fragmentary statues from Cyrene itself and, particularly, the famous relief of late date in the British Museum.<sup>6</sup> In all these examples, however, the nymph is fully draped and the lion is pressed against the left side of the body.

The childish attitude and the folds of the flesh suggest, rather, an identification with a young boy. The hair on the hind parts of the animal, moreover, suggests that a hairy dog, and not a lion, is represented. Similar statues, or statuettes of young boys holding dogs against the chest are known, for example the so-called 'Little Refugee' from Asia Minor, now in Athens.<sup>7</sup> Except for the hooded cloak worn by the Athens boy, our statuette repeats exactly the pose and the position of the arms and legs of the child, as well as the features of the dog.

The technique used in rendering the hairy surfaces of the animal dates the group to the second century A.D., or later. But it is certainly a copy of a graceful Hellenistic original, one of several themes portraying children at play with animals in the Rococo style.

Disturbed context (Building P1, robber trench of east wall of Room 1).

G7. Torso of a draped figure

(2712). Max. H. 0.60 m. Max. W. 0.32 m.

pl. II

White soft limestone. Preserved: torso from shoulders down to a little above the feet. Large section missing from the front from waist downwards. Both hands missing. The rest seriously battered and corroded. Surface discoloured to a reddish shade.

The statue is flat at the back and seems to have been intended to stand up against a wall. The depth of the statue is in fact greatly reduced from natural. The head was attached to the body by means of a dowel for which a square hole has been made between the shoulders.

The figure stood rigidly upright on both feet. The left arm was folded and the left hand brought to the chest where it seems to have held a *patera* or some other circular object. The right hand was also held against the chest.

The figure wears a light tunic, with frequent thin folds, also covering both arms. Over this a heavier garment hangs from two clasps, one on each shoulder, and covers the whole body except the arms. Its folds flow down rigidly like the flutes of a Doric column. The drapery and the slightly swollen breasts suggest a female figure.

The closest parallel to this sculpture is, to my mind, the series of funerary busts, represent-

<sup>5</sup> See *The Society for Libyan Studies, Third Annual Report 1971-72*, pl. III c.

<sup>6</sup> See G. Sgatti, 'Cyrene', *EAA* II (1959) 690-1; Paribeni nos. 176-9; J. Huskinson, *Roman Sculpture from Cyrenaica in the British Museum; Corpus Signorum Imperii Romani, Great Britain* II, 1 (London, 1975) nos. 60-1.

<sup>7</sup> S. Karouzou, *National Archaeological Museum: Collection of Sculpture* (Athens, 1968) no. 3485, pl. 67. Other examples in J.P.J. Brants, *Description of the Classical Collection of the Museum of Archaeology of Leiden*; I, *Greek and Roman Sculpture* (The Hague, 1927) no. 20, pl. XI; G. Libertini, *Il Museo Biscari* (Milan-Rome, 1930) nos. 60-61.

ing a female divinity, which survive in large numbers from the Greek period in Cyrenaica.<sup>8</sup> The scheme of the statue, the position of the arms and the style of the drapery are also closely related to two headless torsos from Cyrene (Paribeni, nos. 112–3). Paribeni (no. 113) tentatively identifies the object held between the hands of the figure as a crown.

Unstratified (Area BB).

**G8. Small torso of Asklepios**

(1481 & 1606). Max. H. 0.28 m. W. at shoulders 0.17 m.

pl. II

Medium grain, sugary, white marble. Torso made up of two fragments that fit together at the waist. Head, right arm and lower part of body, from knees downwards, missing. Heavily corroded especially at the back. The two fragments come from different trenches and must have been broken in antiquity; the corrosion has also affected the surfaces of the breaks.

The figure rested its weight on the right leg, thrusting forward the left leg. It represented the god Asklepios in a type which occurs very frequently in Cyrenaica (Paribeni nos. 197–207). Our torso is nearest to the type represented by Paribeni's nos. 200 and 202 for the oblique position of the bust and the position of the legs and left arm. The god leaned sideways with his left elbow on his characteristic stick. As for the drapery, the overfold hanging down from the waist links our torso with Paribeni's statue no. 197, whereas the knot, hardly visible near the left armpit, recalls more closely the statuettes nos. 202 and 203.

The nude chest is carefully modelled but the drapery lacks vividness. Some traces of the running drill in the latter suggest a date in the second century A.D.

Disturbed context (as for No. 6).

**G9. Headless statuette of Asklepios**

(1447). Max. H. 0.18 m. W. at shoulders 0.08 m.

pl. III

Medium grain white marble. Head, right arm and feet missing. Feet and perhaps base were attached to statuette by two dowels. Part of the larger iron dowel is still in place and its oxidization has discoloured a considerable area of the marble to a reddish brown shade. Another dowel hole visible underneath the side folds of the cloak.

The figure stands with its weight on the left leg thrusting the other leg slightly forward. The left arm, covered beneath the cloak, is bent at the elbow with the back of hand resting on the left thigh. The god wears only a Greek *himation* which leaves the chest and right shoulder exposed. The drapery, adhering tightly to the body, presents a variety of folds in both orientation and volume. The folds are very shallow in most places, but they gain in volume at the back and beside the left leg.

The statuette is a copy of the Asklepios from the Theatre of Cyrene (Paribeni no. 214) and should be added to the list of copies of an original in bronze created, according to K. A. Neugebauer, in the second half of the fifth century B.C.<sup>9</sup> Part of a broken element

<sup>8</sup>See L. Beschi, 'Divinità funerarie cirenaiche', *AS Atene* xxxi–xxxii (1969–70) 132–341. Cf. also the 'Pepliphoros' in *Notiziario Archeologico* I, i–ii (1915) 217, fig. 72.

<sup>9</sup>K. A. Neugebauer, *Asklepios, ein Beitrag zur*

*Kritik römischer Statuenkopien*, *BWPr* 78 (1921). See also J. Marcadé, *BCH* 81 (1957) 414–8; D. Mustilli, *Museo Mussolini* (Rome, 1939) 118–9, no. 7; and G. Mansuelli, *Galleria degli Uffizi, Le Sculture I* (Rome, 1958) no. 18.



on the right thigh suggests the presence of the serpent on this side, while a broken prominence behind the left leg could be part of the *omphalos*.

The execution of both the naked parts and drapery are of excellent quality. The naturalistic treatment and the sobriety of the formal language assign the statuette to the Neo-Attic trend of the fifth century B.C.—first century A.D.

Deposit 73.

**G10.** Part of a draped torso

(2544). Max. H. 0.176 m. Max. W. 0.10 m.

pl. III

Fine grain white marble with occasional blue veins. Only lower part of torso, from thighs to shins, is preserved. For the rest, the fragment is well preserved except for a few chips and a little corrosion.

The figure rests its weight on the right leg with the left knee thrust forward. The drapery consists of the Greek *himation* with an overfold flowing down in a gentle curve on the left thigh. A tassel hangs down from one end of the cloak by the left shin. Near the latter is a low cylindrical element which is not clearly defineable.

The treatment of the drapery is very naturalistic, with a variety of folds. The back is worked with almost the same care as the front; only the folds are wider apart.

The statuette probably represents a variety of the Asklepios type leaning on the left arm and with the left knee brought forward (Paribeni nos. 202–7), although the thick fold hanging from the left knee is quite unusual. The low overfold, on the other hand, is found only in one Cyrenaican statue (Paribeni no. 210).

Unstratified.

**G11.** Fragment of a torso of Hercules

(1482). Max. H. 0.30 m.

pl. III

Fine grain white marble. Torso in a very bad state of preservation. Several parts missing, including head. Surface deeply corroded.

The bad state of preservation makes the identification of the piece very difficult. A strange object on the chest looks very much like the paw of a lion's skin. A slight horizontal depression in the middle marks the waist, beneath which a hole probably suggests the navel. Further down, between what must have been the thighs, there are still traces of the pubic hair and the male sex. At the back one can still see the lion's skin coming down from the right shoulder and widening downwards. The position of the legs and a protruding wide element below the back suggest that the statuette probably represented Hercules Epitrapezeos, a Hercules sitting down on a rock with the lion's skin crossed over his chest.<sup>10</sup>

Disturbed context (Building Pl, robber trench of south wall of Room 5).

**G12.** Part of a female draped statuette

(1888). Max. H. 0.15 m. W. 0.06 m.

pl. III

Medium grain white marble. Statuette preserved only from waist to ankles. Lower end

<sup>10</sup>See Bieber, 36, figures 80–1; Reinach, *Rep. Stat.* v. II, 227–9.

of drapery also chipped. Projecting broken element on left hip suggests the missing arm. Some minute traces of pink paint.

The statuette is carved on a flat background as if in relief. Consequently the back is flat and two narrow strips border its sides. The figure wears a heavy Doric peplos with an over-fold, part of which is seen hanging down from the breast with two schematic and symmetrical folds. In the lower part the drapery follows the shape of the body with shallow oblique and curved folds. A thick fold flows down between the legs.

The style is archaistic both iconographically and in the rigidity of the drapery. Assignable to a mediocre, mass producing workshop.

A draped archaizing figure in Cyrene (Paribeni no. 443) is very similar and presents similar *apoptygma* and two thick folds in front. A statue of the same style comes from Delos and, like ours, still preserves some traces of pink paint on the drapery.<sup>11</sup>

Unstratified (Area H).

**G13.** Torso of a nude female statuette

(1885). Max. H. 0.13 m. W. at shoulders 0.06 m.

pl. III

Medium grain white marble. Head, both arms and legs missing.

The figure represents Aphrodite in complete nudity. The goddess supports herself on her left leg, thrusting the right one slightly forward. The inclination of the thorax to the left side and position of the arms suggest that the hands were raised to hold the hair. Three locks on the back of the right shoulder are the only traces of the hair.

The torso seems to have been an exact replica, naturally on much reduced scale, of the 'Venus of Cyrene' now in the Museo Nazionale in Rome,<sup>12</sup> but the whole scheme is reversed. The figure was probably represented while squeezing her hair dry with both hands, or holding the extremities of a fillet she was about to tie round her head.

The modelling of the nude is good though some lack of skill is manifested in the too abrupt transition from chest to abdomen and in the treatment of the hair. It may be considered as a discreetly good product of a minor workshop.

Unstratified (Area N).

**G14.** Part of a nude female torso

(851). Max. H. 0.09 m. W. at shoulders 0.11 m.

pl. III

Coarse grain white marble. Head, both arms and lower part of torso missing. Some chippings scar the breasts and right shoulder. The head was separate and held in place by an iron dowel which has caused a heavy discolouration of the marble.

It repeats the same type as the previous (No. 13), but is somewhat larger in size and the position of the shoulders is reversed, being inclined towards her right instead of her left side. It was therefore, very probably, a faithful copy of the *Aphrodite Anadyomene* of Cyrene (see No. 13). Of the same type is the 'Aphrodite adjusting her hair' in Frankfurt.<sup>13</sup>

<sup>11</sup>J. Marcadé, *Au Musée de Délos, Etude sur la sculpture hellénistique en ronde bosse découverte dans l'île* (Paris, 1969) 212 no. A5294.

<sup>12</sup>G. Pesce 'Cirene', *EAA II* (1959) 684, figure 916.

<sup>13</sup>F. Eckstein and H. Beck, *Antike Plastik im Liebieghaus* (Frankfurt on Main, 1973) no. 52.

The modelling of the nude is delicate, in the post-Praxitelean 'sfumato' tradition. The craftsman has taken extra pains in rendering the soft ripples of the tender feminine flesh beneath the right arm.

Deposit 87.

**G15.** Part of a nude female torso

(3708). Max. H. 0.055 m. Max. W. 0.042 m.

pl. III

Fine grain white marble. Only front section of torso from breasts to navel is preserved. Both arms missing.

One tends to assign the figure immediately to the type of the Capitoline, or Medici, Aphrodite with right arm brought across the chest to cover the breasts. But in the latter the hand is attached to the chest only by the thumb, whereas our figure covers herself with the left arm and shows two fingers on the right breast and part of the forearm on the left breast. Of the numerous nude or semi-nude Aphrodites from Cyrene only one presents the same scheme as our fragment. Paribeni (no. 280) makes it derive from a type known from the so-called Aphrodite of Agen.<sup>14</sup> However this Venus does not show any of the arms across the chest. It is more reasonable to state that our fragment belongs to a version of the semi-nude Aphrodite in which the scheme of the position of the arms is inverted. Other examples of this type are known.<sup>15</sup> A fine and delicate piece of sculpture.

Disturbed context (Building R3, robber trench of east portico wall).

**G16.** Part of a nude female torso

(1794). Max. H. 0.10 m. W. 0.06 m.

pl. III

Coarse grain white marble. Only lower part of torso, from navel to just above the knees, is preserved. On the pubic area traces of the left hand can be seen.

The figure was represented completely in the nude. It rested on the left leg and the thorax was slightly inclined to its left. At the lower end of the broken left leg a trace of a supporting element is still visible.

It is without doubt a reduced copy of the Aphrodite of the Museo Capitolino or that of the Uffizi Gallery, both covering their nudity with the left hand and supported by a puntello on the left side.<sup>16</sup>

Deposit 103.

*Nos. G17–G19 not illustrated*

**G17.** Fragment of a nude torso

(1796). Max. H. 0.09 m. Max. W. 0.04 m.

Coarse grain white marble. Only right half of torso from shoulder to waist is preserved. Right arm is also missing. Chest completely corroded. Only a small area at the back retains original surface. Dowel-hole in the neck.

<sup>14</sup> See S. Reinach, *RA* 9 (1907) 369–76 pl. II.

<sup>16</sup> A. de Franciscis, 'Afródite', *EAAI* (1958) 123–6,

<sup>15</sup> See *Id. Rep. Stat.* v. II 336, no. 1; 358, no. 5.

figures 182–3. See also Paribeni nos. 246–7, 250, 253.

The fragment belongs probably to a male torso. The state of preservation allows no further identification.

Unstratified (Area L).

**G18.** Fragment of a leg and drapery

(1940). Max. H. 0.18 m. W. 0.11 m.

Fine grain white marble. Fragment preserves only part of left leg, from knee to ankle, and some drapery attached to it. Marble surface chipped, corroded and discoloured to a grey shade. Dowel-holes on left side of drapery and beneath the leg. Another hole perforates the foot from front to back.

The dowel-holes suggest that the fragment was attached separately to the main statuette. From the shape of the leg it may be inferred that the statuette represented a male figure.

Unstratified (Building P1).

**G19.** Part of a statuette

(2126). Max. H. 0.14 m. W. at base 0.10 m.

Soft, friable limestone with scattered shell. Lower part of figure and base preserved. Heavily damaged and corroded.

The base was originally rectangular and the back of the statuette semicircular. The figure was carved only on the front. Only its left foot and the lower end of the long skirt can easily be distinguished. The right foot was probably thrust slightly forward. The fragment is too badly preserved to allow any identification.

Unstratified (Building R1).

**G20.** Hand holding *phiale*

(1453). Max. L. 0.14 m. W. 0.085 m.

pl. III

Fine grain white marble. Hand broken off at wrist. Some chippings on hand and *phiale*.

The *phiale* is supported on the four long fingers of the right hand while the folded thumb secures it from above. It is flat with a slightly raised rim. Two drilled holes flank the thumb against the rim of the *phiale*. The hand belonged probably to a Hygieia (e.g. Paribeni no. 227) or a Cybele (Paribeni nos. 233-4).

Unstratified (Building P1).

*Fragments of human limbs (not illustrated)*

**G21.** Two fragmentary fingers

(3498). Max. L. (a) 0.035 m. (b) 0.019 m.

Fine grain white marble. A small ball is attached to one of the fingers (a).

Context date: Probably mid third century A.D. (related to Deposits 167.4, 167.5).

**G22.** Fragment of two toes

(1718). Max. L. 0.019 m. Max. W. 0.015 m.

Fine grain white marble. The nails are shown very clearly. The upper surface is well polished.

## SCULPTURE

---

Disturbed context (Building P1, robber trench of west wall of Room 14).

**G23.** Fragment of a leg

(2063). Max. H. 0.22 m.

Coarse grain, sugary, white marble. Heavily corroded. Only small area of original surface survives. Piece of a large dowel at the upper break.

The back of the leg is flat. It is not possible to determine whether it is part of the thigh or of the calf.

Deposit 63.

**G24.** Fragment of an elbow

(1561). Max. H. 0.11 m.

Coarse grain white marble. Elbow of a life size arm in a slightly bent position.

Unstratified (Area N).

**G25.** Fragment of a forearm

(1183). Max. L. 0.22 m.

Fine grain white marble with blue veins.

Breaks at either end and another on the inner side, where a dowel-hole suggests that the arm was attached separately to the main statue. An edge of the drapery is visible just above the fold of the arm. Slightly larger than life size.

Unstratified (Church area).

**G26.** Fragment of a colossal forearm

(1649). Max. L. 0.42 m.

Fine grain white marble. Breaks at either end and another on the front. Chipped groove all round the middle. Two dowel-holes on the upper break.

Late level (Area X).

**G27.** Fragment of a limb

(1569). Max. L. 0.12 m.

Fine grain white marble.

Very small fragment, probably part of a leg or arm.

Unstratified.

**G28.** Fragment of a limb

(2721). Max. H. 0.13 m.

Fine grain, rather sugary, white marble.

A slightly pointed projection half way down the fragment suggests an elbow rather than a knee.

Disturbed context (Building T, robber trench of west wall of Room 1).

*Fragments of draped statues (not illustrated)*

**G29.** (1774). Max. H. 0.08 m. Max. W. 0.04 m.

Medium grain white marble.

Part of a kind of shawl with a long tassel at the lower end.

Unstratified (Building L1).

**G30.** (625). Max. H. 0.06 m. Max. W. 0.025 m.

Fine grain white marble.

A small fragment of the drapery of a statue or statuette.

Unstratified (Building X).

**G31.** (1599). Max. H. 0.09 m. Max. W. 0.065 m.

Fine grain white marble.

Fragment of a more or less life-size statue.

Disturbed late level (Building L3).

**G32.** (1614). Max. H. 0.11 m. Max. W. 0.07 m.

Fine grain white marble.

Fragment with three folds of drapery.

Deposit 139.

**G33.** (842). Max. H. 0.157 m. Max. W. 0.075 m.

Rather coarse grain white marble.

Fragment of very finely worked drapery from a somewhat large statue.

Deposit 120.

**G34.** (1564). Max. H. 0.15 m. Max. W. 0.06 m.

Medium grain white marble.

Fragment of drapery with rigidly designed folds.

Unstratified.

**G35.** (2691). Max. H. 0.10 m. Max. W. 0.05 m.

Fine grain white marble. Surface discoloured to a reddish sandstone shade.

Part of the drapery and, perhaps, the body of a statue.

Unstratified (Building P4).

**G36.** (852). Max. H. 0.13 m. Max. W. 0.08 m.

Coarse grain white marble.

Fragment of the drapery of a fairly large statue, with deep undercutting.

Unstratified (Building J1).

- G37. Five miscellaneous fragments of marble drapery.  
Max. L. 0.10 m.

*Sculpture in relief*

- G38. Stele with a figure on chariot  
(1887). Tot. H. 0.54 m. W. 0.30 m. H. of relief 0.30 m. pl. IV  
Soft white limestone. A rectangular stele with a triangular top flanked by two acroteria which have broken off. A major break has damaged the front part of the pediment and of the right pilaster. The relief is heavily corroded and the whole face and part of the cloak of the figure are missing. Surface discoloured to a red sandstone shade.

The scene in relief represents a radiated figure mounted on a chariot which is drawn by four horses. The whole group is depicted in strict frontality and both figure and horses face outwards towards the spectator. The same frontality can be observed in a similar scene carved on one of the metopes of Temple C at Selinus, datable to the sixth century B.C.<sup>17</sup> Obviously, our relief must be assigned to a much later date but, in its crude style, it makes use of the same primitive convention of frontality as the Selinus metope. The carving is summary and the concept naive. The group seems to be suspended in mid air, none of the horses' feet touching the ground.

The radiate crown identifies the figure as Helios. There are several representations of Helios riding the solar *quadriga* but never in such a frontal scheme.<sup>18</sup>

Context date: basically mid first century A.D., with some later intrusions. (Found beneath floor level of Room 8, Building J2. See also Deposit 51).

- G39. Tablet with a prancing horse  
(2526). H. 0.275 m. L. 0.315 m. pl. IV  
Soft and crumbly white sandstone.  
Only one significant chip on the top left corner, but the whole piece is very heavily corroded, especially on the left side of the tablet.

It consists of a roughly rectangular plaque with a plain border running along its perimeter. All that can be distinguished from the relief is the hind part of a horse and its tail. The horse seems to be mounted by a figure, whose left leg can be made out with difficulty, and appears in the act of rearing on its hind legs. A long object stands vertically by the left margin, but it is hard to tell what it might have been.

The tablet may be a votive relief, but the discovery of a similar tablet (see No. 40) with similar dimensions suggests that the two reliefs might have been elements of the architectural decoration of the small temple X.

A limestone relief of roughly the same size and showing an armed soldier riding a prancing horse comes from Syracuse.<sup>19</sup> It is possible that our relief depicted a similar scene.

Deposit 58.

<sup>17</sup> O. Benndorf, *Die Metopen von Selinunt* (Berlin, 1873) 47-9, pl. III.

<sup>18</sup> See K. Schauenburg, *Helios* (Berlin, 1955) *passim*; H. Sichtermann, 'Helios', *EAA* III (1960)

1140-2.

<sup>19</sup> E. Langlotz-M. Hirmer, *The Art of Magna Graecia* (London, 1965).

**G40.** Tablet showing a centaur (?)

(850). H. 0.255 m. Max. W. 0.19 m.

Refer to pl. IV

Compact but very friable white limestone with frequent calcite inclusions. Left section missing. Heavily corroded.

The fragment formed part of a relief panel framed by a narrow raised margin. It represents the upper part of a human figure fused with the body of a quadruped. Unfortunately it is not possible to determine whether this fusion is a result of the corrosion of the surface or whether it was part and parcel of the original scene. In the first case a human figure accompanied by an animal would have been represented, in the second case, a centaur. The figure is stretching out its right arm to the left over a solid rectangular object in front of it, perhaps an altar towards which the sacrificial victim is being led. The significance of the object held in the left hand is not at all clear. It may be a shepherd's crook.

Originally the tablet probably had the same dimensions as the previous one (No. 39) and may have served the same architectural purpose.

Deposit 60.



### 3. Terracottas

A. BONANNO

Department of Classics,  
University of Malta

#### INTRODUCTION

The general outlook presented by the terracottas from Sidi Khrebish is both numerically and qualitatively much brighter than that revealed by the sculpture.<sup>1</sup> Almost a hundred and sixty pieces of figurative terracotta objects have been uncovered from the excavated area. Practically all these pieces are fragmentary, some with only negligible lacunae, but, in the majority of cases, only small portions of the figures have survived. Of these about fifty are small fragments of drapery, bases and parts of unidentified objects. Among the rest we have a good number of entire, or slightly damaged heads and a few whole, but headless, figurines. Not a single complete figure survives but, as a compensating feature, large sections of the original white wash and a few traces of the original polychromy were preserved on a great number of heads and drapery fragments.

The Benghazi terracottas present a wide variety of subjects. By far the most pleasant of them all are the heads and parts of the bodies of Tanagra-type figurines. One of these is the exquisite female head wearing the so-called 'melon' coiffure and crowned with ivy leaves (No. 2). It must have belonged to a fair-sized statuette since it measures 5.5 cm in height. Another seven female heads (Nos. 3-9) of the same size, also finely executed, wear different hairstyles, and two of them are also crowned by diadems and a third by a thick stephane. The first head in our catalogue may possibly not have been derived from a Tanagra prototype since its size is unusually large. Most of these heads have preserved some of the surface white wash and paint. Derived from the same class of figurines are a few heads of smaller dimensions and inferior craftsmanship (Nos. 12-21). Two headless statuettes of this type represent a seated lady (No. 47) and a young girl embracing her mother (No. 48). Of the larger female figurines we have an almost complete, standing and fully draped statuette (No. 49) and the upper part of another one (No. 50) wearing a strange combination of flat discs and tasselled fillets over the chest.

<sup>1</sup> I wish to express my gratitude to the Society for Libyan Studies and to the Libyan Department of Antiquities for entrusting me with the publication of these two sections of the Sidi Khrebish material and for providing me with financial and moral assistance to prepare it. I acknowledge my indebtedness to my colleagues for expert advice in their specialities:

Mr. D. Michaelides for the marble, Mr. J. Riley for the clay fabrics and Mr. John Lloyd, the co-ordinator and editor of these volumes, for the integration of stratigraphic dates. Thanks are also due to Dr. R. A. Higgins and Mr. D. Bailey of the Greek and Roman Department of the British Museum for their help and counsel.

Animals are represented by a few fragments belonging to a cow (No. 95), two horses (Nos. 96-7), a boar (No. 98), a griffin's paw (No. 100), and, probably, a sheep (No. 99), as well as two birds (Nos. 102-3) and a cock (No. 101). The head of a monkey crowned by a thick stephane (No. 31) seems to be a caricature of a Tanagra-type figure. In the same vein are a very fine grotesque head (No. 39) and three fragments of monstrous masks (Nos. 40-2). A Harpocrates (No. 38) is represented by a section of the face with the left forefinger brought up over the lips. Worth mentioning are parts of three chubby putti (Nos. 34-6) and a crouching Silenus (No. 37). A black-glazed fragment of a dozing negro and two Dionysiac heads once formed part of plastic vases. Moulds are represented by six fragments (Nos. 104-8), the majority of which belong to Imperial times and one almost certainly to the second century B.C.

A very important class of terracottas found on this site consists of a group of arms and hands of votive character (Nos. 80-3). They are independent parts of the body and could not have formed part of statuettes since they end in a smooth edge. The absence of holes for suspension suggests that they were probably intended to stand on appropriate shelves. They are of great interest because they constitute the only evidence for this peculiar, and widely diffused,<sup>2</sup> religious custom in ancient Berenice.

Chronologically these finds span a considerable period in the life of the city. In fact the earliest, some of the female figurines (Nos. 2-3), seem to date back to as early as the late third century B.C., and the latest, part of what looks like a faun mask (No. 43), to the third century A.D. Between these two limits, the Tanagra-style figurines and the votive limbs occupy the second and first centuries B.C. (some of the votive limbs, particularly Nos. 80, 82-3, dating perhaps as late as the second half of the first century A.D.); the grotesque and monstrous heads belong to the first centuries B.C. and A.D.

No deposit of significant quantities of terracottas was unearthed on the Sidi Khrebish site but a statistical computation of the finds reveals a clear and significant concentration in the area occupied by the religious building X and in its immediate vicinity.<sup>3</sup> Several fragments, including some of the finer pieces, were found in the temple and in the levels overlying the unidentified Building B1, directly to the north.<sup>4</sup> The votive limbs all came from Building X, with one exception. This (No. 81) was found in Room 3 of the adjacent house, Building A1. The female figurines were distributed in all three areas, with the major concentration overlying Building B1. Animals were found both in the area of Building B1 and in Building A1, but not in Building X. All this seems to confirm the already established religious function of the shrine, where the votive limbs were deposited, and to suggest a close connection between Buildings A1 and B1 with Building X in the Hellenistic period (the possibility that much of the material from Areas A and B represents votive material dumped out of Building X after the neighbouring buildings had been abandoned is a strong one).

The majority of terracotta objects, from the female figurines of Tanagra derivation to the votive limbs and animal figures, are of local Cyrenaican production. They are recognised

<sup>2</sup>Independent votive parts of the human body, such as heads, eyes, breasts, hands, feet and even uteri have been discovered on several ancient sites. See e.g. Breitenstein no. 823 pl. 105; B. M. Thomason, *Opuscula Romana* III (1961) 123-38, pl. VIII; O. Broneer, *Hesperia* XVI (1947) pl. LXVI no. 33; A. Caderna, *Arch Cl* V (1953) 187-209; M. Fenelli,

*Arch Cl* xxvii (1975) 206-252.

<sup>3</sup>See vol. I of this report, Figures 8, 11, 13, 14 and 53.

<sup>4</sup>From Building X twenty-eight pieces can be counted, twenty-nine from Area A and twelve from Area B.

as such from the characteristic clay fabric which is sometimes refined and hard but generally rather coarse, even if protected by a fine slip. The colour is mostly brick red with varying shades of pink, orange and cream. The typical impurities of the coarser fabrics are fragments of blue-grey shell. Mica can often be observed with difficulty and, occasionally, white lime specks appear on the surface in tiny burst bubbles. Evidence of local terracotta production, within Berenice, is further corroborated by a small number of moulds (Nos. 104–8) found on the site even though the fabric of the moulds themselves is, in some cases, certainly foreign (Nos. 106–7). Indisputable imports are, amongst others, the pieces in grey clay with black glaze (Nos. 45–6), the Harpocrates fragment (No. 38) and the grotesque head (No. 39).

Iconographically the Sidi Khrebish terracottas manifest a strong influence from Asia Minor, which suggests strong commercial ties with that area. The best parallels are to be found in specimens from cities like Smyrna, Myrina, Troy and Tarsus.<sup>5</sup> Only one or two pieces, including the Harpocrates, might at first impression suggest links with Graeco-Egyptian centres, and even these types could have reached Berenice from Asia Minor, since they are also found commonly there. As Higgins remarks, 'connections with Egypt were apparently broken' from the second century B.C. onwards. The same writer, however, thinks that the kalathos worn by several Cyrenaican female figures (which has not been preserved in any of our figures) is of Egyptian pedigree.<sup>6</sup>

The following abbreviations are used in this chapter:

|                      |   |
|----------------------|---|
| Belov:               | G. D. Belov, <i>Terrakoty Tanagry</i> (Leningrad, 1968).  |
| Besques:             | S. Mollard-Besques, <i>Catalogue raisonné des figurines et reliefs en terre-cuite grecs et romains I–III</i> (Paris, 1954, 1963, 1972). |
| Blinkenberg:         | C. Blinkenberg, <i>L'image d'Athéna Lindia</i> (Copenhagen, 1917).  |
| Breccia:             | E. Breccia, <i>Terracotte figurate greche e greco-egizie del Museo di Alessandria</i> , 2 vols. (Bergamo, 1930, 1934).                  |
| Breitenstein:        | N. Breitenstein, <i>Catalogue of Terracottas in the Danish National Museum</i> (Copenhagen, 1941).                                      |
| Burr:                | D. Burr, <i>Terracottas from Myrina in the Museum of Fine Arts, Boston</i> (Vienna, 1934).  |
| Burr Thompson, Troy: | D. Burr Thompson, <i>Troy: the terracotta figurines of the Hellenistic period</i> (Princeton, 1963).                                    |
| Caranache:           | V. Caranache, <i>Masks and Tanagra figurines made in the workshops of Callatis</i> (Constanta, 1969).                                   |
| Charbonneaux:        | J. Charbonneaux, <i>Les terres cuites grecques</i> (London 1936).   |
| Chehab:              | M. Chehab, <i>Les terres cuites de Kharayeb</i> , <i>Bull. du Mus. de Beyrouth</i> X–XI (Paris, 1951–54).                               |
| De Ridder:           | A. De Ridder, <i>Les terres cuites et les verres</i> , <i>Collection de Clercq VI</i> (Paris, 1909).                                    |
| Grandjouan:          | C. Grandjouan, <i>The Athenian Agora, VI, Terracottas and plastic lamps of the Roman period</i> (Princeton, 1961).                      |

<sup>5</sup> See references at the end of the items in the Catalogue.

<sup>6</sup> R. A. Higgins, *Greek Terracottas* (London, 1967) 133.

- Heuzey: L. Heuzey, *Catalogue des figurines antiques de terre cuite du Musée du Louvre* (Paris, 1882).
- Higgins: R. A. Higgins, *Catalogue of the terracottas in the British Museum I* (London, 1954).
- Huish: M. B. Huish, *Greek terracotta statuettes. Their origin, evolution and uses* (London, 1900).
- Ingen: W. van Ingen, *Figurines from Seleucia on the Tigris* (London, 1939).
- Kaufmann: C. M. Kaufmann, *Ägyptische terrakotten der griechisch-römischen und Koptischen Epoche* (Cairo, 1913).
- Kekule: R. Kekule, *Die antiken Terrakotten, II, Die Terrakotten von Sicilien* (Berlin-Stuttgart, 1884).
- Kleiner: G. Kleiner, *Tanagrafiguren. 15<sup>e</sup> Ergänzungsheft des Jahrb.*, 1942.
- Kobylyna: M. M. Kobylyna, *Terrakotovyte statuetki Pantikapeya i Fanagorii* (Moscow, 1961).
- Köster: A. Köster, *Die griechischen Terrakotten* (Berlin, 1926).
- Laumonier: A. Laumonier, *Catalogue de terres cuites du Musée Archéologique de Madrid* (Paris, 1921).
- Mendel: G. Mendel, *Catalogue des figurines grecques de terre cuite* (Constantinople, 1908).
- Paul: E. Paul, *Tanagrafiguren, Staatl. Mus. zu Berlin* (Berlin, 1962).
- Paul 1959: E. Paul, *Antike Welt in Ton. Griech. u Röm. Terrakotten des Archaeol. Inst. d. Karl Marx Universit.* (Leipzig, 1959).
- Sieveking: J. Sieveking, *Die Terrakotten der Sammlung Loeb, I-II* (Munich, 1916).
- Thimme: J. Thimme, *Antike Terrakotten, Badisches Landesmuseum* (Carlsruhe, 1960).
- Van Ufford: L. Quarles van Ufford, *Les terres-cuites siciliennes* (Assen, 1941).
- Velickovic: M. Velickovic, *Catalogue des terres cuites grecques et romaines* (Belgrade, 1957).
- Walters: H.B. Walters, *Catalogue of the terracottas in the British Museum* (London, 1903).
- Weber: W. Weber, *Königliche Museen zu Berlin. Die ägyptisch-griechischen Terrakotten* (Berlin, 1914).
- Winter: F. Winter, *Die antiken terrakotten, III, Die typen der figürlichen Terrakotten* (Berlin-Stuttgart, 1903).
- H. Height.
- W. Width.

CATALOGUE

FI. Part of face of figurine

(3853). Max. H. 0.07 m. Max. W. 0.06 m.

pl. V

Local fossil-gritted clay, fired reddish brown. Hollow. Left and top parts of face missing. Original paint surface remarkably preserved.

Face rounded and fleshy with beginnings of double chin. Nose large and strong; mouth

rather small; chin cleft centrally. Whole face well modelled and the paint enhances its pleasant effect. Ground painted white with pink thinly spread over cheeks and chin. Mouth preserves traces of vermilion red. Nostril holes are deep pink; pupils maroon; irises olive green; eyebrows dark brown. Two thin, wavy ringlets of hair, painted orange red, appear on right side of face.

The fragment belonged to a roughly one-third lifesize figurine, probably female.

Deposit 70.

**F2. Head of a female figurine**

(1013). H. 0.055 m. W. 0.035 m.

pl. V

Orange brown clay, fired greyish brown at core. Solid. Hair ornaments attached after moulding and partly missing. Traces of white wash all over surface.

Head inclined to right. Face oval with slightly visible eyes. Complicated 'melon' hairstyle consisting of thick strands separated by deep grooves and combed back to the nape where they are collected in a circular bun. The head was crowned by an ivy wreath, some leaves of which survive. Earrings were also worn. Remarkable for the amount of detail on the hair. Good work in the Praxitelean tradition.

Deposit 32 (courtjard fill).

Cf. Walters C 817 (from Benghazi) identical, perhaps from same mould; Besques III D 3291 pl. 211k (end of third century B.C.); Paul 1959 no. 151, pl. 38. The hairstyle is very common in Tanagra figurines and the prototype seems to be Tanagan. See Kleiner *passim* esp. pls. 1a-c, 11c, 16, 27b.

**F3. Head of female figurine**

(627). H. 0.055 m. W. 0.03 m.

pl. V

Reddish brown clay. Solid. Traces of white wash all over the surface. Some traces of red paint on hair.

Head inclined to left. Oval face with painted nose, hardly distinguishable eyes, small mouth. Hair divided in the middle and taken back to the crown of the head in separate strands and gathered in a two-tiered knot. Fine piece of work in the 'sfumato' style. More cursory treatment in the hair.

Deposit 32 (fill of Room 6).

Cf. Besques III D 1514, pl. 284 f (Smyrna, mid third century B.C.); Kekule II pl. XVI, 10. Replica of a Tanagra type.

**F4. Head of female figurine**

(1219). H. 0.075 m. W. 0.04 m.

pl. V

Pinkish brown clay with occasional grits. Solid. White wash. Small traces of red paint on hair. Nose tip broken.

Head inclined to right. Oval face. Eyes and small mouth not very well defined. Hair separated by deep grooves in thick strands and collected in a high top-knot on the crown of the head. Part of the drapery visible at the back of the neck.

Context date: later first century A.D. (foundation trench of Room 5, Building B2). The head probably derives from earlier levels (Building B1) disturbed during construction work.

Cf. Besques II pl. 215c; III pls. 281i, 284f; Burr Thompson, *Troy* nos. 65–9, pl. XIX (Heads of Hierodouloi, second century B.C.).

- F5.** Head of female figurine  
(1294). H. 0.06 m. W. 0.038 m. pl. V  
Brick red, soft clay with mica and occasional grits. Solid. Disfigured by chips on chin, neck, hair and left cheek. Crown of head missing. Pale yellow paint on face and neck. Pink and green bands on diadem.

Head inclined to right. Oval face with well moulded, distinct eyes and small fleshy mouth. Hair, parted in centre on forehead, becomes thicker over ears. Head crowned by a simple diadem painted in two horizontal bands of different colours. Rather fine piece of terracotta moulding.

Deposit 33 (courtyard fill).

Cf. Burr Thompson *Troy* no. 218, pl. XLVII (almost identical); Besques II pls. 199–202 esp. nos. 355, 1243 bis, 1245; Caranache no. 101. Probably derived from a Tanagra type, like Belov no. 560.

- F6.** Head of female figurine  
(2477) H. 0.063 m. W. 0.045 m. pl. V  
Pinkish brown clay. Traces of white wash. Solid. Back not moulded. Neck flat underneath. Part of diadem chipped.

Head slightly bent to right and crowned by a low diadem. Hair drawn back and divided at the centre. A portion of hair flows down to the left shoulder. Produced from a somewhat worn mould.

Disturbed context (Building A1).

Cf. Besques II pls. 200–2 especially no. 2 Y 1524. Probably derived from a Tanagra type, such as Belov no. 540, pl. 13.

- F7.** Head of female figurine  
(501). H. 0.07 m. W. 0.047 m. pl. V  
Brick red clay with scattered grits. White wash. Solid. Nose and mouth chipped; half of wreath missing.

Head inclined to right, and crowned by a thick wreath of flowers represented by shallow pittings with three binding strips visible behind the right ear. Oval face with barely distinguishable eyes.

Unstratified.

Cf. Burr Thompson, *Troy* nos. 265–7 (style second century B.C.—probably made first century B.C.); Paul 1959 no. 160 pl. 39 (Hellenistic); Besques III no. D 3267, pl. 210f (second century B.C. type). Imitation of a Tanagra type.

- F8.** Fragmentary head of female figurine  
(1976a). H. 0.03 m. W. 0.028 m. pl. V  
Reddish brown clay. White wash. Traces of red paint on hair. Solid. Part of face missing including left cheek and chin.

## TERRACOTTAS

---

Hair parted in centre and drawn back behind head where it was probably collected in a bun, now missing. Considerable detail around the eyes and mouth.

Context date: early first century A.D.? (from rubble core of dais of Room 2 (cella), Building X). See vol. I, p. 67 ff.

Cf. Besques II no. IHA 5 pl. 83d. Kekule II pl. XV, 8.

### F9. Part of head of female figurine

(1131). H. 0.055 m. W. 0.04 m.

pl. VI

Pale, yellowish brown, micaceous clay. Small traces of white wash. Forepart of a hollow head. Nose and ears chipped.

Head strongly inclined to its right. Oval and rather fleshy face. Well defined eyes with sharp eyelids and slightly raised surfaces suggesting the irises. Small, fleshy mouth. Hair parted in the centre and consisting of small curls. Part of a band visible just above left ear. A very fine piece of terracotta moulding. Exquisite finishing of the hair by rapid touches of the spatula. Less happy are the two or three lines marking the folds of the neck.

Building A1.

Cf. Besques III pl. 282e (similar but bent in the opposite direction).

### F10. Head of figurine

(3125). H. 0.058 m. W. 0.04 m.

pl. VI

Pale cream brown clay with occasional grits and fired grey at the core. Solid. White wash and traces of red paint on neck.

The head probably stood upright on the body. Facial features and massive neck suggest a male rather than a female figure. Hair rendered by a regular pattern of rows of semicircles pointing upwards. Sharp details of eyes and hair suggest a fairly fresh mould.

Context date: second century B.C. (Hellenistic levels underlying Building T).

Cf. Besques III no. E 60 pl. 284 m (60–5 A.D.).

### F11. Part of woman's head

(500). H. 0.045 m. W. 0.042 m.

pl. VI

Orange brown clay with occasional white and grey grits. Probably a flat applique.

Well-fed, rounded face with small mouth and barely distinguishable eyes. Hairstyle, consisting of separate layers of curls running from front to back, seems to recall the coiffure fashionable among the Severan imperial ladies.

Unstratified.

Cf. similar appliqué but showing a bearded Zeus in Walters C 409. See also Weber no. 177, pl. 18.

### F12. Head of female figurine

(2511). H. 0.05 m. W. 0.03 m.

pl. VI

Pinkish clay with some large shell grits. Solid. Neck flat underneath. White wash.

Oval face standing upright on a rather long neck. Head crowned by a thick stephane. Lack of detail: eyes hardly visible. Careless modelling.

Disturbed context (Building A1).  
Cf. Laumonier pl. XXXVII; Burr Thompson, *Troy* nos. 275–6.

**F13.** Head of female figurine  
(1023). H. 0.05 m. W. 0.04 m. pl. VI  
Brick red clay with frequent grey dots. Solid. Traces of white wash.

Head strongly bent to left. Neck excessively long. Hair parted in middle and arranged in knot at back. Head crowned by simple diadem. Produced from a worn mould.

Disturbed context (robber trench, Building B2).  
Cf. identical mould of small head from Myrina: Besques III no. D 903 pl. 169a–c (mid second century B.C.). Also Besques II pls. 200–1; Burr no. 109 pl. XL (first century B.C.).

**F14.** Part of female head  
(729). H. 0.035 m. W. 0.03 m. pl. VI  
Brick red clay. Solid. Lower part of face missing. Traces of white wash.

Head crowned by a plain stephane scored by short grooves. Common-place work.

Deposit 39.

Cf. Besques III no. D 362 pl. 80b (end of second century B.C.); Laumonier pl. XXXVII.

**F15.** Part of female head  
(442). H. 0.032 m. W. 0.025 m. pl. VI  
Rather gritty brick red clay. Solid. Back of head missing.

Head considerably bent to its right and crowned by a thick plain wreath. Pathetic expression.

Context date: Hellenistic (pit cut into natural sand below later Roman city wall). For the dating of similar pits, see Deposits 2–10.

Cf. Besques II no. D 1549 pl. 206a; III no. D 3262 pl. 210a.

**F16.** Part of female head  
(1976 b.). H. 0.04 m. W. 0.015 m. pl. VI  
Brick red clay. Solid. White wash. Left half of face missing. Underneath the neck a conical wedge for insertion.

Neck very long. Hair arranged in a long, two-tiered knot behind. Common-place product of a worn mould.

Context date: as for No. 8 above.

Cf. Besques II pl. 213; III pls. 179d, 283i (second half of second century B.C.).

**F17.** Part of female head  
(556). H. 0.036 m. W. 0.028 m. pl. VI  
Cream brown clay fired grey at core. Solid. White wash. Traces of pink on hair. Left half of face missing.

Hair collected in a flat round knot behind.

Deposit 32 (fill of Room 3).



## TERRACOTTAS

---

Cf. Besques II no. LY 1585 pl. 213c (mid second century B.C.); III no. D 971 pl. 179d (end of second century B.C.).

**F18.** Head of small female figurine  
(1662). H. 0.022 m. W. 0.017 m. pl. VI

Gritty pink clay. Solid. White wash. Traces of red on hair.

Simple hairstyle divided in the middle.

Deposit 28.

Cf. Besques III no. D 3273 pl. 210m (probably late third century B.C.); almost identical to Burr Thompson, *Troy* nos. 226–8 pl. XLVIII (third to second centuries B.C.).

**F19.** Head of small female figurine  
(3888). H. 0.032 m. pl. VI

Local fossil gritted clay. Solid. White wash.

Head leans slightly to the right. Hair drawn back in a cone. Crude workmanship, product of a poor mould.

Deposit 35.

**F20.** Part of a female figurine  
(1352). H. 0.035 m. W. 0.032 m. pl. VII

Brick red clay fired grey at core. Hollow. Head and part of chest preserved.

Head crowned by a wreath. Hair separated in layers. Excessively long neck. Object carried against the right shoulder appears to be a harp. Very cheap product from a worn mould.

Building A1.

Cf. Besques III no. D 430, pl. 93a (late Hellenistic); Ingen pl. XXXVI, figures 259–61, 263–4.

**F21.** Part of a female figurine  
(3379). H. 0.027 m. W. 0.03 m. pl. VII

Brick red clay. Solid. White wash.

Produced from an extremely poor mould. Details of face very poorly preserved. A flat triangular object held on the right hand side may be identified as a harp. Head crowned by stephane.

Late level west of Church.

Cf. Besques III no. D 430, pl. 93a (late Hellenistic); Chehab nos. 285–97; Ingen pl. XXXVI, figures 259–64.

**F22.** Part of a female (?) figurine  
(425). H. 0.035 m. W. 0.038 m. pl. VII

Brick red clay with frequent grey grits. Hollow. Traces of white wash. Only forepart of head preserved.

Details of face very worn. Eyes indicated by two small holes. Other holes at the centre of hair-line on forehead, above and beneath the right ear. Turban-like head-dress.

Deposit 32 (courtyard fill).

Cf. The head-dress resembles that worn by Harpocrates: Breccia II *passim*; Weber pls. 4–14 (Horos?).

**F23.** Head of figurine

(3465). H. 0.03 m. W. 0.02 m.

pl. VII

Orange brown clay with fine grits and yellowish cream slip. Solid. Preserved in two halves, front and back.

Though the two halves fit perfectly together, resulting thickness of head and neck is disproportionately large. Probably a female head but the face is entirely eroded. An earring is probably worn on left ear.

Late level (Area W).

**F24.** Fragment of female head

(980). H. 0.04 m. W. 0.03 m.

pl. VII

Brick red clay. Traces of light blue paint on wreath and of red on hair. Face missing.

Hair worn in separate, thick, horizontal segments and drawn in a bun at the back. Traces of a coloured wreath above the right ear.

Building A1.

**F25.** Fragment of female (?) head

(1976c). H. 0.037 m.

pl. VII

Brick red clay darkened by fire. Only part of the hair of a probably female figure.

Context date: as for No. 8 above.

**F26.** Fragment of female (?) head

(2393). H. 0.08 m.

pl. VII

Brick red clay. Hollow. Slight traces of white wash.

Only the crown of the head and half of the stephane of a one-third life size figure preserved. Hair not moulded.

Context date: Hellenistic (Area R, primary occupation levels).

**F27.** Fragment of male head

(3010). H. 0.057 m. W. 0.03 m.

pl. VII

Brick red clay with dark brown glaze. Hollow.

Probably belonged to a male figure with young, idealized features. Details of eyes well modelled.

Building P4.

Cf. Besques III D 2029, ED 2030–4, pls. 329–30 (late Hellenistic); Laumonier nos. 83, 122, 298, pls. XII, XIII, XVI.

## TERRACOTTAS

---

- F28.** Fragment of male head  
(2770). H. 0.05 m. W. 0.04 m. pl. VII  
Brick red clay. Dark brown glaze, in some places misfired red. Hollow.  
Very probably from the same mould as No. 27.  
Building P4.  
Cf. same as for No. 27.
- F29.** Part of head  
(453). H. 0.05 m. W. 0.032 m. pl. VIII  
Cream-yellow clay fired grey in some areas. Hollow.  
A rigidly upright face, oval in shape, with thick upper eyelids and small parted lips.  
Context date: second century B.C. (lowest levels underlying Room 2, Building A1).  
Cf. Besques III pl. 184d.
- F30.** Part of head  
(839). H. 0.04 m. W. 0.03 m. pl. VIII  
Brick red clay, with lime flecks, backed grey on the inside. Red slip. Hollow.  
Fine pointed nose. Archaic-looking smile on lips.  
Unstratified (Church area).
- F31.** Head of monkey  
(1024). H. 0.04 m. W. 0.04 m. pl. VIII  
Pinkish brown clay with white grits. Solid. Mouth and chin missing.  
Monkey's head wearing a stephane. Caricature of the usual female figure; probably represented playing the lyre.  
Disturbed context (robber trench, Building B2).  
Cf. Walters no. C 750; Heuzey pl. 55, fig. 1.
- F32.** Fragment of a nude female figure  
(483). H. 0.11 m. W. 0.065 m. pl. VIII  
Orange brown gritty clay fired grey at core. Self-slip. Hollow. Only front section preserved from head to chest.  
Female figure represented in a reclining position, leaning on its left arm. She wears earrings and a necklace with an amulet in the shape of a cross. Two fillets fall on the shoulders from behind the ears.  
Unstratified.  
Cf. Ingen pl. XLIII, figs. 309, 312, 314; pl. XLIV, fig. 316; Kekule II pl. XXV, 2-4.
- F33.** Part of an object with relief moulding  
(3870). H. 0.075 m. W. 0.16 m. pl. VIII  
Local orange red clay with lime specks and some grit. Cream-yellow slip.

The fragment appears to belong to a circular medallion presumably meant to hang on a wall. On the moulded rim appears a figure with left hand brought to the hair. It carries a strange head-dress, apparently formed of fruits of different kinds among curly locks. A similar medallion from Mangalia, now in Bucharest, shows a naked Aphrodite carrying a veil and fastening it on the border of the medallion with the left hand.

Deposit 82.  
Cf. Caranache No. 12.

**F34.** Smiling putto  
(1240). H. 0.06 m. W. 0.045 m. pl. VIII  
Brick red gritty clay fired black at core. Self-slip. Solid, but must have belonged to a larger, hollow group.

The child is completely naked and probably in a seated position. Right hand resting on right thigh. Long hair worn in a plait down centre of head. Originally, it very probably belonged to a nude boy riding a horse or, less likely, to a nude Eros holding a bird on a column or riding a cart drawn by two dogs.

Area P.  
Cf. similar heads of smiling putti: Besques II nos. 1481, 1583, 1627, pls. 223i, 224d, 225b; Besques III no. D 553, pl. 119c. Child on horseback: Breitenstein no. 666, pl. 81. Child with bird: Laumonier pl. XCIV, 4.

**F35.** Head of smiling putto  
(3216). H. 0.025 m. W. 0.02 m. pl. VIII  
Brick red clay. Solid.

The head probably belonged to a similar figure as No. 34 but not from the same mould.  
Unstratified (Area W).

**F36.** Draped boy  
(3886). H. 0.06 m. W. 0.033 m. pl. VIII  
Local clay with large lime specks fired buff outside, light brick red inside. Hollow.

The figure is pot-bellied and has a fat, smiling, boyish face. It is drawing a cloak tight round the neck with right hand. Left arm covered. Left hand missing; probably raised. Long curly hair. It may represent a comic actor or a caricature.

Disturbed context (Building R1).  
Cf. Kobylina pl. XX, 2; Winter II pl. 240 no. 3; Walters no. C 805 (Cyrenaica).

**F37.** Crouching Silenus  
(3830). H. 0.045 m. W. 0.028 m. pl. VIII  
Local clay fired olive grey, with small grits. Left section of body missing.

The figure represents an obese old man with long beard flowing down his chest and long hair swept back. He is completely nude and crouching with right arm resting on right thigh. Details very poorly moulded.

Unstratified.

Cf. De Ridder no. 66, pl. 1; Winter I pl. 217 no. 3; II pl. 392, no. 5.

**F38.** Fragment of Harpocrates

(1924). H. 0.145 m. W. 0.055 m.

pl. IX

Soft, fine, and very micaceous cream clay with pale cream yellow slip. Hollow.

Fragment preserves part of the face of a boyish figure with big eyes, fleshy lips and large nose. Shape of left eyebrow and forehead suggests a frowning expression. Hair almost completely covered by a plain head-dress. Forefinger of left hand raised to lower lip. Forearm draped. The position of the finger against the lips suggests an identification with Harpocrates, and the lined plait of hair above the forehead is probably part of the Egyptian god's hairstyle. A fine piece of terracotta moulding with clear details.

Terracotta figures of Harpocrates are very frequent not only in Egypt but also in Asia Minor, but they almost invariably show the young god with the finger of the right hand, and not the left one, against his lips. Besides, very few seem to be of such large dimensions and high quality workmanship as our fragment.

Disturbed context (robber trench, Building Pl).

Cf. Weber pls. 4-14 (Horus?); Paul 1959 no. 243, pl. 68 (Rhodes); Besques III nos. E/D 2271-6, pl. 352 (Tarsus); Kaufmann figs. 27-38. With left finger against lips: Kaufmann figs. 29, 36; Breccia II 1, pl. XVII, 5-6; II 2, pls. XV, XXVII, XXVIII, XXXI.

**F39.** Grotesque head

(1504). H. 0.058 m. W. 0.04 m.

pl. IX

Soft, fine, orange clay with occasional grits. Dark red brown paint. Head knocked off main figure at the neck.

A deformed head of a man with exaggerated big mouth and nose. Mould for each side of head. From the front one notes a considerable asymmetry in the face. The hump at the back of the neck suggests a hunchback. Eyes perforated.

Similar figures of deformed men and women have been unearthed in great quantities in several Greek cities but the majority come from Smyrna and Alexandria; the fashion thus seems to have originated in either of these two cities. Two perfectly identical heads come from Smyrna (Besques III nos. E 136-7). Our head has conserved much more of its paint than the Louvre heads. Both Besques and Higgins (p. 112) assign these heads to the late Hellenistic or early Imperial period. The clay and iconography argue in favour of an importation from Smyrna rather than Alexandria.

Unstratified.

Cf. Besques III nos. 136-7, pl. 309a and d (Smyrna); pl. 154a-e (Ephesos); Breitenstein nos. 503-4 (Tarsos); Paul 1959 no. 316 (Alexandria).

**F40.** Part of head of Bes-Silenus

(891). H. 0.04 m. W. 0.055 m.

pl. IX

Fine, micaceous, orange-pink clay. Traces of red paint. Hollow.

Bes-Silenus represented in his usual staring expression with wide-open eyes and arched eyebrows. Hair expressed in parallel, straight strands combed from front to back. Iris rendered by a hemispherical bulge.

Unstratified.

Cf. Besques III no. E 192, pl. 330e (first century A.D.).

**F41.** Part of monstrous mask

(1576). H. 0.06 m. W. 0.05 m.

pl. IX

Fine, micaceous, cream-coloured clay with semi-lustrous brown-black wash. Hollow.

Monstrous head with bulging eyes rendered by two concentric circles. Eyebrows arched up. Bald forehead grooved by undulating furrows.

Unstratified.

Cf. Walters no. C 829. Weber pl. 25. Besques III pl. 330e-f (late Hellenistic—first century A.D.).

**F42.** Part of monstrous mask

(1370). H. 0.034 m. W. 0.046 m.

pl. IX

Fine clay, with occasional grits, fired almost black. Dark red paint on face and light blue on eyes. Hollow.

Bulging eyes looking sideways. Large hollow irises. Arched eyebrows. Lined forehead.

Building A1.

Cf. as for No. 41.

**F43.** Part of faun mask (?)

(3367). H. 0.062 m. W. 0.03 m.

pl. IX

Fine, micaceous, brick red clay with semi-lustrous brownish wash. Hollow.

Flat nose, fleshy mouth. Iris rendered plastically by a semicircle. Arched eyebrows. Hair wavy and drawn back. Possibly the lower part of a horn on top.

Deposit 119.

Cf. Laumonier no. 973 pl. CXXV, 1.

**F44.** Part of Dionysiac head

(486). H. 0.068 m. W. 0.055 m.

pl. IX

Fine clay, with plenty of mica, fired grey inside and orange brown outside. Hollow. Holes on right eye and hair perforated at a later stage.

Part of a human smiling face with wide, flat nose and high, swollen cheeks. Head crowned by stephane adorned with three rows of circular depressions. Above diadem, two spherical ornaments, probably pine cones.

The fragment is part of a plastic vase (lekythos) in the shape of a Dionysiac head. A complete lekythos of the same type is preserved in the National Museum of Belgrade. Our fragment derives from the same workshop, if not the same mould. Clay, dimensions and details are identical. Clay very similar to Italian sigillata. Probably first half of first century A.D.

Unstratified.

Cf. Velickovic no. 32 pl. XV.

## TERRACOTTAS

---

- F45.** Part of Dionysiac head  
(2521). H. 0.05 m. W. 0.055 m. pl. IX  
Compact, grey clay covered by shiny black glaze. Perforation on hair. Hollow.  
Part of the face and hair of female face in a trance. Irises and pupils plastically rendered. Dishevelled hair crowned by a narrow fillet hanging as a festoon on the forehead and studded with flowers.  
Very probably part of a plastic black glaze vase.  
Building A1.
- F46.** Fragment of Negro head  
(1223). H. 0.055 m. W. 0.032 m. pl. X  
Soft grey clay with shiny black glaze on both surfaces. Hollow.  
Part of face and neck of negroid figure leaning on right hand, two fingers of which are preserved against right cheek. Eyes closed. Traces of drapery on the neck. Probably belonged to a plastic vase in the shape of a Negro slave, asleep, with head resting on right hand.  
Deposit 32 (fill of Room 3).  
Cf. the theme of the negro slave is very common, especially in Egypt (Breccia II nos. 440–56). Fragments of the same fabric and glaze occur in Egypt (Breccia II no. 22508, pl. XXXVIII, 6) but the clay and black glaze suggest a different provenance. Vases of the same type: Sieveking II pl. 124.
- F47.** Headless draped female figurine  
(2267). H. 0.08 m. W. 0.06 m. pl. X  
Gritty brick red clay. Hollow; ventilation hole. White wash.  
Figure is seated and folds right arm on chest. Left arm by her side resting on some object beside her. She wears a high-waisted chiton and cloak. Very bad mould. Details very hazy.  
Disturbed context (Building R2).  
Cf. Charbonneaux no. 46; Huish pl. XXIV; Köster pls. 61–2. Probably ultimately derived from a Tanagra prototype such as Belov no. 427 pl. II, or no. 567 pls. 41–2.
- F48.** Headless draped woman with girl  
(382). H. 0.096 m. W. 0.05 m. pl. X  
Gritty brick red clay with self-slip. Hollow; ventilation hole.  
The woman wears a chiton, and a cloak wrapped round lower part of body. She stands on her right foot and thrusts forward her left one. She holds an object (box?) in her right hand and with her left she fondles a young girl. The girl, also fully draped, stretches out her left hand towards the woman's face.  
Context date: as for No. 15 above.  
Cf. Huish pl. XLIV; Breitenstein 494 pl. 61; Winter II pl. 5 nos. 6–7, pl. 38 no. 4.
- F49.** Fragmentary female draped figurine  
(1983a/c). H. 0.16 m. W. 0.10 m. pl. X  
Local, pinkish brown clay with occasional grits and white limestone specks. White wash. Pink and red paint. Hollow. Circular ventilation hole.

Figure stood on left leg, bringing forward right one. Both arms covered by drapery. Right hand rests on right hip, left arm hangs by the side. Drapery consists of a heavy himation covering the whole body and, probably, chiton underneath. Tension in the folds is caused by the tight adherence of the cloak to the body, the forms of which are clearly visible beneath the drapery. Besides traces of pink paint in several areas, dark red lines appear, one crossing from one shoulder to the other, passing under the breasts, another hanging diagonally from left hip to right knee.

A local production of a Tanagra type.

Deposit 60 (fill of cella).

Cf. Exactly like Walters nos. C 794 (Benghazi) and C 795 (Cyrenaica). Also Burr Thompson *Troy* no. 153, pl. XXXIII and Kekule II pl. XXXII.

**F50.** Part of female draped figurine

(1743). H. 0.20 m. W. 0.19 m.

pl. X

Pale greyish brown clay, with frequent white and shelly grits, fired grey at core. White washed except for the flat back. Traces of pink paint on cloak. Hollow.

The figure wears a short-sleeved tunic with high-waist girdle. Two fillets hang down from the shoulders, one on each breast. On the chest between the fillets are nineteen studs, or medallions, in four rows. Two other studs on top of each sleeve. A necklace is worn round the neck. The right arm hangs by the side while the left one is bent to hold a cloak.

Unstratified (Area N).

Cf. A number of similar Hellenistic figures with rows of objects (but square in shape) on the chest are kept in the B.M., all of them coming from Cyrenaica: Inv. nos. 1867-5-12, 2; 1863-1-14, 21; 1867-5-12, 1 (Benghazi). These standing female figures invariably wear a kalathos. See e.g. Walters no. 784 pl. X. They seem to derive from an earlier type, found also in Cyrenaica: Higgins nos. 1470-3 (seated, late fifth century B.C.). This, in turn, seems to be derived from variations of the Athena Lindia type: Blinkenberg 25-33. A good number of similar figures occur in Sicily in the Archaic and early Classical period: Van Ufford 54-5 figures 33-5 calls them 'Athena Lindia'; Winter nos. B 397, 404, pl. XI calls them 'Archaic chthonian goddess'.

**F51.** Headless female bust

(673). H. 0.09 m. W. 0.12 m.

pl. XI

Hard, brick red clay fired grey at core. Hollow. Complete apart from head. Open underneath. Traces of white wash.

Very rigid attitude with both arms hanging by the side. Wears chiton lifted by a girdle beneath the breasts. Probably a votive bust of Kore. Mould somewhat worn.

Deposit 61 (fill of temenos).

Cf. Exactly like Kobylina pl. VIII, 3 (Kore wearing a splayed kalathos). See also Besques I nos. C 75-9 and C 556; Winter 254, 8 (Cyrenaica).

**F52.** Part of dancing figurine

(723). H. 0.08 m. W. 0.023 m.

pl. XI

Gritty, brick red clay. Self slip. White wash. Hollow. Ventilation hole. Head, arms and legs, from knees down, missing.



## TERRACOTTAS

---

The twist of the body towards the right shows clearly that the figure is in a dancing pose. It wears a light garment covering whole body except left breast.

Disturbed context (Building A1).

Cf. Certainly derived from type shown in Thimme no. 23 (200 B.C.). Walters no. C 811 (Cyrenaica).

*Fragments of draped figures: Nos. 53–76*

**F53.** (1429). H. 0.063 m. W. 0.035 m. pl. XI  
Brick red clay with occasional sandy grits. Self slip. Traces of white wash. Hollow.

Left shoulder and part of plain back of fully draped figure.

Deposit 33 (fill of Room 1).

**F54.** (1395). H. 0.07 m. W. 0.04 m. pl. XI  
Pinkish brown clay with frequent small grits. Yellowish brown slip. White wash. Hollow.

Left shoulder and side of fully draped figure. Left arm bent.

Deposit 33 (fill of Room 1).

**F55.** (2538). H. 0.105 m. W. 0.07 m. pl. XI  
Orange brown clay with some mica and a few fine grits. White wash. Hollow.

Part of neck, right breast and part of right shoulder. Figure wears a light chiton tucked high up by a girdle beneath the breasts. A wavy tress of hair, or fillet, falls over the right shoulder. Necklace, or torques, round neck.

Area P.

Cf. Burr Thompson: *Troy* no. 44, pl. XIII (third century B.C. type probably recast in early second century B.C.).

**F56.** (1983). H. 0.06 m. W. 0.05 m. pl. XI  
Orange brown clay fired grey at core. White wash. Traces of pink and red paint. Hollow.

Part of neck and right breast.

Deposit 60 (fill of cella).

**F57.** (505). H. 0.11 m. W. 0.04 m. pl. XI  
Coarse and gritty brown clay, fired black in some areas. Hollow.

Left half of figurine from waist down. Stands on round pedestal and wears chiton and himation.

Area M.

Cf. Kobylyna pls. XXVI–XXVII.

**F58.** (759). H. 0.125 m. W. 0.11 m. pl. XII  
Light brown clay with flecks of lime. Pale yellow wash with traces of pink paint. Hollow.

Lower part from knee down, excluding left leg. Draped in a long garment. Right leg bent forward.

Unstratified.

Cf. It seems to correspond exactly to the mould from the Athenian Agora: Burr, *Hesperia* 28 (1959) 137–138, no. 18.

**F59.** (1988). H. 0.10 m. W. 0.065 m. pl. XII

Hard, brick red clay fired grey at core. White wash on front only. Hollow.

Lower part of draped female figure from thighs down. Stands on left leg, bending right leg forward. Dress consists of chiton and himation.

Deposit 43 (Room 2 (cella)).

Cf. Huish pl. LXV.

**F60.** (1795). H. 0.06 m. W. 0.04 m. pl. XII

Soft brown clay with minute white specks. Semi-lustrous brown slip both inside and outside. Hollow.

Lower part of standing, probably male, figure from hips to heels. Figure wears a heavy cloak over tight-fitting trousers, of 'Phrygian' type, rendered by incised cross-hatchings. Right knee thrust slightly forward.

Unstratified (Area P).

*Not illustrated*

**F61–F76.** Miscellaneous small fragments of drapery from Building A1 (four), Building X (three), Buildings B1 and B2 (three), Area R (two), Building H (two), Area M (one) and Building T (one).

**F77.** Part of nude female bust

(3012). H. 0.028 m. W. 0.047 m.

pl. XII

Orange brown clay with small grey and white grits. Bright red, mat slip. Flat underneath.

Only lower part of the small bust preserved including breasts and flat base. Probably a votive object.

Deposit 119.

Cf. Winter I pl. 253, nos. 5–6, 8; pl. 254, no. 6.

**F78.** Part of nude male torso

(2554). H. 0.054 m.

pl. XII

Pinkish brown clay, with some mica, fired grey at core.

Left half of the back of a naked male figure, from neck to waist. Left arm also missing. Very muscular body.

Area P.

Cf. Paul nos. 211–2 (fourth century B.C.), 222 (Hellenistic), 220 (Hellenistico-Roman); Besques III pls. 163, 195, 197 (late Hellenistic).

## TERRACOTTAS

---

**F79.** Two fragments of nude sitting figure  
(2189). H. 1) 0.12 m. 2) 0.095 m. pl. XII  
Orange brown clay fired grey at core. Some mica and grits. White wash. Hollow.

One fragment preserves lower part of torso from waist to shins. Lower half of back cut away before firing. Second fragment fits exactly under this cut and must have formed part of the object the figure is sitting on.

Context date: Hellenistic or early Roman (lowest street level north of Building S2). See vol. I, fig. 44b.

Cf. Mendel no. 2318, pl. VIII, 1.

**F80.** Votive arm  
(1981). L. 0.17 m. W. 0.065 m. pl. XIII  
Soft, brown clay. Traces of white wash and pink paint. Hollow.

Part of left forearm and hand. Only the fingers missing.

Deposit 60 (fill of cella).

Cf. Similar votive limbs in Breitenstein no. 823, pl. 105; B. M. Thomasson, *Opuscula Romana* III (1961) 123–38, pl. VIII (first century B.C. – first century A.D.).

**F81.** Part of votive arm  
(1217). L. 0.14 m. W. 0.065 m. pl. XIII  
Soft, brown clay. Whole surface white washed and painted pink. Hollow.

Fragment preserves hand and wrist of left arm. All fingers missing. Third finger carries ring with flat, round jewel.

Deposit 16.

Cf. As No. 80.

**F82.** Part of votive arm  
(1982 d.). L. 0.14 m. W. 0.05 m. pl. XIII  
Soft, very gritty, brown clay. White wash and pink paint. Hollow.

Fragment preserves forearm with original lower end. Hand and fingers missing.

Deposit 60 (fill of cella).

Cf. Same as No. 80.

**F83.** Votive hand  
(1981 b–c). L. 0.08 m. W. 0.11 m. pl. XIV  
Gritty reddish brown clay. White wash and pink paint. Hollow. Only tip of thumb missing.

Left hand, originally cut at wrist and beneath root of fingers, so that only part of palm is shown together with outstretched thumb.

Deposit 60 (fill of cella).

Cf. Same as No. 80.

- F84.** Part of human arm  
 (2464). L. 0.07 m. W. 0.04 m. pl. XIV  
 Orange brown clay. Cream white slip. Hollow and produced from double mould.  
 Upper part of arm down to elbow. Very naturalistic. Probably part of statuette.  
 Late level (Area X).
- F85.** Part of human arm  
 (445). L. 0.085 m. pl. XIV  
 Pinkish brown clay, with several white grits, baked grey in some areas. Solid.  
 Part of arm from wrist to a little above elbow. Part of a statuette.  
 Deposit 32 (fill of Room 2).
- F86.** Part of human arm  
 (1147). L. 0.067 m. pl. XIV  
 Fine cream brown clay. Solid.  
 Outstretched right arm. Part of a statuette.  
 Late Level (Area X).
- F87.** Fragment of human foot  
 (766). H. 0.06 m. W. 0.043 m. pl. XIV  
 Light brown clay with shell grits and cream pink slip. White wash and traces of red  
 paint. Hollow. Fragment preserves left foot from the instep down. Big toe and right  
 side of foot missing.  
 Foot rests on a contoured base. Probably a votive offering.  
 Deposit 168.1. (Layer 63, from which this piece derives, was the lowest level above  
 natural sand and is probably to be dated to the second century B.C. See vol. I, fig. 43).  
 Cf. Six pairs of similar feet from Cyrenaica, now in Copenhagen: Breitenstein no. 523, pl. 63.
- F88.** Fragment of human foot  
 (1842). L. 0.062 m. W. 0.07 m. pl. XV  
 Slightly gritty, reddish brown clay. Hollow. Part of foot from root of toes to instep.  
 Probably left foot of a fairly large figurine.  
 Unstratified.
- F89.** Fragment of human foot  
 (1938). H. 0.043 m. W. 0.042 m. pl. XV  
 Cream brown clay fired grey at core. Occasional grits. Hollow.  
 Forepart of left foot broken at ankle and heel. Covered by shoe or boot. Without pedestal.  
 Area P.  
 Cf. Breitenstein nos. 814, 816, 818, 820; Besques III pls. 336-8.

## TERRACOTTAS

---

- F90.** Leg of dancing doll  
(491). H. 0.062 m. pl. XV  
Pinkish brown clay. Self slip. Solid.  
Right leg with hole pierced from side to side through thigh. Part of jointed doll.  
Unstratified.  
Cf. Breitenstein no. 592, pl. 72 (Hellenistic).
- F91.** Part of terracotta group  
(495). H. 0.063 m. W. 0.055 m. pl. XV  
Orange brown clay fired grey at core. Hollow.  
Fragment preserves left leg of child-like figure astride an animal. Probably putto riding cock or Eros on horseback.  
Unstratified.  
Cf. Grandjouan no. 250, pl. 6; Besques III no. 375–7; Breitenstein nos. 664–6, pl. 81; Paul no. 208 pl. 57 (Hellenistic); Winter II 300–1.
- F92.** Part of an object with relief moulding  
(892). H. 0.055 m. pl. XV  
Buff coloured local clay with some grits.  
The fragment seems to belong to a circular plaque perhaps meant to hang on a wall. Against a moulded rim a left hand appears in relief gripping an unidentifiable object. The medallion may have shown a woman holding a veil blown over behind her head.  
Unstratified.  
Cf. Besques III pl. 363a–d (first century B.C.).
- F93.** Eros' wing  
(1498). H. 0.067 m. W. 0.052 m. pl. XV  
Gritty and slightly micaceous brown clay baked grey at core. Pinkish slip. Traces of white wash and pink paint.  
Whole wing broken off at base. Moulded only on the front side.  
Deposit 32 (fill of Room 3).  
Cf. Of a type used often in Myrina: D. Burr Thompson in *EAA* V (1963) Figure 421; Besques II pls. 40–2.
- F94.** Eros' wing  
(2524). H. 0.033 m. W. 0.026 m. pl. XV  
Brown clay. White wash, and blue paint in grooves.  
Outstretched wing broken off at base. Plain at the back.  
Deposit 43 (cella).  
Cf. Sieveking II pls. 95–6; Walters pls. XXXI, XXXIII.
- F95.** Fragments of a cow  
(410). H. of head frag. 0.034 m. pl. XV

Micaceous, orange brown clay fired grey at core. White wash. Hollow. Different fragments including head. Moulded only on the front.

Cow faces right and carries a thick collar. Small ears, bulging eyes.

Deposit 32 (fill of Room 6).

Cf. Besques II pl. 180; III pl. 258b.

**F96. Horse's head**

(2059). H. 0.03 m. W. 0.05 m.

pl. XVI

Cream brown clay with frequent small grits, fired almost completely black. White wash and traces of red paint. Solid. Back unmoulded.

Head of horse and part of rider's body. Figure represented sideways facing left. Mould very worn. Harness painted red.

Deposit 4.

Cf. Kaufmann pl. 115.

**F97. Horse's head**

(3284). H. 0.08 m.

pl. XVI

Orange clay with fine grits and semi-lustrous self slip. Hollow. Back not moulded.

Part of head and neck of harnessed horse facing left.

Unstratified.

Cf. Besques III pl. 381, esp. no. 381e.

**F98. Boar**

(2500). H. 0.04 m. W. 0.057 m.

pl. XVI

Local, brick red clay, with plenty of lime flecks, fired grey in most parts. Hollow. Plain back with circular vent.

Boar facing right. Worn mould.

Building A1.

Cf. Identical boars occur in Cyrenaica: B.M. 1868.7.5, 93-4, and Walters C 825. Widely diffused type: Besques III no. D450 pl. 98d, and Weber no. 450

**F99. Fragments of sheep**

(2625). H. frag. (a) 0.05 m.; frag. (b) 0.045 m.

pl. XVI

Brick red clay, with few grits, fired grey at core. Hollow.

Two fragments probably belong to a sheep or similar woolly animal on a plain rectangular base. Probably crouching.

Area P.

Cf. Laumonier no. 48 pl. X, 2.

**F100. Griffin's claws**

(1699). H. 0.04 m. W. 0.08 m.

pl. XVI

Bright red clay fired dark brown at surface. Yellowish grits.

## TERRACOTTAS

---

Left paw, including three claws, broken from a large figure of griffin or feline animal.

Late level (Area L).

Cf. Besques III nos. D 3195 – 6 pl. 205a,d; D 1331 pl. 258a.

### F101. Cockerel

(1394). H. 0.076 m. W. 0.035 m. pl. XVI

Slightly micaceous clay, with frequent grey and white grits, fired orange brown or cream. Hollow. Plain back.

Upper part, including head, of cock facing left. Worn mould.

Deposit 33 (fill of Room 1).

Cf. Walters no. C 824 (Cyrenaica); Besques II pl. 182.

### F102. Small bird

(2661). L. 0.05 m. W. 0.035 m. pl. XVII

Slightly gritty, brick red clay. Yellowish white slip. Solid. Attached to another object underneath.

Hand-moulded bird, probably dove, with outstretched wings.

Deposit 157.1.

Cf. Weber nos. 499–60.

### F103. Small bird

(1677). H. 0.02 m. L. 0.047 m. pl. XVII

Slightly gritty, brick red clay. Solid.

Hand-moulded bird, probably sitting on its nest, the left half of which is broken off.

Area P.

Cf. Same as No. 102.

### F104. Part of mould

(1681). H. 0.075 m. W. 0.038 m.

Rather gritty orange clay with pinkish orange slip on outside and cream slip on inside blackened in some areas.

Part of mould showing drapery, probably female: a Doric peplos with overfold.

Area J.

### F105. Part of mould

(3459). H. 0.043 m. W. 0.055 m. pl. XVII

Micaceous clay, with small white grits, fired yellow at core and pink on surfaces.

A cast of the mould seems to show an architectural decorative pattern consisting of 'ovuli' with raised edges.

Area W.

- F106.** Two fragments of mould  
 (2344). H. frag. (a) 0.075 m.; frag. (b) 0.09 m. pl. XVII  
 Fine, bright red clay with occasional white specks. Technique similar to that of *terra sigillata*.  
 Frag. (a) is concave on moulded side and convex on plain side. A broken element (handle?) projects near one of the rims on the plain side. A cast of the fragment shows an animal (deer or rabbit) running to the left. Behind it, in the centre, is a tree and under it is part of another animal.  
 Frag. (b) is lower right hand corner of the mould. Cast shows hind parts of an animal (lion?) bouncing to the right.  
 Deposit 151.  
 Cf. Velickovic no. 75 pl. XXVI; Weber no. 403, pl. 36.
- F107.** Fragment of mould pl. XVII  
 (1690). H. 0.055 m.  
 Same clay as for No. 106.  
 It is not at all clear what the cast represents, perhaps the tail and rump of an animal and some foliage.  
 Disturbed context (robber trench, Building P1).  
 Cf. Same as No. 106.
- F108.** Fragment of mould pl. XVII  
 (2736). L. 0.09m.  
 Local red clay with fossil grits.  
 Mould appears to have been for long thin object of U-shaped section.  
 Disturbed context (robber trench, Building P4).
- F109.** Base of figurine pl. XVII  
 (1301). H. 0.03 m.  
 Brick red clay with dark red slip. White wash and traces of light blue paint.  
 Part of rectangular base.  
 Context date: Roman (associated with Oven 2, Building B2).
- F110.** Base of figurine pl. XVII  
 Cream brown clay. White wash.  
 Part of figure and round base.  
 Building A1.
- F111.** Base of figurine pl. XVII  
 (1914). H. 0.028 m.  
 Orange brown clay with little mica. White wash.  
 Round base of an almost solid figure.  
 Deposit 72.



TERRACOTTAS

- F112.** Base of figurine  
(1922). H. 0.055 m. pl. XVIII  
Cream brown gritty clay. White wash. Red paint.  
One side of square base with part of figure.  
Deposit 101.
- Unidentified fragments: Nos. 113–157*
- F113.** (1001). L. 0.065 m. pl. XVIII  
Very fine, micaceous, light brown, imported clay. White wash. Yellow and gold paint.  
Back plain, but white washed and preserving traces of yellow and gold paint. Front decorated in relief with row of darts. Possibly part of headdress of female figurine.  
Deposit 32 (fill of Room 6).
- F114.** (3706). H. 0.08 m. pl. XVIII  
Local clay with fossil grit. Darkened by fire. White wash and pink paint.  
Possibly drapery.  
Unstratified (Building X).
- F115.** (1383). H. 0.09 m. pl. XVIII  
Same clay as No. **114**. White wash. Dark red paint.  
Possibly drapery belonging to same object as No. **114**.  
Deposit 43 (Room 1 (pronaos)).
- F116.** (1184). H. 0.05 m. pl. XVIII  
Brick red clay fired dark brown at core. Traces of white wash and blue paint.  
Probably drapery.  
Deposit 32 (fill of Room 2).
- F117.** (2196). H. 0.10 m. pl. XVIII  
Orange gritty clay. White slip. Traces of red paint.  
Unstratified (Building R3).
- F118.** (1870). H. 0.075 m. pl. XVIII  
Brick red clay with occasional large grits. White wash.  
Deposit 60 (fill of temenos).
- F119.** (1982). H. 0.15 m. pl. XVIII  
Very coarse clay with frequent grey grits. White wash. Probably part of large figurine.  
Deposit 60 (fill of cella).
- F120.** (3111). L. 0.05 m. pl. XVIII  
Pinkish brown clay. Probably fragment of mould for a fleecy animal.

Deposit 119.  
Cf. No. 99.

**F121.** (3272). L. 0.05 m. pl. XVIII  
Brick red clay with frequent limestone flecks. Perhaps the rump and tail of an animal.  
Unstratified (Church area).

**F122.** (1369). L. 0.045 m. pl. XVIII  
Cream brown clay. Perhaps part of a hollow dove.  
Deposit 43 (Room 2 (cella)).

**F123.** (3500). L. 0.06 m. pl. XVIII  
Brick red gritty clay fired grey at core and cream on surface. Seems to show a big eye  
and eyebrow of a large animal.  
Deposit 167.4.

*Not illustrated*

**F124–F157.** Unidentified fragments, mostly in local fabric, from Building A1 (four),  
Building B1 (one), Building X (seven), Area J (six), Area R (one), Building P1 (one),  
Building P4 (one), Building T (four), Building W (two), Church area (two) and unstratified  
(five).

**F158.** (1828).  
Three beads from a necklace in buff coloured clay.  
Context date: early first century A.D. (Area J).

**F159.** (2226).  
Orange brown clay with heavy limestone grit.  
Perhaps part of antefix with floral relief.  
Disturbed context (Building R1).  
Cf. Paul 1959 nos. 378, 383, pls. 96–7.

## 4. The Coarse Pottery from Berenice

J. A. RILEY

Department of Archaeology,  
University of Southampton

### I. Introduction

Excavations, conducted by the Society for Libyan Studies in conjunction with the Libyan Department of Antiquities, took place more or less continuously from 1971 to 1975 in the disused cemetery of Sidi Khrebish in Benghazi which was the site of ancient Berenice (founded in 247 B.C.). A considerable area was excavated (over 18,000 square metres) and the results showed a more or less continuous occupation from the Hellenistic to the Islamic periods (see Lloyd 1978).

The Hellenistic remains included part of the city wall, houses and part of an industrial complex. The quarter was laid out as part of a grid development during the second century B.C. It was completely rebuilt, along similar lines, in the later first century A.D. and the remains of several large private and public buildings of this period were uncovered. The next major chronological horizon was the abandonment and levelling of the Roman *insulae* and a contraction of the city manifested by the construction of a new city wall in the mid third century A.D. There are occasional scattered levels of the fourth and fifth centuries A.D. representing later phases of certain buildings. The next real horizon is the construction of a church in the shell of an earlier Roman building at some time in the late fifth or early sixth centuries A.D. Occupation of the western part of the site continued only sporadically during this period. The essential life of the quarter seems to have come to a halt with the Arab conquest, although the church was re-occupied for secular purposes. The latest coins from the building are of the late tenth century A.D.

The destruction levels of the various periods contained a large quantity of pottery, as did several blocked up cisterns. In addition, several deposits of pottery sealed beneath mosaic and concrete floors were excavated. Advantage was taken of this sealed pottery as well as the long series of stratified deposits to construct a basic typology of the imported and local coarse wares. The need for such a typology of the Hellenistic and Roman coarse wares of Cyrenaica has long been felt (e.g. Kenyon 1955, 300; Wright 1963, 64; Goodchild 1976, 185, note 15), yet despite several large scale excavations at various Cyrenaican sites, very little coarse pottery of the Hellenistic and Roman periods has been published and no publications contain sequences of Cyrenaican coarse pottery. All the published Hellenistic coarse pottery is from tombs: Benghazi (Ghislanzoni 1915), Tocra (Wright 1963, Burton-Brown 1948), Cyrene (Burton-Brown 1948, Rowe 1959). Only selected sherds have been published from Roman contexts: Benghazi (Riley 1973), Hadrianopolis (Jones & Little 1971b), Tocra

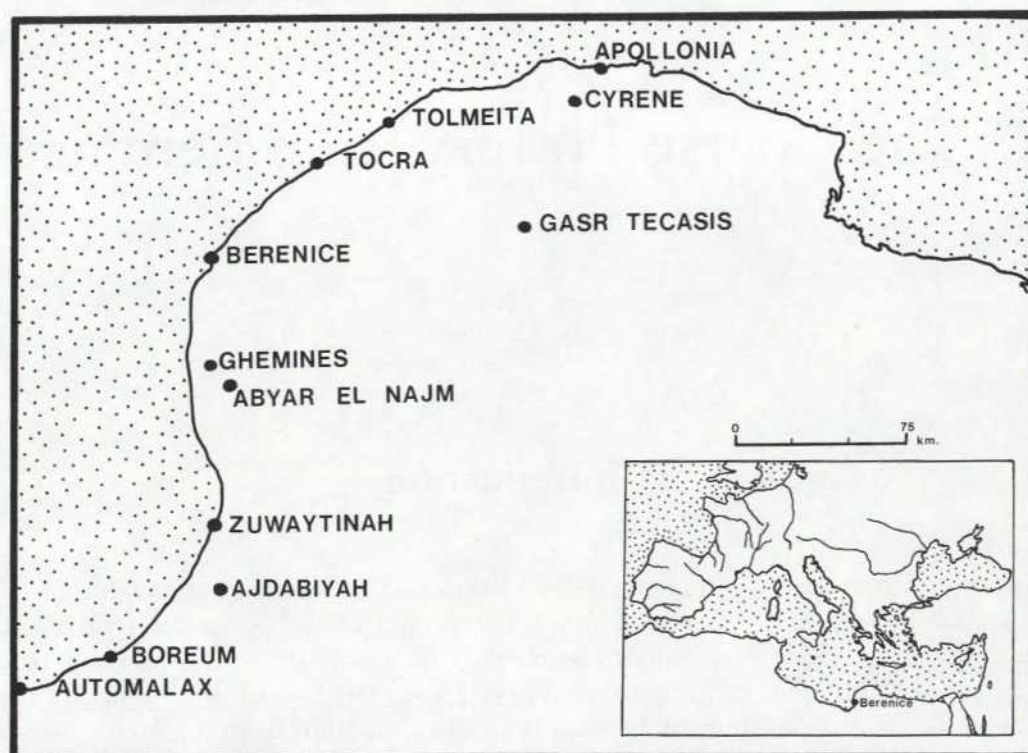


Fig. 1. Map of Cyrenaica.

(Wright 1963, Boardman & Hayes 1973), Tolmeita (Kraeling 1962). The state of coarse ware studies is a little better for some other areas in the eastern Mediterranean region but serious attention to Hellenistic and Roman pottery has generally been the exception rather than the rule.

The construction of the typology of Hellenistic coarse pottery at Berenice was aided by the apparent lack of occupation there before the formal foundation of Berenice in 247 B.C. (at least in the part of Berenice excavated at Sidi Khrebish). This is attested by the rarity of pottery necessarily earlier than the middle of the third century B.C. The original city of Euhesperides, some 2.5 km to the east, was abandoned in the middle of the third century B.C. (Goodchild 1952, 1962; Jones & Little 1971, 65–67) and virtually no coins or pottery later than this have been found there (Bond & Swales 1965; Riley 1978). Both sites, therefore, provide a valuable chronological horizon for pottery studies. It was noted that the latest pottery from Euhesperides is different in character to the earliest from Berenice.

The aim of this present study is to consider the coarse pottery from Berenice as far as possible in its totality from each well dated context rather than as individual sherds, and by quantitative techniques to provide important information relevant not only to the pottery specialist and practical archaeologist but also to the economic and social historian. In this publication the term 'coarse pottery' refers mainly to functional, utilitarian pottery. In general this does not include slipped wares, thin walled wares, Pompeian Red wares, lamps or terracottas. Exceptions to this include some Hellenistic partially slipped wares (as H. Plain ware 2, Lid type 2), coarse dishes with an internal slip (MR Plain ware 7) and unslipped Pompeian Red ware lids (Lid type 8). A full description and discussion of the stratigraphically significant deposits mentioned in the text has been published in Lloyd 1978.

## II. The Benghazi Local Pottery Fabrics

### INTRODUCTION

Before any satisfactory typology of the coarse pottery from an area can be established, it is essential that the local wares can be recognized and classified. Ideally this can be achieved by reference to samples from ancient kiln sites. The origin of the Benghazi local fabric 1 was confirmed in this way, being the fabric of the waster lamps from the mid third century A.D. lamp kiln (Deposit 107). The range of pottery from the kiln site at Tocra (Wright 1963, Riley 1975) is very similar in shape, and, judged by eye, is indistinguishable by fabric to similar wares at Berenice. The relative frequency of coarse fabrics can be a guide to determining those of local origin but at the same time it can also be highly misleading as several common wares are clearly imported (as LR Amphora 1, which comprises at least 45 per cent of the total coarse pottery in the early sixth century A.D. levels).

There are no satisfactory ethnographical parallels to which one may turn when attempting to identify the likely clay sources used by the potters of Berenice. Pottery is not manufactured in Cyrenaica at the present time, and within living memory was manufactured only on a very local and individual scale. The inhabitants of Ajdabiyah and the surrounding district as far as Augila and Jalo in the south used to collect the clay for their pottery (a yellow clay, called locally simply *tuflah*) from Sahabi which is c. 100 km to the south of Ajdabiyah (M. Sakran, personal communication). At Ajdabiyah the clay was occasionally mixed with shell. This was not always the case, for at Derna it used to be the practice to mix the yellow *tuflah* clays with the red *hamra* clays (A. Kawash, personal communication). It is not clear whether the more specialised and large scale ancient local pottery industry would have employed such methods.

The clay deposits used by the potters of Berenice may have been to the south west of the city. There is a thick belt of yellow *tuflah* clay about 4 metres below the surface in the Fuehat region of Benghazi, which rises to the surface to the west of the new university.

In general, the fabrics of Berenice and of Cyrenaica as a whole are fairly uniform in composition and thin sections reveal very fine quartz grains, limestone and shell. This is to be expected as Cyrenaica is a limestone region, consisting basically of Eocene limestone topped with Oligocene and Miocene limestone (see Kleinmiede & Berg 1968, especially pl. 1; also Gregory 1911, Desio 1968, Vita-Finzi 1973). Although the emphasis of geological studies has been on 'solid' geology rather than on surface accumulation, it is clear that there are marked regional variations in Cyrenaica, which make corresponding variations in the local clays likely. Although such variations cannot be detected in local pottery by petrological methods of analysis they have been distinguished by chemical analysis (Krywonos 1978); see discussion by Riley in SLSAR, 10 (1979).

The coastal plain for a radius of about 40 km to the north-east and east of Benghazi consists of Miocene limestone covered with a thin and intermittent sheet of Pleistocene limestone. To the south-west of Benghazi a minor fault has produced a narrow deposit of Miocene clay containing the foraminiferal *Heterostegina Costata* near to the surface (McBurney & Hey 1955, 48 ff). This is of particular relevance to Benghazi local fabric 1 which contains this fossil. The only other Miocene deposits are on the south side of the Jebel Ahkdar and

also to the south east of Cyrene. This evidence suggests that any local pottery demonstrably made of Miocene clay found in the western part of Cyrenaica (west of Tolmeita) is from the Benghazi region.

Imported coarse wares are readily recognisable when they contain minerals not compatible with a sedimentary geology.

#### CLASSIFICATION OF THE POTTERY FABRICS

With the exceptions of the shell gritted Benghazi local fabrics 1 and 2, the Benghazi local fabrics are basically very similar, and the differences noted below seem mainly to be the result of varying firing techniques. The classification of the local and other fabrics takes into account such factors as general appearance, colour, texture, hardness, inclusions and general 'feel', where possible supplemented by objective analyses. In order to avoid lengthy fabric descriptions the following conventions have been adopted:

*Colour:* An attempt at objective description has been made using the Munsell Colour Chart (Munsell 1973). The verbal description is subjective.

*Inclusion size:* The size of the inclusions has only been mentioned when they were larger or smaller than average. The average size is about 0.2–0.5 mm<sup>2</sup>.

*Inclusion frequency:* The frequency is expressed in terms of one square centimetre of the broken surface. 'Many' refers to *c.* over 60 per cm<sup>2</sup>; 'a moderate quantity' to *c.* 15–60 per cm<sup>2</sup>; 'occasional' to below *c.* 15 per cm<sup>2</sup>.

*Hardness of clay:* Unless otherwise stated, the wares have a medium hardness (they can be scratched with a knife) and a granular break.

#### BENGHAZI LOCAL FABRIC 1

This distinctive fabric is generally orange brown (*c.* Munsell 10YR 5/6) but varies from a buff grey through orange to grey. It has a softish surface (it can be scratched with the fingernail) and contains a high proportion of large (2–4 mm in diameter) roughly circular flat flakes of bluish grey or white shell, which, when split open, reveal segmented fossil remains (first noted by T. Tatton-Brown). They belong to the foraminiferal genus *Heterostegina* of Oligocene-Miocene age (C. Adams, personal communication). Boreholes by Marchetti to the south of Benghazi in the 1930s revealed that to the south-west of Benghazi there is a bed of fossiliferous clay of Miocene age which is about three to four kilometres wide and which stretches for at least 11 km south of Benghazi (McBurney & Hey 1955, 48–58). This clay contained fossils which had already been recognised by Silvestri (1929) as being foraminiferal *Heterostegina costata* probably of Middle Miocene (Helvetian) age. It seems likely on geological grounds that local fabric 1 comes from this bed. *Heterostegina* fossils have not been noted elsewhere in the Benghazi region or in the other Miocene limestone areas to the south of the Jebel Akhdar and to the south-east of Cyrene.

In addition to the geological evidence for the origin of this fabric, there is also strong archaeological evidence. The waster lamps from the mid third century A.D. lamp kiln (Deposit 107) are of this fabric. Moreover, the ox-head brazier fittings, which are always of this fabric (see below p. 307), were clearly made in Benghazi, as a mould for one (in local fabric 2) was discovered at Berenice (see No. 705). Similar brazier lugs in this fabric have

## COARSE POTTERY

---

occasionally occurred on sites other than Berenice, but, apart from occasional body sherds, no other shape in this fabric has been identified outside Berenice. By contrast the fabric is common at Berenice, comprising 15 to 20 per cent of the total coarse pottery in the Hellenistic and Early Roman periods, and is well represented by a wide variety of coarse ware forms. For other descriptions of this fabric see Bailey 1972, 7; Riley 1973, 19. In thin section (pl. XIXa) there is, apart from the shell, a little mica and quartz. The quartz is of similar size to that of other fabrics, although much less frequent.

### BENGAZI LOCAL FABRIC 2

This is closely related to local fabric 1 but is better levigated. It has a similar colour range, with dark orange brown (c. 5YR 5/6) being the most common. It contains bluish grey or white shell fragments which are crushed *Heterostegina*. This fabric has only been noted in Berenice and is generally associated with Hellenistic Amphora 1. In thin section (pl. XIXb) there is a matrix of small quartz grains of similar size to those of local fabric 1, but sparser than for local fabrics 3 to 6. There is some limestone.

### BENGAZI LOCAL FABRIC 3

This fabric is a compact, fairly hard, reddish purple to dull pink (c. 5YR 5/4) and invariably contains a quantity of large flakes (average diameter c. 2mm) of white, or very commonly, greenish (5Y 9/2) shell, with a punctured depression in the centre caused by the burning out of the lime during firing. This fabric is frequent throughout the Hellenistic period in Berenice and also appears at Euhesperides. It seldom occurs in post first century A.D. contexts, and has only rarely been noted on other Cyrenaican sites. In thin section (pl. XIXc) there is a fairly dense matrix of minute quartz grains with occasional lumps of limestone.

### BENGAZI LOCAL FABRIC 4

This is the normal mid Roman cooking pot fabric. It is a hard, crisp cooking ware ranging in colour from buff through red to grey and contains a moderate proportion of white lime specks. The ware occurs at Euhesperides but is infrequent during the Hellenistic period at Berenice, occurring mainly on Hellenistic Cooking Wares 2 and 4. It is common by the later second century A.D. Several waster pieces of this fabric, although in scattered contexts, have occurred at Berenice. In thin section there is a dense matrix of minute quartz grains with a little mica and limestone (pl. XIXd).

### BENGAZI LOCAL FABRIC 5

This is basically a slightly lower fired version of local fabric 4, and has a similar colour range, although the most common colours are buff and orange brown through to reddish brown (c. 2.5YR 5/6 to 5YR 6/6-6/4). There are white lime specks and occasionally specks

of mica. The fabric is common on local plain wares of all periods. In thin section it is very similar to local fabric 4 (not illustrated).

**BENGAZI LOCAL FABRIC 6**

This is a softish grey or greenish cream fabric (2.5Y 8/2 to 2.5Y 6/2 to 5Y 7/3) invariably (but not always) fired greenish cream on the exterior. It contains white lime specks and in thin section is very similar to local fabrics 3 to 5 (pl. XIXe). This ware occurs only on jugs of the later second and third centuries A.D.



## COARSE POTTERY

---

The origin of imported wares is discussed in the typology. In many cases determination of a precise origin is not possible. On the whole, however, western Mediterranean types can be distinguished from those of the eastern Mediterranean, and, where possible, suggestions for more specific areas are made on the basis of parallels, distribution and analysis. Even the identification of *general* areas of production are useful and this can be illustrated by considering modern pottery influences in Cyrenaica. For example, the pottery still produced in Tunisia and Egypt is distinctive, but it is Tunisian and not Egyptian pottery which is sold in Cyrenaica today. From this fundamental fact further research could be conducted to discover the reasons for this and to establish whether the pottery was made in Nabeul or Djerba etc. A major aim of this present study was to establish such fundamental facts and trends for the ancient pottery of Berenice, from which further research may progress.

### THE NEED FOR QUANTIFICATION

The creation of a typology, and, as far as possible, the chronology and provenance of the types within it, has until recently been considered the end result of Mediterranean coarse pottery studies. However, in all too many cases such results have been based on selected pieces from excavations and museums. The resulting distribution maps tend to be two dimensional (i.e. pottery type against location), which although useful for plotting trade routes along river systems or across land masses, have limitations. In order to draw reliable conclusions from such distribution maps a considerable amount of field work is necessary, and even so it is still difficult to plot the relative volumes of trade along two different routes. In order better to supply such information some method of quantifying the pottery is necessary, as a pottery type is only fully significant when it can be related to the total quantity of pottery associated with it. The very real dangers of distortion of results without some provision for quantification are eloquently presented by Hodder & Orton 1976, (especially chapter 2) who conclude that 'the more quantified information which is on a map or which pertains to spatial patterning the better that map can be discussed and interpreted'.

Quantification of the pottery from an archaeological excavation cannot be attempted until the pottery typology has been fairly well established. However, once this has been done, quantification can effectively enable pottery to be related to trade patterns, can help to refine the chronology of a pottery type, and can also provide a surer indication of the frequency of pottery survivals from earlier periods. The quantification process itself involves a determination of the proportion of each type in a given body of pottery. This proportion is expressed in the present work as a percentage of the total pottery from each dated deposit, and the reliability of the results is in ratio to the size of the total pottery sample.

From this it is clear that every fragment of pottery from every deposit has to be examined and grouped according to the type series, or assigned a miscellaneous category. This is a formidable, time consuming, but, it is felt, necessary process, if significant advances in the quality of information provided by coarse pottery are to be achieved. Before discussing the system employed for the Cyrenaican pottery it is worth briefly noting other attempts to quantify pottery which have been published.

### POTTERY QUANTIFICATION AND PUBLISHED WORKS

Despite precedents from the early years of this century, few Roman pottery specialists have attempted to quantify their results. However, during the past few years, there has been a

growing tendency to do so, although methods of approach and presentation of results have been varied. The following review of these developments does not intend to be exhaustive and the works cited have been chosen for their relevance to the methods employed for the pottery of Berenice.

One of the earliest quantified assessments of Roman pottery is that by Ritterling (1912, 356–63) for Hofheim, who states broadly whether certain types are common or rare. A similar approach was adopted by Hawkes & Hull (1947) for Colchester, who, however, set out in tabular form the numbers of each type for each period except when types were common when they were given the letter 'N' for 'numerous'. The problem with this method is that the relative proportions of the 'numerous' types could not be gauged and satisfactory inter-site comparisons are not possible. Ettlinger & Simonett (1952, 113) counted and published figures of all the pottery from the dump at Vindonissa. The proportion of amphoras (150 RBHS; *c.* 6 per cent of the total coarse pottery) was too small to be related to other sites. Ettlinger (1977) has, however, made an attempt to compare the relative proportions of amphoras from Haltern, Oberaden, Colchester and Vindonissa using five grades of frequency from rare to 'innumerable'. This is certainly a step in the right direction as the ultimate aim of any method of quantification must be efficient intersite comparisons. However, it is too vague to be of more than limited use, and, as recognised by Ettlinger, 'exact figures of exactly defined groups are needed'.

The publications of the Ostia excavations are very important as they represent the most complete publication yet of pottery from a multi period Roman site (Ostia i, ii, iii). The total RBH were quantified according to type by counts. However, it is unfortunate that the results are not presented in a simplified manner. In the present work, the figures for the amphoras (Panella 1974) have been simplified and converted to the format proposed below, each type being expressed as a proportion of the total amphoras (see Appendix II). In this way the results from Ostia could be more readily compared with those of Berenice and Carthage. As well as the University of Michigan excavation at Carthage (Riley 1976), the British excavation at Carthage is also quantifying its pottery by both weights and counts (see Peacock 1977c, 28, Table 1).

Little attempt has so far been made to quantify Roman pottery of the eastern Mediterranean. Delougaz & Haines (1960) were among the earliest to do so for the Late Roman site of Khirbat al Karak, where 5000 rims and handles were classified and their quantities tabulated. Useful indications of the relative proportions of various coarse wares have been published by Hayes (1968, 215; 1973, 116–7; 1977).

All these publications aim at presenting the quantity of pottery (in terms of type or fabric) in a given deposit in a numerical format. Such a format is adopted in the present work but the numbers have also been converted into percentages of the total pottery, in order that the proportions of a type in different deposits can be related. Elements of all the systems and methods mentioned above have been incorporated into the system discussed below for Cyrenaica, and emphasis has been placed on the best means of presenting the results as clearly as possible. As quantification by pottery specialists in the Mediterranean is increasing, it is essential that some form of standardisation of quantitative results is followed, or that results should be presented so that they can later be incorporated into a standard system. Before this is feasible, it is necessary that specialists agree on the kind of quantitative information required.

## COARSE POTTERY

### AIMS OF THE QUANTIFICATION OF THE COARSE POTTERY FROM BERENICE

The presentation of the quantified results of the Berenice pottery places emphasis on the relative proportions of each type in each deposit (in terms of percentages) rather than attempting to determine the absolute proportions (in terms of minimum numbers of vessels). This is the result of practical problems encountered in attempting to calculate minimum numbers of vessels. Such attempts obtained varying results depending on the attributes of a particular pottery type examined and were, in any case, too time consuming to be practicable.

The minimum number of vessels in a deposit can be calculated in several ways, by looking at the weight, the number of handles and bases and rim diameters. The total weight of the RBHS of a type may be divided by the average weight of a typical complete vessel: this is complicated as complete examples of only a few types are available, certain types occur in varying sizes and the body sherds of different types but in the same fabric cannot usually be distinguished. The number of bases gives an indication of the number of vessels but there are again problems. Amphora bases, which are usually spikes, can provide the information but the bases of many jug types and plain wares are generally broken and need to be treated as rims in order to determine the minimum number of vessels. Moreover, those of several cooking ware forms and flat based dishes are difficult to recognise with confidence, and the wider bases are generally broken. The diameters of bases and rims can be calculated and the extant rim perimeter measured and this is probably the best way of determining the minimum number of vessels, although this is a long and laborious process. Counting handles is not necessarily a reliable method of calculating the minimum number of vessels, as they are often broken, making it more accurate to calculate four stubs (i.e. where the handle joins the neck or the shoulder) to one vessel rather than simply two handles.

When all these methods were employed together, a wide fluctuation of results was obtained. This is illustrated by a study of an easily recognisable type, the corrugated cooking wares MR Cooking Wares 3 and 3a, together with the miscellaneous corrugated cooking wares, from the prolific Deposit 82. The results were as follows:

| <i>Method of Examination</i>                      | <i>Quantity</i> | <i>Minimum No.</i> |
|---|-----------------|--------------------|
| Total handles (2 per pot)                         | 136             | > 68               |
| Total bases (1 per pot)                           | 41              | 41                 |
| Total rims (diameter & extant perimeter)          | 383             | 94+                |
| Total Weight RBHS (at 1400 gr per average vessel) | 69,520 gr.      | c. 50              |

The RBHS of this type were readily recognisable, although some sherds may have been confused with MR Jug 1. The handles were small and mainly unbroken. Of the rims, 72 also had handles attached and these are included in the handles count above. A minimum number of 76 vessels was indicated by 193 of the rims. The other 190 were small fragments of average length 3 cm and the diameter was assumed to be an average of c. 21 cm, which indicated at minimum another 18 vessels, making the total 94+.

Clearly the rims provide the best idea of the minimum number of vessels in this case, but it does not follow that this is always so. With such fluctuating results it was considered difficult in practice to compare the proportions of the same type from different contexts, and it was concluded that relative proportions of pottery expressed by percentages were at this

stage more useful than attempting to obtain absolute proportions, especially in view of the large quantities of pottery.

When considering the proportions of RBH together, the fact that some types could only be recognised by one feature and others by more tended to become less significant in practice. For example, although amphoras are larger vessels than plain or cooking wares, their rims are smaller. Therefore one would expect a lower proportion of amphora rims. On the other hand the handles of certain amphoras were recognisable, and in the final total of RBH compensated to some degree for the lack of rims.

#### THE BERENICE POTTERY SYSTEM

The system described here is basically that developed with J. Hayes at recent excavations at Carthage (Riley 1976, 126 ff.), but adapted for Berenice. Before washing, the pottery from each level was separated into fine and coarse wares. The fine wares were then washed, marked and stored for separate study. The coarse wares were washed and returned to their box. Owing to the enormous quantity of pottery involved, and rapid exhaustion of storage space, the coarse ware body sherds were, after 1973, washed, inspected for stamps etc. and then discarded, unless they belonged to stratigraphically important levels or came from sealed contexts such as under floors, in cisterns etc., in which case all the pottery was kept. The pottery from the layers chosen for study was sorted into the different types, following the type series, and each type was further sorted into rims, bases, handles, and, where applicable, body sherds. The pottery that did not fit into the type series was noted, sketched, and, if sufficiently informative, drawn and fabric samples taken.

The pottery from each layer was quantified by both counting and weighing. The counting process was straightforward. In general the proportion of joining body sherds was low and these were counted individually except where the sherds had fresh breaks. Rims with handles attached were counted as rims, as rims are generally more easily recognisable as belonging to a certain type than handles. This and the number of handles attached to each rim were recorded in the pottery note books. Similarly, if a complete pot was present in a deposit, the fact was noted in the records but for the purposes of quantification counted as one rim. In this case the true record of frequency is presented by its weight. In practice complete or even partially complete vessels were rare.

Although such coding problems were encountered, the aim was to present as clearly as possible in tabular form the best possible summary of the contents of each layer; it was in an attempt to provide the best balance that weights were used as well as counts. In addition quantification by counts alone, while important and in practice the main record of frequency, has limitations, as it gives no clear idea of the average size of individual sherds, or an adequate account of the size of a particular deposit. Little extra effort was involved in weighing the pottery as it had to be sorted before counting anyway, and it is the sorting that is time consuming. The scales used in Cyrenaica were 'Prestige' kitchen wall scales which are portable and light but which can weigh quantities of up to three kilograms and are calibrated to 10 grammes, enabling the weight to be calculated to the nearest five grammes.

All this describes the process of coping with the pottery from one layer. However, it is normally decided after excavation that several layers can be amalgamated into one deposit, especially when dealing with destruction levels and the like (for example Deposit 69 consists of an amalgamation of 17 layers). This means therefore that the counts and weights

of each of these layers also have to be combined. The amount of work involved to accomplish this with a pocket calculator is prohibitive and prone to inaccuracy, especially when a large number of layers are to be combined. In order to cope with this a computer programme named 'POT' was developed, both to calculate the relative percentages of the counts and weights of the different types of pottery against the total pottery from one layer and also to combine the counts and weights from any number of layers.

After the counting and weighing process, selected pieces with good profiles or otherwise of interest were catalogued and drawn and fabric samples taken. Fabric samples were clipped from all drawn pottery (as well as many miscellaneous pieces) and mounted onto a card index so that they would form a permanent and portable record of the criteria chosen for the classification of the fabric types. A copy of this fabric index is to be lodged with the Society for Libyan Studies in London. After study, all the pottery was returned to the store rooms of the Department of Antiquities in Benghazi.

### THE USE OF THE COMPUTER FOR THE PRESENTATION OF THE POTTERY DATA

As a result of the system described above, the eight basic items of raw data are the number and the weight of the RBHS of each type. These were processed by a simple computer programme written in Algol-60 and run on the CDC 7600 computer at Manchester University (see Riley 1976b, 1978). There is nothing complicated about the calculations that the computer makes. They can all be made laboriously with a pocket calculator. For a given layer, the total counts and weights of the RBH and the RBHS for each pottery type, including the miscellaneous types, are expressed as percentages of the total RBH and RBHS for that layer. This gives the frequency of each type in each layer, both of the total RBH and, where required, of the total RBHS, the former being significant when body sherds of certain types are not distinctive enough to be assigned to the type with confidence. POT can also combine the pottery data and results of any number of layers. The programme, in addition to performing these calculations also prints out the results in a neat and clear format (i.e. any format that one wishes).

In computer terms, the label for each type is coded in numerical terms and printed out by a procedure consisting of conditional statements. This may seem unwieldy, but by doing so the data manipulation is kept simple, the labels can easily be changed, and the output is presented in a format suitable for publication. As the potential number of pottery types and archaeological layers is very large, and as eight arrays are required for each, there is a heavy demand on large core memory (= LCM). Although the CDC 7600 computer is at present one of the most powerful in the country, insufficient provision has been made for programmes such as POT requiring a very heavy LCM. A new computer currently being built by ICL Ltd. (the MU5) will be able to cope with such a LCM demand (C. Everett, personal communication). In practice, for the time being, each job using this programme can amalgamate up to 20 layers with each layer containing up to 500 pottery types, or 80 layers with 125 types; where these limits are exceeded, the job has to be segmented.

One of the most important aspects of such a programme is its simplicity. This enables programme manipulation such as format changing, etc., data manipulation such as debugging (i.e. removing mistakes) and interpretation to be performed to a very large extent by the archaeologist without constant recourse to the computer specialist.

As the same amphora types occurred at Carthage and Ostia (where quantitative techniques have been employed) as well as at Berenice, inter-site comparisons were made possible by re-working the results. This was straightforward for Carthage (Riley 1976a), as a format similar to that described here was used. In Panella's (1974) discussion of each amphora type from Ostia, a list of the amphoras belonging to the type is presented in tabular form at the end of each section. These figures were collected, checked against the general quantified list of types (*ibid.*, Tav. 19-24) and presented in the Berenice format (Appendix II). These figures have been used in the discussions of amphoras in the typology below.

#### REFINING THE QUANTITATIVE RESULTS

As a result of the large number of dated deposits, much data were produced, with a concomitant need for these figures to be summarised in order more easily to check the homogeneity of the deposits and the date range for each type. It was for this reason that a large chart of layers against types, in chronological order, was established (fig. 145).

|              | POTTERY TYPES |             |            |             |
|--------------|---------------|-------------|------------|-------------|
| DEPOSITS     | Hellen-istic  | Early Roman | Mid Roman  | Later Roman |
| Hellen-istic |               |             |            |             |
| Early Roman  |               |             | INTRUSIONS |             |
| Mid Roman    | SURVIVALS     |             |            |             |
| Later Roman  |               |             |            |             |

Fig. 2. *Ideal Distribution of Types and Their Contexts.*

Figure 2 shows the ideal result where the dated types agree with the dates of the deposits. Intrusions are readily noted, and with them an indication of the overall accuracy of pottery retrieval on the site. The proportion of survivals is also recorded. It is only after such an examination and comparison of the deposits that they may be grouped into chronological periods. The figures entered onto the chart (fig. 145) for each type are the percentage of this type of the total RBH. This percentage is given so that all the figures can relate to each other and the fluctuations of proportions of types in different deposits be noted. It was felt by the present writer that the number of RBH in any one deposit needed to be more than 60 and preferably 100 to be significant (although where some important deposits do not contain this

many RBH they have been included). This standard is more rigorous than that of Hodder & Orton 1976, 105, where 30 sherds is considered the minimum for consistent spatial trends to be worked out. The percentages of RBH give a broad view of trends and although there are problems with some types (for example, those which have only one recognisable feature), they do provide a useful basis from which to work, and the more detailed lists for each deposit, checked by the weights, should be used in conjunction with this. This chart for the total RBH in all the deposits provides a good overall view of the chronological and quantitative range of the pottery types, and in broad terms the types fit well with their proposed dates.

Figure 145 serves a useful purpose in summarising the data from the whole excavation but several problems remain. There is a wide fluctuation of proportions within the deposits of one period (this seems to be general to most sites, see for example Hodder & Orton, 1976, 106), and some well dated deposits have only produced low samples, reducing their usefulness. For the final stage of presenting the results, therefore, the deposits were amalgamated into general periods in order to provide a larger sample and the percentages were presented in the form of histograms.

### HISTOGRAMS AND THE PRESENTATION OF THE QUANTITATIVE RESULTS FOR ONE POTTERY TYPE

The dated deposits were divided into twelve broad chronological periods and the pottery figures for each period amalgamated. In this way pottery from a wide range of contemporary contexts, including destruction, construction and occupation levels, as well as cisterns and wells, was considered as a totality. This may provide a more representative overall view of the total assemblage from each period than an over-reliance on one deposit which could by its nature be anomalous. Although such an approach involves serious sampling problems (for example, the early to mid Roman deposits are mainly from private houses, while those of the late Roman period are mainly from public and ecclesiastical buildings), it is maintained that some basic reference point on which to focus future quantitative work is needed, the dangers of over-simplification being preferred to those of over-complication.

The deposits amalgamated were those considered to be the most reliable on the basis of the stratigraphy and of the dating by the fine pottery, coins and lamps (see Lloyd 1978). The amalgamations for each period are presented in Appendix I, and Figure 2 represents a summary of the amalgamations of the rims, bases and handles. The contents of all the individual deposits are presented in Riley 1978. Similar amalgamations including body sherds (which were quantified for many deposits) are also presented in Riley 1978.

### DISCUSSION

On most Mediterranean excavations intrusions from later periods cannot always be avoided due to working conditions, especially when, as was the case at Berenice, pottery is moved to several locations during processing. However, at Berenice intrusions are rarely above 0.5 per cent. The highest proportion of intrusive pieces was in the second half of the first century A.D. deposits (1.8 per cent of the total coarse pottery RBH), most of which were Mid Roman pieces. Intrusions, however, are of two types; those which are imported and

## RILEY

| Period   | Deposits                                    | Total Amphoras | Total RBH |
|--|---|----------------|-----------|
| Hellenistic<br>(250–c. 30 B.C.)                                  | 168.1; 4, 5, 14,<br>17, 18, 23, 25, 27, 32. | 158            | 958       |
| Augustan<br>(c. 30 B.C.–A.D. 15)                                 | 33, 35, 38, 39.                             | 101            | 579       |
| First half of the first<br>century A.D.<br>(c. A.D. 15–50)       | 42, 44, 46, 168.3, 51, 53, 54, 55.          | 154            | 697       |
| Second half of the first<br>century A.D.<br>(c. A.D. 50–100)     | 58, 59, 61, 62, 64, 67, 69, 70.             | 481            | 2178      |
| First half of the second<br>century A.D.<br>(c. A.D. 100–150)    | 72, 73, 76, 77, 78, 79, 80.                 | 556            | 2039      |
| Second half of the second<br>century A.D.<br>(c. A.D. 150–200)   | 81  | 148            | 432       |
| Early third century A.D.<br>(c. A.D. 200–230)                    | 82, 84, 85, 88, 89, 90.                     | 615            | 3795      |
| Mid third century A.D.<br>(c. A.D. 230–260)                      | 91–6, 101–3, 105, 111–7, 118–20,<br>168.10. | 610            | 3148      |
| Fourth century A.D.  | 122–3, 125.                                 | 36             | 163       |
| Fifth century A.D.   | 127–8.                                      | 86             | 212       |
| First half of the sixth<br>century A.D.<br>(c. A.D. 500–550)     | 131, 136–7, 142–3, 157.                     | 433            | 1354      |
| Second half of the sixth<br>to the mid seventh centuries<br>A.D. | 147–52, 158, 167.7.                         | 483            | 694       |
|  | Totals                                      | 3886           | 16249     |

Fig. 3. Summary of Amalgamations of Deposits into Periods: Rims, Bases and Handles.

which can be independently dated and those local pieces which seem likely to be strays on the basis of their relative frequencies. In the latter case, therefore, it is not always certain that a piece is intrusive rather than an early example of a particular type. The chart (fig. 145) is designed to isolate such intrusions and in general they are infrequent, or tend to be comparatively frequent in certain deposits (especially Deposits 63, 69, 73, 85) which comprised an amalgamation of a large number of individual levels.

A similar problem is encountered with survival pieces from earlier periods. For example, the high rate of survivals in the Augustan period (31.6 per cent of the coarse pottery RBH) is probably due to the continuation of Hellenistic types into that period. By the first half of the first century A.D. the proportion of classified survival RBH was down to 10.8 per cent of the RBH and was 13.7 per cent in the second half of the first century A.D. It is difficult to provide a reliable guide to survival pieces for the first half of the second century A.D. deposits, as it



## COARSE POTTERY

|               | Unclassified wares | Survivals | Intrusions |
|---------------|--------------------|-----------|------------|
|               | %RBH               | %RBH      | %RBH       |
| Hellenistic   | 38.0               |           | 0.2        |
| Augustan      | 32.6               | 31.6      | 0.2        |
| Early-Mid 1st | 37.0               | 10.8      | 0.6*       |
| Mid-Late 1st  | 34.9               | 13.7      | 1.8        |
| Early-Mid 2nd | 31.6               | uncertain | 0.3        |
| Late 2nd      | 32.0               | 7.3       | 0.4        |
| Early 3rd     | 16.8               | 5.1       | 0.4        |
| Mid 2nd       | 27.5               | 6.8       | 0.1        |
| Early-Mid 6th | 37.5               | 13.2      | uncertain  |
| Mid 6th +     | 41.0               | 26.5      | uncertain  |

\* 1.3 including MR Plain 7.

Fig. 4. *Relative Proportions of Unclassified, Survival, and Intrusive Classified Types in Different Periods.*

is not certain how long the Early Roman types continued. However, in the later second and third centuries A.D., the survival rate of Hellenistic and Early Roman types is low (around 7 per cent). The survival rate of Hellenistic, Early Roman and Mid Roman pottery in the first half of the sixth century A.D. deposits is similar to that of the first century A.D. (c. 13 per cent), while for the post mid sixth century A.D. levels they are higher (about 26.5 per cent). This is probably due to the re-deposition of earlier material during subsequent re-building of the church and its associated buildings.

The proposed typology seems to fit into broad chronological groupings (illustrated in the summary chart fig. 145), and in all periods an average of about 65 per cent of the pottery can be classified and dated to some degree by the typology (fig. 4). Individually, coarse pottery can only be dated in general terms, and in this typology these chronological limits are discussed. When taken as a whole, however, coarse pottery does provide a clearer indication of the date of a deposit and can serve as a balance to the more accurately dated fine pottery.

The quantification illustrates the proportion of all imported wares in all periods (most amphoras are imported). This is low in the Hellenistic and Augustan periods (c. 15 per cent of the total coarse pottery). It rises in the first century A.D. to c. 25 per cent and in the second century A.D. to over 30 per cent. The proportion of imported wares drops in the third century A.D. to c. 20 per cent but is high in the Late Roman deposits (from 40–45 per cent). The figures for the Late Roman period may be anomalous as they relate to public buildings.

Nevertheless, it is clear that imported pottery (and when this comprises amphoras, the products that they contained), played an important rôle in the life of Berenice and probably also Cyrenaica. As the bulk of the imported coarse wares are amphoras, the pattern of the quantitative distribution of imported wares is similar to that of the amphoras (see fig. 6, 8).

It is when examining the wares imported into Berenice that the value of quantification studies in pottery is particularly well illustrated (the results are discussed more fully and related to historical trends below, pp. 402ff.). The import of coarse wares as well as amphoras from Italy reaches c. 5.2 per cent of the total coarse pottery RBH (over 16 per cent by weight) in the first half of the first century A.D. This declines during the later first and early second centuries A.D. (see figs. 5 and 6). The decline in imported coarse pottery and amphoras in the third century A.D. might be related to a possible more general decline of imports. However, a decline in imports need not necessarily be interpreted as an indication of increased poverty.

|                 | Total coarse ware imports |           | Italian imports* |           |
|-----------------|---------------------------|-----------|------------------|-----------|
|                 | % RBH                     | % Wt. RBH | % RBH            | % Wt. RBH |
| Hellenistic     | 13.9                      | 26.1      | 0.6              | 0.6       |
| Augustan        | 14.8                      | 24.1      | 1.5              | 2.0       |
| Early - Mid 1st | 27.1                      | 44.6      | 5.2              | 16.2      |
| Mid-Late 1st    | 25.5                      | 46.5      | 3.8              | 6.4       |
| Early-Mid 2nd   | 30.3                      | 43.1      | 1.4              | 2.7       |
| Late 2nd        | 35.8                      | 41.7      | 0.2              | 0.5       |
| Early 3rd       | 19.6                      | 40.6      | 0.7              | 0.9       |
| Mid 3rd         | 23.2                      | 40.6      | 0.6              | 2.7       |
| Early-Mid 6th   | 39.2                      | 58.8      | 0.0              | 0.0       |
| Mid 6th +       | 42.7                      | 68.6      | 0.0              | 0.0       |

\*Italian Imports = H. Amphora 7, 8, 9; ER Amphora 4, 5; Lid 7, 8; ER Cooking Ware 3a, 4; Mortaria, A, B.

Fig. 5. Relative Proportions of Imported Wares in the Various Periods.

On the contrary, in certain circumstances it could be suggested a measure of increased self-sufficiency, with a more buoyant local pottery industry. There is some evidence of both trends to judge from the local pottery of this period at Berenice. The better quality local coarse wares of the third century A.D. may have obviated the need for the import of coarse wares for their own sake. However, there was, with the exception of MR Amphora 8, little attempt to manufacture amphoras locally. This may argue against increased self-sufficiency in liquid products (as may have been the case in the Hellenistic period when imports were low but local amphoras produced on a larger scale).

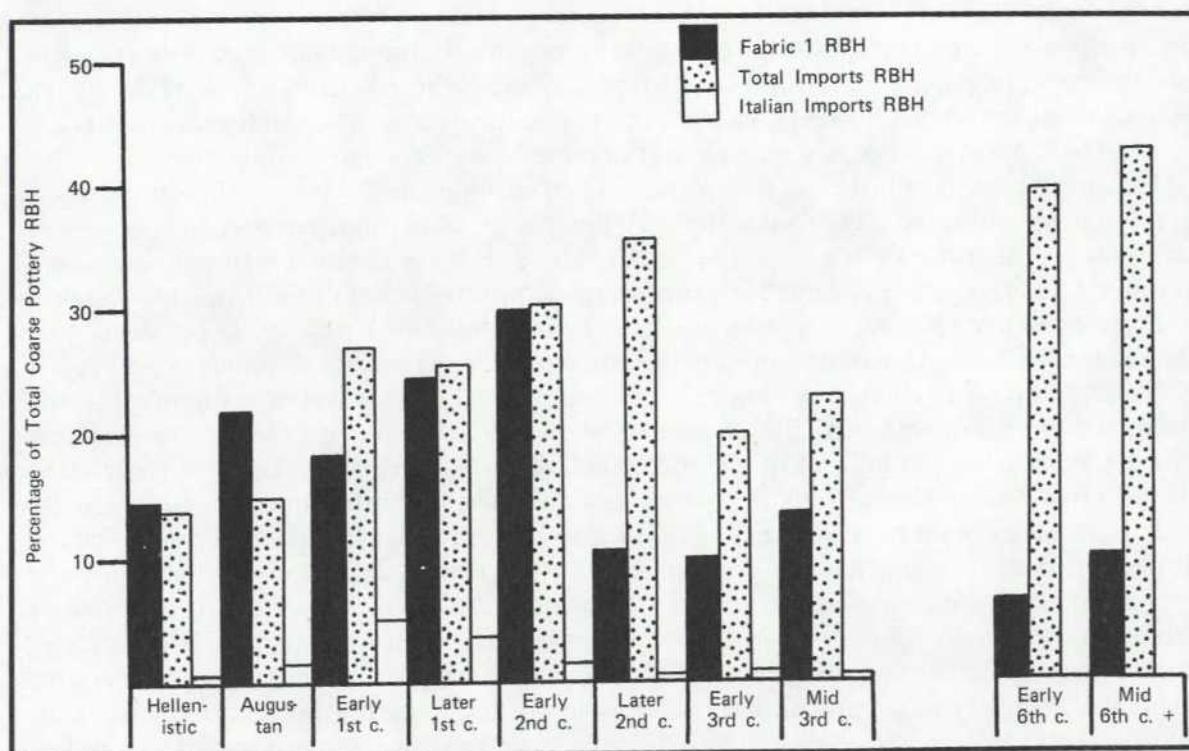


Fig. 6. Histogram to Show Relative Proportions of Benghazi Local Fabric 1 and Imports.

## COARSE POTTERY

| Local fabric 1 (all forms) |       |           |        |            |
|----------------------------|-------|-----------|--------|------------|
|                            | % RBH | % Wt. RBH | % RBHS | % Wt. RBHS |
| Hellenistic                | 14.7  | 14.0      | 6.3    | 9.7        |
| Augustan                   | 21.9  | 29.0      | 0.0    | 0.0        |
| Early-Mid 1st              | 18.3  | 19.5      | 13.4   | 27.9       |
| Mid-Late 1st               | 24.5  | 20.6      | 11.1   | 13.2       |
| Early-Mid 2nd              | 29.7  | 35.2      | 16.5   | 21.4       |
| Late 2nd                   | 10.7  | 14.5      | 0.0    | 0.0        |
| Early 3rd                  | 9.8   | 11.1      | 4.8    | 12.2       |
| Mid 3rd                    | 13.2  | 13.7      | 9.6    | 13.9       |
| Early-Mid 6th              | 6.5   | 10.0      | 2.9    | 4.1        |
| Mid 6th +                  | 10.2  | 8.0       | 0.0    | 0.0        |

*Fig. 7. Relative Proportions of Coarse Pottery made of Fabric 1.*

|               | Amphoras |      | Cooking ware |      | Plain wares |      | Jugs  |      |
|---------------|----------|------|--------------|------|-------------|------|-------|------|
|               | % RBH    |      | % RBH        |      | % RBH       |      | % RBH |      |
|               | No.      | Wt.  | No.          | Wt.  | No.         | Wt.  | No.   | Wt.  |
| Hellenistic   | 16.6     | 29.7 | 13.7         | 7.3  | 54.8        | 53.6 | 14.5  | 8.9  |
| Augustan      | 17.6     | 31.0 | 13.0         | 7.0  | 58.7        | 55.7 | 10.9  | 6.3  |
| Early-Mid 1st | 22.1     | 42.2 | 13.6         | 8.6  | 50.4        | 40.6 | 14.2  | 8.5  |
| Mid-Late 1st  | 22.1     | 44.3 | 16.2         | 7.2  | 48.8        | 37.0 | 12.9  | 11.5 |
| Early-Mid 2nd | 27.2     | 38.1 | 13.8         | 10.1 | 50.0        | 48.2 | 8.9   | 3.7  |
| Mid-Late 2nd  | 34.2     | 43.1 | 21.5         | 10.8 | 31.5        | 40.2 | 12.7  | 6.1  |
| Early 3rd     | 16.5     | 36.7 | 32.5         | 17.4 | 37.1        | 38.8 | 13.9  | 7.2  |
| Mid 3rd       | 19.5     | 36.3 | 18.7         | 11.4 | 41.6        | 40.5 | 20.3  | 11.8 |
| Early-Mid 6th | 31.9     | 56.1 | 12.0         | 3.1  | 19.6        | 11.3 | 36.0  | 29.5 |
| Mid 6th +     | 38.2     | 66.7 | 15.0         | 7.8  | 31.3        | 17.5 | 15.6  | 8.0  |

*Fig. 8. Relative Proportions of Functional Groupings of Coarse Pottery from Berenice.*

It is as a result of such fluctuations in imported wares and especially as the proportion of amphoras to other wares varies widely throughout the Mediterranean that the quantification of each amphora type has, in the typology, been expressed as a percentage of the total associated amphoras. Types other than amphoras were presented as percentages of the total coarse pottery. The quantity of pottery from the fourth and fifth century A.D. deposits was considered too low to be used in the histograms, especially for comparison with the much more substantial third and sixth century A.D. deposits. It should be noted that the amphora figures for the periods up to the second half of the first century A.D. are also low, and should be interpreted as general guides only to the frequency of the Hellenistic and Early Roman amphora types.

The proportion of jugs remained fairly constant until the mid third century A.D. when there was a rise to nearly 25 per cent of the total coarse pottery. It was observed that for this period jugs do not necessarily comprise higher than average proportions in cisterns - for example Deposit 82 of the early third century A.D. did not have a high proportion of jugs. The proportion of jugs is also high in the early sixth century A.D. deposits, although this may partly be explained by the high proportion in the cistern Deposit 157.

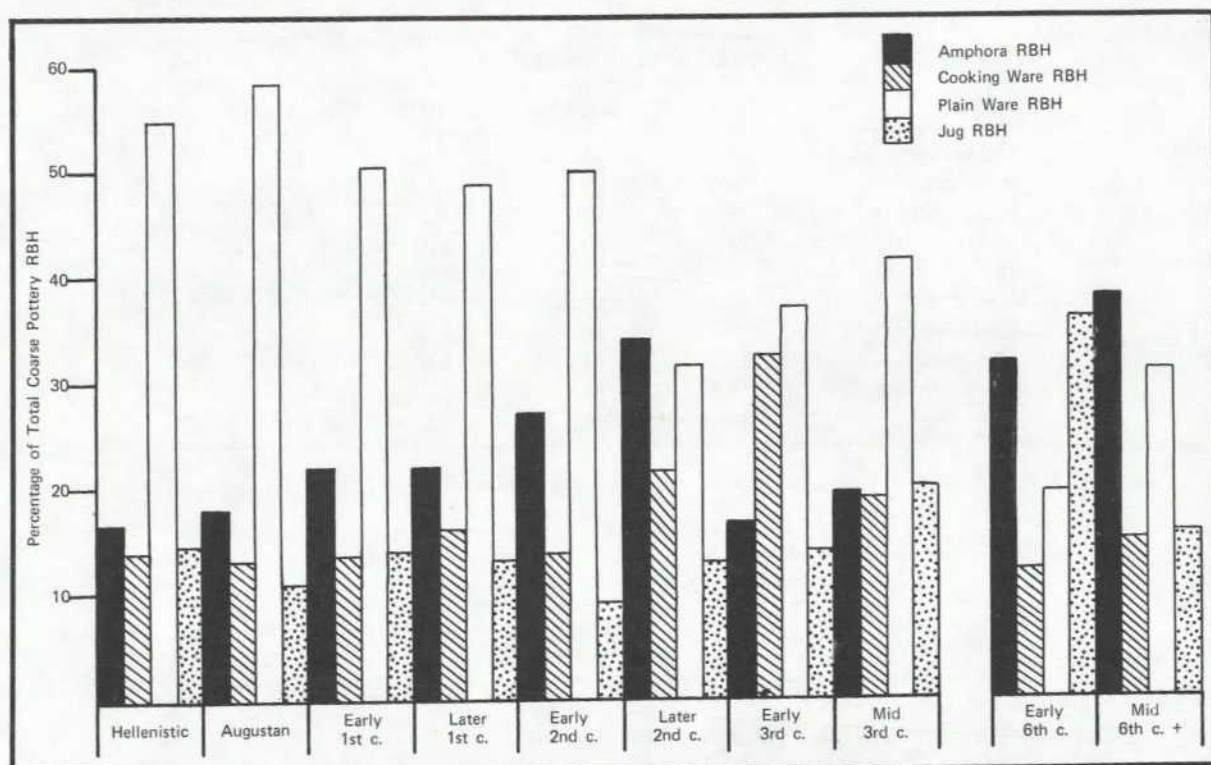


Fig. 9. Histogram to Show Functional Groupings of Pottery.

Plain wares comprise about 50 per cent of the total coarse pottery RBH in the Hellenistic deposits and through to the second century A.D. This figure declines to about 30–40 per cent after the middle of the second century A.D. Vessels of Benghazi local fabric 1 are more common from the Hellenistic to Early Roman periods, where they comprise from 15–30 per cent (average of *c.* 20 per cent) of the total coarse pottery RBH, than from the mid second century A.D. In the Mid Roman and Late Roman periods they are less common, averaging *c.* 10 per cent of the total coarse pottery RBH. In the Mid Roman period this is due to the increase in local fabric 4 and 5, while in the Late Roman period there is a high proportion of imported cooking wares and jugs.

The quantification figures quoted are mainly of the RBH as in most cases it is the RBH which fall most clearly into types. When the fabric is distinctive, the body sherds of some types can readily be recognized. This applies to ER Amphoras 4 and 5, MR Amphora 3, LR Amphoras 1, 2, 3, 4, 5, 6 and, to a more limited degree Tripolitanian/Tunisian amphoras, Spanish amphoras, MR Cooking Ware 3 (although the sherds are liable to confusion with those of MR Jug 1), ER Cooking Ware 6/MR Plain 7, Mortaria, and Late Roman Unguentaria. For these types, their relative proportion of the total coarse pottery RBHS is significant. In the discussions of each type, the figures for the weights are only referred to when they are markedly different from those of the counts. It is maintained that their inclusion in the tables alongside the counts provides a useful complementary picture of the composition of a deposit: in all periods there is a general relation between the counts and the weights percentages. The relative percentages of certain types tend to 'peak' using both sets of data, but, depending on such factors as the thickness of the body sherds or the body area of complete vessels etc., there are differences in the degree to which they peak. In this work, the relative proportions of

## COARSE POTTERY

---

the counts of each type have been used in the histograms to suggest general trends. This is not to claim necessarily that the use of counts is more accurate than the use of weights, as the emphasis of the histograms is on relative and not absolute proportions. Counts were used because they provide fairly good definition when used for RBH figures, and also for easier comparison with other sites which did not employ weights (e.g. Ostia). It is possible that a more accurate indication of frequency might be obtained by a statistical amalgamation of the two sets of data, by introducing compensatory biases into the figures. There are certainly dangers in over-precision of quantitative techniques (see Peacock 1977c, 27) but further exploration in this direction, always with a view to assisting inter-site comparisons (especially when quantitative data from many other sites becomes available in the future), seems highly desirable.

## IV. Typology of the Hellenistic and Roman Coarse Pottery of Berenice

### AMPHORAS

Although amphoras are important for the economic information that they can provide, it is necessary first to be able to identify them with confidence in fragmentary condition in the field, to determine their source and probable contents and, at least within broad limits, their date. Although western Mediterranean amphoras have been classified and studied by other scholars, it was necessary for the present writer to examine a large number of complete examples in the western Mediterranean store-rooms and museums in order to be able to identify with confidence their fabrics and forms in fragmentary condition in Cyrenaica. In many cases in the field, a subjective distinction between fabrics was difficult, especially for some of the bland buff eastern Mediterranean amphora fabrics and, for example, between some Tripolitanian and Tunisian wares. For this reason, chippings of nearly all drawn pieces were taken. A set is to be available for consultation and will be deposited with the Society for Libyan Studies in London. In general, eastern Mediterranean amphoras, especially of the Roman period, have not been as thoroughly studied as those of the western Mediterranean. Although it was possible to classify and date many eastern Mediterranean types, in many cases their origin is uncertain and their content unknown. Attempts in the present work to suggest sources on the basis of quantitative distribution have generally been more successful for the Late Roman period than for those of the Early and Mid Roman periods. The evidence from Cyrenaica permits additional information about the date of certain types and supportive evidence, at least, for an eastern Mediterranean origin.

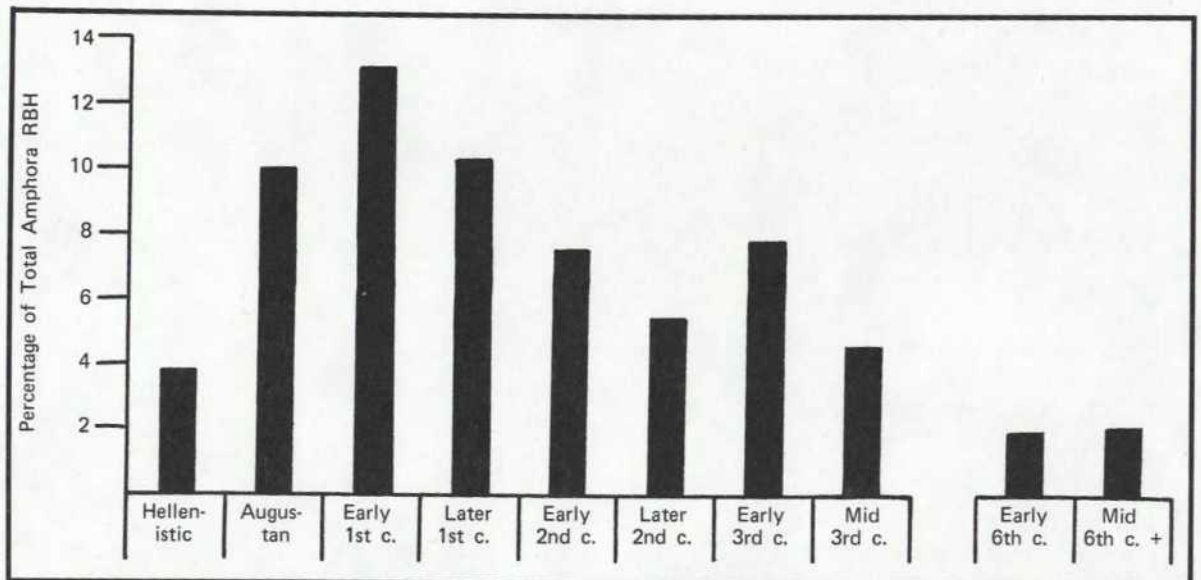


Fig. 10. Histogram to Show Relative Proportions of all Western Amphoras at Berenice.

## HELLENISTIC AMPHORAS

The Hellenistic contexts at Berenice have produced a fairly wide range of amphoras, both from the western and the eastern Mediterranean. The wide distribution of eastern Mediterranean amphoras (including the Aegean) has long been known, mainly on account of the stamped varieties. The excavations at Berenice, together with an examination of amphoras in store rooms in Cyrenaica and Alexandria, indicate in addition that the import of unstamped amphoras from the western Mediterranean was by no means inconsiderable and they comprised about 4 per cent of the total amphoras from the Hellenistic levels at Berenice. Moreover, as far as Berenice is concerned, the quantity of imported amphoras in the Hellenistic period was relatively low when looked at in proportion to the total amphoras. Further investigation of the figures from Berenice suggests that the amphoras which can be distinguished by their stamps may not always have been as common as has been often assumed.

The relative proportions of stamped handles from several sites in the eastern Mediterranean have been tabulated (Grace 1962 for Nessana, Beth Shan, Gezer, Marisa, Samaria and Alexandria; Grace & Pétropoulakou 1970, for Delos; Canarache 1957, for Histria; Shelov 1975, for Tanais; Zeest 1960, for Phanagoria and Germonassa; Sztetyllo 1975, for the Polish excavations at Alexandria—whose figures agree closely with those presented by Grace 1962 for Alexandria). Certain discussion has revolved around such information (e.g. Brashinsky 1973, 137) which is valid for broad comparisons, such as comparing the relative proportions of stamped Knidian and Rhodian handles at Alexandria and Athens (Grace 1961). It seems increasingly clear, however, that this kind of information is very limited in impact because indication is rarely given of the proportion of stamped to unstamped handles from dated contexts. This is of particular importance when attempting to gauge the size and distribution of local wine or oil industries and the relative importance of imported products (for an example of the way in which a consideration of stamped amphoras alone can distort the true evidence see below p. 124 where the relative proportions of stamped and unstamped Rhodian amphoras from Berenice are considered).

There is a noticeable scarcity of many eastern Mediterranean amphora types at Berenice. Double barrelled 'Koan' handles are rare in the Hellenistic levels (for a discussion of the type see below p. 171), as seem to be Chian and Knidian amphoras, while Rhodian are not well represented. This, combined with the rarity of western Mediterranean types such as Brindisi, Lamboglia II, and Dressel Ia amphoras which seem to occur regularly elsewhere in the eastern Mediterranean to the mid first century B.C., suggests that, at least until the mid first century B.C., Cyrenaica may have been a relative backwater in the context of Aegean trade. It must be noted however, that despite the difficulties of the early first century B.C. in Cyrenaica (p. 409), imports from the Aegean continued (such as No. 110-2, and, from the western Mediterranean, No. 46). It should be stressed at this stage that the total number of amphoras from stratified Hellenistic contexts is not high (159 RBH and 992 RBHS), especially as most of the histograms of relative proportions are based on the total amphora RBH.

In comparison with all other periods, the local amphora production was high (over 20 per cent of the total amphoras in the Hellenistic and Augustan periods) which may suggest a measure of self-sufficiency in whatever product(s) they contained. The dramatic decline of local amphora production by the early first century A.D. is difficult to explain but may be related to some shift of economic emphasis under the Roman administration. Imports from the western Mediterranean (attested by Dressel Ib amphoras and probably sub Punic amphoras as Nos. 91-4, 96-103; H. Amphoras 9, 11, 12) may have expanded after the mid first century B.C.

## EARLY ROMAN AMPHORAS

In the first and early second centuries A.D., the proportion of amphoras to other coarse pottery is about 20–25 per cent. They comprise imports from both the western and eastern Mediterranean. The quantified results seem to suggest that the amphoras from the west came in phases. Campanian amphoras (ER Amphora 4) came first in the Augustan period, and they comprised 6 per cent of the total amphora RBH in the first half of the first century A.D. The ER Amphora 5 (Dressel 6) first occurs in the first half of the first century A.D. and Spanish amphoras appear in the second half of the century. Although they are represented in the earlier periods, Tripolitanian amphoras are most frequent from the early second century A.D. Western amphoras comprise between 10–13 per cent of the total amphora RBH in the first century A.D. deposits at Berenice and this drops to 7.5 per cent in the early second century. Western Mediterranean amphoras occur on other sites in Cyrenaica, but their relative frequency cannot be gauged.

Several of the eastern Mediterranean amphoras of this period share general typological characteristics, such as double-barrelled or horn shaped handles, but are of a range of fabrics. Where a finer typology has not been practicable, as in these cases, such amphoras have been placed into loose general categories based on these characteristics.

H. Amphora 1 rarely occurs in the first century A.D. levels. There was, however, some attempt at local amphora manufacture (ER Amphoras 12 and 14) but such amphoras were infrequent.

Certain amphora forms which occur elsewhere in the western Mediterranean are not found at all in Cyrenaica. These include Camulodunum Type 189 (Hawkes & Hull 1947), Ostia Types LIV and LIX (Ostia iii), the Terraconese version of the Dressel 2–4 amphora (Ostia iii, 501 ff.), Dressel 28 (Ostia ii, 156, Nos. 128–32), and Haltern 70 (Alcarchão 1976, 83–4). There are no amphoras of the distinctive Nile clay (as LR Amphora 6 below) in this period.

MR Amphoras 1 and 2 probably begin in the Early Roman period (they occur in such levels at Ostia). However, at Berenice they are rare in the Early Roman deposits and are predominantly of Mid Roman date. Pottery from two sites, Carthage and Ostia, has been quantified and can be compared with the first century A.D. deposits in Berenice.

## MID ROMAN AMPHORAS

In general, western amphoras (including Tripolitanian and Tunisian types) declined to an average of *c.* 6.5 per cent of the total amphoras over the Mid Roman period. More specifically, the second century is marked by a drop in the imports from Spain and Italy but by an increase from Tripolitania. No Italian amphoras seem to have been manufactured at this time. Both ER Amphoras 4 and 5 declined by the mid second century and the only possible candidate at Ostia was Ostia Form IX (Kapitän I), which does not occur in Cyrenaica (on the absence of Italian amphoras in Italy in the second and third centuries A.D. see Ostia iii, 690). There is little difference in the frequency of Tripolitanian amphoras from the early second to the mid third centuries A.D. (*c.* 3–3.5 per cent of the total amphoras). The quantitative distribution at Ostia is different, for they comprise 0.5 per cent in the early second century A.D. rising to over 5 per cent by the early third century A.D. This might suggest that



the Tripolitanian exporters concentrated eastwards towards Cyrenaica, before directing systematic attention towards Italy.

Both MR Amphoras 1 and 2 are commonest at Ostia in late first to early second century A.D. contexts, while at Berenice they are not particularly frequent at this time but peak in the mid third century A.D. The reasons for this are unclear but seem to point to a shifting emphasis of markets during the period. More detailed research into such broad trade patterns must await a fuller range of results from other Mediterranean sites. The fairly abrupt introduction of MR Amphora 7 by the early third century A.D. makes it a useful chronological indicator. Also possible in this category are the Africano Grande amphoras (MR Amphora 16) and the local MR Amphora 8, neither of which occur in the second century A.D. deposits.

As in the Early Roman period, certain amphoras which occur in the western Mediterranean are not to be found at Berenice. These include Ostia Form VII (Almagro 50 amphoras, which do occur at Carthage; these date from the early third to the fourth centuries A.D.), Ostia Form VIII and Ostia Form IX. The absence of Ostia Form IX in Cyrenaica may support an Italian or western origin rather than an Aegean origin for the type (as suggested by Panella; Ostia iii, 687).

The dearth of good late third to fifth century A.D. deposits at Berenice does not permit a satisfactory examination of the pottery of this period. This is particularly tantalising as the later third and fourth centuries A.D. is the period when African oil was widely exported to the eastern Mediterranean. Future discovery and excavation of good deposits of this period at Berenice or elsewhere in Cyrenaica should shed more light on this trade and should permit a fuller study of the decline of the common MR Amphora 7.

#### LATE ROMAN AMPHORAS

Amphoras comprise about 35 per cent of the total coarse pottery RBH in this period. This contrasts with 80–85 per cent in later sixth and seventh century contexts at Istanbul (Hayes 1968). At Carthage however, amphoras comprised only about 12.5 per cent of the total coarse pottery RBH in sixth century A.D. contexts (Hayes 1976). Virtually all the amphoras in Berenice seem to be from the eastern Mediterranean. Although fine wares continued to be imported from the western Mediterranean in large quantities (Hayes 1973 for Tocra), recognisable amphora imports from the western Mediterranean rarely occur.

The scale of exports from the eastern Mediterranean to the western Mediterranean increased considerably during the fifth and especially in the sixth centuries A.D. (at least at Carthage, where eastern Mediterranean amphoras comprise about 10 per cent of the total pottery (Hayes 1976)). It is noteworthy that Palestinian amphoras (LR Amphoras 3 and 4) are uncommon at Berenice, while LR Amphora 4 is more frequent at Carthage in the sixth century A.D. than at Berenice. Egyptian amphoras of distinctive Nile clay are rare at Berenice in the Late Roman period and the origin of the commonest amphora in this period, which was formerly thought to have been Egypt (LR Amphora 1), now seems to be elsewhere in the eastern Mediterranean, possibly in the Antioch region (see below p. 212). Close attention is currently being paid to the study of Late Roman amphoras from the eastern Mediterranean, and when the origins and the probable contents of the various amphoras can be confirmed, it should be possible properly to evaluate their effect on the economy of Cyrenaica.

## DISTRIBUTION MAPS

The distributions of several types, mainly amphoras, have been plotted. The resultant maps rely to some extent (especially for the Mid Roman period) on published lists of findspots by Baldacci 1969, Beltrán 1970, Panella 1974, and Parker & Squire 1974. In addition, several new find spots for various types have been noted by the writer and these are mentioned in the text. The distribution maps are as complete as the writer was able to compile, but cannot be considered exhaustive. For convenience, each site has been numbered and is referred to by that number on the maps. If there is doubt about the reliability of a certain type, a question mark has been added to this number. The numbers are as follows:

- |                      |                    |                      |
|----------------------|--------------------|----------------------|
| 1. Abu Mena          | 37. Bergamo        | 73. Dardanelles      |
| 2. Abyar el Najm     | 38. Bir el Usceica | 74. Delos            |
| 3. Agay              | 39. Bologna        | 75. Dinas Powys      |
| 4. Agde              | 40. Bomba          | 76. Dinogetia        |
| 5. Agrigento         | 41. Bonifaccio     | 77. Djerba           |
| 6. Ain el Gasala     | 42. Bordeaux       | 78. Dorchester       |
| 7. Ain Sinu          | 43. Boreum         | 79. Dramont          |
| 8. Ajdabiyah         | 44. Brindisi       | 80. Dura Europas     |
| 9. Alba              | 45. Buerat         | 81. El Adem          |
| 10. Albenga          | 46. Bu Njem        | 82. El Djem          |
| 11. Alcazarsegher    | 47. Bu Sceifa      | 83. Este             |
| 12. Aleria           | 48. Cadaques       | 84. Exeter           |
| 13. Alexandria       | 49. Caerleon       | 85. Faras            |
| 14. Algiers          | 50. Caesarea       | 86. Firka            |
| 15. Alhambros        | 51. Calahonda      | 87. Florence         |
| 16. Alicante         | 52. Calvi          | 88. Fos              |
| 17. Almeria          | 53. Cap Gros       | 89. Gargaresh        |
| 18. Almunecar        | 54. Carmona        | 90. Garranes         |
| 19. Ametylla de Mar  | 55. Cartagena      | 91. Gasr el Atallat  |
| 20. Ampurias         | 56. Carthage       | 92. Gasr el Ataresh  |
| 21. Ancona           | 57. Cetatea        | 93. Gasr Bu Msceili  |
| 22. Apollonia        | 58. Chalk          | 94. Gasr el Chel     |
| 23. Aquileia         | 59. Cheddar        | 95. Gasr Gelida      |
| 24. Arae Philaenorum | 60. Chemtou        | 96. Gasr et Haddadia |
| 25. Arenys de Mar    | 61. Cherchel       | 97. Gasr Heneia      |
| 26. Ashdod           | 62. Chersones      | 98. Gasr et Maragh   |
| 27. Athens           | 63. Chios          | 99. Gasr Mnechrat    |
| 28. Automalax        | 64. Civitavecchia  | 100. Gasr Remteiat   |
| 29. Ay Stephanos     | 65. Cluj           | 101. Gasr Tecasis    |
| 30. Ballana          | 66. Cologne        | 102. Geneva          |
| 31. Banasa           | 67. Conimbriga     | 103. Gerasa          |
| 32. Banolas          | 68. Cordoba        | 104. Germa           |
| 33. Bath             | 69. Corinth        | 105. Gezer           |
| 34. Beit Sharim      | 70. Cosa           | 106. Ghemines        |
| 35. Ben Arie         | 71. Cremona        | 107. Gloucester      |
| 36. Berenice         | 72. Cyrene         | 108. Gorgippa        |

## COARSE POTTERY

---

- |                          |                       |                           |
|--------------------------|-----------------------|---------------------------|
| 109. Grand Congloué      | 156. London           | 203. Port de la Selva     |
| 110. Gwithian            | 157. Ma'agan Mikhael  | 204. Porto Vecchio        |
| 111. Haddumah            | 158. Madrigneras      | 205. Piasso               |
| 112. Hadrianopolis       | 159. Magdalensberg    | 206. Propiano             |
| 113. Hadrumetum          | 160. Malalia          | 207. Qustal               |
| 114. Halicarnassos       | 161. Mantua           | 208. Rabat                |
| 115. Hippo Regius        | 162. Marathon Bay     | 209. Ras Aali             |
| 116. Histria             | 163. Marseilles       | 210. Ras Ben Guad         |
| 117. Holborough          | 164. Marzameni        | 211. Ras el Hilal         |
| 118. Iatrus              | 165. Mechili          | 212. Ravenna              |
| 119. Ile du Bagaud       | 166. Medinet bu Hindi | 213. Reggio               |
| 120. Ile du Grand Ribaud | 167. Mellieha         | 214. Regio Calabria       |
| 121. Ile Rousie          | 168. Mellita          | 215. Reus                 |
| 122. Ilyrat              | 169. Milan            | 216. Rimini               |
| 123. Inkerman            | 170. Misurata         | 217. Rome                 |
| 124. Ischia              | 171. Modena           | 218. Sabratha             |
| 125. Istanbul            | 172. Monaco           | 219. Sacidava             |
| 126. Isthmia             | 173. Motya            | 220. St. Florent          |
| 127. Istres              | 174. Moulins          | 221. St. Tropez           |
| 128. Ivrea               | 175. Mucking          | 222. Saler                |
| 129. Jaén                | 176. Naples           | 223. Salona               |
| 130. Jalo                | 177. Narbonne         | 224. Samaria              |
| 131. Jerusalem           | 178. Naronia          | 225. Samos                |
| 132. Justibol            | 179. Nebus            | 226. San Pedro de Pinatar |
| 133. Karanis             | 180. Neopolis         | 227. Saqqara              |
| 134. Kelibia             | 181. Niederbieber     | 228. Setif                |
| 135. Keratokambos        | 182. Nimes            | 229. Sfax                 |
| 136. Khisfine            | 183. Ognina           | 230. Sheik Zweid          |
| 137. Knidos              | 184. Olbia            | 231. Sidi Aamer           |
| 138. Knossos             | 185. Oltina           | 232. Siphnos              |
| 139. Kourion             | 186. Ostia            | 233. Slonta               |
| 140. Krefeld Gellep      | 187. Padua            | 234. Sousse               |
| 141. Kythera             | 188. Paestum          | 235. Southampton          |
| 142. Lamluda             | 189. Palermo          | 236. Split                |
| 143. Latrun              | 190. Panticapeum      | 237. Strasbourg           |
| 144. Lavezzi             | 191. Paphos           | 238. Syracuse             |
| 145. Le Biouse           | 192. Parma            | 239. Tanais               |
| 146. Lectoure            | 193. Pergamon         | 240. Tarentum             |
| 147. Legnano             | 194. Peripato         | 241. Tarragona            |
| 148. Leptis Magna        | 195. Perti            | 242. Tarsus               |
| 149. Leptis Minor        | 196. Petra            | 243. Tel er Ras           |
| 150. Les Andalouses      | 197. Phanagoria       | 244. Tel Keisan           |
| 151. Lesbos              | 198. Pheradi Maius    | 245. Tel Rafid            |
| 152. Les Foies           | 199. Piana            | 246. Tel Rush Hay'in      |
| 153. Lezoux              | 200. Planier          | 247. Thaenae              |
| 154. Lilybaeum           | 201. Pollentia        | 248. Thamusida            |
| 155. Lipari              | 202. Pompeii          | 249. Thasos               |

|                   |                  |                     |
|-------------------|------------------|---------------------|
| 250. Thessalonika | 261. Trieste     | 271. Villaricos     |
| 251. Tika         | 262. Tripoli     | 272. Višiči         |
| 252. Tintagel     | 263. Tyndaris    | 273. Volubilis      |
| 253. Tipasa       | 264. Tyras       | 274. Winchester     |
| 254. Tiritake     | 265. Ullastret   | 275. Wroxeter       |
| 255. Tocra        | 266. Uzita       | 276. Xanthos        |
| 256. Tolmeita     | 267. Ventimiglia | 277. Yassi Ada      |
| 257. Tomis        | 268. Vercelli    | 278. Zaragosa       |
| 258. Toulouse     | 269. Verona      | 279. Zaviet Hammama |
| 259. Tours        | 270. Villanova   | 280. Zuwaytinah     |
| 260. Trier        |                  |                     |

## NOTES ON THE CATALOGUES

*The Pottery Numbering System*

There are generally two numbers in brackets for each catalogue entry. The first, usually prefixed by the letter 'C', is the original catalogue number and this is the number that is marked on the actual pot in the Benghazi store room. The second number provides information about the findspot. For example, SK X48.2 signifies that the pot is from Sidi Khrebish, Area X, Trench No. 48, Layer 2. This number is also marked on all catalogued pottery and most RBH from sealed deposits.

*Parallels with other sites*

Certain typologies from other sites are mentioned fairly frequently. These are:

Beltrán: see Beltrán 1970

Carthage: see Hayes 1976

Ostia: see Panella 1974

Tocra: (early third century A.D. kiln site) see Riley in press 1 (also in Riley 1978)

Selmani: (Hellenistic tombs in Benghazi) see Riley in press 2 (also in Riley 1978)

Euhesperides: (ancient city of Benghazi abandoned by the mid third century B.C.)

*Abbreviations*

|      |   |
|------|---|
| ARS  | African Red Slip Ware (see Hayes 1972, chapter II)              |
| ESA  | Eastern Sigillata 'A' (see Hayes 1973, 450-2)                   |
| ESB  | Eastern Sigillata 'B' (see Hayes 1973, 452-6)                   |
| LRC  | Late Roman 'C' Ware (see Hayes 1972, chapter VI)                |
| TRS  | Tripolitanian Red Slip Ware (see Hayes 1972, chapter III)       |
| RBH  | Rims, Bases and Handles.  |
| RBHS | Rims, Bases, Handles and Body Sherds.                           |
| D.   | Diameter (external diameter of the rim unless otherwise stated) |
| fr.  | fragment.   |
| Ht.  | Height  |

## COARSE POTTERY

- H. Hellenistic (= Third to late first centuries B.C.)  
ER. Early Roman (= Augustan to early second century A.D.)  
MR. Mid Roman (= Mid second to late third centuries A.D.)  
LR. Late Roman (= Fourth to mid seventh centuries A.D.)

### HELLENISTIC AMPHORA 1

This local amphora has an oval body, a vertical, cylindrical neck, a plain, rolled rim and two handles which are oval to lunate in section. The handles are occasionally stamped. The base is knobbed, sometimes with a concave depression on the underside. The clay is invariably local fabric 2.

The amphora seems to range in date from the third century B.C. to the end of the Augustan period and perhaps a little later. It was not noted in a selection of pottery from Euhesperides which may suggest that its initial date is after the middle of the third century B.C. It was very common in the Hellenistic and Augustan levels where it comprised over 20 per cent of the total amphoras. There seems to have been little development of form, although future finds of complete amphoras from well dated contexts may contribute more to this point. The pro-

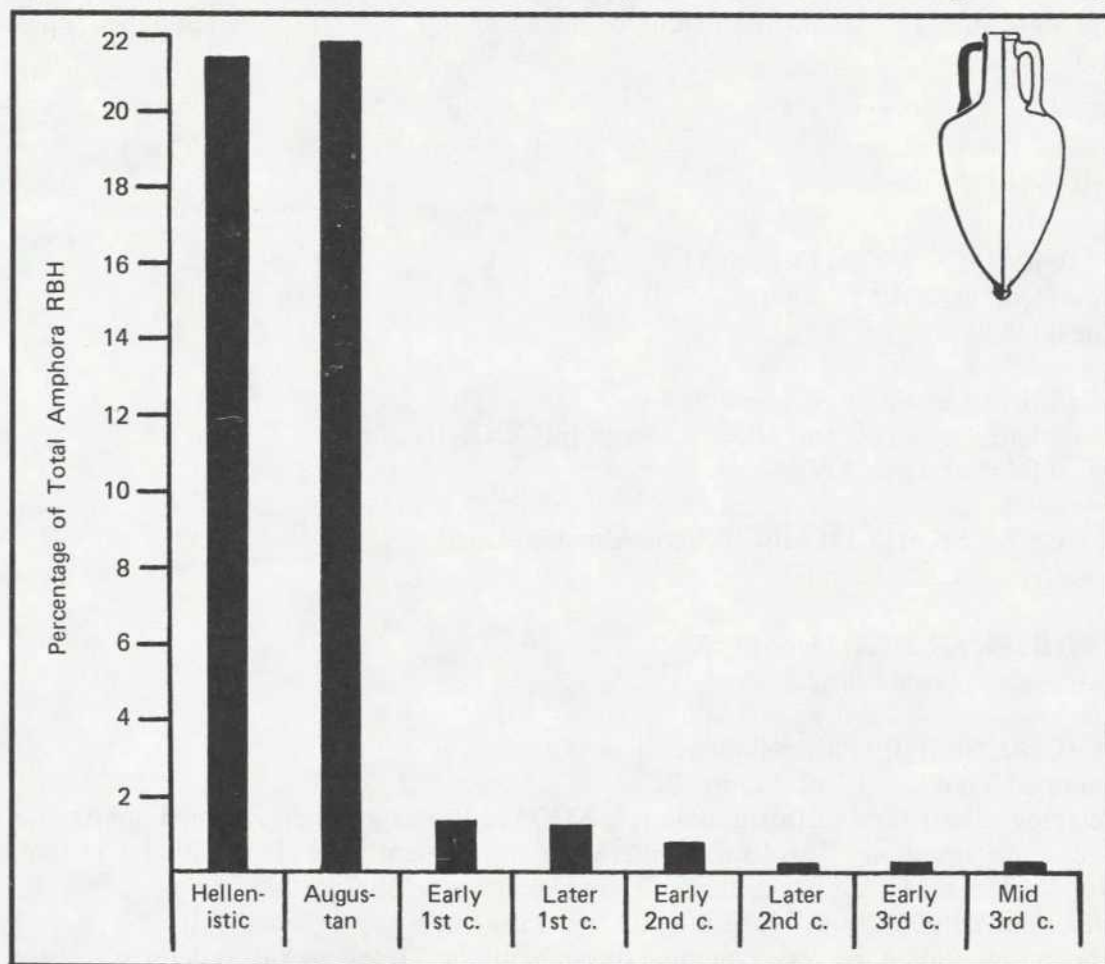


Fig. 11. Histogram to Show Relative Proportions of Hellenistic Amphora 1 at Berenice.

posed dating is supported by the lettering of the stamps, the sigma of No. 8 being a third to second century B.C. form, while that on No. 5 is more second to first century B.C. (J. Reynolds, personal communication). The content of the amphora is uncertain. There are several possibilities, silphium or silphium juice (at least in the third and second centuries B.C.), oil, wine or dates. The dramatic decline in the occurrence of the amphora after the Augustan period is likely to be related to a shift in economic emphasis, with an increased reliance on imported products.

The type was not noted elsewhere in Cyrenaica by the writer, although the form seems to occur at Tocra (the writer has not been able to locate the actual amphora published by Burton-Brown 1948, No. 15/47, possibly from a third century B.C. context). It is possible that the five stamped amphora handles from Alexandria bearing the name *Karnedas* in a specifically Cyrenaican spelling, with lettering of the third to second centuries B.C., may belong to this type (see Fraser 1972, II, 292, note 317, iv). The stamps Nos. 7 and 8 seem to be paralleled at Alexandria. It is worth noting that a satisfactory indication of the frequency of this type cannot be gained by equation with the frequency of stamped handles, for from a large number of handles from Berenice, only six were stamped. Examination of unstamped amphora handles from stratified contexts in Hellenistic Alexandria may provide a truer indication of the frequency there, although it is likely to have been very low (there were only five stamped versions of *Karnedas* out of 90,000 other stamped handles there).

## CATALOGUE

- D1.** (C1248, SK W90.1) Deposit 11.  
Complete. D. = 10.5 cm; Ht. = 75.0 cm.  
Local fabric 2.
- D2.** (SM 73.5.6, No. 9) Selmani tombs.  
Complete. D. = 10.3 cm; Ht. = 73.8 cm. (pl. XXXIII).  
Local fabric 2.
- D3.** (C376a, SK R18.14) Miscellaneous deposit.  
Base fr. Local fabric 2.
- D4.** (C1284, SK J56.4) Deposit 25.  
Base fr. Local fabric 2.
- D5.** (C802, SK T10.1) Miscellaneous deposit.  
Stamped handle. Local fabric 2.  
Petrological analysis of this handle (pl. XIXe) indicates a matrix of small quartz grains and some limestone. Fossil foraminifera are also present. The clay is similar to that of No. 7 below and is similar to that of Cyrenaican waster sherds.  
Stamp:  $\phi\text{I}\Lambda\Omega\text{N}\text{O}\Sigma$  (pl. XXII).  
The name Philon is very common throughout the Greek world and on Cyrenaican inscriptions (Reynolds, personal communication).

## COARSE POTTERY

---

- D6.** (C2746, SK A30.2) Miscellaneous deposit; associated finds include 16 sherds of fine pottery, all of Augustan or first century A.D. date, and a coin of A.D. 69–79.  
Stamped handle. Local fabric 2.  
Stamp: ΦΙΛΩΝΟΣ (pl. XXII).  
This is not from the same die as No. 5.
- D7.** (C72, SK K4.3) Miscellaneous deposit; associated fine pottery spreads to the late Augustan period.  
Stamped handle. Local fabric 2.  
Petrological analysis of the fabric of this handle shows the fabric to be similar to that of No. 5, with many small quartz grains and limestone. Foraminifera are also present.  
Stamp: ΦΙΛΙΣΚΟ (*sic*) (pl. XXII).  
Two similar stamps of like fabric from Cyrenaica are in the British Museum (Inv. 68-7-5-145; 66-4-15-85). Another example is recorded in the inventory of the Graeco-Roman museum at Alexandria (Inv. 5720; from Pompey's Pillar). Philiskus is a comparatively common name in Cyrenaica.
- D8.** (C78, SK B17.3) Miscellaneous deposit; three sherds of associated fine pottery are all Hellenistic.  
Stamped handle. Local fabric 2.  
Stamp: ΦΙΛΙΣ (pl. XXII).  
Perhaps for ΦΙΛΙΣ (ΚΟΥ). A similar stamp is present in the Benachi collection at Alexandria (V. Grace, personal communication).
- D9.** (C672, SK L29.4) Miscellaneous deposit.  
Stamped handle. Probably local fabric 2. (The fabric is slightly paler than normal).  
Stamp: ΠΑΔΑΝΟΥ (pl. XXII).
- D10.** (C74, SK B9.4) Miscellaneous deposit.  
Stamped handle. Local fabric 2.  
Stamp: Π enclosing Ο (pl. XXII).
- D11.** (C862, SK W36.7) Miscellaneous deposit; five sherds of associated fine pottery are all Hellenistic and include ESA.  
Handle fr. with graffito. Local fabric 2  
Graffito: clockwise-turning swastika.
- D12.** (C79, SK B8.1) Miscellaneous deposit.  
Handle fr., stamped at the base of the handle. Local fabric 2.  
Stamp: ΚΑΡΝΗΔ[ΑΣ] (pl. XXII).  
Karnedas was a very popular name in Cyrenaica with all classes (J. Reynolds, personal communication). A handle bearing the same name but stamped on the top of the handle (from Cyrenaica in local fabric 2) is in the British Museum (Inv. 66-4-15-89). The name occurs on stamped handles found in Alexandria (Fraser 1972, 292, note 317, iv, for their probable Cyrenaican origin).

## HELLENISTIC AMPHORA 2

The form has a slightly bulging neck, thickened rim and two slender handles from below the rim to the top of the shoulder. On one complete example (No. 13) the body is oval. The fabric varies from Benghazi local fabric 1 to local fabrics 4 and 5. It is rare at Berenice and does not appear in the quantified deposits. Dating evidence for the form is slight but it has a generally Hellenistic appearance, occurs in the Selmani tombs (one example only) and also in the upper levels of the Hellenistic Deposit 25 (No. 14). The type was not noted elsewhere in Cyrenaica and does not seem to have been based on any particular eastern Mediterranean type.

## CATALOGUE

(fig. 68)

**D13.** (SIL 73, 4d) Selmani tombs;

Complete amphora (restored). D. = 7.4 cm; Ht. = 48.9 cm.

Local fabric 1.

**D14.** (C153, SK J56.3) The upper levels of the cistern Deposit 25; associated fine pottery is all Hellenistic except for two first century A.D. pieces which may be strays.

Rim and two handles. D. = 12.5 cm.

Local fabric 5; hard greyish red (2.5YR 5/4) fired orange red (2.5YR 5/8) at the edges with a moderate quantity of cream grits.

**D15.** (C153a, SK A37.1) Miscellaneous deposit.

Rim and two handles. D. = 13.0 cm.

Fairly hard, brown (2.5YR 3/6) local fabric 4 to 5 containing a moderate quantity of creamish grits.

## HELLENISTIC AMPHORA 3

*(Rhodian Amphora)*

This class of amphora ranges from the late fourth century B.C. to the end of the first century A.D., and probably into the early second century A.D. Over this long period, however, there were several modifications of form with three main phases of development (Grace 1934, and 1961, fig. 62). From the late fourth to the early first centuries B.C. the amphora has an egg-shaped body, cylindrical neck, short beaded rim and short, cylindrical, solid base. The handles until the late third century B.C. have a rounded angle, while from then until the early first century B.C. they assume a peg-like, angular profile (as No. 16). From the early first century B.C. the handles became narrower and sharper, eventually to become horned (as No. 107: see discussion to ER Amphora 3). Average capacities dropped from about 28–9 litres in the second century B.C. to about 26 litres by c. 75 B.C. and to below 23 litres by the mid first century B.C. (Grace 1965, 7).

The clay is a fairly hard, well levigated creamy buff (c. 7.5YR 6/4 to 7/6) with occasional white inclusions (for a petrological account see Peacock 1977 where at least one and probably



two Rhodian fabrics are identified). The surface is fairly smooth, sometimes with a creamish wash.

Rhodian amphoras to the first century B.C. invariably have two stamps, one on each handle, of which one is the date (with the name of the dating official for the year and the month) and the other is the potter. Some Rhodian handles have secondary stamps which date from the very late third to the second half of the second century B.C. No secondary stamps occurred at Berenice and none have been noted elsewhere in Cyrenaica. Rhodian amphoras were stamped from the latter part of the fourth until the last quarter of the first centuries B.C., although the proportion of handles with stamps dropped by the early first century B.C. (for discussions of Rhodian amphoras see all the articles cited in the bibliography by V. Grace; for Russian work see Brashinsky 1973 and Shelov 1975).

Rhodian amphoras are found on virtually every Hellenistic site in the eastern Mediterranean (for a guide to the distribution see Grace 1961, fig. 34). Although they are the commonest stamped amphoras at Alexandria and in Palestine, they are not well represented at Delos or Athens (Knidian amphoras being most common there; Grace 1952). Their penetration into the Black Sea region began in the earliest period but they became widespread mainly in the late third and early second centuries B.C. (for a discussion of their relative proportions in southern Russia see Brashinsky 1973, 137, and, for their quantification, Shelov 1975, 26-8; their distribution in Dacia has been plotted by Glodariu 1976, 15 and pl. 2). In Tunisia, and probably also throughout the western Mediterranean, Rhodian amphoras seem to have been common from the late third century B.C. (Morel 1969, comments on their total absence from the mid third century B.C. destruction levels at Kerkouane in Tunisia). They are also well attested in Sicily, Italy and France.

Most of the Rhodian stamped handles from the excavations at Berenice date from the mid third century B.C. to the mid second century B.C. There is only one example (No. 27) of the second half of the second century B.C., a period to which large quantities of Rhodian stamped handles at Alexandria belong (Grace, personal communication). Three handles are of the early first century B.C. (Nos. 110-2).

The primary content of Rhodian amphoras has, until recently, generally been assumed to have been Rhodian wine. Recently, however, Fraser (1972, 162-71) has presented a good case that this may not necessarily have always been so. He argues that there is a discrepancy between the sheer volume of Rhodian stamped handles at Alexandria and the dearth of references to Rhodian products in the otherwise informative papyri. Moreover, the well attested local wine industry, the high tariffs on foreign wine, and the mediocre quality of Rhodian wine, make it unlikely that the bulk of the Rhodian amphoras found in Alexandria contained Rhodian wine.

Fraser develops this hypothesis to suggest that the Rhodian amphoras found in Alexandria may well have contained Laodicean wine in the second and first centuries B.C., having been first exported from Rhodes, empty, to Syria. Fraser cites the absence of any amphora attributable to Laodicea, the eclipsing of Chian wine by Laodicean in the second century B.C. and the 'extraordinarily large' numbers of Laodiceans in Alexandria at that time. Additional supportive evidence is the modern trade in empty jars from Rhodes to Beirut. Fraser allows that some of the amphoras may have contained Rhodian wine but not on the scale previously accepted.

The practical result of this hypothesis is to complicate any future interpretation of economic trading patterns throughout the Mediterranean and Black Sea region in the Hellenistic period. Moreover, the possibility that amphoras may have been exported empty on a large scale must be considered when considering amphoras from other periods also.

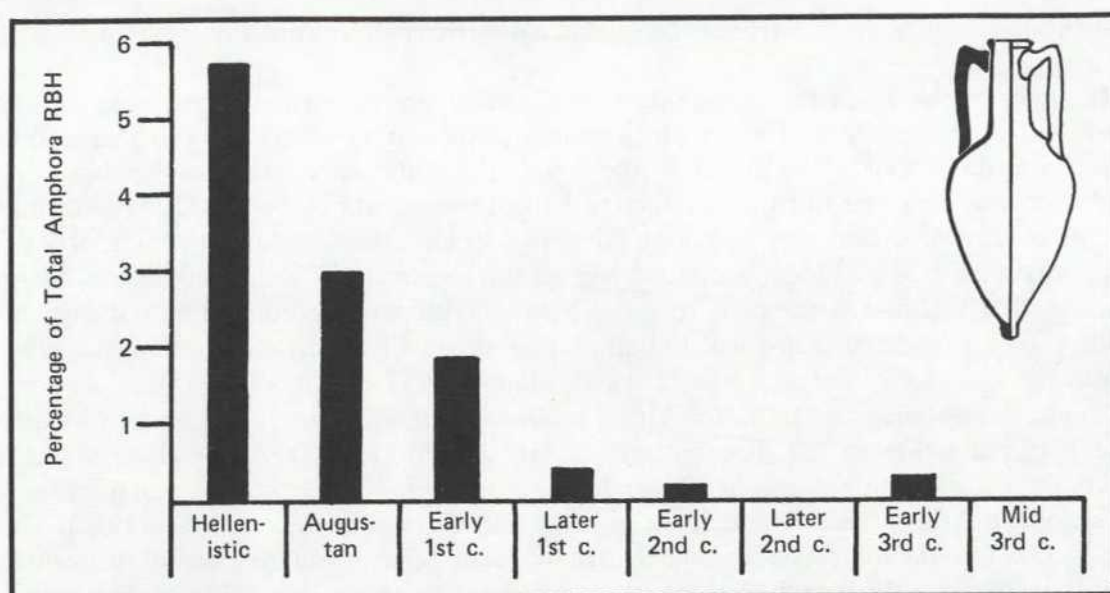


Fig. 12. Histogram to Show Relative Proportions of Hellenistic Amphora 3 at Berenice.

Absence of historical sources does not make it possible to examine such questions or otherwise contribute significantly to Fraser's hypothesis as far as Berenice is concerned. It does seem likely, however, that the true frequency of Rhodian amphoras in the eastern Mediterranean has been overestimated up to now, if the results obtained at Berenice can be applied to other Mediterranean sites. At Berenice the proportion of stamped Rhodian amphora handles to the total stamped amphora handles was very different from that of all Rhodian amphoras (stamped and unstamped) to the total amphoras. Of the total of 65 amphora stamps of all periods from Berenice, 23 (i.e. 35%) were Rhodian. However, the proportion of Rhodian RBH to the total amphora RBH from the Hellenistic deposits at Berenice was only six per cent. This low figure is put further into perspective when, in the same period, imported amphoras from the western Mediterranean (unstamped) comprise four per cent and the locally produced H. Amphora 1 (mainly unstamped) was 21 per cent. Such figures for Rhodian amphoras are not available from stratified contexts on other sites, but the Berenice evidence suggests that quantification of Rhodian amphoras on the basis of stamps alone is misleading. An example of over-reliance on the evidence of stamps is Callender's suggestion (1965, 52 ff.) that there is little evidence of large scale Gaulish trade in the Roman period as there are few stamped Gaulish amphoras; in fact, the reverse is true as Gaulish amphoras were not often stamped and unstamped handles are common in the western Mediterranean; see below MR Amphora 11).

#### CATALOGUE

##### D16. (SM 73.6.4) Selmani tombs.

Rhodian amphora with two stamps. Broken in antiquity, restored.

D. = 12.7 cm; Ht. = 84 cm.

Stamps: a) *EIII TIMO*

*ΘEOY*

*ΑΓΡΙΑΝΙΟΥ*

COARSE POTTERY

- b) EYKΛEΙ  
TOY  
caduceus (r.)

(c) Dipinti on shoulder in red paint: TΧΣΧ

The date given to *Timotheos* in Goldman 1950 now seems clearly to have been too early and this example dates to the third quarter of the second century B.C. On both eponym and fabricant see Colt 1962, 115–6 under No. 7 (V. Grace, personal communication). The dipinti may be a measure of quantity (J. Reynolds, personal communication).

**D17.** (C2539, SK CC2 +) Miscellaneous deposit; three associated sherds of fine pottery range from Hellenistic to the first century A.D.

Rim and stamped handle. D. = c. 12 cm.

Stamp: ΕΠΙ ΑΣΤΥΜΗ (pl. XXII).

ΔΟΥ

Π[ΕΔΑΓΕΙΤΝ]ΥΟΥ

There are three eponyms *Astymedes* (Grace & Petropoulakou 1970, 306, under E15 and *ibid.* 299 and note 3). This example is evidently the second *Astymedes* and dates to shortly after the middle of the second century B.C. (V. Grace, personal communication). Shelov 1975, 47, under No. 86 prefers 180–150 or 170–150 B.C. *Astymedes* was formerly dated in the second quarter of the second century because stamps naming him appeared at Carthage but not at Pergamon. It is now known that the *Astymedes* named on the Carthage stamps is an earlier one (V. Grace, personal communication).

**D18.** (C84, SK B17.3) Miscellaneous deposit; see No. 8 for associated finds.

Stamped handle.

Stamp: ΕΠΙ ΑΝΔΡΟΝ[ΙΚΟΥ] (pl. XXII).

ΣΜΙΝΘΙΟΥ

This is of mid second century B.C. date, possibly the early third quarter (Grace, personal communication). See Grace 1952, 518 (1), and Shelov, 1975, 23–5, for the eponym.

**D19.** (C87, SK M4.3) Miscellaneous deposit.

Stamped handle.

Stamp: ΚΛΕΙΣΙ]ΜΒΡΟΤΙ[Δ]Α ΒΑΔΡΟΜΙΟΣ (pl. XXII).

rose (retrograde)

This dates to the third century B.C., probably the last quarter. The date for Grace 1965, No. 110, should now read late third century B.C. (V. Grace, personal communication).

**D20.** (C76, SK B9.7) Miscellaneous deposit; six associated fine ware sherds are all Hellenistic.

Stamped handle.

Stamp: ΞΕΝΩ (pl. XXIII).

ΝΟΣ

This stamp is of third century B.C. date, probably the third quarter; compare *IG*, XII, 1, 1307, 2 (V. Grace, personal communication).

**D21.** (C856, SK Y1.4) Miscellaneous deposit.

Stamped handle.

Stamp: ΕΠΙ ΑΡΧΟΚΡΑΤΕΥΣ (pl. XXIII).

ΔΙΟΣΘΥΟΥ

The date is probably the last quarter of the third or the first quarter of the second centuries B.C. (see Grace 1952, No. 529; Shelov 1975, Nos. 82–5).

**D22.** (C526, SK R25.25) Deposit 49.

Rim fr. and stamped handle. D. = uncertain.

Stamp: caduceus (1.)

ΑΝΤΙΜΑΧΟΥ (pl. XXIII).

This fabricant is associated with several eponyms, mainly of c. 220–180 B.C. (Shelov 1975, Nos. 271–5). The latest eponym associated by a well established reading with this fabricant is *Sosikles* (180–150 B.C.) (V. Grace, personal communication).

**D23.** (C521, SK J18.9) Miscellaneous deposit.

Stamped handle, of H. Amphora 3a.

Stamp: ΜΟΣ

ΧΟΥ (pl. XXIII).

On the fabricant, see Shelov 1975, Nos. 413–6. V. Grace informs the writer that there were, however, two Rhodian fabricants of this name, one datable in the first half of the third century B.C. and the other in the late second. The curved handle assigns it to the earlier *Moschos*.

**D24.** (C518, SK A31.1) Miscellaneous deposit; associated fine pottery is mainly Hellenistic with a little early and late Roman.

Stamped handle.

Stamp: ΕΠΙ ΔΟΡΚΥΛΙΔΑ [ΑΡΤΑΜΙΤΙΟ]Υ (pl. XXIII).

rose

The date is probably late third to early second centuries B.C. (for the eponym see Shelov 1975, Nos. 100–1; Grace 1952).

**D25.** (C865, SK +) Surface find.

Stamped handle.

Stamp: Ε[ΠΙ]ΣΥΜΜΑ (pl. XXIII).

ΞΟΥ

ΥΑ ΚΙΝΘΙΟΥ

Datable perhaps in the second decade of the second century B.C.; see *Pergamon* XI, 1, p. 175, under No. 3. cf. Grace & Pétropoulakou 1970, 295, note 1. (V. Grace, personal communication).

**D26.** (C855, SK Y1.4) Miscellaneous deposit.

Stamped handle.

Stamp: ΑΓΟΡΑΝΑΞ (pl. XXIII).

ΔΑΛΙΟΥ

The fabricant occurs at Delos (Grace & Pétropoulakou 1970, 302, under E 1, but the date of this fabricant should now be attributed to the last quarter of the third century B.C. (see Grace 1974, 200) (V. Grace, personal communication).

**D27.** (C688, SK +) Surface find.

Stamped handle.

Stamp: ΔΠΑΚΟΝΤΙΑΔΑ[Σ (pl. XXIII).  
caduceus (1.)For the fabricant see Shelov 1975, Nos. 329–30 (second half of the second century B.C.):  
also Grace & Pétropoulakou 1970, 305–6, E 15.**D28.** (C804, SK T14.1) Miscellaneous deposit.

Stamped handle.

Stamp: [ ]Σ (pl. XXIV).  
[ ]Σ  
[ΠΑΝΑ]ΜΟΥ

Not datable.

**D29.** (C803, SK +) Surface find.

Stamped handle.

Stamp: [ ]ΟΝ [ ]Σ (pl. XXIV).  
ΑΓΡΙΑΝΙΟΥThe eponym is uncertain. It is not *Aristion* as the name does not occur with a month (in any verifiable reading) and is unlikely to be *Ariston* (V. Grace, personal communication).**D30.** (C863, SK F29.2) Miscellaneous deposit; 16 associated fine pottery sherds spread to the sixth century A.D.

Stamped handle.

Stamp: ΕΥΣΕΥΕΥΣ (retrograde) with lunate epsilons and sigmas. (pl. XXIV).

The name appears on numerous Rhodian handles in the Benaki collection in Alexandria. See Crowfoot *et al.* 1957, 383 (V. Grace, personal communication).**D31.** (C682, SK A35.1) Miscellaneous deposit.

Stamped handle of H. Amphora 3a.

Stamp: [ΑΞ]ΙΟΥ (pl. XXIV).  
roseThe stamp is restored from more complete examples from Alexandria, Antioch and Rhodes (V. Grace, reading and information). See Calvet 1972, 16 and Figure 14, No. 9 for a recent publication of a (different) rose type of *Axios*. His rose types probably date soon after 250 B.C. on the basis of shape and associated finds from Rhodes (V. Grace, personal communication).**D32.** (C85, SK J56.4) Deposit 25.

Stamped handle.

Stamp: \* rose \*  
ΠΟΛΥΞΕΝΟ[Υ] very faint.  
\* branch \*This was read by Mr. A. Dimoulinis of the American School of Classical Studies at Athens. This seems to be a stamp of the fabricant *Polyxenos*. There are only two other examples of this name recorded by V. Grace, both from Alexandria and both unpublished (information,

V. Grace). The date of this fabricant seems to be from the second to the third quarter of the second century, perhaps *c.* 175–145 B.C. (V. Grace, personal communication).

**D33.** (C73, SK K3 +) Surface deposit.

Stamped handle.

Stamp: ΕΠΙ ΠΑ [YZAN]ΙΑ  
ΣΜ[INΘΙΟΥ]

This stamp seems to name one of the eponyms *Pausanias* on whom see Grace & Pétropoulakou 1970, under E 12 although it is unclear which *Pausanias* this example is (V. Grace, personal communication).

#### HELLENISTIC AMPHORA 4

(*Knidian Amphora; Zeest Type 48.*)

The form of this amphora is more or less oval, with a fairly wide cylindrical neck which tapers slightly towards the plain thickened rim. There are two handles, oval in section, from below the rim to the shoulder. There is a very distinctive flange around the pointed base. The form changes during the Hellenistic period, tending towards a narrower body towards the end of the period, but always retaining the distinctive base (see Grace 1961, fig. 64, for this development).

The clay is a fairly coarse (compared with Rhodian) red (*c.* 2.5YR 5/6–4/6), often with a greyish core, with occasional white grits.

Knidian amphoras were stamped from the second to third quarter of the third century B.C. until the third quarter of the first century B.C., although Knidos seems to have produced amphoras during the early Imperial period. There are several distinct phases in the development of Knidian stamps (see Grace & Pétropoulakou 1970 for details).

Knidian amphoras are uncommon in Cyrenaica and only four stamped handles occurred at Berenice (Nos. 34, 37, 66 and 74). The chronological distribution of these compares with that of the Rhodian stamps from Berenice with a gap between the early second and the early first centuries B.C. It was not possible to assign securely any body sherds or rim fragments to this class and the total number may be more than the two bases recorded from stratified deposits at Berenice (from Deposits 27 & 59).

The infrequency at Berenice follows the general trend in the eastern Mediterranean with the exception of Delos and Athens where this type comprises about 65 per cent of the total stamped amphoras (Grace & Pétropoulakou 1970; Grace 1961, above fig. 31). Although they do not seem to be very frequent on other sites (when compared with Rhodian stamps), they have a wide distribution ranging from the Black Sea settlements (Zeest 1960, type 48), Dacia (Glodariu 1976, pl. 2) and Palestine (Grace 1962) to the western Mediterranean (Grace 1961; additional examples include two unstamped complete Knidian amphoras from tombs at Bengashir, at present in the Tripoli museum store, and an example from Marseilles—Benoit 1954, 39, fig. 4).

## COARSE POTTERY

CATALOGUE (see also Nos. 66 and 74 below)

(fig. 69)

**D34.** (C432, SK L+) Surface find.

Stamped handle. Fairly hard, pale brownish red clay (c. 2.5YR 5/6) with occasional white grits. Petrological analysis of this handle showed a strong similarity to Nos. 35 and 36 below, confirming their probable Knidian origin (not illustrated).

Stamp: ΕΠΙ ΔΙΟΝΥΣΙΟΥ vac. ΔΙΟΣΚΟΥΡΙΔΑ vac. (retrograde) (pl. XXIV).  
boukranion

This is a Knidian type of *Dioskouridas* in the term of *Dionysios*; for a published photograph of another example see Grace 1952, Pl. 20, No. 10. This dates to the first quarter of the first century B.C. On the fabricant see index of Grace & Pétropoulakou 1970. (Information and reading of this stamp by V. Grace).

**D35.** (C392, SK +) Surface find.

Base fr. Fairly hard, brownish red fabric (2.5YR 5/6–4/6) containing occasional white grits.

**D36.** (C405, SK J13.3) Deposit 27

Base fr. Orange brown fabric (c. 5YR 5/6) with occasional white grits.

**D37.** (C437, SK L24.5) Deposit 72

Stamped handle. Orange brown fabric (2.5YR 5/6) containing occasional grey and white grits.

Stamp: amphora

[ΚΛΕΥΜΙΘΕ]Υ[Σ (pl. XXIV).

On these late Knidian stamped handles with amphoras see Grace & Pétropoulakou 1970, 354, under E 220. The date is now a little later, probably after the first quarter of the first century B.C. (reading and information, V. Grace).

## HELLENISTIC AMPHORA 5

(*Chian Amphora*)

The type, which first occurs in the sixth century B.C., develops from an ovoid amphora with a characteristic swelling on the neck to an amphora with a very distinctive triangular profile, a high, narrow, cylindrical neck and a sharply pointed body and base by the fourth to third centuries B.C. (Grace 1961, figs. 44–7 for development; see also Anderson 1954, figs. 8–9 and Zemer 1977, Nos. 30–1). Only this later, triangular form, which continues to the late first century and possibly a little later, has been noted at Berenice.

The clay is red, often with a grey core, containing mica particles. The exterior is generally buff. Body sherds or handles could not be identified with confidence by the writer.

The type is occasionally stamped from the third (and probably fourth) to the first centuries B.C. Chian wine, one of the most famous of Greek wines, was the probable content, although Chian figs were exported to Italy in the first century B.C. (Varro, *de Re Rustica*, II, 1, 3).

The type was not noted at Berenice although a body of this form occurred at Selmani and an almost complete example was discovered in the sea near Apollonia. The rarity at Berenice

contrasts with the occurrence of the type (although never on a large scale) throughout the eastern Mediterranean (where it comprises two per cent of the stamped handles at Delos; Grace & Pétropoulakou 1970; and lower frequencies at Gezer, Samaria and Alexandria; Grace 1962, 106). See Robinson 1959, F 92, for a complete example from a first century B.C. context at Athens (according to Lapp 1961 this context is of the late first century B.C.). Chian amphoras have also occurred in the western Mediterranean and the latest context for them is a wreck assigned an early first century A.D. date near Cannes (Fiori & Joncheray 1975).

## CATALOGUE

(fig. 69)

**D38.** (SIL Ia, 505) Selmani tombs.

Body and shoulder.

Well levigated hard orange to buff fabric containing occasional mica specks and white grits.

## HELLENISTIC AMPHORA 6

*(Corinthian 'A' Amphora)*

This form has a round body, cylindrical neck and thick, curved handles, round in section. The rim is mushroom-like, overlapping the handles, and the type has a peg base. The average height is about 60 cm. There are antecedents for the type as far back as the sixth century B.C. but it is predominantly a fourth to third century B.C. type. A palmette is often stamped at the base of one or both handles. No detailed study of the type exists but one is being prepared by C. Koehler, to be published in the Corinth excavation series. For published examples of the type see Weinberg 1948, 233 and pl. 85, from Corinth, dated *c.* 300 B.C., and Robinson 1969, pl. 2, No. 2 from a late fourth to early third century B.C. context at Corinth. The type described above is the typical fourth century B.C. variety but a later stage of its development is marked by a lengthening and a flattening of the rim. (I am grateful to C. Koehler for this information) For the late version see Kapitän 1973, Figure 1 (although C. Koehler considers the date of the amphoras from this wreck to be early third century B.C. rather than *c.* 400 B.C. which is proposed by Kapitän). The latest positively dated example is from a late third century B.C. cistern at Athens (unpublished Agora SS 9472).

There are two fabrics at Corinth; a well levigated but granular buff to beige with occasional white inclusions: and also a red coarse fabric typical of Corinthian coarse wares. Examples of both fabrics analysed from Athens are tempered with hornfels, which occur only at Corinth (Farnsworth 1970, 1977). Only the former fabric occurred at Berenice.

Only one fragment (No. 39) of the fourth century B.C. variety occurred at Berenice. This is important as it is the earliest fragment of coarse ware from the site. There is a possible rim fragment of the later variety (No. 95). Williams & Fisher 1973, 25, consider (not on very firm grounds) that this type may have contained oil.



**D39.** (C61 SK +) Surface find.

Rim and two handles. D. = 16.6 cm.

Firm buff fabric (7.5YR 7/4–6/4) with very few inclusions but a few voids occasionally of diameter up to 1 mm.

## HELLENISTIC AMPHORA 7

(*Graeco-Italic Amphora, Benoit 1957 Republican I, Lamboglia 1955 Type 4*)

The form of this distinctive class of amphora is a triangular rim, cylindrical neck and carinated shoulder. The body is plump with a fairly long hollow foot (as No. 405). There are two fairly elegant handles from below the rim to the shoulder. The handles are occasionally stamped (van der Werff 1974, 296; an unpublished example in Sousse museum has a Greek stamp on the top of the handle). Three rectangular stamps at the bases of handles from Berenice (Nos. 61, 63 and 67) may belong to this series as the fabric is very similar when judged by eye (see catalogue). Benoit (1957, 40 ff.) notes two different size ranges of *c.* 90 cm and *c.* 60 cm high.

The predominant fabric of the examples at Berenice is a granular buff brown (*c.* 7.5YR 6/4) fired grey (*c.* 5YR 5/1) with a high proportion of minute black glassy grits and some mica. At least two distinct fabrics were noted by Culican & Curtis (1974, 47) which suggests that there may have been more than one production centre.

The date range for the type is from the fourth to the first centuries B.C. Kapitän (1973, 185) suggests that it is the successor to the Corinthian A amphoras. However, there seem to be several classes of fourth century B.C. amphora in the eastern Mediterranean with triangular rims (on the basis of various fabrics from Euhesperides). It is better to think in terms of influence from the Aegean rather than progressive development of Aegean types. Possible typological changes are noted by Culican & Curtis (1974, 46–7) and Beltrán (1970, 339). The type may have developed a groove at the base of the neck during the third century B.C. and the bases may develop small domes on the inner base in the second century B.C. It is felt however that caution should be employed when discussing such chronological considerations as the fabric range suggests that there may have been more than one production centre which introduces a further variable which cannot easily be checked. No. 61 was thin sectioned and revealed largish lumps of quartz, many small limestone fragments, plagioclase feldspar and sanidine feldspar which suggests a volcanic region. Most writers suggest a Sicilian origin for the type, and the thin section would not rule this out. The distribution of the amphora (fig. 13) certainly suggests a western origin. Further analysis is necessary to establish whether this amphora would have contained Sicilian wine, which is well attested for the B.C. period (Scramuzza 1938, 269 ff.). Agrigentum was the centre of the wine producing area of Sicily in the Republican period and exported to Africa. Under the Empire, Mamertine wine was particularly well regarded, while Tauromenian and Mesopotamian wine (from the Gela region) were also exported (*ibid.* 1938, 350 ff.; although the Roman Sicilian amphora has not been securely identified).

Baldacci (1972, 19) considers that the form influenced that of the Lamboglia 2 amphoras. This may or may not be so, but one cannot speak of a 'trait d'union' between the two types on the basis of the example that he publishes (fig. 6), which has closer affinities to Dressel 1a than to Graeco-Italic amphoras. The question of the extent to which Dressel 1a amphoras were influenced by the form of the Graeco-Italic amphora is another problem. It can only be noted that the fabrics are entirely different and the chronological overlap is too great to propose a direct progression from one type to the other.

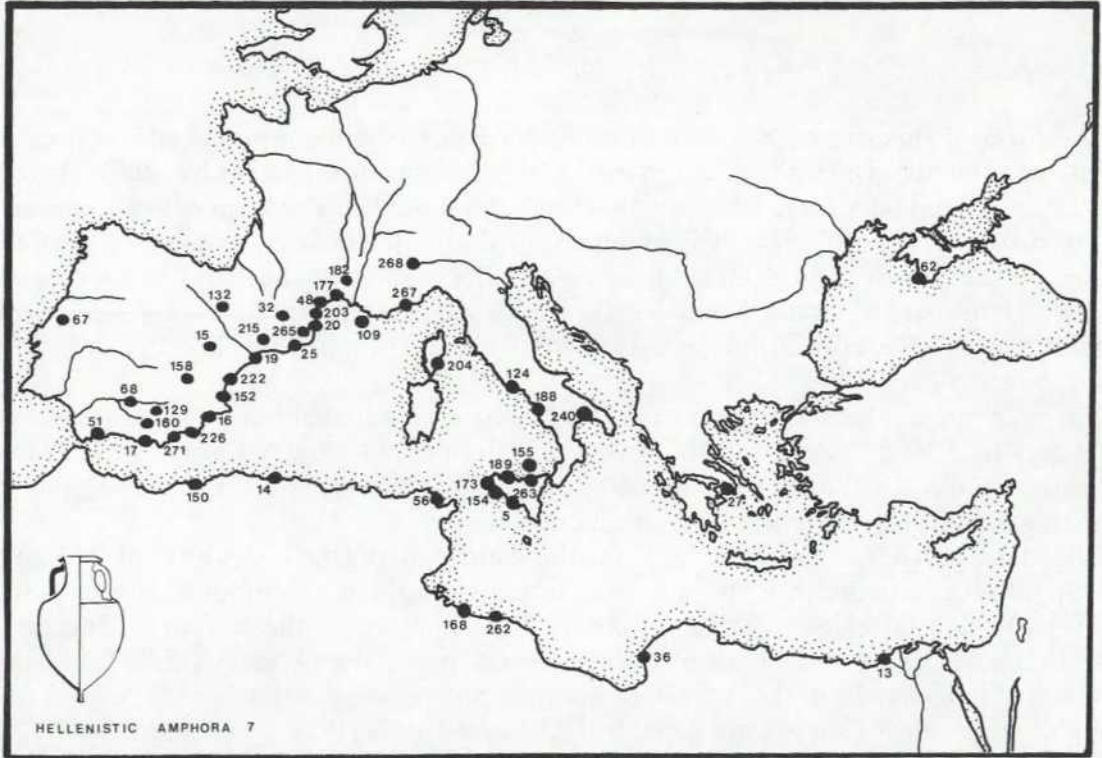


Fig. 13. Distribution Map of H. Amphora 7.

The distribution is well documented in the western Mediterranean. This includes Spain (Beltrán 1970, 338–48; although the fabrics are neglected and the forms of several illustrated examples require further consideration); Conimbriga (Alarcão *et al.* 1976, pl. 20, No. 1; the one example contained 'much mica, calcite and haematite'); France, Italy and Sicily (Curtis & Culican 1974, Benoit 1957, Lamboglia 1955). The type is well attested in Tripolitania, with a number of unpublished examples in the Tripoli museum and several from tombs at Mellita near Sabratha (Bisi 1970, 1971), but was rare in the early first century A.D. levels at Carthage (Hayes 1976, Early Amphora 8), which suggests that its production had ceased by that date. The type is not particularly frequent at Berenice. It is regular in the Hellenistic deposits (comprising 3.8% of the total amphora RBH) but rare in the Augustan period (one example) and occurs only as a survival after this. It was not noted elsewhere in Cyrenaica. An example was noted in the museum at Alexandria.

## COARSE POTTERY

### CATALOGUE

(fig. 70)

- D40.** (C1247, SK W73.11) Miscellaneous level.  
Rim, two handles and part of body. D. = 21.0 cm; Ht. (extant) = 40.5 cm.  
Creamish fabric (2.5Y 7/2) fired pink (7.5YR 8/6) at the edges. Contains a moderate quantity of black shiny grits.
- D41.** (C546, SK R24.4) Miscellaneous deposit.  
Rim and two handles fr. D. = 17.6 cm.  
Pale red fabric (2.5YR 6/8) containing a moderate quantity of small black and white grits.
- D42.** (C2585, SK CC3.10) Deposit 23.  
Rim and one handle fr. D. = uncertain.  
Buff fabric (5YR 6/6–5/6) containing a moderate quantity of small black grits.
- D43.** (C1122, SK B7.4) Deposit 39.  
Rim fr. D. = 15 cm.  
Dull brown fabric (5YR 6/6) containing many small black grits.
- D44.** (C811, SK J56.3) See No. 14 for a description of this deposit.  
Rim fr. D. = 16 cm.  
Gritty buff fabric (5YR 6/6) containing many black glassy grits. The texture is not dissimilar to that of the Campanian fabrics.
- D45.** (C2774, SK A23.5) Miscellaneous deposit; over 20 sherds of fine pottery group in the Hellenistic period.  
Rim and handle fr. D. = 14.8 cm.  
Gritty pale brown fabric (5YR 5/6) containing many small black and white grits.

### HELLENISTIC AMPHORA 8

(*Brindisi Amphora; Ostia Form LXVI*)

The amphora has an oval body, cylindrical neck, thickened plain rim, two handles, (round in section), from below the rim to the shoulder, and a knobbed base (see Panella 1974, 494–6, 625, No. 2; Buchi 1971, 557–60, and fig. 9). The fabric is a granular buff, with occasional white grits. In fragmentary condition neither the form nor the fabric is particularly distinctive, and for this reason examples may not have been noted at Berenice. The handles, on the other hand, often bear stamps; one handle bearing the name of the manufacturer or the factory and the other that of the actual potter (Grace 1962, 127–8). The stamps are mainly Latin but also Greek. Baldacci (1972, 25–7) has divided the type into three classes, claiming an evolutionary typology. However, it must be pointed out that this is not based on stratigraphy; as a kiln site at Apani near Brindisi is known to have produced the type, but has never been excavated or adequately published, any such attempt is clearly premature. All amphoras considered here of this form are therefore treated as a broad type at this stage.

The amphora dates from the later second century B.C. and declines suddenly around the middle of the first century B.C. (Buchi 1971, 560 for discussion). The contents were probably oil but wine cannot be ruled out (Panella 1974, 496 for references).

Only one stamped example was noted at Berenice (No. 46) and no further examples have been observed from Cyrenaica. This is surprising, given their very large distribution throughout the eastern and the western Mediterranean. Their distribution in the western Mediterranean has been documented by Tchernia (1969, 488–9, and fig. 43; 1970, 76, and fig. 18), although they do not seem to have been particularly common in early first century B.C. contexts at Ostia (Ostia iii, 665). The distribution of stamped handles of the type in the eastern Mediterranean is the subject of a forthcoming study by E. Will (for a reference to this see Will 1977). Of 666 Roman stamps at Alexandria, two thirds were considered to belong to this type (Grace 1955, 325). Most of the 600+ Latin stamps from Delos seem to belong either to this type or to Lamboglia 2 amphoras (Will 1970—although the forms are not clearly indicated).

The rarity of the type in Berenice and elsewhere in Cyrenaica may suggest that Cyrenaica rated low in the priorities of markets served by the Italian traders of Delos from 146 B.C. to the mid first century B.C.

## CATALOGUE

(fig. 70)

**D46.** (C681, SK S5.12) Miscellaneous deposit; associated finds include a coin of first to second century A.D. date and fine pottery ranging to the third century A.D.

Stamped handle fr.

Buff fabric (5YR 6/6–7.5YR 6/4) containing occasional black and white grits.

Stamp: L.LVCI (pl. XXIV).

This is a regular stamp on amphoras of this type. For a parallel from Tanis in Egypt see Le Roy 1975, 244, Figure 14. There are several similar stamps from Naucratis in the British Museum (1955-9-20, 82, 166, 170, 191, 193, 252) and from Alexandria (1925-1-19, 699, 702, 703). It should be noted that although the handle shape on the British Museum examples is similar, the stamps are of different dies and by eye the fabrics do not all appear to be uniform. It is felt that a detailed examination of these fabrics would be fruitful.

## HELLENISTIC AMPHORA 9

(*Dressel 1*)

This type of amphora, which is very common in the western Mediterranean, is generally grouped into two broad categories (*Dressel 1a* and *1b*) and has been the subject of considerable discussion (for the main references see Peacock 1971, 162–6; Panella 1973, 492–4). Although there are a number of minor variations, these two broad divisions, based mainly on the rim shape are the only ones which have a generally attested chronological significance. The general form is a long cylindrical body, spike base, often flared slightly at the bottom, and high cylindrical neck. There are two handles, generally oval in section, from below the rim to the shoulder. The *Dressel 1a* rims are triangular in profile. *Dressel 1b* has a longer base and distinctive heavy collar rim. Both types probably contained Falernian and Caecuban

wine (Peacock 1971, 165). The earliest independently dated context for Dressel 1a is from Entremont which was destroyed in 123 B.C. (Benoit 1957, 264–5). Dressel 1b was introduced later, after the first quarter of the first century B.C., after which Dressel 1a declined. Dressel 1b continued until the end of the first century B.C.

Peacock (1971, 164), distinguished three fabrics of which two are found both with type A and B; all fabrics seemed likely to have an Italian origin. Painted inscriptions suggested Campania and Latium (Zevi 1966, 212–4), and this has been confirmed by the recent discovery of kilns at Mondragone (Peacock, in press 2) and at Terracina (A. Tchernia, personal communication). In addition, an Etrurian origin is attested by the discovery of a kiln site at Albinia (Peacock, in press 2). It is now clear that both types A and B were produced on the same kiln sites, as were Dressel 2–4 (ER Amphora 4; see below pp. 149–51 for discussion).

There are often stamps on the rim of both types A and B, but there seems to be no connection between the forms and the stamps (Tchernia, personal communication – on the basis of recent finds of 974 Dressel 1 amphoras from a wreck in southern France).

With the possible exception of No. 93, no unequivocal examples of Dressel 1a were noted at Berenice or elsewhere in Cyrenaica. Examples of Dressel 1b occurred from Berenice but were rare (Nos. 47–52). These seem mainly to be of Campanian fabric (as Peacock 1971, 164, fabric 2), which suggests a certain widening of commercial interests by Campanians towards Cyrenaica during the later first century B.C.

The distribution of Dressel 1 amphoras in the western Mediterranean is well attested (Benoit 1957, Lamboglia 1955; for a distribution map of the type in Gaul and Britain see Peacock 1971, 172, fig. 36). The examples from the eastern Mediterranean are not documented except for the stamped varieties (by Will in her forthcoming study; see also Will 1956, 238 ff. and fig. 83 for a stamped Dressel 1a from Athens). Nine examples (complete) were noted in the store rooms of the Graeco-Roman museum at Alexandria, and it is clear that many remain to be identified in the eastern Mediterranean. The type may have reached the Black Sea regions (compare Zeest 1960, Type 63b).

CATALOGUE

(fig. 70)

**D47.** (C2780, SK H1.2) Deposit 84.

Rim fr. D. = 21.2 cm.

Brownish buff fabric (c. 5YR 5/4) containing many black glassy grits.

Probably Campanian.

**D48.** (C2832b, SK T17.1) Deposit 69.

Rim fr. D. = 17 cm.

Grey brown fabric (c. 5YR 5/2) fired reddish brown at the edges (5YR 5/4) containing many glassy black grits and some white specks. Probably Campanian.

**D49.** (C2545, SK R4.5) Miscellaneous deposit.

Rim fr. D. = c. 17 cm.

Buff fabric (5YR 6/4) containing many small black grits. Creamish wash exterior and inside rim. Probably Campanian.

**D50.** (C2032, SK B7.4) Deposit 39.

Rim fr. D. = c. 12 cm.

Gritty orange brown fabric (c. 5YR 6/6) containing moderate quantities of tiny black and white grits with occasional mauve (c. 10R 3/3) grits. Creamish wash (10YR 7/3) exterior. Probably Campanian.

**D51.** (C1108, SK X16.6) Miscellaneous deposit; five associated fine pottery sherds suggests a first century B.C. date.

Rim fr. D. = 17 cm.

Red brown fabric (2.5YR 5/6) containing a moderate quantity of grey pebble and small black and white grits. Probably Campanian.

**D52.** (C1107, SK X7.2) Miscellaneous deposit; of two associated fine pottery fragments, one is Augustan.

Rim fr. D. = 18.8 cm.

Gritty dull orange red fabric (2.5YR 5/6–5/8) containing many black grits. Probably Campanian.

## HELLENISTIC AMPHORA 10

*(Carthage Early Amphora I; Cintas Type 315)*

This type of amphora has a very tall cylindrical body (over 1 m high), a total absence of shoulder and a sharply inturned rim. The form, which may have been influenced by Syrian Iron Age forms (K. Kenyon, personal communication), is common in Tunisia in contexts of the fourth and third centuries B.C. (Hayes 1976, 109; for the shape see Cintas 1950, No. 315; Holwerda 1936, No. 1109). The latest date for the type is uncertain, but it was rare in the early first century A.D. levels of the Michigan University excavations at Carthage. It was, however, common in the second century B.C. contexts at Sabratha (K. Kenyon, personal communication). It seems likely that production of this form ceased after the middle of the second century B.C. and that this may be attributed to the sack of Carthage in 146 B.C.

The form was very rare at Berenice, only two rims occurring from the entire excavation. Nevertheless, they provide the earliest evidence of ceramic contact with Tunisia.

## CATALOGUE

(fig. 70)

**D53.** (C569, SK A19.7) Miscellaneous deposit; the fine pottery has not been studied but 70 RBH of associated coarse pottery are all Hellenistic.

Rim fr. Int. D. = 10.1 cm.

Fairly gritty orange fabric (2.5YR 6/8) containing occasional white grits. Compare Hayes 1976, 112, El, for a similar form with a very similar fabric from Carthage.

**D54.** (C2599, SK L17.4) Miscellaneous deposit.

Rim fr. Int. D. = 11 cm.

Fairly clean, grey-brown fabric (2.5YR 5/4). Several examples similar to this were found at Carthage during the recent excavations by the University of Michigan.

## AMPHORAS OF PUNIC TRADITION

The general form of these amphoras (H. Amphoras 11–3) is that of a long, cylindrical, cigar shaped body with widely flaring rim and two body handles. There is strong evidence that the general form was manufactured in Tripolitania, Tunisia and Morocco (see van der Werff (in press) for a detailed study and a typology of this class of amphoras). They are all predominantly second and first century B.C. types but their production (if not necessarily export) probably continued into the early part of the first century A.D. These amphoras do occur at Berenice, although in very small quantities. The important point, however, is that they do occur, demonstrating a certain continuation of ceramic contact with the west in the Hellenistic period. The class was divided into three basic types on the basis of the rim shapes and fabric.

## HELLENISTIC AMPHORA 11

(*Carthage Type IIa*)

This has a relatively thin, everted rim with a ridge on the underside. The top of the rim is flat and the diameter averages about 20 cm at Carthage. The chronology of this rim is unclear but it was rare in the early first century A.D. levels at Carthage, which suggests that by then it was already a survival. Two similar rims from an early second century A.D. context at Ostia (Ostia iii, No. 395) may similarly be survivals. One rim only occurred at Berenice (No. 55) and the type has not been noted elsewhere in Cyrenaica or the eastern Mediterranean.

## CATALOGUE

(fig. 70)

**D55.** (C2769, SK A19.1) Miscellaneous deposit; most of the associated fine ware is Hellenistic but a few sherds are as late as the third century A.D.

Rim fr. D. = c. 25 cm.

Fairly abrasive orange fabric (5YR 5/8–2.5YR 5/8) with occasional grey and white grits. The fabric is very similar to the examples from Carthage.

## HELLENISTIC AMPHORA 12

(*Carthage Type IIb–c; Cintas 312; Beltrán 18/I*)

The rims of this type are widely flaring and fall into two general categories: type 12a, with a widely flaring rim which is thickened on the underside (= Carthage Early Amphora IIc; see Curtis & Culican 1974, fig. 11.23), and 12b, which is similar to 12a but with a pronounced flange on the outer face of the rim (= Carthage IIc). The form was manufactured at Kouass in Morocco (for the kiln see Ponsich 1969, 43, type 4 and fig. 2) but was clearly produced also in the Carthage region. The date ranges from the early second century B.C. to the Augustan period, continuing until the early first century A.D. (for a detailed discussion see van der Werff in press, type 1). The type may have been more widely distributed in the eastern Mediterranean than hitherto suspected. It is well represented at Corinth (R. Jones, unpublished information) and occurs at Bodrum (Alpözen 1975, 22, fig. 8.3).

## CATALOGUE

(figs. 70, 71)

- D56.** (C2653, SK W27.5) Miscellaneous deposit; over 20 fine pottery sherds spread to the second quarter of the third century A.D.  
Rim fr. Type 12a. D. = 27 cm.  
Gritty orange fabric (2.5YR 5/6) containing occasional grey grits. Greenish cream (10YR 7/3) wash, exterior and interior. The fabric is very similar to that of similar examples from Carthage. The form is Carthage IIb.
- D57.** (C2597, SK B23.7) Deposit 33.  
Rim fr. Type 12b. D. = 25 cm.  
Gritty orange fabric (2.5YR 6/6–6/8) containing occasional grey and white grits. Greenish cream (2.5Y 7/2) wash, exterior and over rim. Both fabric and form (= Carthage IIc) are typical of Carthage.
- D58.** (C2596, SK B23.4) Deposit 33.  
Handle fr.  
The fabric is very similar to No. 57 above and it is very probable that both fragments are from the same amphora.

## HELLENISTIC AMPHORA 13

The rim is everted with a more or less vertical outer face (compare Bisi 1971, Tav. 1, Nos. 2 & 4 from Mellita; the latest date of the tombs at Mellita is at least the early to mid second century B.C. according to Bisi 1970). The fabric of the Berenice examples is the typically Tripolitanian gritty fabric (described under ER Amphora 11). This rim form is included in van der Werff's type 3 which ranges in date from the late third century B.C. to about the Augustan period. Van der Werff (in press) argues a Tripolitanian origin for the type on the basis of its frequency in Tripolitania and the wide range of rim variants there. Firm stratigraphical evidence of a B.C. date is lacking from Berenice and for this reason, Nos. **101**, **102**, **191** and **192**, although they probably belong to this type, are presented below in deposit order. There is the possibility that ER Amphora 11b may be a later development of this type (compare the upper part of the outer face in Bisi 1971, Tav. 1, No. 4 with ER Amphora 11b). In general the form is rare at Berenice. One rim similar to No. **101** occurred in the excavations by G. D. B. Jones at Tocra in 1968 (personal communication).

## CATALOGUE

(fig. 71)

- D59.** (C813, SK A34.2) Miscellaneous deposit.  
Rim fr. D. = c. 16 cm.  
Gritty reddish brown fabric (c. 2.5YR 3/6) containing many greenish cream specks (c. 5Y 8/2).



## COARSE POTTERY

---

### MISCELLANEOUS HELLENISTIC AMPHORAS

The miscellaneous Greek amphora stamps have been placed in this category, as they tend to be of Hellenistic date elsewhere. In addition, a selection of the better profiles from stratified Hellenistic contexts is also presented in order to give an idea of the range of non-classified amphoras.

#### CATALOGUE

(figs. 71, 72)

**D60.** (C69, SK A26.4) Deposit 32.

Stamped handle.

Orange buff fabric (5YR 6/6) containing a moderate quantity of grey grits and occasional specks of mica.

Stamp:  $P\Omega$  (pl. XXV).

**D61.** (C86, SK A19.1) See No. 55 for associated finds.

Stamp at base of amphora handle.

Buff fabric (c. 2.5YR 6/6) containing a moderate quantity of small black grits. The fabric is similar to that of H. Amphora 7 and was thin sectioned in order to test this. Petrological analysis revealed moderate lumps of quartz, many limestone fragments, and plagioclase and sanidine feldspar which indicates a volcanic origin for the type. This would not conflict with a possible Sicilian origin for H. Amphora 7.

Stamp:  $\Delta IOKAEOY$  (lunate epsilon) (pl. XXV).

**D62.** (C857, SK Y1.4) Miscellaneous deposit.

Stamp at base of handle.

The fabric is orange brown with occasional bluish grey grits and may be local fabric 2.

Stamp:  $\Theta EYXPH\Sigma$  (pl. XXV).

TOY

This is a locally popular name (J. Reynolds, personal communication).

**D63** (C871, SK Z7.4) Miscellaneous deposit.

Stamp at base of amphora handle.

Gritty orange brown fabric (5YR 5/8) containing many small black glassy grits. The fabric is similar to that of H. Amphora 7.

Stamp:  $NE\Sigma I$  (with lunate epsilon and sigma: reading, J. Reynolds). (pl. XXV).

**D64.** (C276, SK R35.5) Deposit 46.

Raised stamp at base of handle.

Fairly clean orange-red fabric (c. 2.5YR 5/8) with very occasional white grits.

Stamp: palmette. (pl. XXV).

**D65.** (C71, SK +) Surface find.

Stamped handle.

Flakey orange brown fabric (c. 5YR 5/6) containing occasional grey grits. The fabric has a local appearance, but this cannot be certain.

Stamp: monogram. (pl. XXV).

- D66.** (C75, SK B16.3) Miscellaneous deposit.  
 Stamped handle. Int. D. of neck = c. 13 cm.  
 Greyish orange-brown fabric (c. 5YR 5/4) containing a moderate quantity of black and dark grey grits and occasional white grit specks. Grey wash exterior.  
 Stamp: ΔΡΑΚ (pl. XXV).  
 ΩΝ  
 This is a Knidian amphora handle datable in the first quarter of the second century B.C., before 188 B.C. This would pair well with No. 74 (V. Grace, personal communication).
- D67.** (C864, SK Z7.3) Miscellaneous deposit.  
 Stamped handle.  
 Gritty dull buff fabric (5YR 5/4–6/4) containing a moderate quantity of small black grits. The clay is similar to that of H. Amphora 7.  
 Stamp: ΑΣΚΛ [ (pl. XXV). This would be a name related to that of the god Asklepios. Asklapos is a common name in Cyrene (J. Reynolds, personal communication).
- D68.** (C522, SK J6.54) Deposit 168.1.  
 Stamped handle.  
 Smooth buff fabric (5YR 6/6) with very occasional white specks. The fabric is similar to Rhodian although the stamp is narrower than is normal for Rhodian stamps.  
 Stamp: Α ]ΠΙΟ[ΛΛ (pl. XXV).  
 Ω ]ΝΙΑΔ[Α Σ
- D69.** (C436, SK R40.4) Miscellaneous deposit; the fine pottery was not studied but included ARS.  
 Stamped handle. Local fabric 2.  
 Stamp: ΑΓΗ [ (pl. XXV).  
 Probably *Agesias* or a similar name (J. Reynolds, personal communication).
- D70.** (C2835, SK T14.4) Miscellaneous deposit; over 20 associated sherds of fine pottery are all Hellenistic.  
 Stamped handle.  
 Buff fabric (c. 5YR 7/6) containing occasional grey grit specks.  
 Stamp: ]ΠΩΙΟΥ (pl. XXVI).  
 ]ΦΟΥ
- D71.** (C675, SK L31.2) Miscellaneous deposit; contemporary with the mid third century A.D. destruction of House L5.  
 Stamped handle.  
 Dull buff to orange brown fabric (2.5YR 6/6 to 5YR 6/4–6/6) containing a moderate quantity of white grits and some shell.  
 Stamp: ]ΑΡ [ (retrograde) (pl. XXVI).
- D72.** (C525, SK J37.3) Miscellaneous deposit.  
 Stamped handle.  
 Pale buff brown fabric (7.5YR 6/4) with a moderate quantity of small white grits. This may be a jug handle.

## COARSE POTTERY

---

- Stamp: This *may* be Latin L. CEL·CĪ although this is not certain (J. Reynolds, personal communication). (pl. XXVI).
- D73.** (C434, SK J10.3) Miscellaneous deposit; four associated fine ware sherds spread to the late Roman period.  
Stamped handle. Stamp towards the base of the handle.  
Buff fabric (7.5YR 6/4) containing occasional white grit and several small voids. The fabric is similar to that of H. Amphora 6b.  
Stamp: A (pl. XXVI).
- D74.** (C433, SK B6 Ext.W.1) Miscellaneous deposit.  
Stamped handle.  
Dark orange brown fabric (5YR 5/4) containing a moderate quantity of grey grits.  
Stamp: *MHTP*  
*ΟΔΩΡ[Ο](Υ)* (retrograde) (pl. XXVI).  
This is a Knidian amphora handle of the first quarter of the first century B.C., before 188 B.C. and would well pair with No. 66 (V. Grace, personal communication). A similar stamp was noted at Cyrene (J. Reynolds, personal communication).
- D75.** (C83, SK N+) Surface find in Area N.  
Stamped handle. Grey brown (5YR 5/2) to orange (5YR 6/8) gritty fabric with many greyish grits.  
Stamp: [*ICIMΛ ITI*](lunate sigma and cursive mu; J. Reynolds). (pl. XXVI).
- D76.** (C2824, SK H1.29) Miscellaneous deposit; associated fine pottery spreads from the Hellenistic period to the early third century A.D.  
Fairly smooth dark grey fabric (5YR 4/1) fired dull red (2.5YR 5/4). Grey exterior.  
Stamp: [*HĀN*] (pl. XXVI).  
*]ANOY*
- D77.** (C674, SK L25.2) Miscellaneous deposit.  
Stamped handle.  
Orange brown fabric (5YR 6/6) containing a moderate quantity of grey grits. This fabric may be local.  
Stamp: *HMH* (monogram) *HMH TPIOY* (pl. XXVI).  
The first letter is a monogram, the meaning of which is not clear, but the main feature must be the genitive case of Demetrios (J. Reynolds).
- D78.** (C677, SK L36.1) Deposit 77.  
Stamped handle.  
Local fabric 2  
Stamp: *KTHΣΩ ΝΟΣ[* (pl. XXVI).
- D79.** (C870, SK Z7.4) Miscellaneous deposit.  
Stamped handle.  
Pale orange brown fabric (2.5YR 6/8) containing a moderate proportion of grey and white grits. The fabric may be local.

Stamp: ?ME]XIPΣ (retrograde) (pl. XXVI). Mexir is an Egyptian month name used in Cyrenaica (J. Reynolds, personal communication).

- D80.** (C2767, SK W73.4) Miscellaneous deposit.  
Rim and two handles. D. = 14.7 cm.  
Orange brown fabric (2.5YR 6/8), fairly smooth break, contains occasional lumps of quartz like grit. Compare No. **81**.
- D81.** (C141, SK J56.3) See No. **14** for associated finds.  
Rim fr. D. = 13.7 cm  
Orange brown fabric (c. 2.5YR 6/8) containing occasional shelly grit. This could be local. Possibly related to No. **80**.
- D82.** (C2632, SK CC3.9) Deposit 23.  
Rim fr. D. = 18.5 cm.  
Greyish cream fabric (10YR 6/3–6/4) containing occasional white specks.
- D83.** (C1271, SK J56.4) Deposit 25.  
Rim fr. D. = 12.2 cm. Fairly smooth buff fabric (7.5YR 6/6) containing occasional grey grits. The rim is reminiscent of that of horn handled amphoras (compare No. **108**).
- D84.** (C1013, SK J56.3) See No. **14** for associated finds.  
Rim fr. D. = uncertain.  
Grey fabric (5YR 4/1) fired grey/brown (5YR 4/3) at the edges. Contains occasional white grits.
- D85.** (C277, SK B20.6) Deposit 15.  
Complete amphora (except for chipped rim). (pl. XXXIII).  
D. = 11.8 cm; Ht. = 57 cm.  
Bag shaped amphora with thin walls. The surface is pimply and rough and there is a circular hole near the base which has been plugged with a lead bung. Lead plugs have been noted on other amphoras in the Hellenistic and Roman period. One on the shoulder of a Corinthian 'A' amphora has been interpreted as a repair (Robinson 1969, 9–10, pl. 2, No. 2) and a lead bung on a Dressel 20 amphora from Silchester in England is in the side (Callender 1965, 43). A group of 13 coins dated 221–c. 140 B.C. was found inside this amphora.  
The fabric is a granular red containing occasional white grits. The fabric may be local but this is not certain.  
Stamp: IΦI (pl. XXVII)  
No other complete example of this amphora exists, but there is a similar stamped rim and handle in the Benachi collection at Alexandria (MABC 593—unpublished; V. Grace, personal communication).
- D86.** (SM 73, C5.9) Selmani tombs.  
Complete amphora. D. = 11.0 cm; Ht. = 74.5 cm.  
Fairly hard, well levigated orange fabric (2.5YR 5/6) with occasional smudges of darker red inclusions. No firm parallels have been noted.

## COARSE POTTERY

---

- D87.** (C2575, SK CC3.10) Deposit 23.  
Base.  
Fairly clean orange fabric (5YR 5/8) containing some mica and occasional red smudges.
- D88.** (C2577, SK CC3.10) Deposit 23.  
Base. Micaceous buff fabric (5YR 6/6) containing occasional white grits. Such bases, hollowed on the underside, are generally found in contexts of Hellenistic date and are generally earlier than the second century B.C. (see for example Zeest 1960, early types).
- D89.** (C2574, SK CC3.10) Deposit 23.  
Base. Well levigated cream fabric (10R 7/4) containing several voids and a little mica.
- D90.** (C2576, SK CC3.10) Deposit 23.  
Base. Very micaceous brown fabric (5YR 5/6) containing occasional quartz-like lumps.
- D91.** (C2686, SK R14.11) Miscellaneous deposit; over 20 fine ware sherds suggest that the deposit as a whole is of the second quarter of the first century A.D.  
Rim fr. D. = 13 cm.  
Cream fabric (2.5Y 7/4) fired buff (7.5YR 7/4) at edges.  
This rim is very probably from the western Mediterranean. Compare Cintas, 1950, No. 314; Almagro 1953, 398-9 (late fifth to third centuries B.C.); for similar rims from an early first century A.D. context at Carthage see Hayes 1976, 60, Deposit IX, Nos. 24 and 25 (although these are of a different fabric); see also Frost 1969, Figure 8, No. 9 for an example from the vicinity of an early third century A.D. wreck (although it is not necessarily connected with the wreck—p. 22). A Hellenistic or Early Roman date seems likely.
- D92.** (C1223, SK K1.15) Deposit 34.  
Rim fr. D. = c. 12.6 cm.  
Pale brown fabric (5YR 5/6) with grey grits. This amphora could be local.
- D93.** (C2033, SK J56.4) Deposit 25.  
Rim and handle fr. D. = c. 16 cm.  
Orange brown fabric (5YR 6/6-5/6) containing occasional white and grey grits. This may belong to H. Amphora 9a but this is not certain.
- D94.** (C161, SK J56.2) Miscellaneous deposit; the associated fine pottery ranges from Hellenistic to Augustan.  
Rim fr. D. = 16.2 cm.  
Dirty cream fabric (10YR 7/4) containing a little mica and occasional red grits.  
There is a groove on the outer face of the rim. This may or may not be a Dressel 1b amphora. Compare the rim with Carrazé 1975.
- D95.** (C832, SK B5.29) Deposit 33.  
Rim fr. D. = 14.7 cm.  
Creamish buff fabric (10YR 7/3-7/4) with occasional white grits. This may be a late variety (late third century B.C.) of Corinthian 'A' (= H. Amphora 6a; see above).

- D96.** (C1098, SK B12.5) Deposit 32.  
Rim fr. D. = 14.1 cm.  
Greenish cream fabric (5Y 6/3) containing occasional white grits. There is a ledge on the outer face of the rim.
- D97.** (C2763, SK A26.12) Deposit 17.  
Rim fr. D. = 13 cm.  
Fairly gritty greyish brown fabric (5YR 4/3) fired red to orange (2.5YR 5/8) at the edges. There are occasional cream grits and mica specks and a thin creamish wash exterior. For a similar example in a similar fabric see Hayes 1976, 52, Deposit III, No. 15, from Carthage. Probably a western origin.
- D98.** (C1154, SK B7.2) Deposit 39.  
Rim fr. D. = 18 cm.  
Hard gritty rust fabric (2.5YR 4/6) with many small cream grits. Fired dull grey at the edges. Compare Callu *et al.* 1965, pl. XLIX, D3 for examples from Thamusida; a complete amphora with a similar rim occurred at Mellita in Tripolitania (unpublished; J. van der Werff, personal communication). This is a late Hellenistic type probably from Tripolitania.
- D99.** (C2056, SK L32.2) Deposit 73.  
Rim fr. D. = 15.8 cm.  
Hard, brownish grey fabric (2.5YR 4/4) fired grey (2.5YR 4/2) at the edges. Contains many cream grits. Compare No. 98; probably of a Tripolitanian origin.
- D100.** (C2030, SK A19.13) Deposit 19.  
Rim fr. D. = 17 cm.  
Fairly smooth buff fabric (c. 7.5 YR 6/4) containing occasional specks of mica and reddish grit. Greenish cream wash exterior. This may have a western Mediterranean origin.
- D101.** (C1127, SK A23.4/7) Miscellaneous deposit; much of the associated fine pottery is Hellenistic but it spreads to the third century A.D.  
Rim fr. D. = 15.9 cm.  
Firm, brownish buff fabric (5YR 6/6) containing occasional grey grits. Compare with H. Amphora 13 although the fabric is not normal Tripolitanian.
- D102.** (C1152, SK W72.7/8) Miscellaneous deposit; seven associated fine ware sherds spread from Hellenistic to Late Roman.  
Rim fr. D. = 16 cm.  
Gritty orange fabric (2.5YR 5/6–5/8) containing a moderate quantity of small pale grey grits. Cream wash exterior and over rim. There is a complete example with this rim in the Tripoli museum (Inv. 63/4481; J. van der Werff, personal communication); the fabric is similar to that of Carthage. A western origin seems assured.
- D103.** (C957, SK F29.11) Miscellaneous deposit; 12 associated fine ware sherds are all Hellenistic.  
Rim fr. D. = 13 cm.

## COARSE POTTERY

Hard, gritty red-brown fabric (2.5YR 4/6) fired grey at the edges with many small creamish grits. The fabric is similar to that of Tripolitanian amphoras (see below under ER Amphora 11).

### EARLY ROMAN AMPHORA 1

This distinctive ovoid amphora has a bulging neck, thickened rim often bevelled on the inner edge and two distinctive arched double handles which have a flattened appearance in section. The base is a simple button.

The clay is a smoothish buff (c. 7.5YR 6/4) with occasional white grits. The similarity of the handle treatment, clay and general appearance to MR Amphora 2 is marked and thin sections were taken of an example of each (Nos. **105** and **224**) in order to compare the clays petrologically. No. **105** contained a large amount of limestone, together with foraminifera and epidote. No. **224** was a different, containing limestone and foraminifera but also a high proportion of mica.

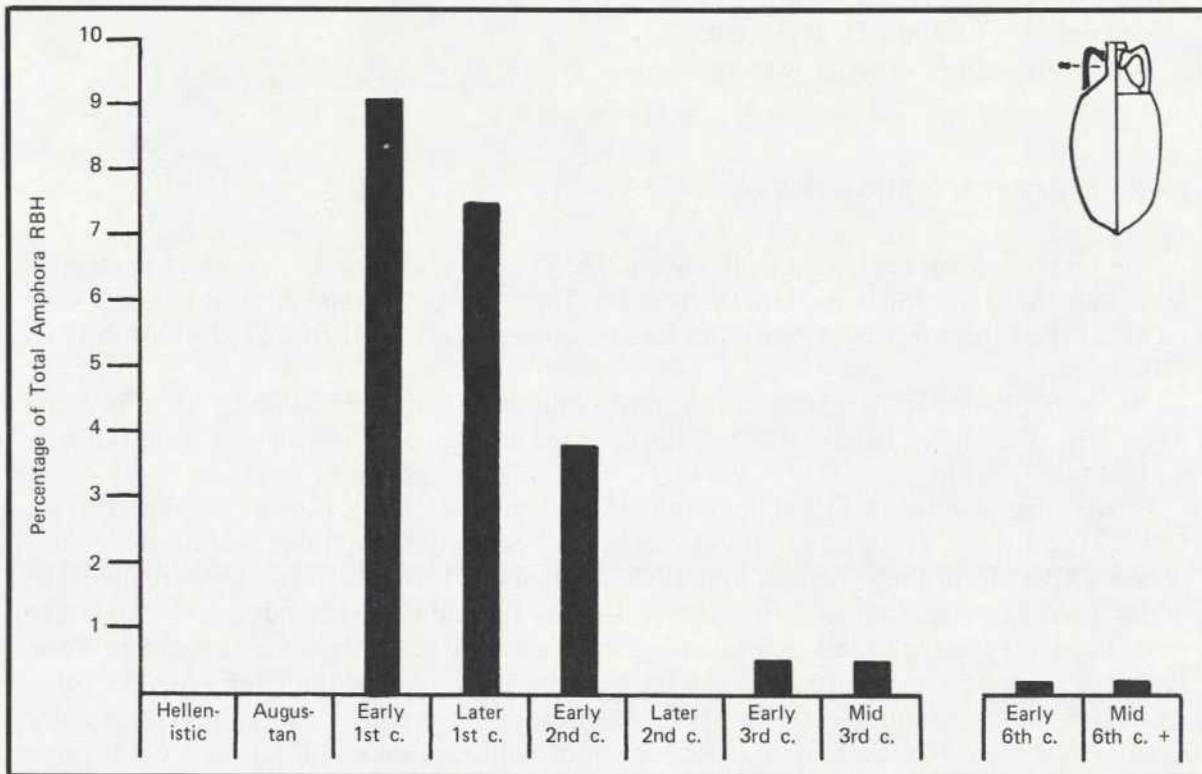


Fig. 14. Histogram to Show Relative Proportions of Early Roman Amphora 1 at Berenice.

The date range for the type at Berenice is mainly early first to mid second century A.D., with a peak of 9 per cent of the total amphoras in the early first century A.D. It is the commonest early Roman amphora at Berenice but seems to decline after the first century A.D. fairly rapidly (fig. 14). The origin of this amphora is not known but seems likely to have been the

Aegean. More than one fabric may be represented for this type elsewhere in the Mediterranean, as the type at Pompeii has a dark brown to grey fabric with white grits (Panella 1976, 160, Tav. XLIII, 5). Di Vita (1968, 58–64, 72, fig. 19) has published two complete examples from a tomb at Leptis Magna which included fine ware of Augustan to Tiberian date. Both have painted Punic decoration. It is not necessarily correct (*ibid.* p. 58–9) to claim that they are local to the area for this reason. On grounds of the frequency at Berenice and the general appearance of the fabric (which is very unlike that of Tripolitanian amphoras), an Aegean origin is preferred by the writer.

## CATALOGUE

(fig. 73)

**D104.** (SK X56/X48.2) Deposit 58/59.

Complete amphora profile (restored). D. = 6.9 cm; Ht. = 62.8 cm.

Firm, pale buff fabric containing occasional white grits.

**D105.** (C381, SK X48.2) Deposit 58

Rim and two handles. D. = 7.8 cm.

Buff fabric with occasional white grits.

## EARLY ROMAN AMPHORA 2

The body is elongated with a plain button toe. The neck is high with a distinctive stepped neck and the rim is thickened and knob like. There are two steeply arched heavy double handles. (For the form at Athens and discussion see Grace 1961, fig. 57; Robinson 1959, G198).

The examples from Berenice have a hard sandy buff fabric containing a little lime and white grits. Petrological analysis of No. 106 revealed limestone, quartz and pyroxene (information, D. Peacock).

This is a first century A.D. version of the 'Koan' amphora series (for the development see Grace 1961, fig. 56). The type seems to have been widespread throughout the eastern Mediterranean. Apart from the examples noted from Athens, at least two examples were observed in the amphora store rooms of the Graeco-Roman museum at Alexandria (see also Grace 1941, fig. 1 for the type used as an ossuary from a burial near Alexandria; compare Zeest 1960, type 52). This type also occurred in the excavations of the Villa Dionysos at Knossos (Hayes, personal communication). There are variants of a darker fabric but with similar handles at Athens (Grace 1961, fig. 60; for another illustration and discussion of the same type see Robinson 1959, M54) this variant has not been noted in Cyrenaica.

The Athenian Agora contexts for both varieties are dated to the late first to early second centuries A.D. by Robinson (1959). Their total absence in the first century A.D. levels at Berenice was therefore surprising, although they did occur in second century A.D. deposits. This absence may in part be connected with a possible local copy of the type, which was present in the late first century A.D. deposits at Berenice (ER Amphora 12). It should in addition be noted that the Athenian Agora evidence does not necessarily conflict with that from Berenice, as the dates for Deposits G and M2 in the Agora are by no means firm (see



## COARSE POTTERY

Lapp 1961, 80–6, for a criticism of the dates proposed for both deposits). The type was never very frequent at Berenice.

### CATALOGUE

(fig.73)

**D106.** (C133, SK J8S.1) Miscellaneous deposit; four associated fine pottery sherds range to the sixth century A.D.

Rim and handle fr. D. = 13.9 cm.

Fairly hard sandy buff fabric (5YR 6/6).

### EARLY ROMAN AMPHORA 3

*(Miscellaneous Amphoras with Horned Handles)*

A distinctive feature of a number of mainly first century B.C. to A.D. amphoras is a horn handle. There is a wide variety of forms of which several are depicted in the catalogue. Petrological examination of horn handled amphoras by Peacock has isolated at least six different fabrics (Peacock 1971, 167 ff.; Peacock 1977d). In the present confusion regarding the precise origin of many of these handles it was felt unwise to attempt a classification on the basis of a limited number of examples from Cyrenaica. One or two points do emerge, however, from a study of these.

The only stamped examples seem to be Rhodian, from the early first B.C. (Nos. 110–2). No. 107 is a good example of a later first century B.C. Rhodian amphora (unstamped). Those of a later date seem to have been more slender, compact and smaller (for example, Grace 1961, fig. 62 right; McFadden 1946, Nos. 56–63, for several examples from Kourion with capacities of 21–22 litres of barley). Horn handled amphoras occur regularly in the western Mediterranean, northern Europe and Black Sea regions from the later first century B.C. (for the western examples see Peacock 1971; Panella 1973, 555–9; for the range in the Black Sea see Zeest 1960, type 67).

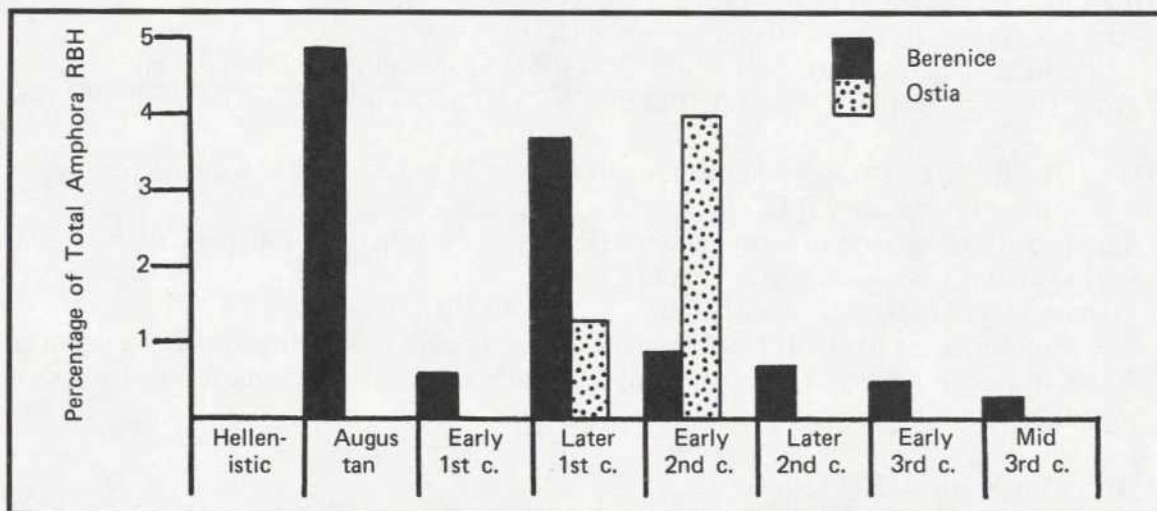


Fig. 15. Histogram to Show Relative Proportions of 'Horn' Handled Amphoras at Berenice and Ostia.

In the stratified deposits at Berenice horned handles occur from the Augustan period and are common until the second half of the first century A.D. Their proportion during the second century A.D. drops sharply. This contrasts with the evidence from Ostia (Form LXV) where they are commonest in the early second century A.D. The handle lingers as a survival to the mid third century A.D. (see fig. 15).

Although comments on horn handled amphoras can only be of a limited nature, the observation by Hawkes & Hull (1947, 184) that handles with peaks higher than the rim tend to be later seems to be borne out in the eastern Mediterranean. In addition, such amphoras invariably have bag shaped bodies (as No. 84) as opposed to oval ones.

## CATALOGUE

(figs. 73, 74)

**D107.** (SM 73+) Selmani tombs.

Complete horn-handled Rhodian amphora. Broken, restored. D. = 8.3 cm; Ht. = 83.6 cm (pl. XXXIII).

Buff fabric (7.5YR 6/4) containing minute white specks. This is the late first century B.C. variety (compare Robinson 1959, F94).

**D108.** (SM+) Selmani tombs.

Complete horn-handled amphora. D. = 7.3 cm; Ht. = 62.3 cm (pl. XXXIII).

Orange buff fabric containing a little lime. The surface is painted white all over and there are horizontal bands in red dipinti (c. 1.5 cm thick) on the neck. There is red painted decoration on the body to represent ribbons trailing down the body from the bases of the two handles to which they are connected by a simple bow knot.

The earliest context for this bag-shaped form seems to be of the mid first century A.D. (from Vindonissa: see Ettlinger & Simonett 1952, No. 591). It occurs at Pompeii (Maiuri 1951, fig. 94) and Herculaneum (Maiuri 1970, 111, fig. 555). It continues into the early second century A.D. at Paphos in Cyprus (J. Hayes, personal communication).

**D109.** (C491, SK H6.9) Deposit 62.

Rim and handle fr. D. = 7.9 cm.

Fairly firm, pale brown to buff fabric (2.5YR 6/6) containing occasional white and grey grits. The body shape is uncertain but may be oval as the handles are level with the rim.

**D110.** (C77, SK B20.4) Miscellaneous deposit; over 20 associated fine ware sherds suggest a second or first century B.C. date.

Stamped Rhodian handle. Firm, pale red fabric (2.5YR 6/6) fired buff at the edges (7.5YR 6/4) containing occasional grey specks.

Stamp: ΑΓΑΘΩΝΟΣ [Σ (retrograde) (pl. XXVII).

The stamp is more likely to read *Agathonos* than *Agathinos* since the former is known on Rhodian stamps whereas the latter is not (V. Grace, personal communication). The date is probably early first century B.C.

**D111.** (C679, SK B13.2) Deposit 32.

Stamped Rhodian handle. Fairly hard orange-brown fabric (5YR 5/6) containing occasional white grits.

## COARSE POTTERY

---

Stamp:  $KA\Sigma[T\Omega P]$  (lunate sigma) retrograd. (pl. XXVII).

For this fabricant see Grace 1956, 144, pl. 64, No. 112; this stamp is of early first century B.C. date and has been recorded at Athens and at Alexandria (reading, V. Grace).

- D112.** (C673, SK B22.1) Miscellaneous deposit; upper levels of Deposit 7.  
Stamped Rhodian handle. Similar stamp and fabric to No. **111** above. (pl. XXVII).
- D113.** (C18, SK+) Surface find.  
Rim and two handles fr. D. = 11.6 cm.  
Hard, firm, pale orange fabric (5YR 7/6–6/6). Clean break, and well levigated fabric.  
Probably Rhodian.
- D114.** (C383, SK X48.2) Deposit 58.  
Rim and handle fr. D. = 9.1 cm.  
Softish orange fabric (5YR 7/8–6/8) containing occasional white grits and mica specks.
- D115.** (C2570, SK V5.5) Deposit 119.  
Handle fr. of miniature Rhodian amphora.  
Smooth cream fabric. There is a complete example of similar size in the glass showcase in the Atrium of the Casa dei Cervi at Herculaneum (unpublished).
- D116.** (C2515, SK H22.3) Deposit 82.  
Rim and handle fr. D. = c. 8 cm.  
Buff fabric (c. 5YR 6/6), containing occasional white specks and a little mica. Fairly smooth break.
- D117.** (C381a, SK H8.2) Deposit 84.  
Rim and handle fr. D. = 7.9 cm.  
Buff fabric (5YR 7/6) containing a little mica and occasional white and red grits. Fairly smooth break.

### EARLY ROMAN AMPHORA 4

(*Dressel 2–4—Campanian; Carthage Early Amphora V; Ostia Form LI*)

The form of the amphora is of a fairly long (c. 1 m) narrow body with a carinated shoulder, cylindrical neck and thickened, knob like rim. The base is a solid spike and the outstanding characteristic is the double-barrelled handle. The type is occasionally stamped on the handle or on the base. This seems to be rare, however, as only one stamped handle occurred from the Berenice excavations (No. **122**) and stamped bases were absent. For the profile see No. **118** and for further discussion of the type see Panella 1973, 497–500; Zevi & Tchernia 1972.

The clay is a very distinctive gritty mauvish red (c. 10R 5/6–6/8) containing a large proportion of black grits. There is often a thin white wash on the exterior. The distinction between this fabric and that of the typologically similar Tarraconensian amphora (for which see Zevi & Tchernia 1972) is very marked. The latter is brown with large quartz like grits; none were noted at Berenice although the writer is familiar with the type.

It now seems clear that this form was manufactured on the same sites which had produced the Dressel 1 amphora (see above pp. 134–5), and is its direct ‘descendant’. The shape was probably influenced by the Koan amphoras from the eastern Mediterranean (see below for double barrelled handles in general).

Inscriptions suggest that the content may have been Campanian wine (Zevi 1966, 214–6; although Zevi makes no distinction on the basis of fabric). Oil is also a possible content as it is known to have been exported from Campania (Pliny, *NH*, 15, 8; Varro, *de Re Rustica*, 1, 2, 6).

The earliest examples are of the last quarter of the first century B.C. (Zevi 1966, 214–6; Peacock 1971, 166–7) and the latest known date is A.D. 146 from a painted inscription. The majority of Zevi’s published *dipinti* (1966) are of the early first century A.D. Quantitative evidence of the type in Berenice suggests that by the middle of the first century A.D. its import was in decline (fig. 16). As the fabric is very distinctive and body sherds can be readily recognised by their fabric (although it is possible that some body sherds could also belong to H. Amphora 9 which is of the same fabric) figures for both RBH and RBHS could be presented (for the RBHS figures see Riley 1978). Figures from Carthage and Ostia also suggest a decline in the latter part of the first century A.D.

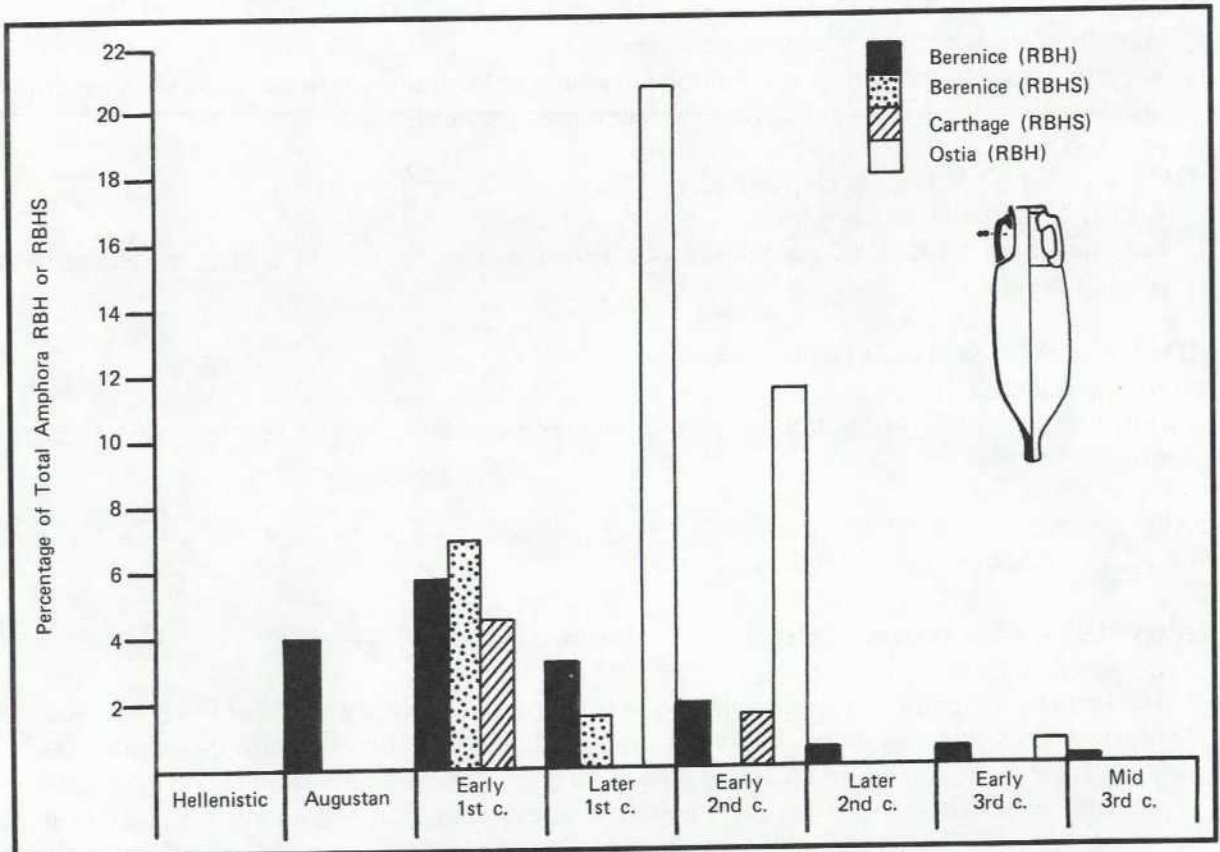


Fig. 16. Histogram to Show Relative Proportions of Early Roman Amphora 4 at Berenice, Ostia & Carthage.

The type was introduced in the Augustan period, comprises up to four to six per cent of the total amphora RBH at Berenice and about four per cent of the total amphora RBHS at Carthage, and drops thereafter over the later first and early second centuries A.D. The proportion at Ostia falls steeply from the late first to the mid second century A.D.

## COARSE POTTERY

It is not feasible to construct a distribution map for the type at this stage without re-examining published examples, as there is the danger of confusion with other varieties of Dressel 2-4. It is uncertain whether the large quantity at Berenice in the first century A.D. is typical of the general trend in the eastern Mediterranean or whether it is a special case owing to the large number of Campanian immigrants in Cyrenaica. The type does seem to be regular throughout the eastern Mediterranean however; two complete examples are present in the Graeco-Roman museum at Alexandria (Inv. 7580 and 7963) and there is a possible Campanian version from Alexandria with a stamped base (Habachi 1937, 279, fig. 7—'red pottery'). One complete example was found at Paphos in Cyprus (Hayes, personal communication). The amphora of this form from Arikamedu in eastern India had a 'pink' fabric and 'yellow slip' (Wheeler & Ghosh 1946); it may also be Campanian, as may the example from Athens (Grace 1961, fig. 60, far right). Two complete examples in Campanian fabric were noted by the writer in the Tripoli museum store: these may have been the ones published by Aurigemma 1954, 56, Figure 14 and 55, Figure 13, although the fabrics of the latter were not described. The type also occurs in the first century A.D. at Leptis Magna and at Sabratha (Panella 1974, 673).

### CATALOGUE

(fig. 74)

**D118.** (Sidi Hussein, Tomb +)

Complete amphora. D. = 12 cm; Ht. = 83 cm (pl. XXXIV).

Rough, pinkish red-brown fabric containing many black, glassy grits.

**D119.** (C1099, SK J45.9) Deposit 51.

Rim fr. D. = 16 cm.

**D120.** (C2042, SK L24.5) Deposit 72.

Rim fr. D. = 9.6 cm.

Cream wash exterior.

**D121.** (C2077, SK X48.2) Deposit 58.

Base fr.

**D122.** (C80, SK L24.2) Deposit 73

Handle fr. with stamp. Normal fabric.

Stamp: CEL (Latin) (pl. XXVII).

No parallels for this stamp were noted but the name could be *Celeris*, or *Celsi* or possibly *Celadi* (compare Callender 1965, Nos. 192, 183).

### EARLY ROMAN AMPHORA 5

(Dressel 6)

In general appearance, the shape and the fabric are similar to those of the second to mid first century B.C. Lamboglia II amphora (Lamboglia 1955, 262 ff.; Beltrán 1970, 349-57; Panella 1970, 117), and a clear distinction must first be made between them.

The Lamboglia II amphora has a heavy, fairly thick walled, bag shaped body with a pointed base, a fairly pronounced carination on the shoulder and a moderately high cylindrical neck. The rim is thickened (but not as thick as the Dressel 6), and triangular to squarish in profile, always with an overhang, while the handles are always oval in section and never round (Panella, personal communication). The type is generally considered to have an Apulian origin, and to have been used primarily for transporting oil (Panella 1970, 117; Buchi 1971, 545–7; Tchernia 1969, 488 ff.), and has a wide distribution throughout the western Mediterranean in second to mid first century B.C. contexts (Beltrán 1970, 349–57, for the Spanish examples; Tchernia 1969, 488–9, for those of the western Mediterranean; Zeest 1960, Type 63a, 63b for probable examples from the Black Sea region; Cintas 1950, Type 321 for a possible example from Carthage; Grace 1965, fig. 4, 11 and 1961, fig. 36 far right, for examples from the Aegean). No clear examples were noted in stratified levels at Berenice or elsewhere in Cyrenaica, although they may be among those amphoras entered in the figures as 'Miscellaneous Western Amphoras' or 'Miscellaneous Amphoras'.

On the whole, the fabrics of the Western examples have been inadequately described, generally noted as 'light' or 'buff', although Beltrán refers to the clay as dark with a chestnut coloured wash (1970, 349); that of the possible variant from the early first century B.C. Antikythera shipwreck (attributed to the form by Tchernia 1969, 488–9) is a pinkish buff, micaceous on the surface, with red and dark inclusions (Grace 1965, 11) which also seems to be similar to the clay of those found in the Adriatic regions (Baldacci 1969, 12). The problem of the clay is complicated as the Italian excavations at Carthage in 1977 discovered a Lamboglia II amphora in a Dressel 6 fabric (I am grateful to C. Panella for showing me this). The Lamboglia II amphora seems to have ceased production at some time, possibly sooner rather than later, during the second half of the first century B.C. (see Panella 1970, 117 on this point).

The importance of the above description of the Lamboglia II amphoras is that the hypothesis has been advanced by Zevi that Apulian oil production gave way to that of Istria towards the end of the first century B.C. (reported in Tchernia 1971, 489). This suggestion is partly based on the decline of the Lamboglia II and the Brindisi (= H. Amphora 8) amphoras and the introduction of Dressel 6 amphoras in the late first century B.C. However, before pursuing this hypothesis, a description of the Dressel 6 amphora, as applied to such amphoras from Cyrenaica (as Nos. 123–31) is necessary.

The form of Early Roman Amphora 5 (= Dressel 6) is again that of a thick walled, bag amphora. The walls are, however, much thicker than those of the Lamboglia II amphora (Panella, personal communication). The shoulder is often not as sharply carinated as that of Lamboglia II, although this seems not necessarily always to have been the case. Other differences are that the handles and neck are longer and more slender in relation to the body, the thick handles, which often bow outwards slightly at the top, are round in section, and the rim, which is thick, is often long with no overhang. (See Baldacci 1969 and Buchi 1971 for a range of illustrations of the type). The clay of the examples illustrated and quantified under this classification from Berenice is uniform and similar to that of the Lamboglia II amphora from Antikythera described above.

The clay is a creamy buff, often with a pale orange or rose core (ranging from 10YR 8/3–7/3, through 7.5YR 6/4 to 5YR 7/4–6/4), and contains a moderate quantity of mica, scattered dull red, and occasional white grits. The red grits are normally taken as belonging to this type rather than Lamboglia II (Panella, personal communication). The break is generally clean and the exterior surface is smooth to the touch. The clay seems to accord with that of the

## COARSE POTTERY

Dressel 6 amphoras described by Baldacci (1969, 9) and Buchi (1971, 547). Moreover, the similarity of this clay with that of the Lamboglia II amphora from Antikythera, together with the Lamboglia II amphora rim in the Dressel 6 fabric discovered at Carthage by the Italian team, presents the likelihood of a more complicated relationship between the two types, especially concerning their origin. The present writer has not had the opportunity to examine a range of Lamboglia II amphora fabrics, but it may be possible that although Lamboglia II amphoras were doubtless made in Apulia, this does not necessarily preclude the manufacture of the shape elsewhere (as with the horn handled and ER Amphora 4 amphoras).

The primary contents of the Dressel 6 amphora are still the subject of debate. From inscriptions it is clear that the amphora contained wine, oil, *garum*, and *mulsum* (Zevi 1966, 217-9; Baldacci 1969, 10-1). The literary sources give prominence to the production of oil in Istria and pay little attention to that of wine or *garum*; these were used by Degraffi (1962) to support his hypothesis that oil was the major content.

Zevi (1966, 219) noted three types of Dressel 6 amphora in the Aquileia museum and an Istrian origin is generally agreed. Baldacci (1969) presents three varieties in his illustrations (Type IIa, IIb, IIIa; for a criticism, on the grounds that Baldacci is vague in defining his types, see van der Werff 1974, 296; the present writer inclines to van der Werff's view). A simpler and probably safer distinction is proposed by Buchi (1971, 547-53) for examples from Verona. His Dressel 6a is that described above, while his Dressel 6b, which has a short stub base, curved rim and predominantly red fabric, does not seem to occur in the eastern Mediterranean.

At Berenice, the distinction between the Dressel 6 and the Lamboglia II amphoras is complicated by the fragmentary condition of the sherds. Rims, bases and handles only of Dressel 6 have occurred at Berenice; and none of Lamboglia II. As noted above, it is possible that some Lamboglia II body sherds may have been included in the Miscellaneous Western Amphoras or in the Miscellaneous Amphoras category.

A quantitative examination of these amphoras from dated deposits at Berenice (fig. 17) indicates that ER Amphora 5 was introduced only in the early first century A.D. (it comprises about five per cent of the total amphoras in the early to mid first century A.D. deposits). An

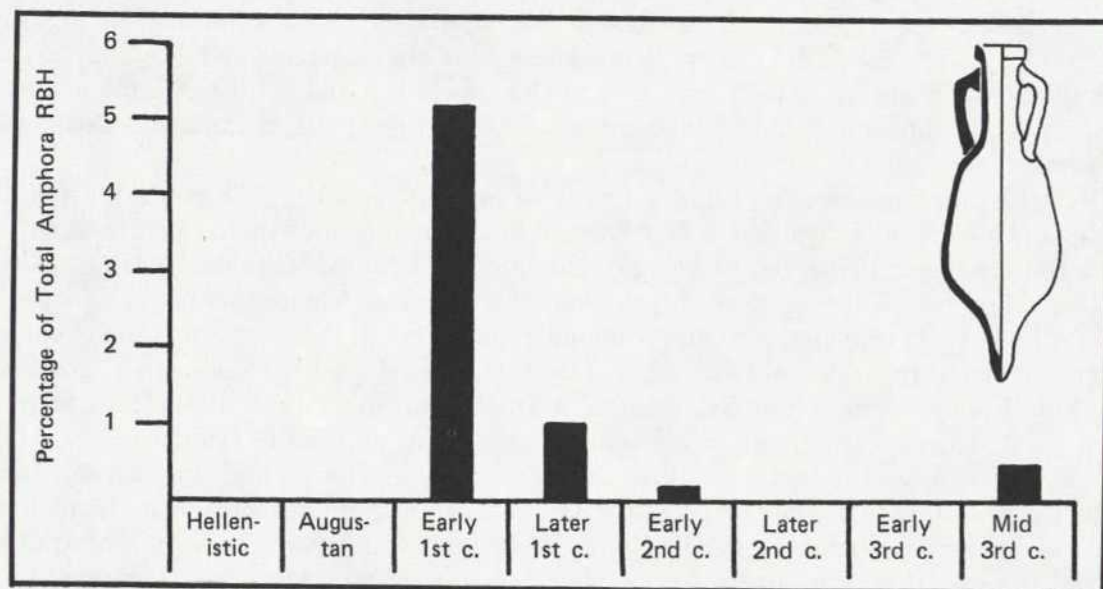


Fig. 17. Histogram to Show Relative Proportions of Early Roman Amphora 5 at Berenice.

introduction a little later rather than earlier in the early first century A.D. is suggested by the absence of the type in Augustan contexts at Berenice, in contrast with the Campanian ER Amphora 4. This suggests in turn that Campanian trade with Berenice (and possibly the eastern Mediterranean) was established before that with Istria.

This evidence from Berenice, distant though it is from the centres of production, combined with other evidence from archaeological contexts permits a re-examination of the relationship between the two types (both probably primarily containing oil) during the second half of the first century B.C. Such a process cannot necessarily be regarded as a smooth transition from Apulia to Istria. The available evidence points to a possible gap between the decline of the Lamboglia II and the export of Dressel 6 amphoras.

Two facts are not in question: that Lamboglia II amphoras were common until the mid first century B.C. and that the period of greatest diffusion of Dressel 6 amphoras was the second quarter of the first century A.D. (Zevi 1966, 217–9). It is to the paucity of firm evidence for either type between these two dates that attention is here drawn. The amphoras from Ostia, from a not firmly dated context in the later first century B.C. (Zevi 1967), now seem to belong to the Lamboglia II series, not Dressel 6 (Panella, personal communication). The rim form of the example from Magdalensberg (Scheffenegger & Schindler-Kaudelka 1977, No. 31) from a late Republican to *c.* 30 B.C. context *could* be Lamboglia II.

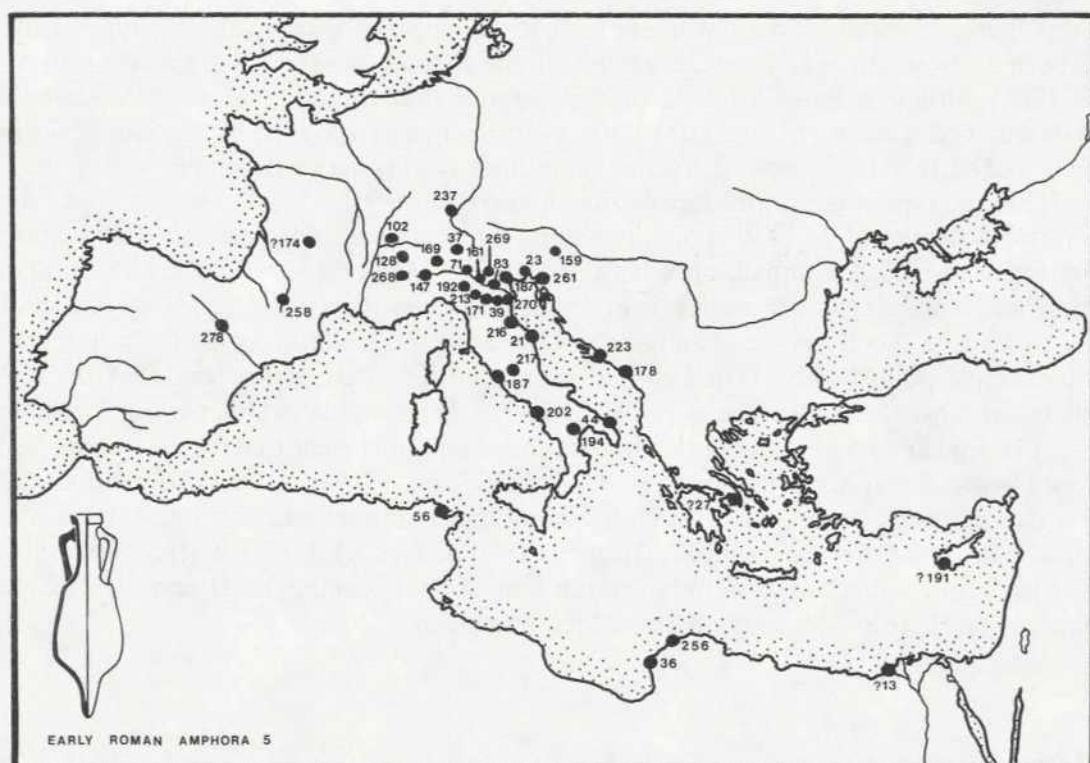
The earliest evidence of Dressel 6 amphoras in Italy is furnished by stamps and not by stratigraphy. Although a large number of Dressel 6 amphoras have come from Istria, none can be reliably dated from their archaeological context (Panella, personal communication). The earliest occurrence in Italy may have been in the Augustan period on the basis of stamps (L.T. RVFVS, who was consul in 16 B.C.; see Baldacci 1969, 27, No. 35; In addition, Panella (personal communication) has brought to my attention an unpublished stamp T.H.P. which may belong to a consul of 2 B.C.). These dates do not necessarily mean that their *figlinae* were established then. It could well be considerably later (this impression is shared by C. Panella, personal communication).

The only evidence that the type was exported before the end of the Augustan period is its occurrence in a wall of amphoras at Carthage. This deposit is generally dated to the late first century B.C. as associated amphoras (not Dressel 6) had painted inscriptions ranging from 43–15 B.C. (mainly 30–15 B.C.; Zevi 1966). These were not illustrated and the writer has not seen the actual examples. This occurrence of the type is isolated chronologically and confirmation of its appearance in later first century B.C. stratified levels elsewhere in Carthage is required.

Dressel 6 amphoras occurred in good early to mid first century A.D. contexts from the Michigan University excavations at Carthage, although mainly body sherds were represented (for a rim see Hayes 1976a, fig. 19, No. 20). This does not establish when the type first entered Carthage, however. There are probably no examples of Dressel 6 amphoras in a deposit of *c.* 0 B.C./A.D. at Ostia (Panella, personal communication) and no Dressel 6 amphoras occurred in deposits dated from the mid second century B.C. to *c.* A.D. 10 at Salona in Yugoslavia; they only became common at Salona after A.D. 10 (Clairmont 1975, 193). These factors, when combined with the Berenice evidence, suggest that, until more evidence is available from stratified Augustan levels on other sites, especially in Tunisia and Italy, an early first century A.D. rather than a late first century B.C. date for their initial export seems better to fit the available archaeological evidence. If there were some gap between the export of Apulian oil and the export of Istrian oil it is possible that the eastern Mediterranean or at least Cyrenaica may have received Tripolitanian oil. (See H. Amphora 10–12; ER Amphora 11–



## COARSE POTTERY



*Fig. 18. Distribution Map of ER Amphora 5.*

12). Such an interpretation is possible if current opinion, which favours oil rather than wine as the main content of the amphora, is correct (oil is favoured by Zevi 1966, 217–9 while Baldacci 1969, 10–11 places more emphasis on wine, while agreeing that literary evidence seems to favour oil).

During the first third of the first century A.D. and especially in the second quarter, there seems to have been a rapid expansion of the type (for Italy the dating is largely on the basis of identified names from the stamps). In the second quarter of the first century A.D. the amphora was common throughout the north east of Italy (Baldacci 1969; Buchi 1971) and at Castro Pretorio (Zevi 1966, 217–9). The type never seems to have been frequent in the western Mediterranean and has not been noted from the numerous wrecks on the French and Italian rivieras. Possible examples from Spain are cited by Beltrán (1970, 381–7) but, with the exception of one possible example from Zaragoza, these bear little resemblance on the basis of form to those illustrated by Buchi and Baldacci.

The distribution of Dressel 6 amphoras was clearly aimed towards the eastern Mediterranean rather than the west. The type is attested at Athens in the early first century A.D. (Robinson 1959, M14; following Lapp's (1961, 80–6) revised date; see also Will 1977, 264); there are several complete (but undated) examples in the Graeco-Roman museum at Alexandria (unpublished). The short rimmed examples from Cyprus (Hayes 1977, 107, fig. 6.5) may belong to this category. It is of interest that the type is present in first century A.D. contexts in Tripolitania, itself an oil producing area (Ostia iii, 673). The type does not occur in Mau's typology for Pompeii (see also Ostia iii, 665 on this point). It does not seem to have been exported to Ostia in any quantity for it was not noted in the later first century A.D.

deposits there, where at least a few might have been expected as survivals. The type seems to have been more frequent at Rome, especially in the second quarter of the first century A.D. (Zevi 1966), although Panella (Ostia iii, 665) argues that this may be a special case. The available evidence seems to suggest a fairly swift decline of the type by the end of the first century A.D.; this is supported by the quantified results from Berenice. It is generally agreed that the type was not produced after the first century A.D.

It is possible that Nos. 130-1 could belong to Lamboglia II: certainly Lamboglia II amphoras have incuse stamps on the base of the neck (Grace 1961, fig. 36, with the stamp SPE; a similar stamp from Naucratis is in the British Museum (1955-9-20-169) in a similar fabric to that of the Berenice examples of Dressel 6; the situation is further complicated as the example published by Grace comes from an 86 B.C. destruction level at Athens). No parallels for Nos. 130-1 have been noted, although J. Reynolds comments that the letters on No. 131 appear to be B.C. in date. On the other hand, it is clear that incuse stamps, while rare on Dressel 6 amphoras, do occur (see Riley 1978, fig. 17, No. 9, from Tolmeita). Of the 600 + Latin stamps from Delos, which include some Lamboglia II amphora stamps to the mid first century B.C., none are incuse (Bruneau 1970, 123, pl. 45, D122). There is much scope for further work concerning the relationship between the Lamboglia II and the Dressel 6 amphoras and their export to the eastern Mediterranean.

## CATALOGUE

(figs 74, 75)

**D123.** (C2035, SK L24.5) Deposit 72.

Rim fr. D. = 16 cm.

Cream fabric (7.5YR 7/4) containing a moderate quantity of mica and occasional white and red grits.

**D124.** (C2708, SK X36.7/8) Deposit 61.

Rim and handle fr. D. = 17 cm.

Buff fabric (7.5YR 6/4) containing a quantity of mica and occasional dull red grits.

**D125.** (C2586, SK +) Surface find.

Rim and handle fr. D. = 13.5 cm.

Buff fabric (c. 7.5YR 6.4) containing occasional mica specks, otherwise well levigated.

**D126.** (C2709, SK X33.2) Deposit 44.

Handle fr.

Fleshy buff fabric (5YR 7/4-6/4) containing occasional white specks and a little mica.

**D127.** (C2029, SK X56.1) Deposit 59.

Handle fr.

Cream fabric (10YR 8/3-7/3) containing a little mica. Smooth break.

**D128.** (C2027, SK L24.5) Deposit 72.

Handle fr.

Cream fabric (10YR 8/3) containing a little mica and occasional dull red grits. Granular break.

## COARSE POTTERY

---

**D129.** (C2802, SK P100.4) Deposit 77.

Shoulder fr.

Buff fabric (7.5YR 6/4) containing a little mica. Granular break. This may be a Lamboglia II form but this is not certain.

**D130.** (C676, SK X53.2) Deposit 61.

Stamped neck of amphora.

Pale orange fabric (5YR 7/6) fired buff (10YR 7/4) containing a moderate quantity of mica. Fairly clean break.

Stamp: ÇÆ (incuse). (pl. XXVII).

**D131.** (C978, SK+) Surface find.

Stamped neck of amphora.

The fabric is similar to No. 130 above: in addition there are occasional white specks.

Stamp: EF (incuse) (not illustrated)

J. Reynolds comments that the letters look B.C. rather than A.D. (personal communication). It is possible that both Nos. 130 and 131 could belong to the Lamboglia II amphora, although this is not certain (see above p. 156).

## SPANISH AMPHORAS

A number of Spanish amphora types have been identified at Berenice and for the purposes of quantification have been grouped into five broad types (following Panella 1973) on the basis of form. The fabrics of amphoras from the kiln sites at Cadiz and Algeciras have recently been studied (Peacock 1975) and can clearly be distinguished under the microscope. The different amphora types are not confined to particular sites (Peacock 1973). The examples found at Berenice seem to belong to the Cadiz region rather than the Algeciras region (although this is not proved by analysis). The fabric of the Spanish amphoras at Berenice was generally distinctive, usually cream but ranging from orange through buff to grey green. There are occasional white and red grits, and the surface is generally greenish to cream. Where possible, the amphoras have been grouped into categories but some sherds defy classification and these have been grouped under the Miscellaneous Spanish Amphoras category in the tables. It is not always clear that every amphora under this heading comes from Spain, but usually fabric samples have been taken so that eventual analysis can be attempted. Nearly all the rims attributable to Spanish amphoras from Berenice are presented below.

Spanish amphoras had a wide distribution throughout the western Mediterranean and western Europe from the very late first century B.C. (see Panella 1973, Beltrán 1970, Peacock 1971, 1975 *passim*). The study of Spanish amphoras in the eastern Mediterranean is still in its infancy but the limited examples cited below, together with such classical references to trade between Spain and the eastern Mediterranean (e.g. Aelius Aristides (early second century A.D.), *Orationes*, XXXVI, 91, alluding to commercial relations between Gades and Egypt; Lucian, *Navig.* 22, refers to Spanish *garum* and oil at Athens), suggest that Spanish amphoras may be more plentiful in the eastern Mediterranean than previously thought. Spanish amphoras are never common at Berenice (comprising at maximum just over one per cent of the total amphoras), and only seem to have been introduced to Berenice from the middle of

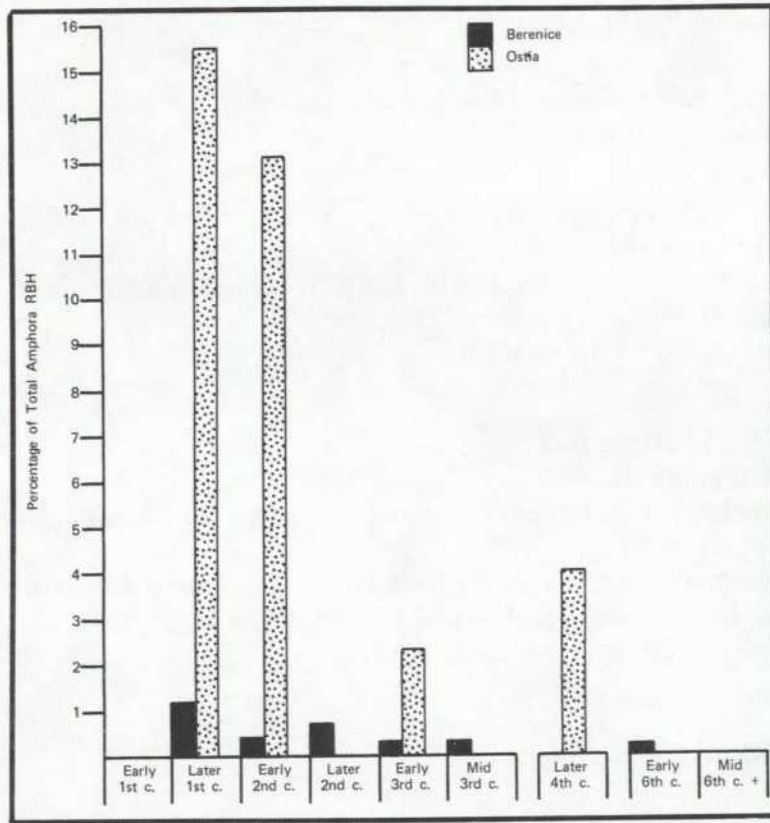


Fig. 19. Histogram to Show Relative Proportions of Spanish Amphoras (all classes) at Berenice & Ostia.

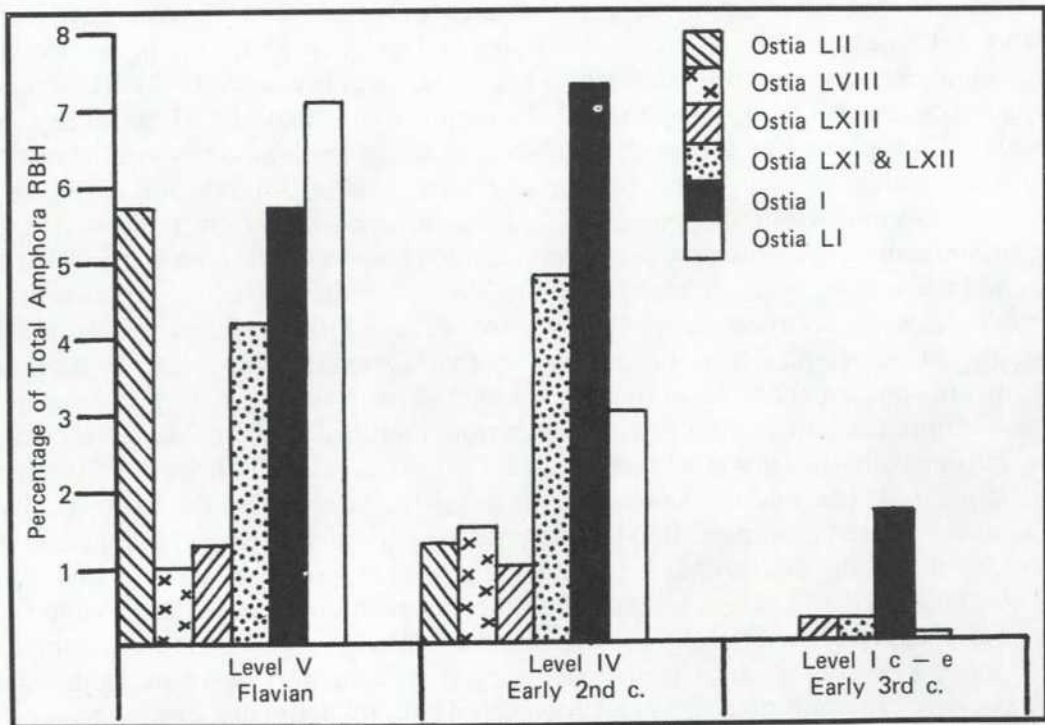


Fig. 20. Histogram to Show Relative Proportions of Spanish Amphoras at Ostia (after Panella 1974).

the first century. Their import into Berenice (and possibly the eastern Mediterranean as a whole) seems to coincide with the beginning of the decline of the Italian amphoras (ER Amphoras 4 and 5). The proportion of Spanish amphoras at both Berenice and Ostia declines (to differing degrees) after the first century A.D., although at Ostia in the fourth century A.D. they again make their presence felt through the Almagro 50 amphora (Ostia type VII). No examples of the Almagro 50 amphora were noted at Berenice.

Spanish oil amphoras (as ER Amphora 9) are rare at Berenice and Tarraconensian amphoras of form Dressel 2-4, which seem to have contained wine (Panella 1974, 500), are absent at Berenice. It is the amphoras which are generally accepted as having contained fish paste (*garum*) which were imported into Cyrenaica. In order to plot the relative proportions of the Spanish amphoras at Ostia, a histogram based on the simplified presentation of the Ostia figures was constructed (fig. 20; based on the figures in Appendix II).

### EARLY ROMAN AMPHORA 6

(*Dressel 7-11; Ostia Form LII; Beltrán Form 1*)

The form has a radish-shaped body with a heavy, cylindrical neck and a long, hollow toe. A broad handle is sharply bent below the rim to run very close to and parallel with the neck to the shoulder. The early versions have a fairly short rim which is thickened and everted with a gently concave outer face (as Nos. 152, 153 below; see also Hayes 1976, 112, E21 for an example from Carthage); the later versions are longer (as Nos. 132-41; on the amphora in general see Beltrán 1970, 388-420, Peacock 1971, 168-70, *ibid.* 1975 for the fabrics, Panella 1974, 506-9).

The type first appears at the end of the first century B.C. on the Rhenish *limes*, although its period of greatest diffusion seems to have been from the second quarter of the first century A.D. (Panella 1973, 508). At Ostia its frequency drops from 5.7 per cent to 1.3 per cent of the total amphoras by the early second century A.D.. The type first occurs in the late first century A.D. deposits at Berenice (three rims only, or 0.6 per cent of the total amphora RBH) and was always uncommon. The base (No. 142), from the Hellenistic Deposit 32 seems likely to be intrusive. Only one other example was noted elsewhere in Cyrenaica, a neck and a rim with red dipinto in the Tolmeita store room.

### CATALOGUE

(figs. 75, 76)

#### D132. (C520, SK P5.6) Deposit 81.

Rim and handle fr. D. = 19.8 cm.

Pale grey green fabric (5Y 7/2) containing occasional dark grey and red grits. Granular break.

#### D133. (C2770, SK J6.38) Deposit 168.5.

Rim and handle fr. D. = 19 cm.

Broad handle (insufficient survives to present a section).

Pale orange fabric (5YR 7/6) fired cream at the edges (c. 7.5YR 7/4).

Occasional red smudge and mica particles.

- D134.** (C2808, SK BB1.2) Miscellaneous deposit; the fine pottery was not studied but 116 sherds of coarse ware suggest mainly early Roman with some second and third century A.D. sherds.  
Rim and handle fr. D. = c 20 cm.  
Granular cream fabric (5Y 8/2-7/2) containing occasional cream grits.
- D135.** (C1169, SK A31.1) Miscellaneous deposit; see No. 24 for associated finds.  
Rim fr. D. = 22.8 cm.  
Cream fabric (2.5Y 8/2-7/4). Well levigated, granular break.
- D136.** (C1170, SK X36.7) Deposit 61.  
Rim fr. D. = c. 20 cm.  
Well levigated cream fabric (c. 2.5Y 7/4); granular break.
- D137.** (C2057, SK X56.3/X48.2) Deposits 58/59.  
Rim, neck and two handles. D. = 18.2 cm.  
Cream fabric (2.5Y 8/4) containing occasional red specks. Fairly clean break.
- D138.** (C2058, SK L44.4) Deposit 73.  
Rim fr. D. = 19 cm.  
Well levigated cream fabric (5Y 8/3) containing occasional quartz grains. Granular break.
- D139.** (C1171, SK X39.1) Miscellaneous deposit; associated fine pottery spreads from Hellenistic to the early third century A.D.  
Rim fr. D. = 17.8 cm.  
Well levigated buff fabric (10YR 7/4) fired cream (5Y 7/3) at edges. There are occasional quartz grains. Granular break.
- D140.** (C591, SK L45.3) Deposit 73.  
Rim and handle fr. D. = c. 18.8 cm.  
Buff fabric (c. 7.5YR 7/4-7/6) containing occasional quartz like grits.
- D141.** (C2734, SK X55.1) Deposit 61.  
Rim fr. D. = c. 22 cm.  
Well levigated buff fabric (7.5YR 7/6) fired cream at the edges (2.5Y 7/2) containing occasional grains of quartz.
- D142.** (C1172, SK B12.3) Deposit 32.  
Base fr. Buff fabric (c. 7.5YR 7/6) fired cream (5Y 8/3) at the edges. Occasional mica and quartz like particles.  
This base is probably to be included among the intrusions of this deposit.

## EARLY ROMAN AMPHORA 7

(*Ostia Form LXIII; Beltrán IIa; Pélichet 46*)

The form is not dissimilar to Dressel 7-13 (ER Amphora 6) except that the rim is short, rounded and overhangs. This form occurs at Pompeii (see Panella 1976, Tav. XLI, 3) and

## COARSE POTTERY

is predominantly a late first to early second century A.D. type (Panella 1973, 512–4). The type occurs elsewhere in Cyrenaica at Cyrene (unpublished: from D. White's excavation) and at Apollonia (store room Inv. 256; D. = 23 cm). It seems to have enjoyed an eastern Mediterranean distribution, being noted at Tarsus (Jones, 1950, 790–1) Paphos and probably Knossos (Hayes, personal communication) and Sebaste in Palestine and in Bulgaria (Parker in press). The earliest stratified example at Berenice is from Deposit 73 (No. 144), but is rare there.

### CATALOGUE

(fig. 76)

**D143.** (C60, SK R15.3) Miscellaneous deposit.

Rim, neck and two handles. D. = 21 cm;

Buff fabric (c. 7.5YR 7/6–6/4) containing a little mica and occasional quartz particles.

**D144.** (C2060, SK L42.3) Deposit 73.

Rim fr. D. = uncertain.

Fleshy buff fabric (5YR 7/4–7/6) fired cream (2.5Y 7/4) at the edges containing occasional red and white grits.

**D145** (C598, SK X7.1) Miscellaneous deposit; 12 associated fine ware sherds spread to the fifth century A.D.

Rim and handle fr. D. = uncertain.

Cream fabric (2.5Y 8/2) containing a moderate quantity of red grits.

### EARLY ROMAN AMPHORA 8

(*Dressel 14; Beltrán IV; Ostia LXII*)

The body is cylindrical with a fairly long, hollow and pointed base. The neck is fairly high and cylindrical and there is a distinctive knobbed rim. There are two handles, which often have a distinctive vertical groove (as No. 147), often bent sharply from below the rim to the shoulder (see Beltrán 1970, 456–64). The type occurs from the early first into the third centuries A.D. but is most frequent from the second half of the first to the mid second centuries. It has not been noted in Tripolitania (Panella, personal communication).

### CATALOGUE

(fig. 77)

**D146.** (C584, SK H3.1a) Deposit 85.

Rim and handle fr. D. = uncertain.

Fairly firm, fleshy buff fabric (5YR 7/6) fired cream (10YR 7/4) containing a moderate proportion of quartz like grits and grey and white grits.

**D147.** (C2028, SK P5.4) Deposit 81.

Handle fr.

Buff fabric (c. 7.5Y 7/6) containing quartz and occasional red and white grits. Granular break.

## EARLY ROMAN AMPHORA 9

*(Dressel 20; Ostia Form I; Beltrán V)*

This amphora has a heavy, thick globular body, short neck and two thick handles, round in section, which are often stamped. Tchernia (1967, 223–4) has suggested broad stages of development which seem generally acceptable, although difficulty could be experienced when working with small fragments in the field. For detailed accounts of the type see Callender 1965; Beltrán 1970, 464–92; Panella 1974, 522–35. The fabric is a distinctive buff to pale grey with occasional white and grey inclusions. The origin is Baetica in southern Spain (demonstrated by Callender 1965; see also Zevi 1966, 221–2), and it carried oil. The capacity is around 80 litres (Zevi & Tchernia 1969, 177, note 2; three complete, examples weighed from 32 to 37 kg).

The amphora first occurs at the very end of the first century B.C., continues until the mid third century A.D., and is very common in the western Mediterranean. It is the most common amphora in Britain from the later first to the mid second centuries A.D. It is rare in Cyrenaica and the earliest occurrence there is from the Flavian Deposits 58, 62 and 69 at Berenice. Only one stamped handle (No. 150) occurred. Apart from examples from the early second century A.D. in Yugoslavia (Cambi 1975), no other examples have been noted in the eastern Mediterranean.

A possible unclassified later variant occurred in an early third context at Berenice (No. 298). It has the normal Dressel 20 fabric although No. 299, which has a similar shape, is not of this fabric.

## CATALOGUE

(fig. 77)

**D148.** (C728, SK D16E.10) Deposit 109.

Stamped handle.

Buff (7.5YR 6/4) to pale grey (7.5YR 6/2) fabric containing quartz and occasional white and grey inclusions.

Stamp: LVC (pl. XXVII).

For the stamp see Callender 1965, No. 981 (L VIB(i) CHROM( )); especially Figure 10, No. 21 from Carlisle, England. Suggested date for the stamp (Callender): late first to early second century A.D.

**D149.** (C2793, SK +) Surface find.

Rim fr. D. = c. 17.5 cm.

Buff fabric (7.5YR 6/4) containing occasional quartz particles.

## EARLY ROMAN AMPHORA 10

*(Beltrán IIb; Ostia Form LVIII)*

The body is piriform with a wide neck and generally hollow base. The rim is thickened, everted and slightly downturned and is fairly wide with a tapering lip. There are two handles



from under the rim to the shoulder. The shape resembles that of ER Amphora 7. A confident separation of the two types by the present writer was not possible as the opportunity to examine complete examples of the two types did not arise. For the type see Beltrán 1970, 433–44 and Panella 1974, 510–1.

The fabric is generally compact and ranges from cream to buff to pale reddish brown.

The type first occurs in the Tiberian and Claudian periods and continues through the first and second centuries A.D. It seems not to have been produced after the mid second century A.D. (Ostia iii, 683–4). The content was probably fish paste. No. 151 may belong to this type but this is not certain as the precise distinction between this type and ER Amphora 7 is not clear. Only one example occurred at Berenice.

CATALOGUE

(fig. 77)

**D150.** (C2059, SK L34.3) Deposit 73.

Rim fr. D. = 22.6 cm.

Cream fabric (5Y 8/2–7/2). Well levigated.

MISCELLANEOUS SPANISH AMPHORAS

The following four amphora rims were recognised as Spanish by their fabrics but could not initially be classified. Nos. 152 and 153 were subsequently recognised as being early versions of ER Amphora 6.

CATALOGUE

(fig. 77)

**D151.** (C1251, SK B4.20) Deposit 105.

Rim fr. D. = 16.8 cm.

Fleshy buff fabric (7.5YR 7/6). Well levigated.

This could be a variant of Pélichet 46 (ER Amphora 7); compare Panella 1974, pl. LXXI, No. 656. On the other hand it could be a variant of Beltrán 1970, type IIb.

**D152.** (C807, SK X48.2) Deposit 58.

Rim fr. D. = 18 cm.

Greenish cream fabric (5Y 7/3) containing occasional quartz-like grits. This is likely to be an early variant of ER Amphora 6 (Dressel 7–11), probably of the early to mid first century A.D. Compare Panella 1974, 626, No. 7. Beltrán 1970, figs. 152, 155.

**D153.** (C741, SK G12.3) Deposit 164.

Rim fr. D. = uncertain.

Cream fabric (5Y 7/2) containing occasional quartz particles. This may also be an early variant of ER Amphora 6. See above, No. 152, for references.

**D154.** (C2053, SK L34.2) Deposit 73.

Rim fr. D. = c. 18 cm.

Orange-buff fabric (5YR 6/6) fired cream (2.5Y 7/2) at the edges. Contains occasional red grits.

## EARLY ROMAN AMPHORA 11

### *(Tripolitanian Amphoras)*

Under this type are grouped a series of long, cylindrical amphoras with short necks and pointed bases. The handles are either on the body below the shoulder or in the usual position from the neck to the shoulder. (for the class see Zevi & Tchernia 1969, 193–5; Panella 1973, 559–71). Stamps are rare on these amphoras and none occurred at Berenice or elsewhere in Cyrenaica. These amphoras were the products of several kiln sites which have been discovered in Tripolitania (Panella 1973; 566–7; although the kilns have been published, the pottery from them has not). This, together with the frequency of this class on Tripolitanian sites, and the names on the stamps, is clear evidence of a Tripolitanian origin. The contents of the amphoras are generally agreed to have been oil.

From the examples in Cyrenaica (and Germa) two main fabrics have been noted (on this see also Zevi & Tchernia 1969, 194). The more distinctive of these is a very hard red to grey with a large quantity of tiny white limestone grits. Caution is necessary in determining the fabric as a similar looking variety is common in the Sahel region of Tunisia: these can be distinguished as the Tunisian fabric contains quartz as well as limestone grits, while that of Tripolitania contains only limestone (Peacock, personal communication). This distinction was not made with regard to the body sherds entered in the tables as Miscellaneous Tripolitanian, and these figures may also inadvertently include Tunisian fabrics. With regard to Berenice, however, the fact that these sherds can be confidently identified as coming from the general Tripolitania-Sahel region is of importance in itself. A more specific localization of the sherds must await future study.

The other fabric is not as gritty and not as distinctive in body sherd form and it is likely that some examples of this fabric may inadvertently have been included in the Miscellaneous Amphoras category. Both clays normally have a greenish cream wash on the surface.

Panella (1973) distinguishes three main types, ranging from the first century A.D. through to the fourth century A.D. Possible early examples have already been discussed (see below H. Amphora 13), but Tripolitanian amphoras, although they seem to have been imported into Berenice and probably also Cyrenaica in general from the Hellenistic period, became consistently more frequent there after the early first century A.D. A comparison with the quantitative distribution of this type at Ostia (fig. 21) suggests that Tripolitanian amphoras were imported into Ostia only on a small scale until after the middle of the second century A.D. at least. The type does occur in Italy in the first century A.D., at Ostia, but in very small quantities; it is more common at Pompeii (Ostia iii, 672). Tripolitanian amphoras scarcely occurred at Carthage in the first and second century A.D. levels.

The relative scarcity of Tripolitanian amphoras in the first and second centuries in the west contrasts with their regularity to the south and east of Tripolitania. They occurred from the first century A.D. at Germa in the Fezzan (C. Daniels, personal communication), as well as in Cyrenaica. This suggests that the initial emphasis of large scale exports of Tripolitanian liquids in the first century A.D. was directed not to Italy but to the provinces. Further research into the relative proportions of Tripolitanian amphoras on other eastern Mediterranean sites should cast more light on this possible trend.

## COARSE POTTERY

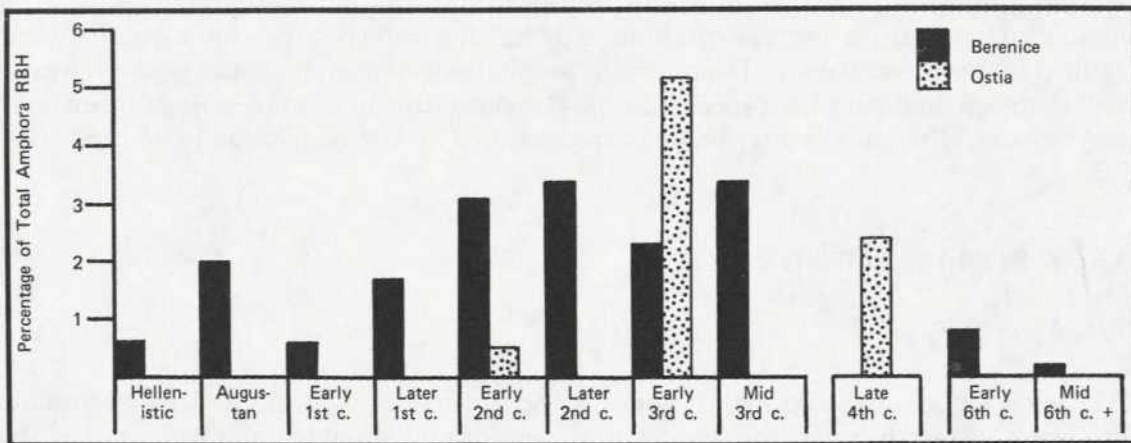


Fig. 21. Histogram to Show Relative Proportions of Tripolitanian Amphoras at Berenice and Ostia.

Although Tripolitanian amphoras occur widely in the eastern Mediterranean, they do not seem to have been particularly common from the scanty available evidence. They were rare in early fourth century A.D. contexts in Caesarea (while they were still regular at Ostia in the same period) and to judge from the publication of the pottery from the Athenian Agora excavations (Robinson 1959; although only well preserved amphoras were included in this publication).

In fragmentary condition, Tripolitanian amphoras are difficult to assign to specific forms. Notwithstanding, the following typology (based partly on that of Panella 1974) has been

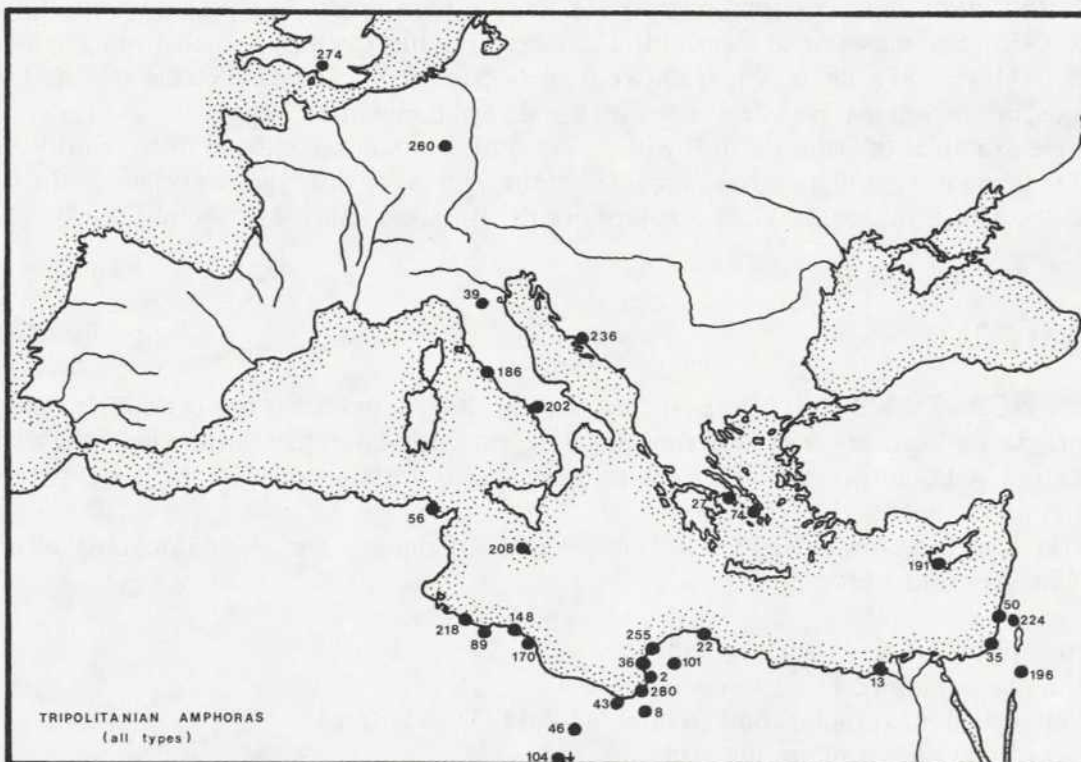


Fig. 22. Distribution Map of Tripolitanian Amphoras.

adopted, mainly on the basis of the rims. The handles and the bases have generally been classified in the 'Miscellaneous Tripolitanian Amphoras' category, as in many cases it was not possible to equate them with a specific form. The early Roman examples are grouped under ER Amphora 11, while the later variants are classified as MR Amphoras 14 and 15.

#### EARLY ROMAN AMPHORA 11a

(*Ostia Form LXIV*)

The neck is fairly high and slightly conical. The rim is thickened and concave on the outer face. There are two handles from the top of the neck to the shoulder, and there is often (but not always) an indentation on the inside neck where the handle joins the neck. The body is long and cylindrical and the base is conical and hollow. Hollow bases have, however, been assigned to the Miscellaneous Tripolitanian category as they could belong to the earlier types or type 11b also. (For the type and detailed references see Panella 1973, 560–2).

Dated examples for the form in North Africa are rare, although they occur in mid first century A.D. contexts at Misurata (C. Panella, personal communication). The earliest stratified example at Berenice is a rim from Deposit 39 (No. 160), which may be Augustan. No. 162, with handles on the shoulder, seems better to belong to this category than MR Amphora 14.

This form has been noted elsewhere in the eastern Mediterranean. Apart from 30 or so examples from Pompeii (Panella 1973, 561), it is numerous in store rooms at Tripoli, Sabratha, and Leptis Magna and occurs at Bu Njem (Rebuffat 1970, 99, A20, A23–4, 100, A37 etc.) and Germa. Several complete examples are present in the store rooms of the Graeco-Roman museum at Alexandria, an example has been published from Paphos in Cyprus (Hayes 1977, fig. 6, No. 9) and a complete example occurred at Petra (Parr 1969). The type occurs on other Cyrenaican sites, at Tocra, Apollonia and Cyrene.

Some examples of Ostia Form II with a very similar rim of second and third century A.D. date may inadvertently have been included in the figures for this type, especially in the later deposits. This is due to the close similarity of the rim, (see below MR Amphora 14).

#### CATALOGUE

(figs. 77, 78)

**D155.** (C2677, SK J49.9) Miscellaneous deposit; associated fine ware is no later than the early second century A.D., but the lamps suggest a date later than the middle of the second century A.D. and corrugated cooking ware sherds are also present.

Rim and handle fr. D. = 15 cm.

Grey core fired brown (2.5YR 4/2) at the edges. Contains a moderate quantity of small white grits and a little mica.

**D156.** (C2091, SK +) Surface find.

Rim and handle fr. D. = 16 cm.

Well levigated, granular, buff to orange fabric (5YR 5/8).

Part of a graffito 'phi' on the neck.

## COARSE POTTERY

---

**D157.** (C801, SK V2.3) Deposit 69.

Rim fr. D. = *c.* 18 cm.

Red-brown fabric (2.5YR 5/6) fired grey (2.5YR 4/0) at the edges.

Contains many creamish grit specks.

Graffito 'theta' on the outer face of the rim. (pl. XXVII).

**D158.** (C1155, SK P 49.8) Deposit 79.

Rim fr. D. = 13.8 cm.

Red-brown fabric (2.5YR 5/6) containing a moderate quantity of small, light grey grits.

**D159.** (C1158, SK T22.2) Deposit 69.

Rim fr. D. = *c.* 14.5 cm.

Grey to red-brown fabric (2.5YR 5/6) containing a moderate quantity of hard white grits.

**D160.** (C808, SK B7.2) Deposit 39.

Rim fr. D. = uncertain.

Red-brown fabric (2.5YR 5/6) fired grey at the edges, containing a moderate quantity of largish (D. = *c.* 0.5 mm) white grits.

**D161.** (C67, SK +) Surface find.

Rim, neck and two handles. D. = 17.5 cm.

Pinkish-red fabric (2.5YR 6/6) containing occasional small cream grits.

**D162.** (C391, SK P +) Surface deposit.

Rim and neck. D. = 17 cm.

Fairly micaceous brown fabric (2.5YR 4/4) fired grey at the edges, with occasional grey grits.

### EARLY ROMAN AMPHORA 11b

This rim form has a short neck and everted rim which is thickened and convex on the outer face with a narrow groove below the lip. This form has two handles on the body below the shoulder (for the form see Bisi 1971, Tav. 1, 4). This variety is common in the Augustan levels at Sabratha (Panella, personal communication). The earliest context at Berenice is Deposit 55 (mid first century A.D.). The type is not recorded at Ostia and may have ceased production by the second century A.D., although it does occur in third century A.D. contexts at Berenice (possibly as a survival?).

The form may be a later development of H. Amphora 13 (see above p. 138 and compare Bisi 1971, tav. 1, Nos. 2 and 4) but this is not clear. It was occasionally stamped on the rim (as at Athens, Grace 1956, No. 210, with the stamp ZIRA, from a context of the second century A.D.; the same article refers to a similar example from Delos – unpublished). A further stamped example from Naucratis is in the British Museum (Inv. 48-7-31-330; stamp SAL on the outside of the rim).

## CATALOGUE

(fig. 78)

**D163.** (C806, SK X48.2) Deposit 58.

Rim fr. D. = 16.9 cm.

Hard grey fabric (5YR 4/1) containing many small hard white grits and occasional red grits.

**D164.** (C1157, SK +) Surface find.

Rim fr. D. = 16.2 cm.

Hard, dark grey fabric fired red brown (c. 2.5YR 5/6) at the edges. Contains many hard cream grits.

**D165.** (C2049, SK R113.5) Deposit 89.

Rim fr. D. = 16.3 cm.

Hard grey fabric (c. 5YR 4/1) containing many hard cream grits.

## MISCELLANEOUS TRIPOLITANIAN AMPHORAS

**D166.** (C678, SK A31.1) Miscellaneous deposit; see No. 24 for associated finds. Fr. of shoulder with black *dipinti*.

Hard, grey fabric fired orange (2.5YR 5/8) with many hard, pale grey grits.

Dipinto:  $K \text{ } \overline{\text{A}}\overline{\text{P}}\overline{\text{N}}\overline{\text{H}}\overline{\Delta}\overline{\Delta} \text{ } \overline{\zeta}$ ? (pl. XXVII).*Karnedas* is a popular name in Cyrenaica but it appears here in its *koine* form, not that of the Cyrenaican dialect (Reynolds, reading and information). It is worth noting that in modern Tunisia the buyer marks the amphoras that he buys with his name (Combès & Louis 1967, 224).**D167.** (C208, SK P5.5) Deposit 81.

Base.

Brown fabric (c. 2.5YR 4/4) fired pale grey at edges containing many small hard white grits.

## EARLY ROMAN AMPHORA 12

This is a distinctive form, of which only the shape of the rim, neck and handles has been identified. The rim is distinctive, being triangular in profile. The top of the rim is sometimes slightly concave. There is a sharp ledge at the base of the neck where it meets the shoulder, similar to that of the Koan amphoras (= ER Amphora 2). There are two broad, flattened handles which are slightly arched from below the rim. The rim diameter averages about 11.5 cm.

The fabric is generally orange to brown containing white and pale grey grits. It is probably local although this is not always certain.

The earliest example of the type is in the Augustan Deposit 39, but it seems to have been most frequent (2.7 per cent of the total amphoras) in the second half of the first century A.D., after which it lingers as a survival. The form is not common at Berenice and was not noted elsewhere in Cyrenaica.

## COARSE POTTERY

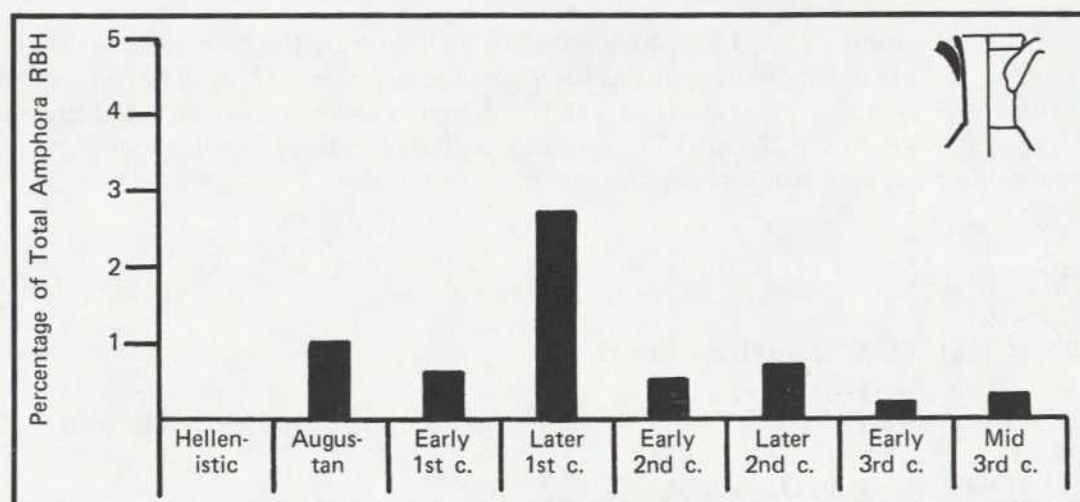


Fig. 23. Histogram to Show Relative Proportions of ER Amphora 12 at Berenice.

It is probably a local copy of the Koan ER Amphora 2. The latter amphora, however, does not seem to occur in Cyrenaica until the early second century A.D. and was never common.

### CATALOGUE

(fig. 78)

**D168.** (C2085, SK X56.4) Deposit 59.

Rim, neck and two handles. D. = 12 cm.

Orange brown fabric (c. 5YR 6/6) with occasional pale grey and white grits. Probably local fabric 2.

**D169.** (C1115, SK X32.7) Deposit 61.

Rim and handle fr. D. = 11.4 cm.

Orange fabric (5YR 5/8–5/6) fired buff (7.5YR 5/8) at edges. Contains a moderate quantity of small white grits.

**D170.** (C595, SK P52.5) Miscellaneous deposit; 11 associated fine ware sherds are Hellenistic and first century A.D.

Rim and handle fr. D. = 14 cm.

Orange brown fabric (5YR 6/6) containing a moderate quantity of white and pale grey grits (probably local fabric 2).

**D171.** (C1259, SK L55.4) Deposit 103.

Rim and handle fr. D. = 14 cm.

Granular light brown fabric (5YR 5/6) containing a moderate quantity of white grits.

### EARLY ROMAN AMPHORA 13

Only rim fragments have been noted for this type. The rim is thickened and flattened on top with a bulge on the inside edge. There is a sharp off-set on the outside where the rim joins the neck.

With the exception of No. 173, which seems to be imported, the type seems to be local. The earliest context in which the type has been noted at Berenice is Deposit 62 (third quarter of the first century A.D.). The type is very rare at Berenice and has not been noted elsewhere in Cyrenaica. Both Nos. 172 and 173 have been included in the Miscellaneous Amphoras section in their respective deposits tables.

## CATALOGUE

(fig. 78)

**D172.** (C1181, SK W72.5B) Deposit 132.

Rim fr. D. = 12 cm.

Red brown fabric (2.5YR 5/6-4/6) containing a moderate quantity of white grits.

**D173.** (C835, SK H6.9) Deposit 62.

Rim and handle fr. D. = 11.1 cm.

Bluish grey fabric (c. 10YR 4/1) containing occasional white grits. Fairly smooth break.

## EARLY ROMAN AMPHORA 14

The form is a bag shaped amphora with a short neck and thickened, incurved rim. Two handles merge with the rim from the shoulder. The type has a nipple base. (For the form see Wright 1963, 31, fig. 3, top row, second from right). The fabric is local fabric 5. The form occurred at the third century A.D. Tocra kiln site but was not common, representing 5.3 per cent of the total amphoras (1.5 per cent of the total coarse ware RBH). The type occurs in third century A.D. deposits at Berenice but is more frequent in the first and second centuries. It was never common. A related form with a Greek painted inscription occurred at Pompeii (Panella, 1976, 158, Tav. XLIII, No. 2).

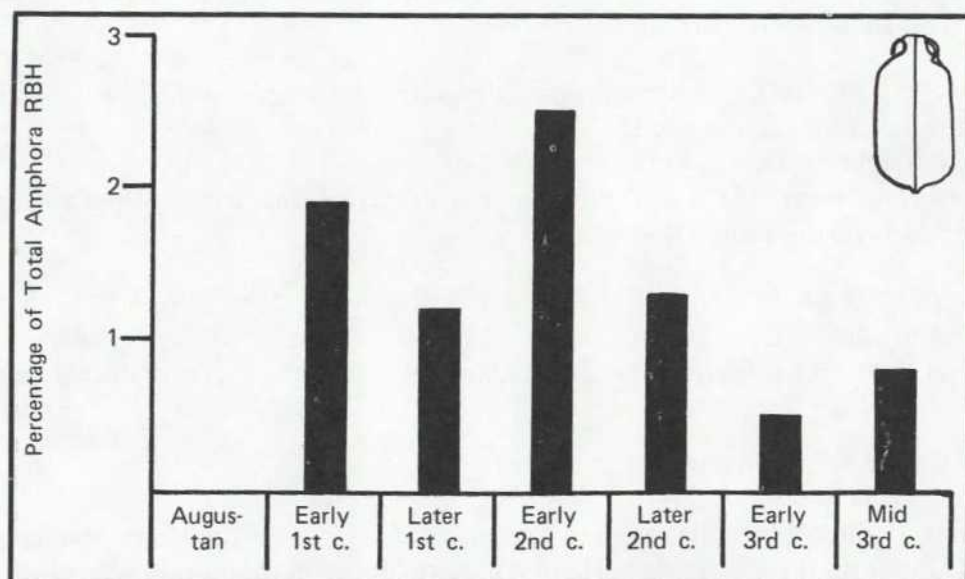


Fig. 24. Histogram to Show Relative Proportions of ER Amphora 14 at Berenice.



## COARSE POTTERY

### CATALOGUE

(figs. 78, 79)

- D174.** (C218, SK L24.7) Deposit 72.  
Rim and handle fr. D. = 13 cm.  
Pale orange fabric (5YR 6/6) containing occasional small pale grey grits. Probably local fabric 5.
- D175.** (C2037, SK H6.9) Deposit 62.  
Rim and handle fr. D. = c. 13 cm.  
Orange-brown fabric (2.5YR 5/6) containing a moderate quantity of light grey grits. Probably local fabric 5.
- D176.** (C1124, SK J45.9) Deposit 51.  
Orange brown fabric (5YR 5/6) containing occasional white and grey grits. Probably local fabric 5.
- D177.** (C1123, SK P49.8) Deposit 79.  
Rim and handle fr. D. = c. 14 cm.  
Well levigated orange brown fabric (5YR 5/6).
- D178.** (C1249, SK B4.20) Deposit 105.  
Orange fabric (5YR 6/6) fired greyish cream at the edges (10YR 6/2) containing a moderate proportion of white grits. Probably local fabric 5.

### AMPHORAS WITH DOUBLE BARRELLED HANDLES

The earliest series of amphoras with double barrelled handles seems to have come from Kos, on the basis of those which are stamped, often with Koan coin symbols (see Grace 1961; 1962, 118–26). The Koan fabric is described by Grace (1962, 119) as 'reddish with more or less mica, white bits and dark bits and the surface is a greenish buff'. The basic form develops from a plump body in the third century B.C. to a long and narrow one by the first century B.C.; the type always retains the double barrelled handles. See Grace 1961, fig. 56 for this development and also Dothan 1971, fig. 13, No. 1, fig. 25, No. 1, for late second to early first century B.C. profiles of the form from Ashdod. The earliest stamped examples seem to be of the mid second to second quarter of the first centuries B.C. (at Nessana, Grace 1962).

Hellenistic Koan stamps are widespread throughout the Mediterranean, representing the following proportions of stamped handles at the following sites: Nessana (52.6 per cent); Gezer (?0.1 per cent); Marisa (1.0 per cent); Samaria (1.1 per cent); Alexandria (1.7 per cent) – for these figures see Grace 1962, 106); Polish excavations at Alexandria (1.0 per cent) – Sztetyllo 1975; Histria (1.9 per cent) – Canarache 1957; Tanais (2.3 per cent) – Shelov 1975. Stamped handles have also occurred at Carthage (Delattre 1894, 108; Ferron & Pinard 1961).

In the Hellenistic period at Berenice, however, Koan, or at least double barrelled handles, seem to have been uncommon, with only one stamped handle (No. 184) from the whole excavation and a low proportion in the stratified levels. Double handles only become common in Cyrenaica from the Augustan period. This period marked the beginning of their

manufacture in several western Mediterranean areas where they are termed Dressel 2-4 amphoras. (For their production in Italy see Duncan 1964; Peacock 1977; for S. France see Tchernia & Villa 1977; for Spain see Tchernia 1971; Tchernia & Zevi 1972; Pascual 1977). At least eight fabrics have been isolated by Peacock (1971, 166-7) and it is likely that the form was also more widely adopted in the eastern Mediterranean (there was a local version at Paphos in Cyprus; Hayes 1977, 100). The date range of the Dressel 2-4 variety is from the early Augustan period until the early second century A.D. The geographical range of production centres, however, precludes any attempt at an evolutionary typology until the production of each area can be securely identified. The only western type that can with confidence be assigned a localised origin is the Campanian variety (ER Amphora 4). The Tarraconensian fabric identified by Tchernia & Zevi (1972) is similar by eye to an Italian variety and caution is now necessary before unequivocally assigning an example a Tarraconensian origin (Peacock, personal communication). No examples of the latter variety occurred at Berenice but Campanian and other western varieties did (see for example the Latin stamped No. 185). Of double barrelled amphora handles from Berenice in the first century A.D., about one third were Campanian but the rest displayed a wide variety of fabrics.

These local variations are generally considered to have been based on the Koan prototypes. The surprising fact is that the introduction of an imitation Koan amphora took place when it did, as Koan wine as well known in Italy much earlier (Cato, 234-149 B.C., supplied a recipe for Koan wine in *De Agri Cultura* CXII; it was still imported into Italy during the lifetime of Varro, 126-27 B.C.).

The period of greatest concentration at Berenice was in the early first century A.D. (8.9 per cent of the total amphora RBH). They declined over the course of the century but

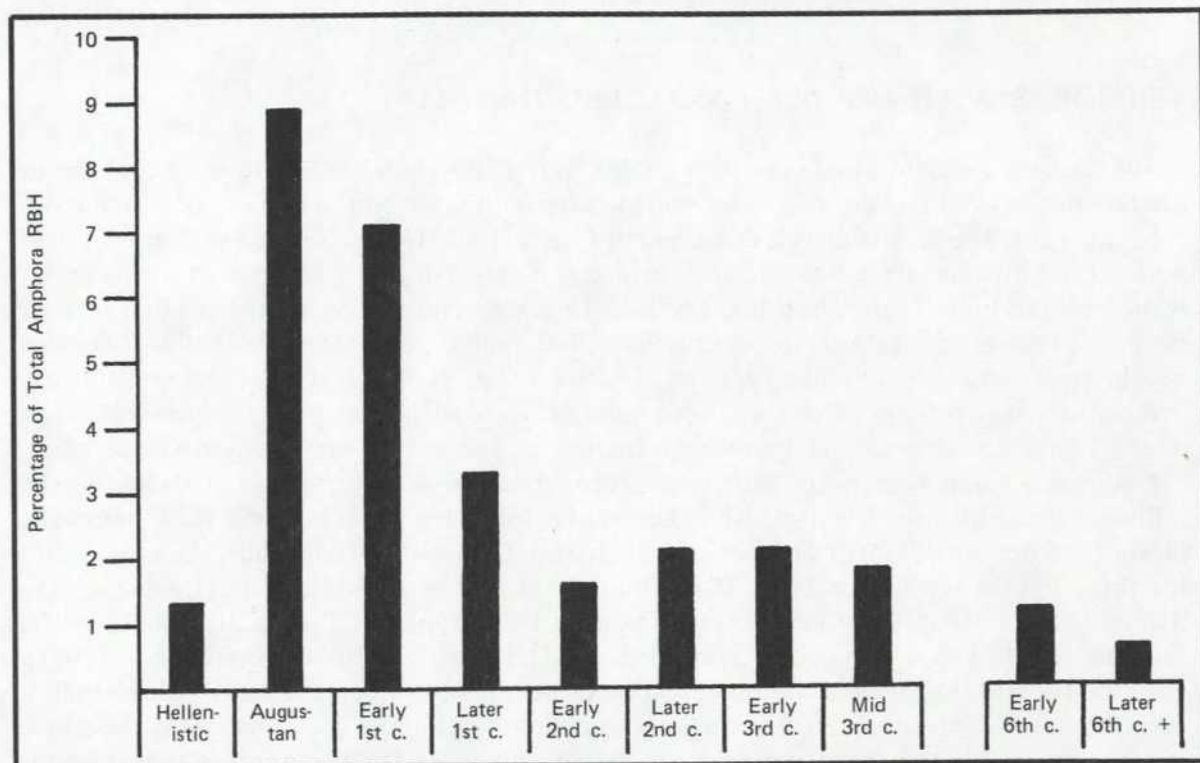


Fig. 25. Histogram to Show Relative Proportions of Double Barrelled Amphora Handles at Berenice.

their popularity seems attested by their fairly high residual appearance in third century and later contexts. It was not possible to examine the clays of these in detail (although a wide range of fabric samples has been collected), but it is hoped to make this the subject of a future study. Two distinctive types with double barrelled handles can be isolated with confidence and these are presented in the typology below as ER Amphora 2 (from the east) and ER Amphora 4 (from Campania).

It has been noted above (p. 135) that the Dressel 2-4 'imitation Koan' is found on the same kiln sites that produced Dressel 1 amphoras (at Albinia and Terracina in Italy) and in these cases can be regarded as the direct successor of Dressel 1. (This sudden typological change must surely be one of the clearest warnings of the pitfalls of assuming an evolutionary typology as a matter of course). The sudden introduction of Dressel 2-4 and its widespread adoption in the western Mediterranean, (and from the evidence from Berenice, its increased popularity in the eastern Mediterranean), is not easy to explain, especially as the Dressel 1 amphora had a long and seemingly successful tradition. Its popularity in the eastern Mediterranean might furnish grounds for a possible hypothesis that, initially at least, the type may have been introduced deliberately with the eastern Mediterranean markets in mind, so as better to compete with the long established Koan products. Such thoughts are pure speculation at this stage, but do perhaps indicate the kind of questions that should be asked, and that can possibly be answered by future progress in quantitative amphora studies.

#### MISCELLANEOUS DOUBLE-BARRELLED HANDLED AMPHORAS

##### CATALOGUE

(fig. 79)

**D179.** (C599, SK X6.1) Miscellaneous deposit.

Rim and handle fr. D. = 11.6 cm.

Buff fabric (7.5YR 7/6) containing a moderate quantity of small, black, shining grits and grey pebble.

**D180.** (C492, SK P5.5) Deposit 81.

Rim and handle fr. D. = 12.6 cm.

Buff fabric (5YR 7/6-6/6) containing a moderate quantity of black grits and mica. Probably a survival in this deposit.

**D181.** (C2649, SK CC1.3) Deposit 38.

Rim and handle fr. D. = 10.5 cm.

Grey fabric (c. 10YR 5/3) fired orange-brown (5YR 6/6) at the edges. Contains a moderate proportion of white grits. This form could be a variant of ER Amphora 12.

**D182.** (C816, SK A30.2) Miscellaneous deposit; see No. 6 for associated finds. Rim and handle fr. D. = 11 cm.

Grey to buff fabric (c. 7.5YR 6/4) containing occasional white grits.

**D183.** (C2737, SK K3.8) Miscellaneous deposit; over 20 associated fine pottery sherds range from Hellenistic to the early first century A.D., Rim and handle fr. D. = 11 cm.

**D184.** (C2023, SK +) Surface find.  
 Stamped handle fr. Orange brown fabric (c. 2.5YR 5/6) containing hard grey grits.  
 Buff fabric (c. 7.5YR 6/4) containing occasional white grits.  
 Stamp: ΔΙΟΤ[ (retrograde) (pl. XXVII).  
 The date of this example is uncertain but it may be of the late second or early first centuries B.C.  
 (J. Reynolds, reading).

**D185.** (C70, SK X15.2) Deposit 61.  
 Stamped handle fr. Pale buff fabric (c. 7.5YR 7/6) containing occasional white grits.  
 Fairly smooth break. The origin may be the Latium region (Panella, personal communication).  
 Stamp: NICEPHORI (pl. XXVIII)  
 Nicephorus is a common slave name. For the name (but not the same stamp) see Baldacci 1968, 19, No. 12; Parker 1971, 376.

**D186.** (C729, SK A39.1) Miscellaneous deposit  
 Handle fr. with graffiti. Fairly clean, cream fabric. Graffiti: not clear but may include an 'alpha'.

#### MISCELLANEOUS EARLY ROMAN AMPHORAS

#### CATALOGUE

(figs. 79-81)

**D187.** (C2582, SK CC3.7/1) Deposit 70.  
 Rim fr. D. = 17 cm. Well levigated cream to buff fabric (10YR 8/3-8/4) with fairly clean break.

**D188.** (C2078, SK X56.5) Deposit 59.  
 Rim fr. D. = 15.9 cm. Reddish orange fabric (2.5YR 5/6) fired buff (7.5YR 6/6) at the edges. The form is likely to be of Tripolitanian or Tunisian origin but the fabric is unlike that from these two areas.

**D189.** (C2757, SK J6.44) Deposit 168.3.  
 Rim fr. D. = c. 16 cm. Gritty, grey brown fabric (c. 7.5 YR 5/4), fired red brown (2.5YR 4/6) at the edges, containing a moderate proportion of small white grits and some mica. This may be from Tripolitania or Tunisia.

**D190.** (C2650, SK R24.28) Deposit 48.  
 Rim and handle fr. D. = 11.5 cm. Grey fabric (c. 10YR 5/2) fired buff/brown (5YR 5/6) at the edges. Contains a moderate proportion of small grits. This may be a jug.

**D191.** (C805, SK X48.2) Deposit 58.  
 Rim and handle fr. D. = c. 16 cm. Hard, grey fabric (c. 5YR 4/1) containing many small white grits. Cream wash exterior. This may be Tripolitanian. Compare Rebuffat *et al.* 1970, 100, A35 for examples from the third century A.D. at Bu Ngem.

**D192.** (C2659, SK R12.8) Deposit 46.

## COARSE POTTERY

---

Rim fr. D. = *c.* 18 cm. Brownish to pale grey fabric (7.5YR 5/4) containing a moderate proportion of pale grey grits and occasional large white lumps (D. = *c.* 1 mm). Fairly clean break. This may be Tripolitanian.

**D193.** (C1104, SK P10.6) Deposit 80.

Rim fr. D. = 14 cm. Firm, buff fabric (5YR 6/6) with occasional white grits. Clean break.

**D194.** (C2043, SK L24.7) Deposit 72.

Rim fr. D. = *c.* 10 cm. Local grey fabric 1.

**D195.** (C2652, SK A34.1) Miscellaneous deposit

Rim fr. D. = 17.5 cm.

Pale grey fabric (*c.* 5YR 5/1) fired pale brown (5YR 5/4) at the edges. Creamish wash (5Y 8/3) exterior. The interior is fire blackened.

**D196.** (C1102, SK J45.9) Deposit 51.

Rim fr. D. = 14 cm.

Rust coloured fabric (2.5YR 5/8) containing occasional white and grey grits.

**D197.** (C810, SK H6.9) Deposit 62.

Rim fr. D. = 13. Firm, rust fabric (2.5YR 4/6) containing occasional grey and white grits.

**D198** (C1279, SK X56.1) Deposit 59.

Rim fr. D. = *c.* 15 cm.

Brownish grey fabric (5YR 5/3) containing many white grit specks.

**D199.** (C2666, SK R24.28) Deposit 48.

Rim and handle fr. D. = *c.* 14 cm.

Fairly hard, gritty orange fabric (2.5YR 5/8) containing many white grits. Cream wash (*c.* 2.5Y 7/2) exterior. The shape occurs at Paphos (although the fabric has black grits) in second and third century A.D. contexts (Hayes, personal communication).

**D200.** (C1111, SK X48.2) Deposit 58.

Rim and handle fr. D. = *c.* 8.2 cm.

Orange brown local fabric 5.

**D201.** (C2768, SK A30.2) Miscellaneous deposit; see No. **182** for associated finds. Rim and handle fr. D. = 6.5 cm.

Soapy, orange buff fabric (5YR 5/6) containing occasional white grits.

**D202.** (C2664, SK V9.4) Deposit 69.

Rim fr. D. = 12 cm.

Gritty, orange red fabric (2.5YR 5/6) containing a moderate proportion of white grits and some mica. Greenish cream wash (5Y 8/3) exterior and interior.

**D203.** (C1101, SK A33.1) Miscellaneous deposit; 11 associated sherds of fine pottery are mainly Hellenistic but ARS is present.

Rim fr. D. = 13.2 cm.

Grey fabric (10YR 5/3) fired orange red (2.5YR 6/8) containing occasional white grits.

- D204.** (C2753, SK J6.40) Deposit 168.7.  
Rim fr. D. = 16 cm.  
Brown, gritty fabric (2.5YR 5/6) fired grey at the edges. Contains a moderate proportion of white grits.
- D205.** (C1233, SK K2.5) Deposit 54.  
Rim and handle fr. D. = c. 12.4 cm.  
Gritty grey fabric (10YR 4/2) containing many white grits.
- D206.** (C2773, SK J6.40) Deposit 168.7.  
Rim and handle fr. D. = 9.0 cm.  
Fairly clean, orange fabric (2.5YR 5/8) containing occasional white grits.
- D207.** (SK X48.2) Deposit 58.  
Base and body. D. Base = 13.1 cm.  
Buff fabric containing occasional white grits. Creamish wash on upper part of body with drips onto lower part of the body. The shape of the rim and neck is unknown.
- D208.** (C489, SK X48.2) Deposit 58.  
Rim, neck and two handles. D. = 6.2 cm.  
Pale buff fabric (7.5YR 7/6) containing occasional red grits. The form (but not the fabric) is reminiscent of No. 256 below.
- D209.** (C497, SK L24.6) Deposit 72.  
Base. D. Base = 4 cm.  
Granular buff fabric (5YR 6/4) containing a moderate proportion of grey grits and a little mica. This type occurs in contexts of the second and first centuries B.C. at Sabratha (unpublished information, Panella).
- D210.** (C2748, SK J6.41) Miscellaneous deposit; 10 associated fine ware sherds suggest an Augustan date. Base. D. Base = 4.6 cm.  
Orange-brown fabric (5YR 5/4) containing a moderate proportion of white grits and occasional red and dark grey grits.
- D211.** (C2573, SK CC3.7/2) Deposit 35.  
Base. Overfired local fabric 3.
- D212.** (C2031, SK B7.4) Deposit 39.  
Base. Orange-buff fabric (5YR 7/6-6/6) containing a moderate quantity of small black grits, and occasional red and white grits. Probably H. Amphora 7.
- D213.** (C2608, SK R18.11) Miscellaneous deposit; a large quantity of associated fine pottery ranges from Hellenistic to Augustan but includes three sherds which are Late Roman. Amphora stopper, three quarters complete. D. = 9.2 cm.  
Pale green fabric (5Y 7/3) containing occasional dark grey grits. Not local. Such stoppers occur in the western Mediterranean mainly from the late Republican period to the first century A.D., but they continue into the third century A.D. (see Vegas 1973; type 62).

**D214.** (C2669, SK R35.5) Deposit 46.

Amphora stopper. D. = 10 cm.

Firm, cream buff fabric (10YR 7/3). Well levigated and no inclusions. Not local.

#### MID ROMAN AMPHORA 1

In general this amphora has a narrow neck, carinated shoulder, fairly squat body and footed base. The handles are round in section with shallow, vertical fluting. On the basis of the rim shape the amphora has been subdivided into two categories, both of a fairly compact, pale red to pale brown (c. 2.5YR 5/6–6/6) with a moderate proportion of white lime and occasionally small black grits. The fabric also has a clean break (see Panella 1974, 632, Nos. 44–6 for the form). Broadly, three rim types were noted, of which two are included as type 1b:

#### MID ROMAN AMPHORA 1a

The rim is distinctly biconical (as No. **215**), although the handles are usually similar to MR Amphora 1B below. The handles are also plain and unfluted, especially the possible later varieties. This type is commonest in the western Mediterranean from the second half of the second to the fourth centuries A.D. (see Panella 1974, 469–71). The earliest rim fragment from a sealed context at Berenice occurred in the probably late second century A.D. cistern deposit 81. The rim has a sharp profile in the second and third centuries A.D. It is possible that it degenerates, becoming lower, thicker and cruder in the fourth century A.D. (compare the fourth century A.D. examples from Yassi Ada (Bass & Doorninck 1971, pl. 3, Figure 26) and from Athens (Robinson 1959, M254).

The bases on the Ostia examples of both types seem to have been fairly low (Panella 1974, 632, Nos. 44–6). Examples in the Rabat Roman villa in Malta have high bases, similar to Berenice No. **219**. Moreover, in the Tripoli museum store rooms there is a variant with a pointed base (No. 27, from Gargaresh). Only the high bases, where they have been identified, have been included under MR Amphora 1a, although it is possible they may also have belonged to 1b as well.

#### MID ROMAN AMPHORA 1b

The rim is thickened and slightly inturned at the top (see No. **216**). The neck is invariably lightly corrugated (as with Nos. **217–8**). This variety is usually found in first century A.D. contexts in Tripolitania and Italy, the earliest being from an Augustan-Tiberian level at Leptis (Panella 1974, 468). However, at Berenice no rims from clear first century A.D. contexts were noted. Where the form does occur in this period, as in Deposits 58 and 61, it is in handle form and it is not possible to distinguish the handles of the two variants. In the tables this variant has been termed MR Amphora 1B, and it occurs in the third century A.D. levels at Berenice alongside the MR Amphora 1 with a biconical rim, (for the type at Ostia see Panella 1970, tav. XXIX, No. 522, *ibid.* 1974, tav. LV, No. 464). There is, in addition, a variety with a similar but longer rim (as No. **217**). This too only occurred in Mid Roman contexts and was provisionally included as type 1b. Future work requires a distinction to be made between all three types.

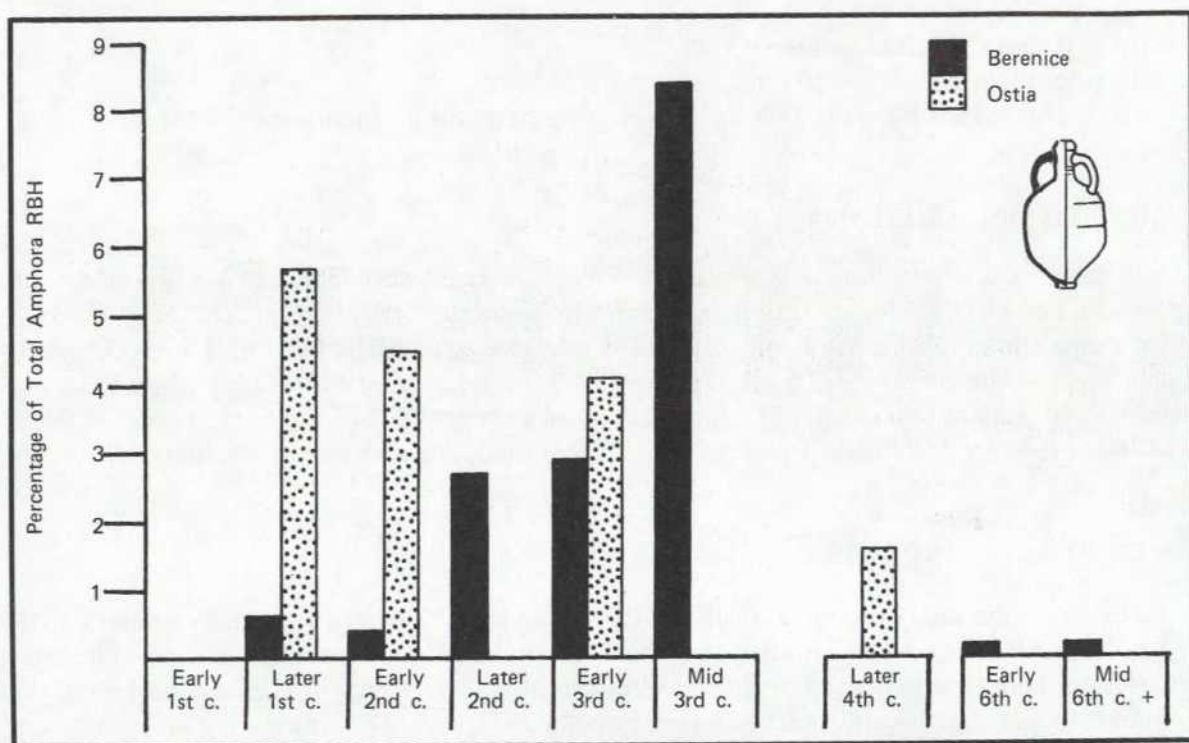


Fig. 26. Histogram to Show Relative Proportions of MR Amphora 1 at Berenice and Ostia.

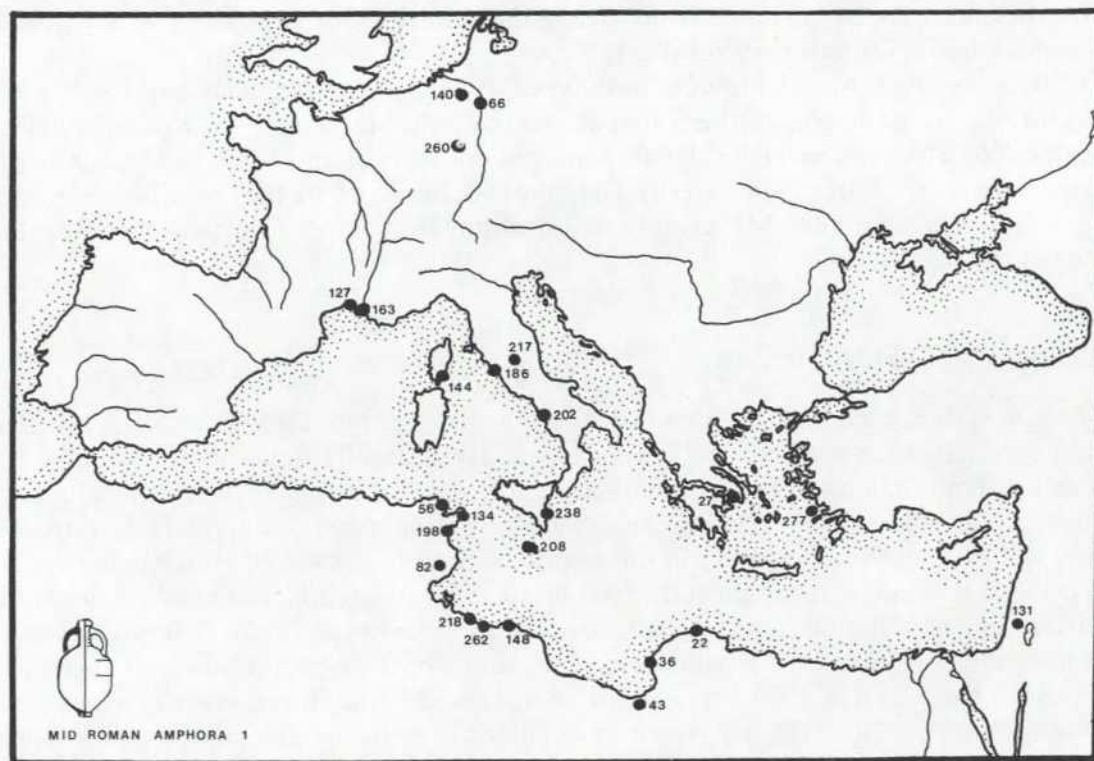


Fig. 27. Distribution Map of MR Amphora 1.



## COARSE POTTERY

The distribution of the type in general is mainly in the central Mediterranean. No examples have come to the writer's attention from Spain and none were noted in the store rooms at Alexandria, at Caesarea, nor in publications of Black Sea pottery, all of which suggests that the type is rare at the extremities of Roman maritime influence. Panella (1974, 471) considers that the class has a Tripolitanian or Byzacene origin, mainly on the basis of frequency of occurrence. The fabric is not that normally found in either area however. A possible argument against a Tripolitanian origin is suggested by a comparison of the quantitative distribution of type at Ostia and Berenice. In the first century A.D. the frequency of the type at Ostia (MR Amphora 1b) is much higher than at Berenice where the type is rare. This contrasts with the quantitative distribution of the Tripolitania amphoras where the opposite is the case (see above p. 164. If the type had a Tripolitanian origin its distribution would be expected to mirror that of known Tripolitanian types, or at least not oppose it so dramatically. Although the type did not occur in the early second century A.D. levels of the Harvard excavations at Carthage (Hayes 1976a, Deposit XVI), what appears to be this type does occur on two mosaics in Tunisia (Fabr e 1972, 121, fig. 11, from El Djem; Yacoub 1970, 163, fig. 62, and Rostovtzeff 1971, pl. LXII, No. 1, from a third century A.D. mosaic from Dougga). In addition a lamp in the Bardo of general second to third century A.D. type depicts a not dissimilar amphora being carried by a centaur. This may point to Tunisia but a more precise location remains elusive. The contents of the amphora are also unknown.

### CATALOGUE

(figs. 81, 82)

- D215.** (C543, SK S14.3) Miscellaneous deposit; nine associated sherds of fine ware date to the second quarter of the third century A.D. Typical rim, neck and handles of MR Amphora 1a.  
D. (max.) = 7.6 cm.  
Orange red fabric (2.5YR 5/6) containing a moderate proportion of small, white grits.
- D216.** (C2066, SK L44.3) Deposit 73.  
Rim fr. of MR Amphora 1b. D. (max) = 10.4 cm.  
Pale red fabric (2.5YR 5/4) containing a moderate proportion of small white grits. Cream wash (5Y 8/2) exterior.  
Compare Panella 1970, Tav. XXIX, No. 522.
- D217.** (C579, SK L36.6) Miscellaneous deposit.  
Neck and two handles (? or MR Amphora 1b) D. (neck) = 6.8 cm.  
Fairly micaceous red-brown fabric (2.5YR 6/6), containing occasional white grits.
- D218.** (C1109, SK P5.5) Deposit 81.  
Neck and two handles (? of MR Amphora 1b) D. (neck) = 6.8 cm.  
Brown fabric (2.5YR 6/6-5/6) containing a moderate proportion of white grits and occasional black grits.
- D219.** (C1256, SK L55.4) Deposit 103.  
Base. D. Base = 9.2 cm.  
Orange brown fabric (2.5YR 6/6) containing occasional white and black grits.

**D220.** (C506, SK J31.14) Deposit 101.

Body, neck and two handles. D. (neck) = 7.8 cm; Ht. (extant) = 36.5 cm.

Creamish grey fabric containing a moderate proportion of small, white grits. Pale, greenish wash exterior. This is not the normal fabric.

**D221.** (C282, SK B4.20) Deposit 105.

Base. D. Base = 10.1 cm.

Compact pinkish red fabric containing occasional white and black grits and a little mica.

## MID ROMAN AMPHORA 2

This amphora has a narrow neck with narrow, bowed handles from mid neck to the shoulder. The body is long and cylindrical (although at Athens it may not usually have been as long as No. **222** from Berenice; compare Robinson 1959, G197, G218, H20 etc.). It has a simple rounded base with a nipple point. Two rim types were noted at Berenice; Type 2 has a slight ridge where the rim joins the neck and the rim is slightly convex (compare Nos. **222** and **224**); Type 2a has a flatter profile and no ridge (Nos. **223** and **225**). The excavations at Berenice provided no evidence for chronological significance for this variation, although Hayes (personal communication) comments that No. **223** is probably third rather than second century A.D. (based on unpublished Aegean Roman pottery).

The fabric of the Berenice examples is normally a very smooth buff with occasional white grits. It is likely, however, that there were several production areas for this amphora. At Athens, the type occurs both in red and buff clays, some of which were considered to be local to Athens (Grace 1956, 170, pl. 75 P11481; supported by Hayes, personal communication). It is now clear that the type was also manufactured in Crete. A kiln site at Keratokambos in southern Crete has produced overfired and waster pieces of this general class as well as other second and third century A.D. pottery (unpublished information, J. Hayes). Three samples from Keratokambos (made available by J. Hayes) were thin sectioned by the writer and compared with No. **224** which is of similar fabric by eye. The samples from Keratokambos contain chert and limestone but no mica, while No. **224** contains a high proportion of mica in this section and is therefore different.

Amphoras of this form were very common in the second and third century A.D. levels of the Villa Dionysus at Knossos (Hayes, personal communication), and a Cretan origin is also suggested by two examples from Athens with the inscription *πάσσου* (Robinson 1959, H20). A typologically similar form, with, however, markedly longer and broader handles and longer neck, occurs at Pompeii (Panella 1976, 155–8). Several have inscriptions suggesting a Cretan origin, although several with Latin inscriptions referring possibly to wines of Capua make caution necessary when attempting to determine the provenance of the amphoras on the basis of their inscriptions (see also *ibid.* 156, note 33). From the description of the clay, and also from personal observation by the writer, the fabric of the Pompeii examples resembles by eye those found in Cyrenaica. More similar to the Cyrenaican examples from Pompeii is Panella 1976, 159–60, Tav. XLIII, No. 4. Panella notes that while a few examples at Pompeii can be paralleled with types from the Athenian Agora (e.g. Grace 1961, fig. 32–3), most cannot. The clay of the examples from Ostia is similar to that of the ones from Knossos (Panella 1974, 477).

## COARSE POTTERY

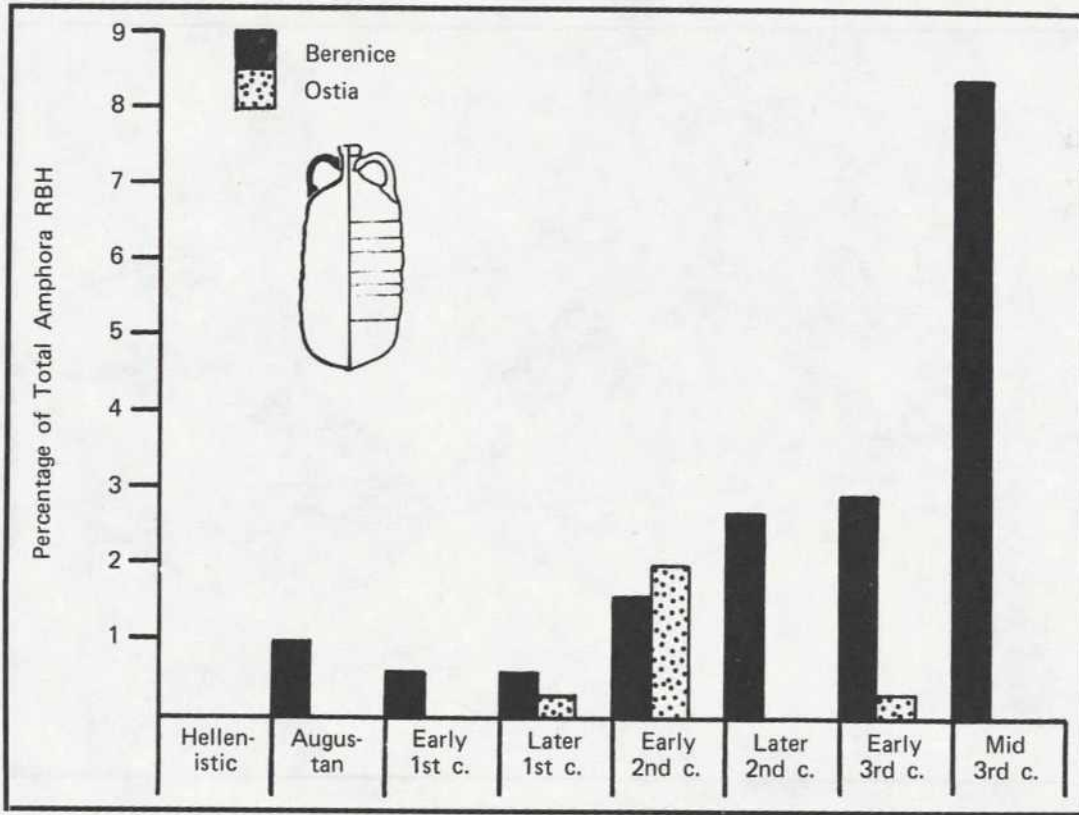


Fig. 28. Histogram to Show Relative Proportions of MR Amphora 2 at Berenice.

In summary, it appears that there may have been more than one origin for the amphora in Crete and probably in mainland Greece. Thin sectioning seems to confirm at least two separate production areas. The distribution seems limited to the central Mediterranean.

The date range for the type in general seems to be from the first to the later third centuries A.D. The variants from Pompeii have consular dates of A.D. 52, 57, 74, 78. The earliest dates from the Athenian Agora are of the late first to early second centuries A.D. (Robinson 1959, G197, G218; from Deposit G3). Lapp (1959, 80-6), however, concludes that this is not a reliably dated deposit, and this date should be treated with caution, as should the date of early second century A.D. for Robinson 1959, H20. The earliest examples in Berenice are recorded from Deposits 39 (Augustan) and 42 (first half of the first century A.D.): these, however are handles only. The earliest securely dated rim is from Deposit 59 (third quarter of the first century A.D.). The type increases in frequency especially in the second and third centuries A.D., peaking in the mid third century (= eight per cent of the total amphoras). The type only seems to have been frequent at Ostia, by contrast, in the early second century A.D. having declined there by the third century (Panella 1974, 631, fig. 35, 476-8 for the type at Ostia). The latest date for the type is uncertain, but it rarely occurs in the late levels at Berenice and is not noted in fourth century A.D. contexts at Athens. The example published by Freund & Johnston 1972, 227, figure 19, 101 probably belongs to an earlier period, as it has mortar adhering to it.

Nos. 226 and 227 are variants of the basic type from Berenice. It seems likely that most of the examples of this form found in Cyrenaica have a Cretan origin, although this remains to be proved.

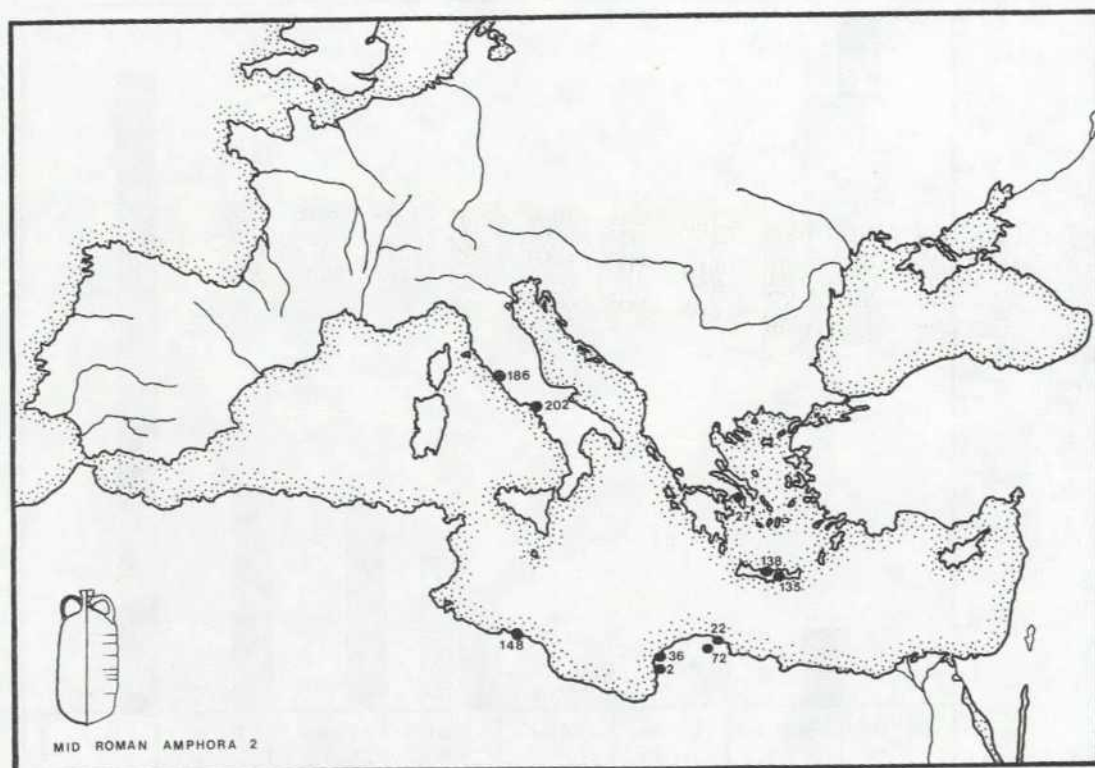


Fig. 29. Distribution Map of MR Amphora 2.

## CATALOGUE

- D222.** (Sidi Hussein +) (fig. 82)  
 Complete profile of MR Amphora 2. D. = 6.2 cm; Ht. = 62.7 cm. (pl. XXXIV).  
 Smooth buff fabric containing occasional white grits. Smooth break. This amphora had been re-used as an ossuary and for that purpose had part of the side removed (c. 35 cm × 20 cm). Amphoras were regularly used as ossuaries throughout the eastern Mediterranean.
- D223.** (Sidi Hussein +)  
 Complete profile of MR Amphora 2a. D. = 7.9 cm; Ht. = 60.8 cm.  
 Fine buff fabric with occasional white grits. Smooth break.
- D224.** (C19, SK L60.1) Miscellaneous deposit (mid third century A.D. destruction level).  
 Rim, neck and two handles. D. = 6.4 cm.  
 Smooth, buff (7.5YR 6/4–7/6). Well levigated.
- D225.** (SK W Room 2) Deposit 98.  
 Rim, neck and two handles. D. = 6.5 cm.  
 Smooth buff fabric (10YR 6/4) containing occasional white grits.

## COARSE POTTERY

---

**D226.** (C192, SK P5.5) Deposit 81.

Rim, neck and two handle stubs. D. = 6.3 cm.

Granular but firm buff/cream fabric (10YR 7/4). No visible inclusions.

**D227.** (C64, SK +) Surface find.

Rim, neck and two handles. D. = 6.2 cm.

Fairly hard and smooth red brown fabric (2.5YR 4/6) containing occasional quartz and other white grits. Fairly clean break. This fabric is unique on this form.

### MID ROMAN AMPHORA 3

This class of thin-walled, small amphoras has a very distinctive fabric, being a highly micaceous reddish brown (c. 2.5YR 4/4 to 5YR 4/4) with a soapy feel. The body sherds of this fabric are instantly recognisable and the quantified results are presented both as percentages of the total amphora RBH and RBHS, the latter probably being the more reliable figure owing to the much larger sample.

This fabric is represented on a particular class of small amphora which ranges in date from the later first to the middle of the sixth centuries A.D. The form varies with time, having one handle until the fourth century A.D. (= MR Amphora 3) and two handles by the late fourth century onwards (= LR Amphora 10). The base also changes with time, but the body sherds of the two types could not confidently be separated in the field. Although finer developments for the type have been suggested (Robinson 1959, pl. 41), those from Berenice were grouped into the two simpler broad types. Further firm dating evidence will undoubtedly enable a closer refining of their typology in the future. At Carthage, a similar fabric occurs on a thicker walled amphora in the Vandal period (Hayes 1976, 117); this version, however, was not noted at Berenice.

The basic form of MR Amphora 3 is a narrow necked, thin-walled amphora. The body is plump and ovoid and there is very shallow, broad ridging on the body, neck and base. There is one broad handle from the lower neck to the shoulder and the rim is thickened. The base is tubular and hollowed. The capacity is generally about 6.5 litres. The type develops between the late first and the fourth centuries A.D. from an ovoid to a fusiform shape, with a narrower rim and sharper lip, and a narrower base (see Robinson 1959, pl. 41; for the type in general see Lang 1955, 277-8, pl. 79, Panella 1974, 460-2).

At Athens the basic shape occurs in three fabrics in the first century A.D., a dark buff non-micaceous clay, and a micaceous buff clay, as well as the 'normal' fabric described above (Lang 1955, 277). The latter fabric seems to have superseded the other wares by the early second century A.D. Examples in the first two 'variant' fabrics have been noted at Berenice (No. 235) and Pompeii (Panella 1976, 460).

Several examples in the highly micaceous red brown 'normal' fabric from Athens had graffito letters which were interpreted by Lang (1955) as dates which ranged from A.D. 82 (possibly A.D. 50) to A.D. 159. One similar example from Kourion in Cyprus had a graffito attributed to A.D. 74 (Lang 1955, 281). However, at both Ostia and Berenice the type was absent in late first century A.D. contexts, occurring only from the early second century A.D., although at all times it represented a very low proportion of the total amphoras.

The basic form has a wide distribution from Beit Sharim in the East (Beit Sharim museum, unpublished) to Carmona in the West (Bonsor 1931, 108). Examples cited on the distribution

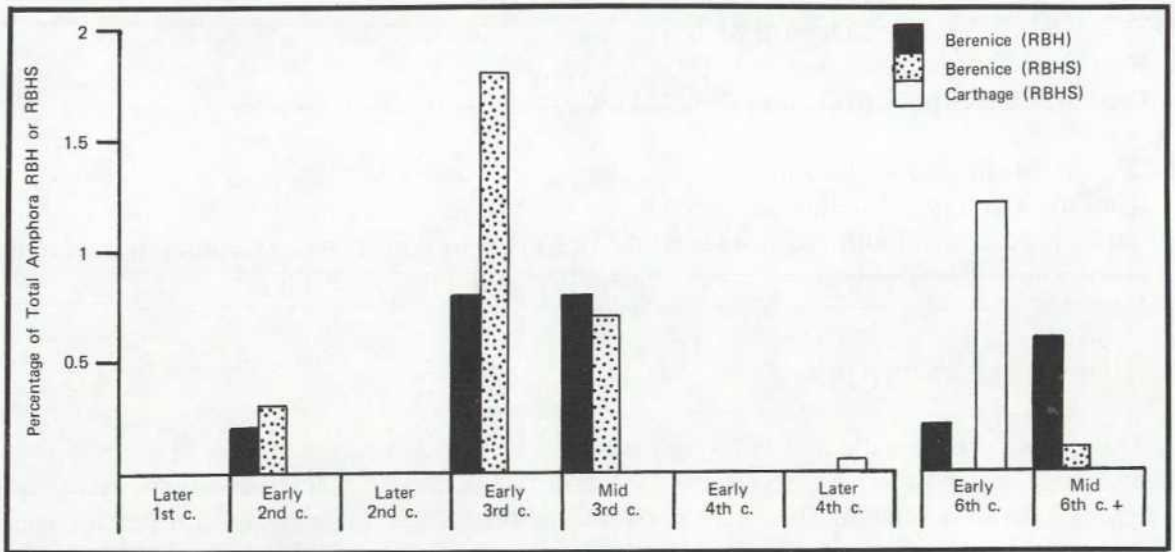


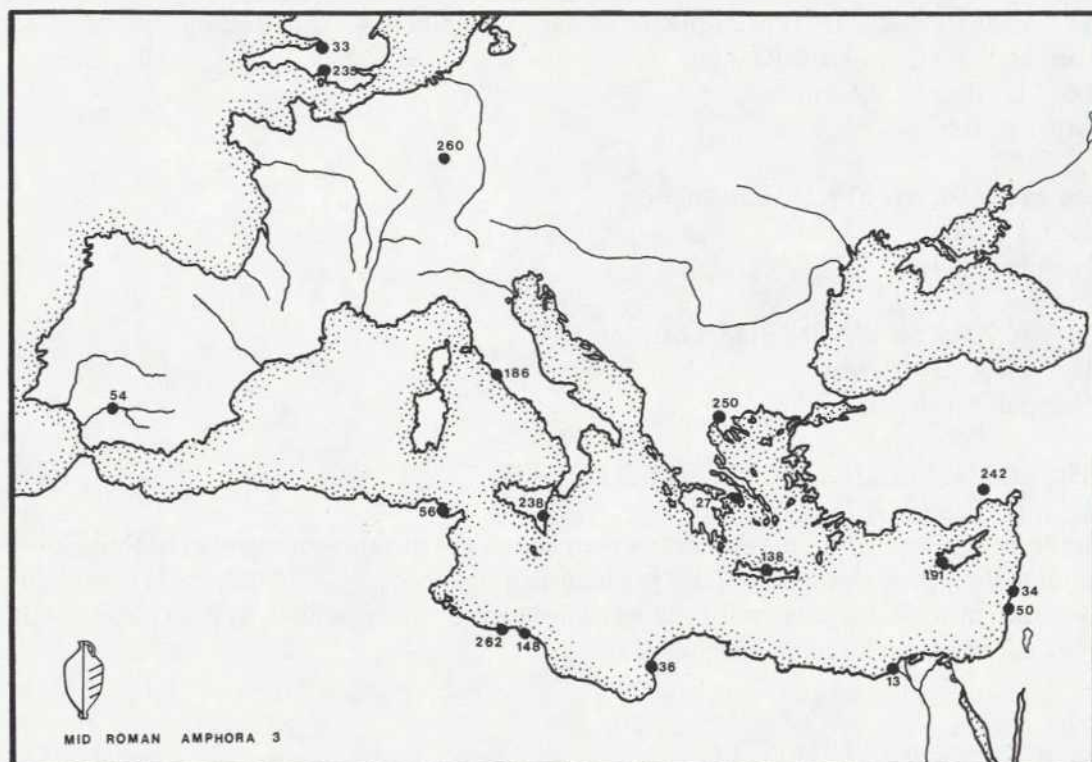
Fig. 30. Histogram to Show Relative Proportions of MR Amphora 3 at Berenice and Carthage.

map but not mentioned by Panella 1974 are from Alexandria (unpublished, in the Graeco-Roman museum store rooms; Ht. = 52 cm); Gargaresh (unpublished in the Tripoli museum store rooms; Ht. = 39 cm); Paphos (Hayes 1977, 100); Trier (Hussong & Cüppers 1972, 21, Abb. 10); Olbia (Melentova 1969, 25–7, fig. 3, Nos. 1 and 2) and Knossos (in contexts from the mid second to the fourth century A.D.; Hayes, personal communication). The type was very rare at Ostia, only one rim being noted in Panella 1974. The proportion was low at Berenice, comprising 0.3 per cent of the total amphora RBHS, rising to 1.8 per cent in the third century.

The origin of the clay is uncertain but is likely to have been western Asia Minor. The fabric has similarities with Eastern Sigillata 'B' ware (although this is buff). Hayes surmises the Meander valley (Hayes 1976a, 117). Annis (1975) analysed the clay, finding mica, quartz and felspar, which did not help to determine the origin. She then examined the potters' techniques, considering the amphoras to be made in segments (Annis 1975, 31ff.), and concluded that, based on the modern use of this method by potters in Crete and in the eastern Mediterranean, it is in these regions that an origin must be sought. Apart from various objections to this hypothesis (such as, for example, the possible survival or even the introduction of a technique in one area long after it has become extinct in another), the photographs presented by Annis (1972, 32) seem to show the thick variety in the micaceous fabric mentioned above. An Egyptian origin (proposed by Grace 1961, fig. 67) can now clearly be ruled out (on the basis of thin sectioning of the type; D. Williams, personal communication). A Samian origin has been suggested by Zeest (1960, 118–9) on the grounds of fabric (the Samian fabric is a 'coarse reddish brown clay with many sparkling pieces of mica'—Brashinsky 1973, 123). Quantitative study of the pottery from sites in western Turkey and further fabric analyses should resolve the problem of the origin eventually the contents of this amphora are unknown.

The latest contexts for this one handled variety seem to be the early fourth century A.D. from Bath, England (Cunliffe 1969, fig. 60, 9) and from levels attributed to the late fourth century A.D. at Athens (Robinson 1969, pl. 29).

## COARSE POTTERY



*Fig. 31. Distribution Map of MR Amphora 3.*

### CATALOGUE

(fig. 83)

**D228.** (C538, SK S13.5) Miscellaneous deposit; seven associated fine pottery sherds suggest first century A.D., probably mid first century.

Rim, neck and one handle. D. = 3.4 cm.

Fairly hard reddish brown fabric (2.5YR 4/6) with occasional tiny mica particles. The fabric is harder and not as soapy to the touch, nor is there as much mica as is usual for the 'normal' fabric.

**D229.** (C640, SK B13.2) Deposit 32.

Rim and handle fr. D. = 5.0 cm.

'Normal' fabric.

The deposit dates to the Hellenistic period and this rim may be intrusive.

**D230.** (C2611, SK L55.4) Deposit 103.

Base. D. Base = 3.9 cm.

'Normal' fabric.

**D231.** (C2046, SK X13.1) Miscellaneous deposit; associated fine pottery is mixed to the mid third century A.D.

Base. D. Base = 4.8 cm.

- D232.** (C2610, SK R10.5) Miscellaneous deposit; associated fine pottery and coins range from Hellenistic to Late Roman.  
Base. D. Base = 4.6 cm.  
'Normal' fabric.
- D233.** (C2609, SK S14.2) Deposit 145.  
Base. D. Base = 3.5 cm.  
'Normal' fabric.
- D234.** (C2045, SK PVat 18.2) Deposit 148.  
Base. D. Base = 3.9 cm.  
'Normal' fabric.
- D235.** (C834, SK L21.9) Miscellaneous deposit.  
Base. D. Base = 6.7 cm.  
Buff fabric (5YR 5/6), fairly compact with no mica. The fabric appears to be that described for Lang's type 1 (Lang 1955, 277), which is a first century A.D. fabric. It is probably to be grouped with a similar published example from the Athenian Agora (Robinson 1959, F65) dated to the late first century B.C.

#### MID ROMAN AMPHORA 4

The form has a broadly corrugated, cylindrical body, short wide cylindrical neck and plain knobbed rim. The distinctive feature is the treatment of the handles which are centrally grooved and pinched together at the bend. It generally has a knob-like base (as No. 323, which probably belongs to this type; see also Panella 1974, 631, fig. 34; No. 239 a moulded base, is of similar fabric to No. 236 and may belong to the type, although this is not certain).

At Berenice, several fabrics were represented varying from a micaceous orange to a non-micaceous buff. No. 238 was thought possibly to be local to Berenice but thin section revealed that the clay was not local to Cyrenaica (not illustrated). It contained mica and slate and is of a metamorphic origin (identification: Peacock). By eye, the fabrics of the Berenice examples of this form are similar to those of Athens (Hayes, personal communication).

The type is very common at Paphos in Cyprus in early second century A.D. deposits and it seems to have been manufactured locally there (Hayes 1977, 100). It occurs at Pompeii (*CIL* IV, 2, type XXVII-XXVIII) but does not occur at Ostia until the second and third centuries A.D. when it is at all times rare (Panella 1974, 474-6). The type was not noted at Sabratha at all (K. Kenyon, personal communication; C. Panella, personal communication). As eastern Mediterranean origin seems assured, although more than one area of manufacture seems likely on the basis of the range of fabrics at Berenice, and a North African origin (as proposed on little evidence by Zemer 1977, No. 41) can be ruled out. It is perhaps worth drawing attention to the similarity of the shape with that carried by a camel on an undated terracotta from Aphrodisias (Rostovtzeff 1971, pl. XLVIII, 4). At Athens, this amphora occurs in contexts considered to range from the late first to the fourth centuries A.D. (Robinson 1959, G199, L11, M239). It was not noted at Caesarea, which might suggest that it was already in decline by the early fourth century A.D. It seems not to have occurred in the Black Sea region.



## COARSE POTTERY

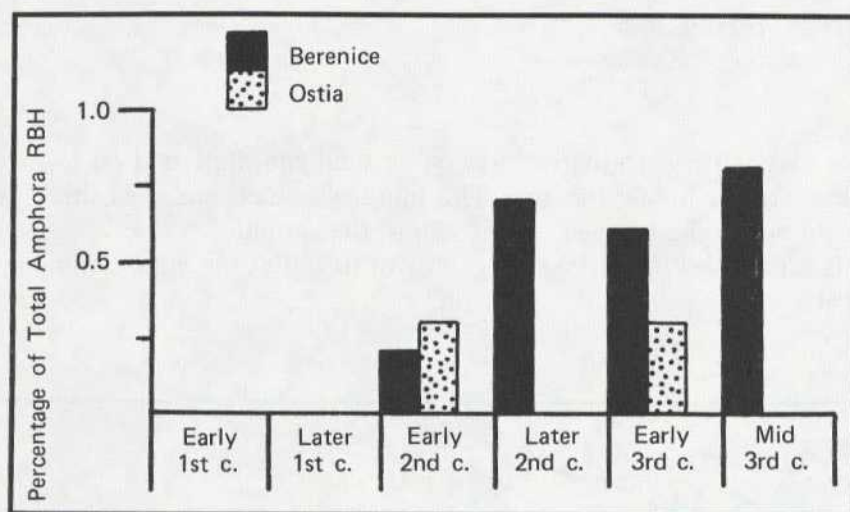


Fig. 32. Histogram to Show Relative Proportions of MR Amphora 4 at Berenice and Ostia.

The form does not occur in the first century A.D. at Berenice, where it belongs predominantly to the second and third centuries A.D. The contents of this type are not known. It should be noted that the walls are fairly thin and the shape does not appear to be particularly strong.

### CATALOGUE

(fig. 83)

**D236.** (C120a, SK H2.15) Miscellaneous deposit; associated fine pottery spreads thinly to the mid third century A.D.

Rim, neck and two handles. D. = 12.0 cm; Ht(extant) = 38.5 cm.

Gritty bright orange red fabric containing a little mica.

**D237.** (C2530, SK H22.2) Deposit 82.

Rim and handle fr. D. = 11.2 cm.

Very micaceous orange fabric (c. 5YR 5/8) containing occasional white grits.

**D238.** (C120, SK B4.13e) Deposit 105.

Rim and handle fr. D. = 12.7 cm.

Buff fabric (5YR 6/6) containing occasional white grits.

As the fabric resembled that of the local Cyrenaican wares a sample was thin-sectioned (not illustrated). Although there is a matrix of small quartz grains there is a high proportion of mica and an absence of limestone. The clay comes from a metamorphic source and is not local to Cyrenaica.

**D239.** (C120b, SK H2.15) Miscellaneous deposit; see No. 236 for associated finds.

Base. D. Base = 9.1 cm.

The fabric is very similar to No. 236 and this base may belong to the same vessel. This has not been confirmed.

## MID ROMAN AMPHORA 5

*(Zeest Type 80)*

This amphora has a very distinctive, heavy, vertical rim, flattened on top with two deep grooves on the exterior below the rim. The handles, which are very thick and round in section, are from below the grooves on the rim to the shoulder.

The fabric is a greyish buff, fired orange brown to red at the edges, and contains quartz and shining grits.

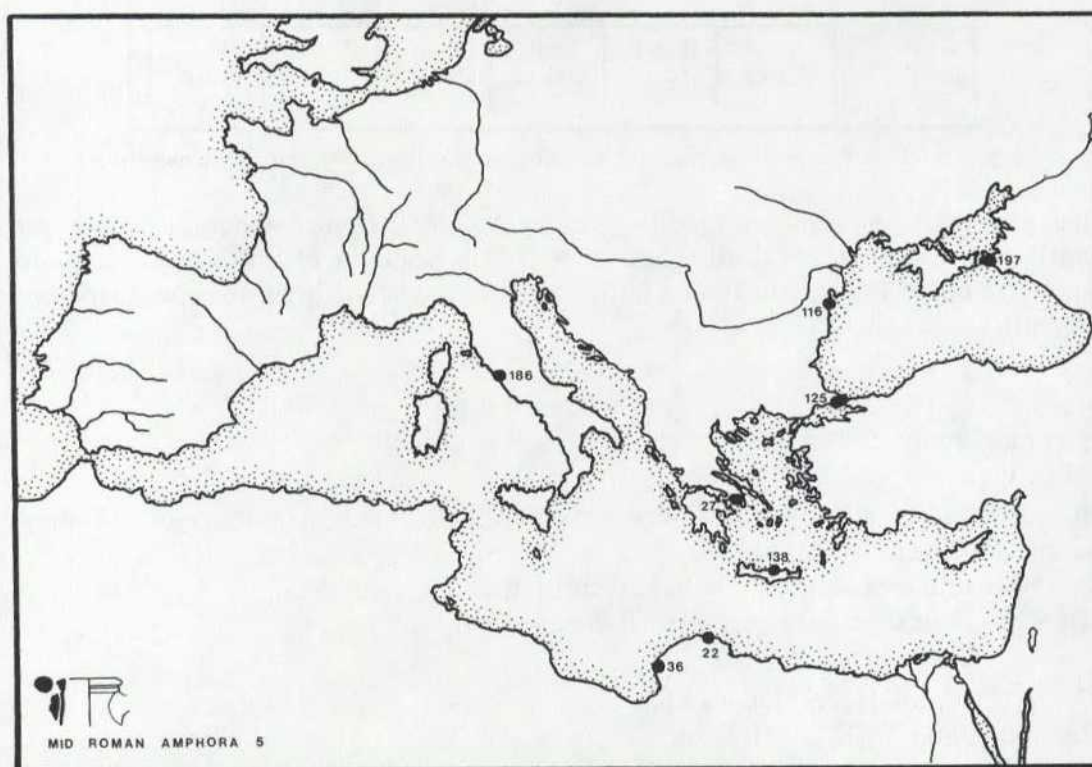


Fig. 33. Distribution Map of MR Amphora 5.

The type probably has a north Aegean or Black Sea origin. It is found widely in the northern Black Sea regions, being most common in the western towns and settlements (i.e. west of modern Kerch), although it is also common at Phanagoria (Zeest 1960, 114-5, 169, type 80). The type occurs at Istanbul in late second to early third century A.D. contexts (J. Hayes, personal communication) and at Athens in a mid third century A.D. context (Robinson 1959, pl. 40, P21330, and K115). The occasional example occurs in Crete (Hayes, personal communication) and one fragment came from a second half of the third century A.D. context at Ostia (Panella 1968, 112, Tav. XLV, No. 582).

The type is rare at Berenice, only two rims being noted from the whole excavation. Two further rims were noted at Apollonia. The contents of the amphora are not known.

## COARSE POTTERY

---

### CATALOGUE

(figs. 83, 84)

**D240.** (C2604, SK BB5.1) Miscellaneous deposit.

Rim fr. D. = 18 cm.

Greyish buff fabric (10YR 6/1) fired orange brown (c. 5YR 5/4) at the edges. Contains a little quartz and a few mica specks.

**D241.** (SK P31.5) Miscellaneous deposit; the large quantity of associated fine pottery ranges from Hellenistic to the mid third century A.D. with one later sherd.

Rim and handle fr. D. = 18.6 cm.

Orange brown fabric.

### MID ROMAN AMPHORA 6

This amphora type refers to a distinctive amphora base, and the form of the complete amphora has not been established. The base is squat and cushion-like, with horizontal grooves on the exterior.

The fabric is a pale orange brown with occasional cream and grey grits. The exterior usually has a greenish wash.

The origin is uncertain and only occasional examples have been noted at Berenice and Apollonia. No examples of this type occurred in second and third century A.D. sealed deposits at Berenice and the type should probably better be considered a Late Roman amphora type.

### CATALOGUE

(fig. 84)

**D242.** (C2070, SK PVat 12.2) Deposit 146.

Base. D. Base = 6.3 cm.

Pale orange to buff fabric (c. 5YR 7/6) containing occasional creamish grits and a little mica.

### MID ROMAN AMPHORA 7

(*Ostia VI, Niederbieber 77, Kapitän II, Zeest 79*)

This amphora, which has a height of about 75 cm and an average rim diameter of 6.5–7.0 cm, has a high, thick, conical neck, a short, flattish shoulder and a tapering, conical body. The base is hollowed and tubular in form, with shallow, horizontal grooves on the exterior. There is a distinctive, fairly sharp flange below the slightly thickened rim. Two heavy, broad handles from just below this flange to the shoulder are steeply arched above the level of the rim.

The clay is a granular, orange-red (c. 2.5YR 5/8–6/8) sometimes with a grey core, containing a moderate proportion of white quartz-like grits (isolated lumps of which can be large, up to 0.5 cm<sup>2</sup>, and which erupt at times through the surface), and occasional reddish grey grits (of ferruginous sandstone; Peacock 1977, 297 concludes that "thin sections are not informative of provenance as the field of view is dominated by ill-assorted, sub-rounded quartz and quartzite grains up to about 1 mm. across set in a matrix of optically isotropic clay. A few shreds of white mica are scattered throughout while plagioclase, chert, potash feldspar and lava fragments are present in small quantities").

The shape is uniform at Berenice (as No. 243) and no possible early variants (such as Parker & Squire 1974, fig. 3.4) have been noted at all in Cyrenaica. It should be added that of the examples illustrated by Oelmann (1914) from Niederbieber, only Abb. 47, No. 1 clearly belongs to the type. In the light of the uniformity of the shape throughout the eastern Mediterranean, Abb. 47, Nos. 2 and 3 do not seem to belong to the type. For the same reason the hypothetical reconstruction by Dyson (1968, fig. 4, No. 66) of a solid base cannot be accepted.

The earliest historically dated example is from Ain Sinu in Iraq (before A.D. 237, Oates & Oates 1959, 233, pl. 57, No. 60). There are indications that the type may have been imported into Ostia during the second half of the second century A.D. (Panella 1974, 596–7 and 686), although it is only common by the early third century A.D. Although the type occurs in early third century A.D. contexts in Roumania and in the Black Sea region (see below), it is rarely present at Athens before the Herulian invasion of A.D. 267 (Hayes, personal communication), and its *floruit* there is the later third and fourth centuries A.D. The bulk of those examples from dated contexts throughout the Mediterranean are from later third and fourth century A.D. contexts (Panella 1974, 596–9; Parker & Squire 1974, 29–30). Quantification of late third and early fourth century A.D. levels has not been possible for any site, but a quantitative histogram of its occurrence in deposits of the

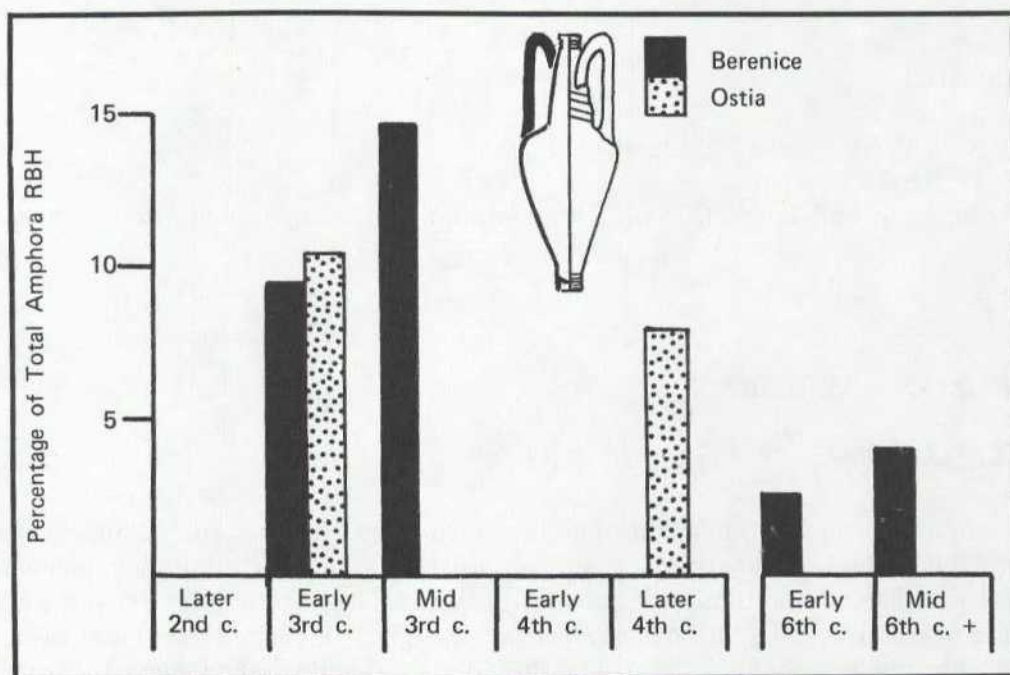


Fig. 34. Histogram to Show Relative Proportions of MR Amphora 7 at Berenice, Ostia.

## COARSE POTTERY

early third and late fourth centuries A.D. illustrates that it was frequent in both of these periods at Ostia, Berenice and Caesarea. By the fifth and sixth centuries A.D. it is probably a survival at Berenice (where there is a fairly high incidence of other survival pottery) and clearly a survival at Caesarea. In general the type seems not to have been produced after the end of the fourth century A.D., and this may be related to the rise of LR Amphora 1 and the various Palestinian and Aegean amphoras which were exported widely throughout the Mediterranean by the mid fifth century A.D.

The type is common at Berenice in the early and mid third centuries A.D., representing between 10–15 per cent of the total amphoras, with the possibility that the proportion was increasing in the middle of the century. Although one must always exercise great caution when arguing from absence of evidence, it seems that the total absence of the type in the cistern deposit 81, of which amphoras comprise 25 per cent of the total coarse pottery RBH, together with the high proportion of MR Cooking Ware 3, may suggest that the deposit is late second rather than early third century A.D. (an impression shared by P. Kenrick from his study of the fine pottery from the deposit). There is no evidence that the amphora occurred at Berenice or elsewhere in Cyrenaica before the early third century A.D.

Absence of good later third and fourth century A.D. deposits at Berenice prevented a study of types securely attributable to this later period, but there is no firm evidence of any typological development. It was, however, noted that some examples had more clearly defined details (such as flange, base, etc.), and a generally crisper, cleaner appearance than others. This may or may not have chronological significance.

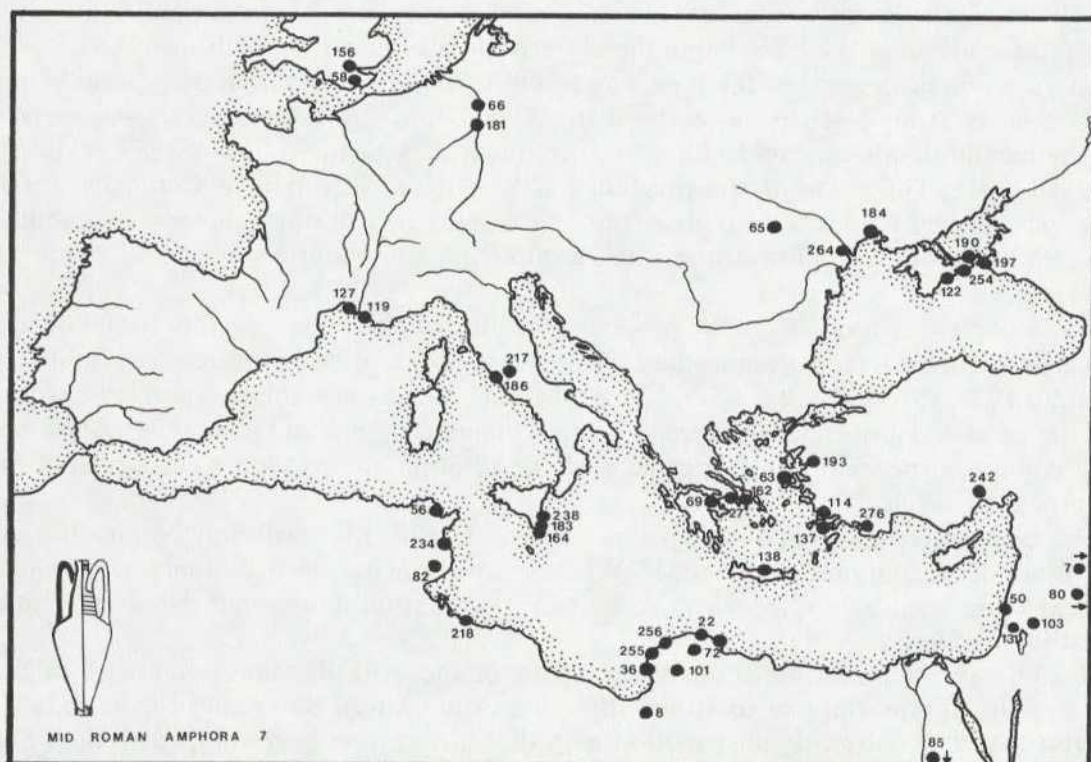


Fig. 35. Distribution Map of MR Amphora 7.

The type has a wide distribution, ranging from Chester in England to Ain Sinu in Iraq; and Faras in Nubia to Olbia in Russia (see distribution map: the sites are mainly referred to either in Panella 1974, 596–9; Parker & Squire 1974, 29–30; or Peacock 1977, 297; references to other find places not mentioned in these works are given below). The type has not been noted in Spain and is rare in France or North Africa. It was absent from the Michigan University excavations at Carthage from 1975–77, which included fourth and fifth century A.D. deposits, and only one possible handle fragment occurred from the Italian excavations at Carthage (Panella, personal communication). The type was not noted in the fourth to sixth century A.D. levels of the Italian excavation at Tipasa in Algeria from 1972–74 (Manacorda, unpublished information). It does not seem to have been common at Sabratha either (Parker & Squire 1974, 30). Although the type is well represented at Ostia (c. 10 per cent of the total amphoras in the early third and late fourth century A.D. deposits), the rarity elsewhere in the western Mediterranean seems to rule out a western origin. This is supported, and in the opinion of the writer, confirmed, by a study of the distribution of the type in the eastern Mediterranean.

The type is fairly common in the Black Sea region, although not as common as local amphoras (Zeast 1960, 114), and certainly occurs there in the early third century A.D. at sites such as Semenovka, Kimmerike, and Ilyrat, which were destroyed in the mid third century A.D.; the type is also found on Roumanian settlement sites of the same period (Zeast 1960, 114). For references to examples from Olbia, Tire, and Ilyrat see Melentova 1969, 24–5, and fig. 2, 2. The frequency of the type in the Black Sea area supports an eastern Mediterranean and probably an Aegean source. An Aegean, and specifically Samian, origin has been proposed (Grace 1971, 72, note 51, on the basis of the tubular foot.). However, Samian clay is micaceous and the clay of MR Amphora 7 contains only a little mica. The precise origin of the type within the eastern Mediterranean remains uncertain.

There are indications that the type was common in the Aegean, as it was common in the third century A.D. destruction levels of the Villa Dionysius at Knossos (Hayes, personal communication) and appears to have been frequent at Athens (Robinson 1959, K113, L33, M237, M274, M303). The fabric precludes a Palestinian, Egyptian or Cyrenaican origin. However, the type does appear to have been regular in Palestine, representing about 10 per cent of the total amphoras in a small group from a late fourth century A.D. context at Caesarea.

No examples were noted by the present writer in the two amphora store rooms or in the inventory of the Graeco-Roman museum in Alexandria, although it does occur in Nubia (Griffith 1924, 151, pl. 24, No. 48k). Numerous examples are present in all parts of Cyrenaica (occurring at Ajdabiyah, Gasr Tecasis, Tocra, Tolmeita, Cyrene and Apollonia). At Berenice they comprised between 10–15 per cent of the total amphoras in the early to mid third century A.D. levels.

The contents of the amphora type are unclear. Clarification will only be possible when the origin of the amphoras is identified. Whatever the contents, the occurrence at such inland sites as Gasr Tecasis in Cyrenaica and its wide distribution throughout the Mediterranean attest its popularity.

In summary, the distribution and the results of the quantification suggest an origin in the Aegean. It was shipped to Rome (the wrecks in eastern Sicily suggest the route). Of interest is the hint from the distribution map that it may have been shipped up the Rhône-Rhine route to Britain, in which case it may have been handled by the same shippers responsible for the supplies of the Gaulish MR Amphora 11 (Dressel 30).

**D243.** (C2516, SK H22.2/3) Deposit 82.

Complete (restored). D. = 6.5 cm; Ht. = 72.5 cm; D. Base = 7.5 cm. (pl. XXXIV). Gritty grey fabric (c. 2.5Y 4/2) fired orange-red (2.5YR 6/8) containing grey grits and a little mica. The whole amphora is slightly off-centre, and may have sagged slightly during firing.

## MID ROMAN AMPHORA 8

This is the most frequent of the very few local amphora types of the second and third centuries A.D. in Cyrenaica. The form has a short, vertical neck with a thickened flanged rim. Two more or less oval handles with ridging merge with the rim from the broad, corrugated shoulder. The body is plain. No complete profiles were found but on the evidence supplied by the relative quantities of bases from the Tocra kiln site, where this amphora comprised 45 per cent of the total amphoras, it seems likely that the base was the larger variety of moulded base (Base B or D). The average diameter of the rim varied between 11–12 cm at Tocra.

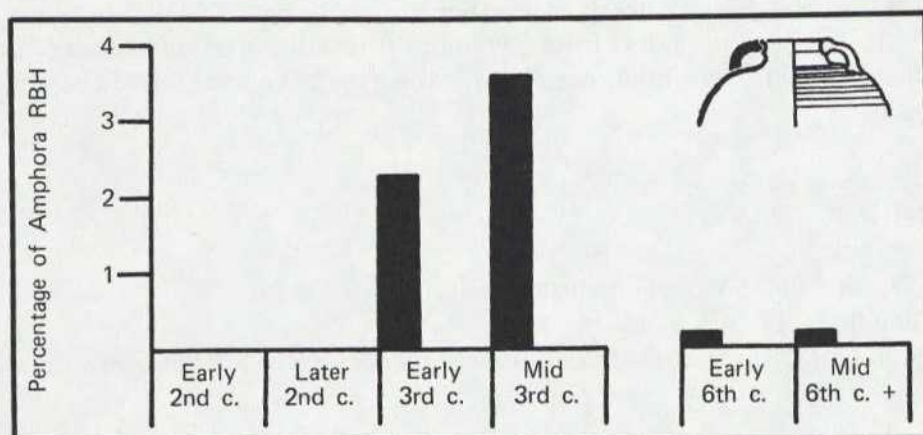


Fig. 36. Histogram to Show Relative Proportions of MR Amphora 8 at Berenice.

The type was certainly manufactured in the early third century A.D. at Tocra, and was probably also local to Berenice, although it occurs at Berenice in very low proportions (no more than 3.6 per cent of the total amphoras in the mid third century A.D.). However, the proportion of this amphora may well be much lower in domestic contexts of the same period at Tocra. The fabric is Berenice local fabric 5 (those of Tocra are Tocra local fabric 2), sometimes with a creamish green wash exterior. No parallels have been noted elsewhere in the Mediterranean, which suggests that Cyrenaica did not trade in liquids in this period to any noticeable degree. The amphora did not occur in second century A.D. contexts at Berenice, which suggests that it was predominantly a third century A.D. type. It seems not to have been produced later than the mid third century A.D.

## CATALOGUE

(fig. 84)

**D244.** (C20, SK H1.2) Deposit 84.  
Rim, neck and two handles. D. = 11.4 cm.

**D245.** (C20a, SK L55.4) Deposit 103.  
Rim and handle fr. D. = 10.8 cm.

## MID ROMAN AMPHORA 9

*(Local Amphora)*

This amphora has a thickened, elongated rim with a concave outer face, a cylindrical neck and a carination high on the neck, below the rim. There are two roughly oval handles from the carination to the shoulder. As with Mid Roman Amphora 8, the shape of the base is uncertain but may have been a larger variety of Jug Base D. The type was regular at the kiln site excavation at Tocra where it comprised about 12 per cent of the total amphora RBH (for the site see Riley in press 1, No. 5). This suggests that the type was at least current by the early third century A.D. The type occurred but was very rare at Berenice, only two examples being noted in the third century A.D. deposits. The fabric is similar to that of MR Amphora 8. The shape occurred from an undated context at Bu Njem (Rebuffat *et al.* 1970, 104, No. A125), although it is uncertain whether this represents a similar local tradition at Bu Njem or whether it is an import from Cyrenaica (the writer has not examined the fabric of the Bu Njem example). No other parallels for this type have been noted elsewhere in the Mediterranean.

## CATALOGUE

(fig. 84)

**D246.** (C577, SK L25.3) Miscellaneous deposit  
Rim and handle fr. D. = 6.6 cm.  
Local grey to pale brown fabric 5 containing a moderate proportion of white grits.

## MID ROMAN AMPHORA 10

*(Local Amphora)*

The shape seems to be related to that of Mid Roman Amphora 9. It has a similar neck and handle treatment with a carination high on the neck below the rim. The rim, however, is thickened and rounded and is much shorter than Mid Roman Amphora 9. The shape of the base is uncertain but may be similar to that of both Mid Roman Amphora Types 8 and 9. (for the form see Riley in press 1, No. 4).

The type has only been noted at Tocra where it comprised about six per cent of the total amphoras at the kiln site there. The fabric of these examples was the Tocra local fabric 2. Its occurrence at Tocra suggests that it may have been a later second to third century A.D. type. It did not occur at Berenice or elsewhere in Cyrenaica. None are illustrated.



## COARSE POTTERY

### MID ROMAN AMPHORA 11

(*Ostia Type LX; Dressel 30; Pélichet 47; Niederbieber 76*)

The form is generally a fairly broad shouldered amphora with a tapering body. The base usually has a low foot. The neck is short and the rim is thickened and everted. Two distinctive, broad handles, which have been bent by the potter so as to have a V-shaped channel on the top, are pressed crudely into the middle of the neck (see Panella 1974, 628, nos. 19 and 20).

The fabric is a pale brown to buff, sometimes with a red core and often with whitish inclusions. In fragmentary form, the shape and in some cases the fabric may have been confused with the mainly third and fourth century A.D. Algerian variety MR Amphora 13 in the field, although petrological analysis can distinguish clearly between the two types. In the tables MR Amphora 11 may well include either type.

The South Gaulish origin for the type is confirmed by the discovery of kiln sites at Fours (near Toulon), and probably Avignon (Panella 1974, 546–7) as well as at Velaux (Tchernia & Villon, 1977). This amphora is also very common in Gaul and the main content was probably wine or possibly also fish sauce (see Ostia iii, 547 ff. for a discussion of Gaulish products).

The earliest example may be that from a B.C. context at Cáceres in Spain (Beltrán 1970, 525). This is somewhat isolated chronologically, as the import of the type began elsewhere around the middle of the first century A.D. (Panella 1974, 542) and was very common in the western Mediterranean throughout the period from the second to the fourth centuries A.D. (*ibid.* 538–51; Beltrán 1970, 525–9), and became the commonest amphora in Britain after the mid second century A.D. (Peacock 1978, for discussion). The type was common in mainly later first century A.D. contexts at Vindonissa (Ettlinger, in press; Ettlinger & Simonett 1952, No. 582; it comprised 11 sherds out of 150 amphora sherds there).

The type has rarely been noted in the eastern Mediterranean but preliminary indications suggest that it may be more widespread than hitherto expected. No examples have been noted in Berenice in contexts earlier than the third century A.D. and it is always rare. Examples

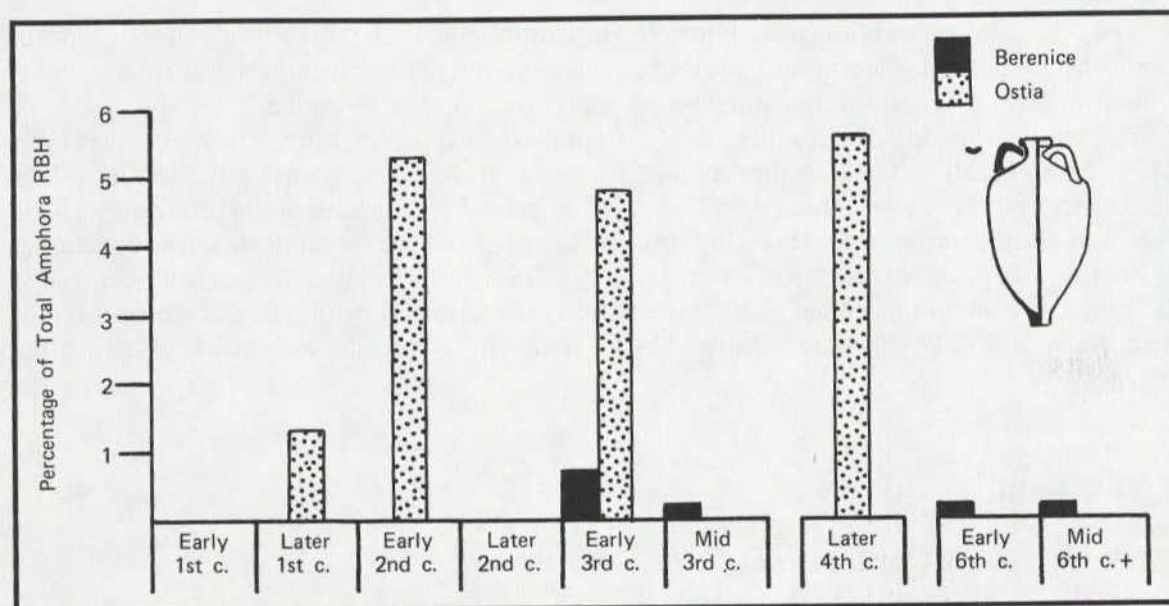


Fig. 37. Histogram to Show Relative Proportions of MR Amphora 11 at Berenice.

have occurred in second and third century A.D. contexts at Knossos (J. Hayes, personal communication) and Athens (Panella 1974, 543). For a possible example from Chersonisos, on the north coast of Crete, see Leatham & Hood (1959, fig. 9, 2).

## CATALOGUE

(fig. 84)

**D247.** (C587, SK J15.7) Miscellaneous deposit; five fine pottery sherds spread to the sixth century A.D.

Rim and handle fr. D. = 12.6 cm.

Buff fabric (5YR 6/6) containing occasional white grits.

**D248.** (C2092, SK PVat 12.2) Deposit 146.

Rim and handle fr. D. = c. 12 cm.

Fairly granular cream fabric (c. 10YR 7/4). No visible inclusions.

## MID ROMAN AMPHORA 12

*(Ostia Form V)*

The general form is similar to that of MR Amphora 11. The rim is not as rounded and is more elongated; the base tends to be rounded with a very faint circular groove on the underside (although this is not always the case; No. **251** has a footed base and an example in the Rabat villa museum in Malta has a fairly long cylindrical base.) The handles are also similar to those of MR Amphora II (see Panella 1973, 600–5, 630, fig. 33, for the type).

The clay is generally red with pale brown and white grits, although No. **251** has a micaceous buff fabric.

The Algerian origin is suggested both by the stamps and by the distribution of the amphora which is greatest in Algeria and Morocco; the content is unknown, but was probably oil or wine (*ibid.* for discussion). No stamped examples occurred at Berenice.

The type has a wide distribution from Britain (Jessop 1954, 49, fig. 13) to Alexandria (Will 1977, 268) as well as Ostia, Sabratha and Berenice. It may first occur in the last decade of the second century A.D. (Ostia iii, 693) for it comprised 4.1 per cent of the total amphoras in the early third century A.D. levels at Ostia and 1.6 per cent in those of the late fourth century. With the exception of the nearly complete No. **251**, only isolated fragments occurred at Berenice. It is in fact not clear that all the catalogued items do belong to this form and some (especially Nos. **249–50**) may belong to MR Amphora 11; No. **255** may not belong to either category.

## CATALOGUE

(figs. 84, 85)

**D249.** (C2660, SK B4.20) Deposit 105.

Handle fr.

Pale red fabric (c. 2.5YR 6/6), granular, containing occasional white and black grits.

## COARSE POTTERY

---

- D250.** (C2055, SK V5.5) Deposit 119.  
Handle fr.  
Granular pinkish orange fabric (2.5YR 6/8) containing cream to grey (?quartz) grits.
- D251.** (C2517, SK H22.2/3) Deposit 82.  
Complete profile (restored) D. = 13.0 cm.; Ht. = 67.5 cm; D. Base = 9.0 cm. (pl. XXXIV).  
Micaceous buff fabric (7.5YR 7/4–6/4) with a moderate proportion of gold flakes of ?biotite and occasional red grits. The fabric is not Gaulish and is likely to be Algerian (D. Peacock, personal communication).
- D252.** (C2532, SK H22.3) Deposit 82.  
Base. D. Base = 6.0 cm.  
Pale pinkish red fabric (2.5YR 6/6) containing many greyish grits.
- D253.** (C243, SK J31.14) Deposit 101.  
Base. D. Base = 6.5 cm.  
Pale pinkish red fabric (2.5YR 6/6) fired buff (c. 10 YR 7/4) containing a moderate quantity of white grits.
- D254.** (C1150, SK P32.6) Miscellaneous deposit.  
Rim and handle fr. D. = 11.2 cm.  
Pale red to orange fabric (2.5YR 5/6) containing occasional white grits.
- D255.** (C2528, SK H22.3) Deposit 82.  
Handle fr.  
Pale red to orange fabric (2.5YR 5/6) containing a moderate quantity of white and cream grits.

### MID ROMAN AMPHORA 13

The neck is high with a simple, thickened, rounded rim. The two handles have a shallow groove on them and the base is footed or, as in the case of No. 256, moulded. The form is probably Dressel 29 but the origin is unknown. The predominantly western Mediterranean distribution suggests a western Mediterranean origin (see Panella 1974, 482–5, 632, no. 41, for the type and its distribution). The clay is similar to that of the Gaulish MR Amphora 11. At Ostia, the type represented 1.5 per cent of the total amphoras in the early third century A.D. levels and 4.8 per cent in those of the late fourth century. The type was rare at Berenice, but did occur in the mid third century A.D. cistern deposit 110.

### CATALOGUE

(fig. 85)

- D256.** (This is a composite drawing: the rim, neck and handles are C390, SK+ (surface level) and the base, body and one handle are from SK B4.20 (Deposit 110). The fabric is similar on both pieces. D. = 8.0 cm; Ht. = 66.5 cm; D. Base = c. 9.5 cm.  
Clean, creamish grey fabric (10YR 7/3) similar to that of No. 248.

## MID ROMAN AMPHORA 14

*(Ostia Form XXIV/II)*

This is a later version of ER Amphora 11 (Tripolitanian) and shares a similar general shape, fabric and origin. The handles are, as with ER Amphora 11b, on the shoulder; the rim is thickened but with a sharp groove on the outer face, in contrast to the gentler concave groove of ER Amphora 11a (see Panella 1974, 562–4). In the field, the rim of the late Ostia Form II (Panella 1974, 564–5) could not confidently be distinguished from ER Amphora 11a. Nos. 271 and 272 from Berenice probably belong to Ostia Form II, however. The conical base of the Ostia Form II often contains a plug of clay on the inside (e.g. No. 266). This is a distinctive feature which was introduced from the second century A.D. It should be noted, however, that this feature is not confined to Tripolitanian amphoras, as examples in a Tunisian fabric have been identified (D. Peacock, personal communication). This base is rare at Berenice but, where it does occur, it seems to be of normal Tripolitanian fabric. The tables for MR Amphora 14 refer solely to this type of base and to the sharply grooved rims.

From this evidence collected by Panella (1974, 562–4), it appears that the basic type was only commonly exported from the early second century A.D. onwards and especially from the second half of the century. The types classified under this heading at Berenice only occurred in third century A.D. contexts. Although regular, the later Tripolitanian types are never common at Berenice. They have been noted elsewhere in Cyrenaica at Abyar el Najm, Boreum and Zuwaytinah. Probable examples from Egypt have been mentioned above (Ben Arieh 1974, 93, fig. 2, No. 6, pl. XXIX, no. 5) and an example from Naucratis stamped ZRVBMV on the outside of the rim is in the British Museum (BM 1955-9-20-91), in the softer Tripolitanian fabric. See also Zemer 1977, No. 37 from Atlit.

## CATALOGUE

(figs. 85, 86)

- D257.** (C2050, SK V5.5) Deposit 119.  
Rim fr. D. = 17 cm.  
Dull red fabric (2.5YR 5/6) containing occasional pale grey grits.
- D258.** (C1001, SK+) Surface find.  
Rim fr. D. = 15.8 cm.  
Hard gritty dull red fabric (c. 2.5YR 5/6) containing many creamish grit specks.
- D259.** (C2544, SK R4.5) Miscellaneous deposit; associated fine pottery dates to the fourth or fifth centuries A.D.  
Rim fr. D. = 17 cm.  
Pale reddish brown fabric containing many creamish grits. Greenish wash exterior and over rim.
- D260.** (C1153, SK L2.5a) Miscellaneous deposit.  
Rim fr. D. = 15 cm.  
Hard, brownish grey fabric (5YR 4/1–4/2) containing many creamish grits. Cream wash exterior.

## COARSE POTTERY

---

- D261.** (C1166, SK L55.4) Deposit 103.  
Rim fr. D. = uncertain.  
Greyish buff fabric (c. 7.5YR 6/4–6/2) containing occasional pale grey grits.
- D262.** (C2061, SK L47.2) Deposit 73.  
Rim fr. D. = 17 cm.  
Hard grey fabric (7.5YR 5/2) containing a moderate quantity of small cream grits.
- D263.** (C1165, SK L24.2) Deposit 73.  
Rim fr. D. = uncertain.  
Orange fabric (2.5YR 5/6) fired dark grey at the edges, containing a moderate quantity of small white grits. Cream wash exterior and interior.
- D264.** (C67a, SK PVat 1.2) Deposit 111.  
Rim fr. D. = uncertain.  
Pale orange red fabric (2.5YR 6/6) containing a moderate quantity of white grits.
- D265.** (C113, SK J31.14) Deposit 101.  
Rim fr. D. = 17 cm.  
Pale red fabric (2.5YR 6/6–5/6) containing a moderate quantity of cream grits. White wash exterior.
- D266.** (C1148, SK P36.5) Miscellaneous deposit.  
Base.  
Brownish red fabric (2.5YR 4/8) fired pale grey (c. 2.5YR 4/0) containing many creamish grits.
- D267.** (C740, SK G10.1) Deposit 158.  
Rim fr. D. = 18.8 cm.  
Pale grey fabric (5YR 6/1) fired buff (5YR 6/4) containing occasional white lumps.
- D268.** (C2065, SK L53.4) Deposit 86.  
Rim fr. D. = 14 cm.  
Grey fabric fired dull red orange (2.5YR 6/6) containing occasional white lumps.
- D269.** (C239, SK J31.14) Deposit 101.  
Handle.  
Rust coloured fabric (c. 7.5YR 5/2–4/2) containing many white grits.

## MID ROMAN AMPHORA 15

This is a late version in the Tripolitanian series and has a high neck and small thickened rim with a groove on the outer face. There are two handles from below the rim. This type occurs in fourth century A.D. contexts at Ostia (Panella, personal communication; compare the third century A.D. Panella 1974, 566, fig. 221). This type is rare at Berenice. The fabric is the hard variety of the Tripolitanian type.

## CATALOGUE

(fig. 86)

**D270.** (C1151, SK+) Surface find.

Rim, neck and handle fr. D. = 13 cm.

Grey fabric (c. 7.5YR 5/2-4/2) containing many white grits.

## MISCELLANEOUS TRIPOLITANIAN AMPHORAS

This category comprises amphoras which do not fall within the range illustrated for ER Amphora 11 or MR Amphoras 14 and 15. Nos. **272-273** are probably Ostia Form II of second to third century A.D. date and No. **274** may be a handle. No. **271** may be a rim of MR Amphora 15.

## CATALOGUE

(fig. 86)

**D271.** (C1160, SK P10.1) Miscellaneous deposit; the associated fine pottery ranges from Hellenistic to the seventh century A.D.

Rim fr. D. = 15.8 cm.

Grey core fired dull red (2.5YR 5/6) at the edges, containing many white grits.

**D272.** (C2051, SK V10.1) Miscellaneous deposit.

Rim and handle fr. D. = 7.0 cm.

Two finger depressions on inside wall where handle meets neck.

Grey fabric (2.5YR 4/0) fired dull red brown (2.5YR 5/6) containing a moderate quantity of white grits.

**D273.** (C2590, SK J5.6) Deposit 137.

Rim fr. D. = 13.5 cm.

Hard, gritty brown to pale grey fabric (5YR 5/2-5/3) containing many small white grits.

**D274.** (C1168, SK J5.6) Deposit 137.

Handle fr.

Dull orange red fabric (2.5YR 5/6) fired grey at the edges; contains a moderate quantity of pale grey grits.

## MID ROMAN AMPHORA 16

*(Africano Grande Amphoras; Beltrán Forms 56 and 57; Ostia Forms III & IV)*

This general class of amphoras has a distinctive form, originates in the Sahel region of Tunisia and is broadly of late second to at least late fourth century A.D. date. The form is cylindrical with a conical neck everted, thickened rim and two handles from the top of the neck to the shoulder. Four complete examples weighed by Zevi & Tchernia (1969, 177) were between 17 to 19 kg with capacities of 56-68 litres, making them very efficient containers, (compare with ER Amphora 9, see below p. 162).

## COARSE POTTERY

The clay is generally a hard red with many hard creamish grits, not dissimilar in appearance to that of the hard Tripolitanian fabric except that the grits include quartz. There is usually a creamish green wash on the exterior, often smoothed with vertical brush strokes.

The origin of the type has been discussed extensively by Panella 1974, 574–92, on the basis of stamps which are interpreted as referring to Leptis Minor, Hadrumentum, Thanae, and Sullechthum (on the type see also Zevi & Tchernia 1969; Beltrán 1970, 549–62). The height of the production of these African amphoras was in the fourth century A.D., which corresponds well with the literary evidence for the expansion of the export of African oil, which, it is generally considered, they contained (on African oil see Camps-Fabrer 1953; Carandini 1970 also discusses various economic aspects).

The distribution map for all varieties of the type shows a strong western Mediterranean orientation. These amphoras have not generally been recognised by excavators in the eastern Mediterranean and they do appear to be more frequent than the distribution map suggests. The distribution map is based on Beltrán 1970, 562, Figure 229; Panella 1974, 574–92; Zevi & Tchernia 1969; Liou 1975. I am, in addition, grateful to D. Peacock for the information (mainly unpublished) about examples from British sites. Several African amphoras have occurred in Egypt, at Sheikh Zuweid and Tell Rafiah (Ben Arie 1974, 93, figs. 7 and 9, pl. XXVIII, 4 and 5). None have been noted or published from the Black Sea sites. As with other western imported amphoras, the quantity in Berenice is low (c. 2.0 per cent of the total

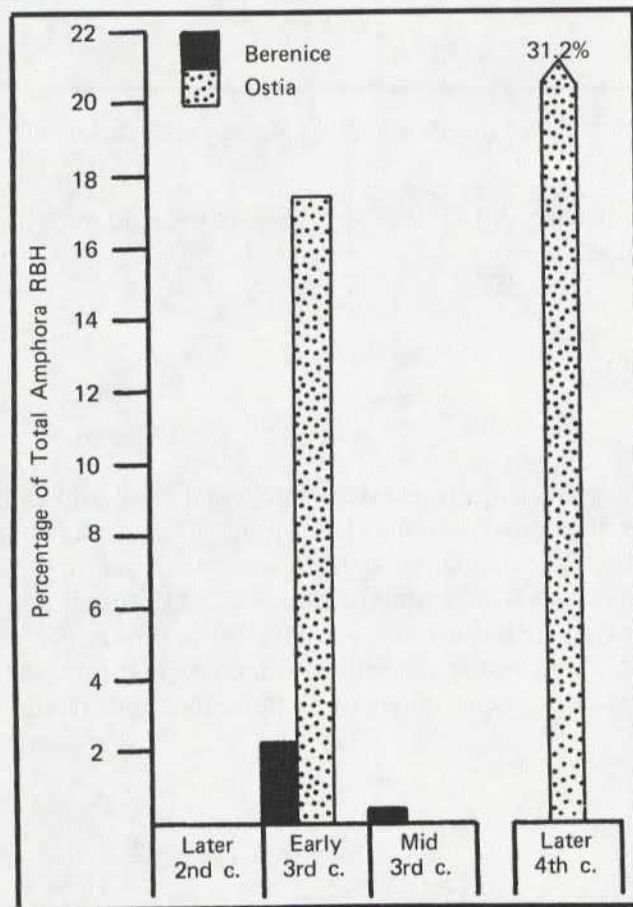


Fig. 38. Histogram to Show Relative Proportions of MR Amphoras 16 and 17 at Berenice and Ostia.

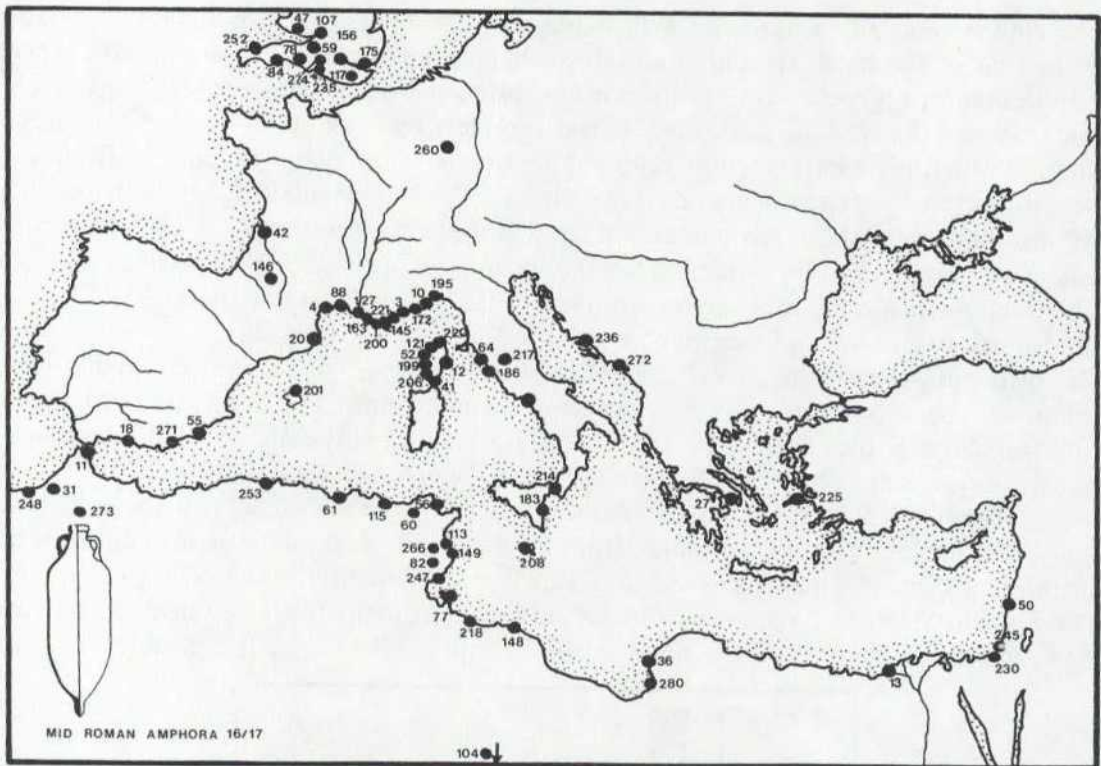


Fig. 39. Distribution Map of MR Amphoras 16 and 17.

amphoras in the third century A.D.) but consistent. In the field, the class was subdivided into three groups at Berenice.

#### MR AMPHORA 16a

(*'Africano Piccolo'*; Ostia Form IV)

The neck is fairly straight with an everted, thickened rim, convex on the outer face and concave on the inside. The base is small and stubby. (For the form see Panella 1974, 629, nos. 25 and 26; 575–80). This is mainly a third and fourth century A.D. type but occurred in late second century contexts at Ostia (Ostia iii, 685). At Ostia it comprises 6.8 per cent of the total amphoras in the early third and 9.6 per cent in the late fourth centuries A.D. The type was noted by the writer in Germa and in the Graeco-Roman museum at Alexandria. Only two rim fragments have been noted from Berenice, both from an early third century A.D. cistern deposit.

#### CATALOGUE

(fig. 86)

**D275.** (C2513, SK H22.3) Deposit 82.  
Rim fr. D. = 11 cm.



## COARSE POTTERY

---

Hard red fabric (2.5YR 5/6) fired pale grey at the edges containing many cream grits. Horizontally applied cream wash on the interior and the exterior.

**D276.** (C2514, SK H22.2) Deposit 82.

Rim fr. D. = 9.6 cm.

The fabric is very similar to No. 275.

### MR AMPHORA 16b

(*Ostia Form IIIa-c*)

This is basically of similar shape to MR Amphora 16a except that the rim is more vertical and the base is udder shaped. (For the typical toe see No. 279). Panella 1974, 580-90, divided the form into four basic types of which her Form IIIa-c is treated here as one form. Her Form IIIa has a cylindrical rather than a conical neck and the handles are more rounded in profile. Her forms IIIb and c are similar with a conical neck, narrower body and less rounded handles. No examples of Ostia Form IIIb and c were noted at Berenice. For the basic MR Amphora 16b at Athens see Grace 1961, Figure 37 from the A.D. 267 destruction level. Other findspots from the eastern Mediterranean include Samos (Grace, personal communication) and Caesarea.

### CATALOGUE

**D277.** (C65, SK J49.9) See No. 155 for this deposit.

Rim and two handles. D. = 14.2 cm.

Granular red fabric (2.5YR 5/6) fired pale grey at the edges, containing a moderate quantity of cream grits. Greenish cream wash exterior.

### MID ROMAN AMPHORA 16c

(*Ostia Form IIId*)

The general shape is similar to the preceding Africano Grande amphoras except that the rim is vertical and thickened on the inside (Panella 1974, 630, No. 30). This seems to be a late version in the series occurring in the third and fourth centuries A.D. This variant occurs in Athens in a level dated to the mid third century A.D. (Robinson 1959, K116, pl. 36), at Sabratha in the A.D. 365 destruction levels and at Carthage in the late fourth century A.D. levels from the Italian excavations (Panella, personal communication). Only one example was noted in Berenice or from Cyrenaica.

### CATALOGUE

(fig. 86)

**D278.** (C2536, SK R25.2) Deposit 128.

Rim and handle fr. D. = c. 12.5 cm.

Pale buff fabric (5YR 7/6) containing occasional cream grits. Cream wash exterior. Occasional eruption of limestone through the surface.

## MISCELLANEOUS AFRICANO GRANDE AMPHORA

**D279.** (C1147, SK J31.5) Deposit 100.

Base.

Orange fabric (2.5YR 6/8–5/8) containing occasional cream grits.

## MID ROMAN AMPHORA 17a

The type is basically a variant of the Africano Grande series and has a conical neck with everted rim and distinctive over-hanging lip.

This type probably has a Tunisian origin, examples of this type having been associated with a kiln at Ariana (near Tunis; C. Panella, personal communication). This is predominantly a fourth century A.D. type and occurs at Ostia in fourth century A.D. contexts (C. Panella, personal communication). The fabric is not that of the normal Africano Grande amphoras.

## CATALOGUE

(figs. 86, 87)

**D280.** (C393, SK J5.6) Deposit 137.

Rim, neck and handle fr. D. = 14.2 cm.

Brownish red fabric (c. 2.5YR 4/4) containing occasional small dark grey grits. Cream wash exterior; paler wash inside rim.

**D281.** (C2647, SK J5S.9) Deposit 138.

Rim, neck and handle fr. D. = 14.5 cm.

Dull red orange fabric (2.5YR 5/6) fired pale grey at the edges, containing a moderate quantity of mica. Pale grey wash (5YR 6/2) exterior.

**D282.** (C948, SK W6.4) Miscellaneous deposit; nine associated fine pottery sherds suggest a late fifth or early sixth century A.D. date.

Rim fr. D. = 14.9 cm.

Pale buff to orange fabric (c. 5YR 7/6) containing occasional quartz like grits. Greenish cream wash exterior.

## MID ROMAN AMPHORA 17b

A small number of rims in the Africano Grande series fabric have a step of varying sizes on the exterior of the rim. The body form is essentially that of MR Amphora 16b. It occurs at Ostia in third and fourth century A.D. contexts (Panella 1968, tav. XXXIV, no. 522) and at Bu Ngem in the third century A.D. (Rebuffat *et al.* 1970, 103, A107–19). The earliest

## COARSE POTTERY

---

examples seem to be from a late second to early third century A.D. context in Monaco (Panella 1968, 582).

### CATALOGUE

(fig. 87)

**D283.** (C2815, SK BB6.1/3) Miscellaneous deposit; the fine pottery was not studied, but associated coarse pottery is not later than the third century A.D.

Rim and handle fr. D. = 14 cm.

Hard red fabric (c. 2.5YR 5/6) fired pale grey at the edges, containing many small cream grits. Cream wash exterior.

**D284.** (C2779, SK H1.1) Deposit 85.

Rim fr. D. = 13 cm.

Fabric and wash similar to No. 283.

**D285.** (C936, SK W35.2) Deposit 138.

Rim fr. D. = uncertain.

Hard dull red fabric (2.5YR 5/6) containing many small hard, white grits, and a buff wash exterior.

**D286.** (C2588, SK J5S.13) Deposit 136.

Rim fr. D. = 13 cm.

Medium brown fabric (5YR 5/4) with occasional white lumps. Fairly compact fabric, not as hard as the preceding examples.

**D287.** (C485, SK +) Surface find.

Rim, neck and two handles. D. = 11.8 cm.

Pale brown fabric (2.5YR 6/6) containing occasional quartz grits. Creamish white wash exterior.

### MID ROMAN AMPHORA 18

(Zeest Form 90)

The form has a conical neck with long everted rim which curves gracefully inwards at the lip. The body is roughly oval in form and there are two bowed handles from the neck to the shoulder. It has a rounded base with a nipple toe. The fabric is orange, containing some mica and occasional white and red grits.

The origin of the type is not certain but a north Aegean or Black Sea origin seems likely. The form occurs on many of the coastal sites of south Russia, usually in first and second century A.D. contexts (Zeest 1960, 117, Type 90, for references to the type in this period at Chersones, Tanais, Tiritake, Neapolis, Inkermann and, in a second to third century A.D. context at Panticapeum. The type occurs in the early second century A.D. destruction levels at Paphos, although not in the same fabric as at Berenice, and occurs in second and third century A.D. levels at Knossos (J. Hayes, personal communication). For a likely example from an

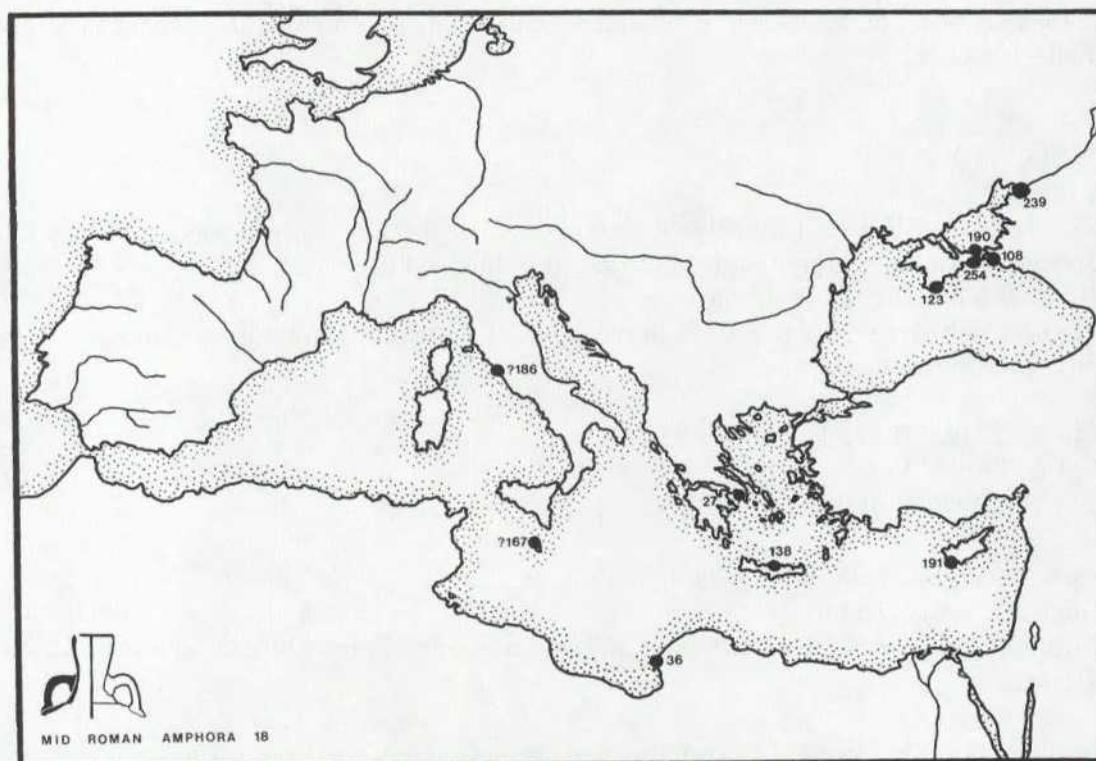


Fig. 40. Distribution Map of MR Amphora 18.

early third century A.D. context in Malta see Frost 1969 (fig. 8, no. 5: 'fine soft red ware') and a possible one from Ostia (Ostia ii, 39, tav. IX, no. 37) has 'red clay with rose coloured grits'. The type occurs in the A.D. 267 destruction levels at Athens (Grace 1961, fig. 37) and a variant with a footed base and of similar date from Athens is published by Robinson (1959, M175; although from the description, the fabric is not similar to the Berenice examples). The type is rare at Berenice, only two rims and a base being noted from the whole excavation, all from mid third century A.D. contexts. The content of this amphora is not known.

#### CATALOGUE

(fig. 87)

**D288.** (C2507, SK H22.3) Deposit 82.

Rim, neck and two handles. D. = 11.1 cm.

Orange fabric (5YR 5/8) containing a little mica and very occasional white and red grits. Compact fabric.

**D289.** (C2508, SK H22.3) Deposit 82.

Base.

Identical fabric to No. **288** and is very probably the base for No. **288**.

## COARSE POTTERY

---

### STAMPED AMPHORAS

**D290.** (C90, SK B4.20) Deposit 105.

Stamped handle, possibly of a jug rather than an amphora. (pl. XXVIII).

Pale flesh coloured local fabric 3 (2.5YR 6/6) containing a moderate quantity of greenish grits. Greenish cream wash exterior.

**D291.** (C524, SK R35.5) Deposit 46.

Stamped sherd, probably part of neck.

Granular cream fabric (10YR 7/3) containing occasional black grits.

Stamp: [N] ICEPORAVLI (pl. XXVIII).

**D292.** (C81, SK L29.3) Deposit 73.

Stamped shoulder.

Mottled pale grey (10YR 6/3) and buff (10YR 7/3) fabric containing a moderate quantity of cream grits.

Stamp: CE (pl. XXVIII).

**D293.** (C683, SK R12.5) Miscellaneous deposit.

Sherd with graffiti.

Compact orange brown fabric (5YR 5/6) containing very occasional white grits.

Graffiti: ]VIAN (pl. XXVIII).

J. Reynolds suggests that this may refer to the AVIANI, a Campanian family of *negotiatores* with connections both in the Aegean and in Cyrenaica.

**D294.** (C275, SK S10.1) Deposit 145.

Stamped shoulder fr.

Hard red brown fabric (2.5YR 5/8) containing a little lime and occasional shiny grits. Thin creamish wash exterior.

Stamp: circular disc with indistinct symbols. (pl. XXVIII).

**D295.** (C82, SK L25.3) Miscellaneous deposit.

Stamped neck fr. D. (base of neck) = c. 24 cm.

Local orange brown fabric 1 with shelly white fossil grit. Cream wash exterior.

Stamp: Circular monogram. (pl. XXVIII).

### MISCELLANEOUS AMPHORAS

(figs. 88–90)

**D296.** (C2080, SK R113.2) Deposit 89.

Rim, neck and two handles. D. = 9.2 cm.

Buff fabric (7.5 YR 7/6) containing occasional black and red grits. This amphora may be related to a Black Sea type. Compare Zeest 1960, Figure 33, no. 78 (second to third century A.D.); Melentova 1969, 23–4, Figure 21; Shelov 1972, 37–9 (for a large quantity from a third century A.D. well at Tanais, although these have a more conical neck).

- D297.** (C2684, SK J31.1) Deposit 139.  
Neck and handle fr. D. (neck) = 14 cm (max.)  
Granular orange fabric (2.5YR 5/8) containing occasional cream grits and a little mica.  
Pale grey wash (10YR 6/2–6/3) exterior.
- D298.** (C2531, SK H22.3) Deposit 82.  
Rim and handle fr. D. = *c.* 14 cm.  
Pale orange fabric (5YR 6/6–7/6) fired creamish buff at the edges, containing occasional white grits.  
The form is similar to No. 299 but the fabric is very different.
- D299.** (C1269, SK R112.3) Deposit 88.  
Rim and handle fr. D. = *c.* 15 cm.  
Granular cream fabric (10YR 7/3) containing a moderate quantity of quartz-like grits. This fabric is very similar to that of ER Amphora 10 (= Dressel 20). The form may be a very late Dressel 20 shape.
- D300.** (C63, SK +) Surface find.  
Rim, neck and two handles. Indistinct dipinti on the neck. D. = 13.5 cm.  
Orange fabric (5YR 5/6–5/8) containing occasional grey and white grits.  
Compare Culican & Curtis 1974, 48, Figure 12, no. 27, for the form but not the fabric; Liou 1975, 582–3, Figure 13 for examples from the French coast. For the base of this type see Almagro 1952, 314 (dated to the fourth century A.D.). A western origin for this form seems likely on the basis of the fabric and the distribution of published parallels.
- D301.** (C544, SK B1.5) Miscellaneous deposit; the associated fine pottery spreads to the mid third century A.D.  
Rim and two handles fr. D. = 13.7 cm.  
Fairly smooth, hard grey fabric (5YR 4/1) containing a little mica and occasional pale grey grits.
- D302.** (C594, SK L36.6) Miscellaneous deposit.  
Rim and handle fr. D. = *c.* 11 cm.  
Buff fabric (*c.* 7.5YR 6/4) fired brownish buff (5YR 5/4) at the edges, containing many pale grey grits.  
The position of the handles is typical of Egyptian amphoras (see LR Amphora 6) but the fabric is very different. Nos. 302–6 may perhaps be early versions of LR Amphora 6, but analysis is necessary to determine whether or not these amphoras have an Egyptian origin.
- D303.** (C574, SK B1.2) Deposit 108.  
Rim and handle fr. D. = *c.* 16.4 cm.  
Brownish buff fabric (7.5YR 5/4) containing a little grey grit.  
See No. 302 for comments on the form.
- D304.** (C2595, SK J49.9) Miscellaneous deposit; see No. 155 for associated finds.  
Rim and handle fr. D. = *c.* 13.5 cm.  
Gritty pale orange to buff fabric (5YR 6/6) containing a moderate quantity of grey grits.

## COARSE POTTERY

---

- D305.** (C2520, SK H22.3) Deposit 82.  
Rim and handle fr. D. = *c.* 15.8 cm.  
Dull brown fabric (*c.* 5YR 5/3) containing occasional grey grits. This resembles the typical Nile clay by eye and is probably a third century A.D. version of LR Amphora 6.
- D306.** (C818, SK H7.1) Deposit 85.  
Rim and handle fr. D. = *c.* 14.5 cm.  
Hard rust coloured fabric (2.5YR 4/6) fired buff to grey at the edges, containing occasional white grits.
- D307.** (C2827, SK H8.2) Deposit 82.  
Rim fr. D. = *c.* 20–22 cm.  
Fairly compact orange brown fabric (*c.* 5YR 6/6) with few inclusions. Greenish cream wash on the exterior and over the rim. Although the rim is reminiscent of Punic amphoras, this fabric has not been encountered in Tunisia by the writer.
- D308.** (C2821, SK BB6.3) Miscellaneous deposit; see No. **283** for associated finds.  
Rim fr. D. = *c.* 18 cm.  
Grey fabric (*c.* 2.5YR 4/2) fired pale orange (2.5YR 5/6) at the edges. There are occasional cream grits. Greenish cream wash exterior and over rim. The fabric may be Tunisian.
- D309.** (C2543, SK R25.3) Deposit 128.  
Rim fr. D. = 11 cm.  
Hard, brownish grey fabric (5YR 5/2) containing a little mica and occasional white grits. Greenish cream wash exterior and over the rim.
- D310.** (C593, SK J50.7) Deposit 102.  
Rim and handle fr. D. = *c.* 13 cm.  
Local fabric 5. Variant of MR Amphora 8.
- D311.** (C989, SK AA4.3) Deposit 1.  
Rim and handle fr. D. = 11.6 cm.  
Orange brown local fabric 2 (2.5YR 6/6).
- D312.** (C2820, SK BB10.1) See No. **283** for associated finds.  
Rim fr. D. = 19 cm.  
Grey local fabric 1. Greenish cream wash exterior and inside rim.
- D313.** (C1113, SK B4.13e) Deposit 105.  
Rim fr. D. = 11 cm.  
Hard, orange gritty fabric (2.5YR 5/6) containing many hard white grits. Greenish cream wash exterior. A fragment of graffito is preserved but is insufficient for reconstruction. The fabric is probably Tripolitanian or related.
- D314.** (C215, SK P5.5) Deposit 81.  
Rim fr. D. = 10 cm.  
Orange fabric (2.5YR 5/8) containing a moderate proportion of white grits. Probably local fabric 4.

- D315.** (C2814, SK BB1.5) Miscellaneous deposit.  
Rim fr. D. = 18 cm.  
Granular buff fabric (c.2.5YR 6/6) containing occasional quartz-like and white grits. The type may have a Western origin.
- D316.** (C1100, SK H1.14) Deposit 85.  
Rim fr. D. = 13.5 cm.  
Pale orange fabric (2.5YR 6/6) containing many tiny white grits. Grey wash exterior and pale cream wash inside rim. This fabric is similar to that of the products of the western provinces of North Africa and could be MR Amphora 16.
- D317.** (C585, SK L4.1) Deposit 86.  
Rim and traces of two handles. D. = 7.5 cm.  
Local fabric 1.
- D318.** (C992, SK AA4.3) Deposit 1.  
Rim and handle fr. D. = 8.2 cm.  
Local fabric 1.
- D319.** (C994, SK AA4.3) Deposit 1.  
Rim fr. D. = 15.2 cm.  
Fairly compact orange fabric (c. 2.5YR 5/8) with occasional grey grits. Probably not local. It is not certain that Nos. 318-9 are MR intrusions in Deposit 1.
- D320.** (C2064, SK L46.3) Deposit 73.  
Rim fr. D. = c. 10 cm.  
Pale grey fabric (10YR 6/2) containing occasional small creamish grits.
- D321.** (C1106, SK H2.11) Deposit 84.  
Base fr. with part of footed stand.  
Local fabric 5. A similar (unpublished) base with three supports on the underside was noted by the writer inside a tomb at Tocra.
- D322.** (C2069, SK P5.5) Deposit 81.  
Base. The base has been twisted by the potter.  
Granular orange fabric (5YR 5/6) containing a moderate proportion of light grey grits and occasional white grits.
- D323.** (C482, SK H2.15) Miscellaneous deposit; for associated finds see No. 236.  
Base. Bright orange fabric (2.5YR 5/8) containing occasional creamish grits and mica. The fabric may be Athenian and the base may belong to MR Amphora 4.
- D324.** (C337, SK H1.2) Deposit 84.  
Base. Granular cream fabric (5Y 7/3). No visible inclusions.
- D325.** (C2504, SK H22.2) Deposit 82.  
Base. D. Base = 5.5 cm.



## COARSE POTTERY

---

Pale, red-orange fabric (2.5YR 5/6) containing occasional pale grey grits. Cream wash exterior.

**D326.** (C2068, SK L55.4) Deposit 103.

Base. D. Base = 4.4 cm.

Grey fabric (7.5YR 5/2) containing several small creamish white grits.

**D327.** (C995, SK AA4.3) Deposit 1.

Base. Orange brown fabric (5YR 5/6). Contains occasional mica specks. Probably local.

**D328.** (C2502, SK H22.2) Deposit 82.

Base. D. Base = *c.* 8.5 cm.

Creamish grey granular fabric (10YR 6/3) containing occasional black and white grits. This may be a Gaulish fabric.

**D329.** (C2674, SK J31.14) Deposit 101.

Base. D. Base = 5.0 cm.

Fairly hard, orange brown fabric (2.5YR 5/6–6/6) containing occasional small creamish grits.

**D330.** (C197, SK J31.14) Deposit 101.

Base. D. Base = 4.9 cm.

Granular buff fabric (*c.* 10YR 6/4–7.5YR 6/4) containing very occasional black and red grits.

**D331.** (C2048, SK P5.5) Deposit 81.

Base. D. Base = 4.0 cm.

Pale red fabric (2.5YR 5/6) fired greyish buff (7.5YR 5/4) with a little mica and very occasional white and black grits.

**D332.** (C685, SK L4.1) Deposit 86.

Base. D. Base = 3.3 cm.

Pale red fabric (2.5YR 6/6–5/6) containing occasional large lumps (up to 0.2 cm<sup>2</sup>) of limestone. This is a base of LR Amphora 8b. The deposit is the uppermost level of a well, and it is not a closed third century A.D. deposit.

**D333.** (C514, SK L58.8) Deposit 73.

Base. Smooth buff fabric (*c.* 7.5YR 7/6). Clean break. Very occasional white grits. Probably a base of MR Amphora 2.

**D334.** (C1167, SK L36.1) Deposit 73.

Base. Firm, fairly smooth, dull red fabric (2.5YR 5/6) with several grey grits. Probably Tripolitanian or related.

**D335.** (C244, SK P5.5) Deposit 81.

Base. D. Base = 3.7 cm.

Dull red fabric (2.5YR 5/6) fired grey at edges, containing occasional creamish grits.

**D336.** (C2041, SK L34.3) Deposit 73.

Fairly hard, gritty, dull red fabric (2.5YR 5/6) containing a little mica and occasional creamish white grits.

## LATE ROMAN AMPHORA 1

(*Carthage Late Amphora 1; Ballana Type 6; British Bii*)

This is a distinctive ridged amphora, with a squarish general profile. The base is rounded with a nipple toe. The ridging is widely spaced on the centre of the body, becoming more closely ridged towards the shoulder and the base which are corrugated. The neck is thick and heavy, and the plain thickened rim generally has a rough low flange below the lip. The handles are thick and crude, applied to the top of the neck from the shoulder. (For the complete form see No. 337) There is occasionally a red-painted inscription on the neck or, more usually, on the shoulder. These seem to be capacity notations (see Lang 1976, Ha36, Ha43, Ha44, Ha52). These may be more frequent on fifth and sixth century A.D. versions than on those of the later sixth and early seventh centuries (Hayes 1973, 116). At Berenice, however, they were not frequent in the early sixth century A.D. deposits (= LR Amphora 1y; only 12 sherds out of 3058 in the early sixth century A.D. deposits).

Two fabrics have been noted. The 'normal' ware is sandy and gritty and ranges from a buff to an orange colour (c. 5YR 6/6), containing many grey grits and occasional quartz like lumps. There are often many white and grey grits on the surface, which often has a pinkish cream (c. 7.5YR 8/4) wash.

The other fabric, which is designated LR Amphora 1b in the tables, is not as frequent as the 'normal' fabric, the ration being about 1:6. The fabric is a gritty yellowy cream (c. 2.5Y 8/4) containing grey grits. Two fabrics were also noted in Nubia (W. Adams, personal communication) and in Carthage.

The origin of the type is uncertain. An Egyptian origin had generally been assumed (e.g. Hayes 1976a, 116) but this now seems unlikely as recent petrological analysis of the clay indicates that the clay contains serpentine (Peacock, personal communication). Serpentine does occur in Egypt, mainly in the Eastern desert between Luxor and the Red Sea (Lucas 1948, 479–80) but not in areas suitable for the production of such a prolific amphora. The southwestern coast of modern Turkey and the Antioch region in particular are now more likely possibilities (Peacock, personal communication). A recent study of the painted inscriptions by Lang (1976, 55–6, Nos. Ha36 and Ha 44) suggests that they are capacity notations using the Cypriote *modius*. On this ground, she proposes a Cypriote origin for the sherds (*ibid.* 56; although this does not seem to include Nos. Ha43 and Ha52 which are also LR Amphora 1). This evidence seems to provide additional independent evidence for an origin in the north-east of the Mediterranean.

The amphora has a very wide distribution from Firka (150 km south of Wadi Halfa in modern Sudan) to Britain. The distribution map includes all varieties of both fabrics. The earliest example seems to be a possible variant from a fourth century A.D. context at Tiritake (Glidchkevich 1952, 121, fig. 150) which is similar in general appearance to the type. The type first appears at Athens in the late fourth century A.D. (Hayes, personal communication). The earliest occurrence at Berenice is uncertain. It does not occur in the well sealed and closely dated small early fourth century A.D. Deposit 123 but does occur

## COARSE POTTERY

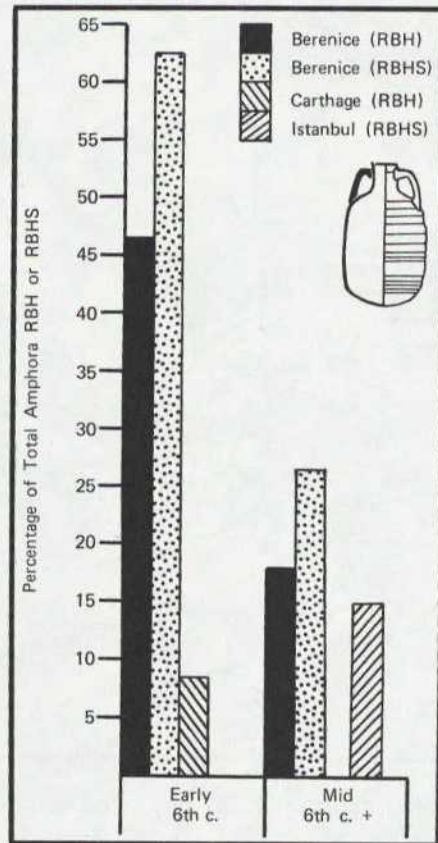


Fig. 41. Histogram to Show Relative Proportions of LR Amphora 1 at Berenice, Carthage, and Istanbul.

in the unsealed Deposit 122. As this deposit also included fine ware of the seventh century the example of LR Amphora 1 could well be intrusive. It occurs in the A.D. 425 construction trench deposits of the Theodosian Wall at Carthage (Italian excavations; I am grateful to C. Panella for showing me these). A complete restored example from this period had no flange on the rim, was generally smoother, and the handles were thinner and better made and had no twisting (compare No. 377 below from Berenice). This also had red dipinti on the shoulder. It did not occur in late fourth century A.D. contexts on the Michigan University excavations at Carthage but did occur in a deposit of the mid fifth century A.D.

This amphora is very common in the late fifth and early sixth centuries A.D. in Egypt (Adams 1962, 261, fig. 7, No. P3 and 275), including Ballana (Emery & Kirwan 1938, Form 6) and Firka (Kirwan 1939, 30-1, pl. XXII, No. 4). The period of greatest diffusion seems to have been the early sixth century A.D. when it comprises about 40 per cent of the total amphora RBH and 45 per cent of the total amphora RBHS at Berenice (the sherds are very distinctive). It comprises over 8 per cent of the total amphora RBH at Carthage in this period (fig. 41). It remains the commonest amphora in Cyrenaica until the Arab conquest (for the high frequency at Tocra in the late sixth and early seventh centuries A.D. see Boardman & Hayes 1973, 116-7).

The amphora was very common in Lower Egypt in the late fifth and sixth centuries A.D. It is the 'typical' amphora of the monastery at Apa Jeremias at Saqqara (Quibell 1912, 140), and in the present excavations at Saqqara, the type comprises an estimated 50 per cent of the total amphoras (LR Amphora 6 comprising the other 50 per cent: J. Bourriau, personal com-

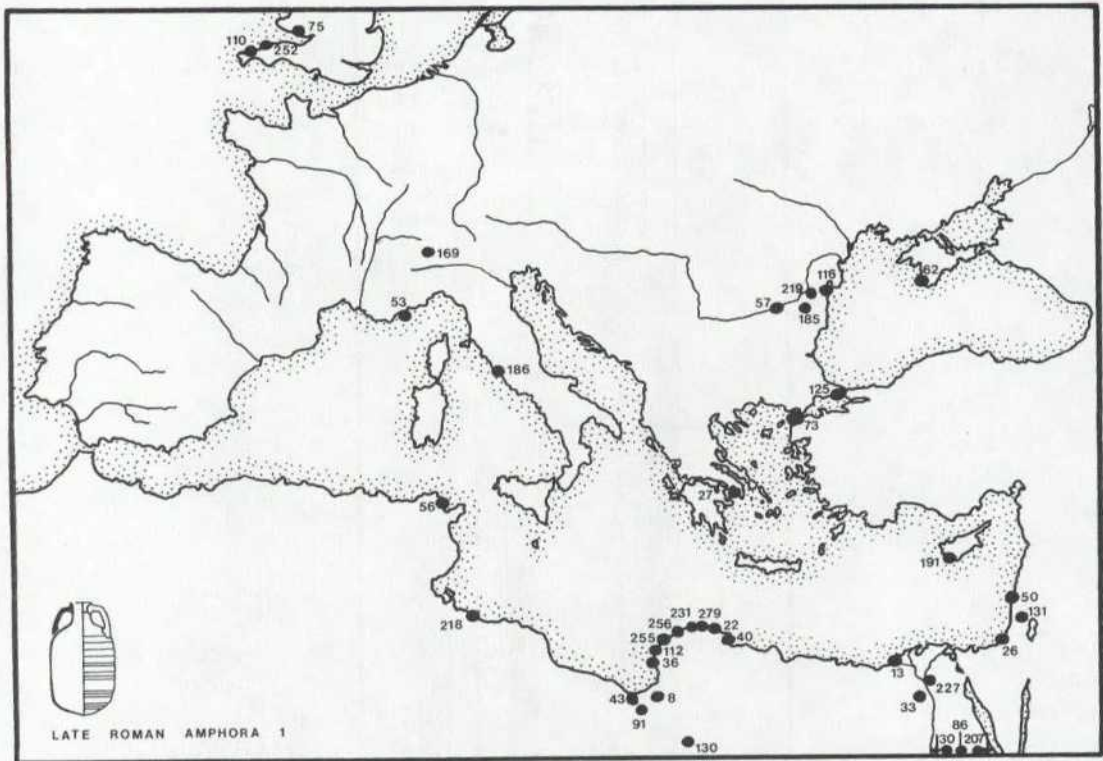


Fig. 42. Distribution Map of LR Amphora 1.

munication). Of the amphoras from Karanis at present in the Kelsey Museum at Ann Arbor in Michigan, LR Amphora 1 and LR Amphora 6 are present in equal proportions (Hayes, personal communication). It was the frequency of the type in Egypt that led researchers to suppose an Egyptian origin. The type is also common at Athens (*ibid.*; see also Robinson 1959, M333) and in Alexandria (M. Rodziewicz, personal communication). At Istanbul the type comprises about 15 per cent of the total amphoras in the later sixth and early seventh century levels (Hayes 1968, 215). Further examples are from Paphos in Cyprus in a late sixth to seventh century A.D. context (Daszewski 1970, 141, pl. XXIII, 5: they were also plentiful on Megaw's excavation at Paphos in mid sixth to seventh century A.D. deposits, where they competed with Palestinian amphoras—Hayes, personal communication). Other findspots for LR Amphora 1 include Cetatea, near Corabia in Roumania (Barnea *et al.* 1971, nos. 196 and 199, from a sixth century A.D. deposit); Histria (illustrated by Beltrán 1970, fig. 238, 5); and Chersones in the Crimea (Yakobson 1951, 329, fig. 3, no. 14, fourth to seventh centuries A.D.). The type occurs at Sabratha, although the frequency has not been recorded, and fragments were noted by the present writer in the store rooms at Ostia (unpublished). A complete example is on display in the archaeological museum in Milan. The amphora also occurs on Celtic sites in Britain, including Gwithian, Tintagel and Dinas Powys (Thomas 1959, type Bii). The amphora seems not to have been produced after the mid seventh century A.D. At Carthage it occurs in levels of the second half of the seventh century A.D. only as a survival.

With this wide distribution throughout the Mediterranean, particularly in Egypt and Cyrenaica, it is surprising that the proportion is so low at Caesarea, where it comprises only 0.5 per cent of the total amphoras in the early sixth century A.D. levels. The low frequency

## COARSE POTTERY

---

can partly be explained by the quantity and the quality of the local Caesarea amphoras which were themselves exported. This also suggests that the contents of the amphoras were not required at Caesarea, probably on account of local production of a similar product. The amphora is found throughout Palestine (other examples include one from Jerusalem; Crowfoot & Fitzgerald 1927, pl. 14, B29 from a sixth century A.D. level; and from Ashdod; Dothan & Freedman 1967, fig. 14.2).

The content of the amphora is not known, but it has generally been assumed to have been wine. Should the tentative hypothesis of an origin in the Antioch region prove correct, oil would have been the main content. Liebeschütz 1972, 79 ff. shows that while wine was exported from Antioch on a limited scale, oil was the main export. This is shown by the expansion of the olive groves to the east of Antioch from the fourth to the sixth centuries A.D. These continued to flourish even when Antioch itself had begun to decline. (For the growth of prosperity of Antioch in this period see also Downey 1961, 501–2 and 22). In support of oil as a content, one of the examples from Ballana had an inscription which suggested oil, and attention was brought to the fact that there was a 'total absence of pitch lining' from most of this type of amphora at Ballana (Emery & Kirwan 1938, 401). It is also worth pointing out that Egyptian wines, from the literary evidence, do not appear to have been in the same league as those of Gaza, Palestine and Sarepta. Quantification of this amphora in the Aegean and in the Antioch region should cast important light on the vexed question of its origin and contents.

Emery & Kirwan (1938, 401) examined the possibility of grain being carried by this amphora and concluded that it was likely on account of some of the inscriptions which seemed to refer to '*artabae*' which were normal units of solid measure in Roman and Byzantine Egypt. Amphoras certainly were used in Egypt to carry grain (see below LR Amphora 6) but the wide distribution of the type to primary grain producing areas such as Cyrenaica and Carthage make it unlikely that grain was ever an important content.

### CATALOGUE

(fig. 91)

#### D337. (SK G1 1.4) Deposit 157.

Composite drawing; the upper half is of one amphora and the lower part is of another.

D. = 9.4 cm; Ht. = 51 cm.

'Normal' fabric.

#### D338. (C725, SK G11.11) Deposit 157.

Rim, neck and two handles. D. = 9.8 cm.

'Normal' fabric. Graffiti on shoulder: XXIII.

#### D339. (C866, SK F22.15) Miscellaneous deposit; the fine pottery was not studied but associated coarse pottery is mainly second and third centuries A.D. with some later pieces.

Sherd with dipinto (pl. XXVIII). 'Normal' fabric.

#### D340. (C2012, SK W91 +) Miscellaneous deposit.

Sherd with dipinto (pl. XXVIII). 'Normal' fabric.

- D341.** (C2011, SK W91 +) Miscellaneous deposit.  
Sherd with dipinto (pl. XXIX). 'Normal' fabric.
- D342.** (C726, SK D1.1) Miscellaneous deposit; associated fine pottery is mainly to the mid third century A.D. but includes two sherds of the sixth and seventh centuries A.D.  
Sherd with dipinto (pl. XXIX). 'Normal' fabric.
- D343.** (C968, SK W56.2) Miscellaneous deposit.  
Neck with dipinto (pl. XXIX). 'Normal' fabric.
- D344.** (C867, SK F23.15) Miscellaneous deposit; 17 associated fine pottery sherds spread to Late Roman.  
Sherd with dipinto (pl. XXIX). 'Normal' fabric.
- D345.** (C851, SK W1 1.3) See No. 257 for associated finds.  
Sherd with dipinto (pl. XXIX). 'Normal' fabric.

## LATE ROMAN AMPHORA 1a

This is a variant of the general type in which, although the rim and the handles are of similar size and proportion to LR Amphora 1, the body is smaller, the total height averaging *c.* 48 cm. The body is 'waisted' in the middle (see Nos. 346 and 347). The date of this variant is unclear. A possible example occurred in a sixth century A.D. deposit at Sacidava, in Roumania (Scorpan 1973, 310, fig. 34, although its size is unclear). The type is known in the western Mediterranean. One complete example is in the archaeological museum in Florence (unpublished) and a possible example came from a wreck at Cap Gros in France (Fiori 1974, fig. III, 8; undated). There are at least five complete examples in the Alexandria Graeco-Roman museum store rooms ranging in total height from 35 cm to 55 cm (Inv. Nos. 8245, 23019, 23020, 23021, 23025, 23026), and another complete unpublished example from the Dardanelles (from Ciundra) is in the British Museum (BM 83.11.24.34). Two complete examples from Caesarea came from a mid seventh century A.D. context (R. Bull, personal communication). See also Zemer 1977, Nos. 63–6. In fragmentary condition this amphora cannot be distinguished from LR Amphora 1.

## CATALOGUE

- D346.** (C2003, SK P70.2) Deposit 153.  
Complete (restored). D. = 8.2 cm; Ht. = 50.1 cm.  
'Normal' fabric (pl. XXXV).
- D347.** (C2000, SK P70.2) Deposit 153.  
Complete (restored) D. = 8.9 cm; Ht. = 47.2 cm.  
(pl. XXXV).

## COARSE POTTERY

### LATE ROMAN AMPHORA 2

(*Carthage Late Amphora 2; British Bi*)

This amphora has a fat body, grooving on the shoulder, a short, conical neck, a thick high everted rim and two bowed handles from the shoulder to the neck. The base is rounded with a low knob. The earlier examples of the fifth and early sixth centuries A.D. generally have straight horizontal combed grooving, while a similar but wavy grooving seems to predominate from the middle of the sixth century (this is the case of the Michigan excavation at Carthage and this has also been noted elsewhere by Hayes—personal communication; the wavy grooved variety is referred to in the figures as LR Amphora 2a. There were only 6 out of 238 sherds of the type in the early sixth century A.D. Deposits at Berenice). Examples of the form with red *dipinti* have been published (Rădulescu 1973, from Tomis), but none occurred at Berenice.

The fabric is very distinctive, ranging from a light brown to buff (2.5YR 6/6 to 10YR 7/4) with many mica particles (especially noticeable on the inside surface) and lumps of lime (some to about 2 mm<sup>2</sup>) which often rupture the surface. The exterior is usually buff.

The type seems to appear at some time in the fifth century A.D. in the eastern Mediterranean. It did not occur in a deposit of A.D. 425 from the Italian excavations at Carthage (I am grateful to C. Panella for showing me the amphoras from this deposit, which was the con-

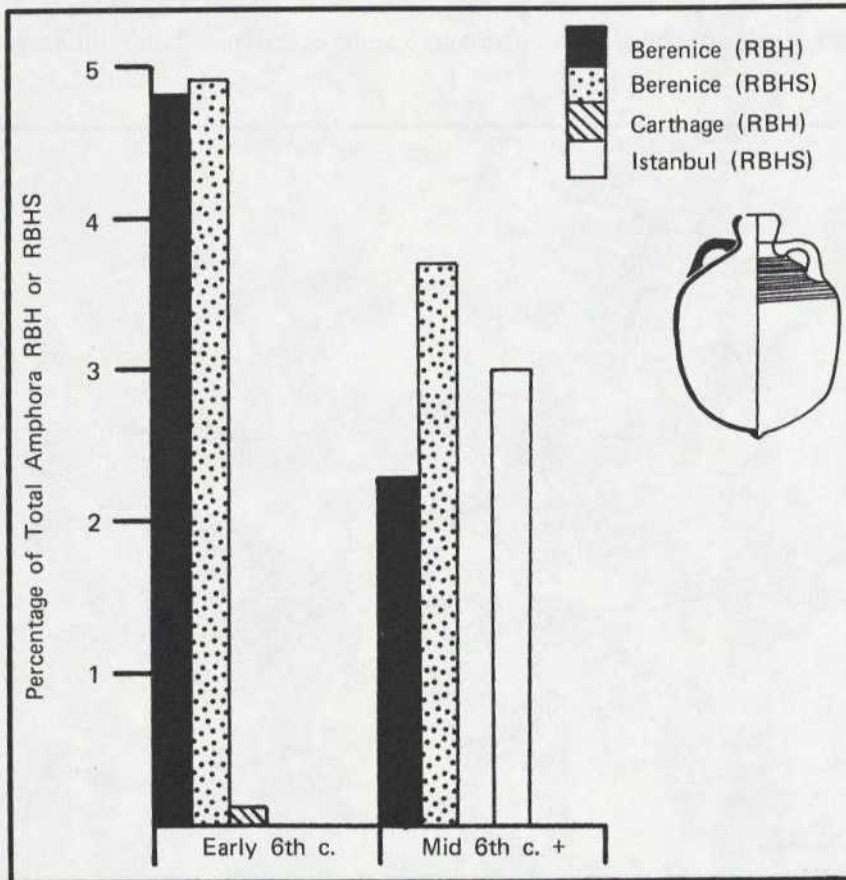


Fig. 43. Histogram to Show Relative Proportions of LR Amphora 2 at Berenice, Carthage, & Istanbul.

struction trench of the Theodosian Wall infill), and it did not occur in a mid fifth century A.D. deposit from the Michigan excavations there. At Carthage it seems to be more frequent in the later sixth century A.D. This also seems to have been the case of Cyrenaica, as in the early sixth century A.D. deposits at Berenice the ratio of LR Amphora 1 to LR Amphora 2 is *c.* 13:1, while in the later sixth and early seventh century levels at Tocra (Hayes 1973, 116–7) this ratio is about 2:1. The type never seems to have been particularly common in the eastern Mediterranean, although it has a very wide distribution. It was rare at both Carthage and Caesarea (comprising less than 0.1 per cent of the total amphoras in early sixth century A.D. contexts on both sites). In later sixth and seventh century A.D. levels at Istanbul it comprised about three per cent (Hayes 1968, 215), while in Cyrenaica, where it is the second most frequent late Roman amphora, it comprises only about four per cent of the total amphoras. Further examples are from Athens (Robinson 1959, pl. 40, P4129), off the coast of Chios (Garnett & Boardman 1961, fig. 13, No. 38) and Isthmia (Broneer 1959, 336, No. 16). It is rare at Alexandria, although there is one more or less complete example in the store room of the Graeco-Roman museum there (Inv. No. 22988). The amphora also occurs as far distant as Britain (Thomas 1959, type Bi).

While the amphora seems not to have been particularly frequent in the eastern Mediterranean it seems to have been fairly common in Roumania. In discussing the Roumanian distribution, it is perhaps worth considering two factors; in the first place, there are no figures for the frequency of the type there and, in the second, there is the possibility that the type may have been imitated by the Danubian potters (Rădulescu 1973). A collection of 150 more or less complete examples of the straight grooved variety were found at Tomis and had painted

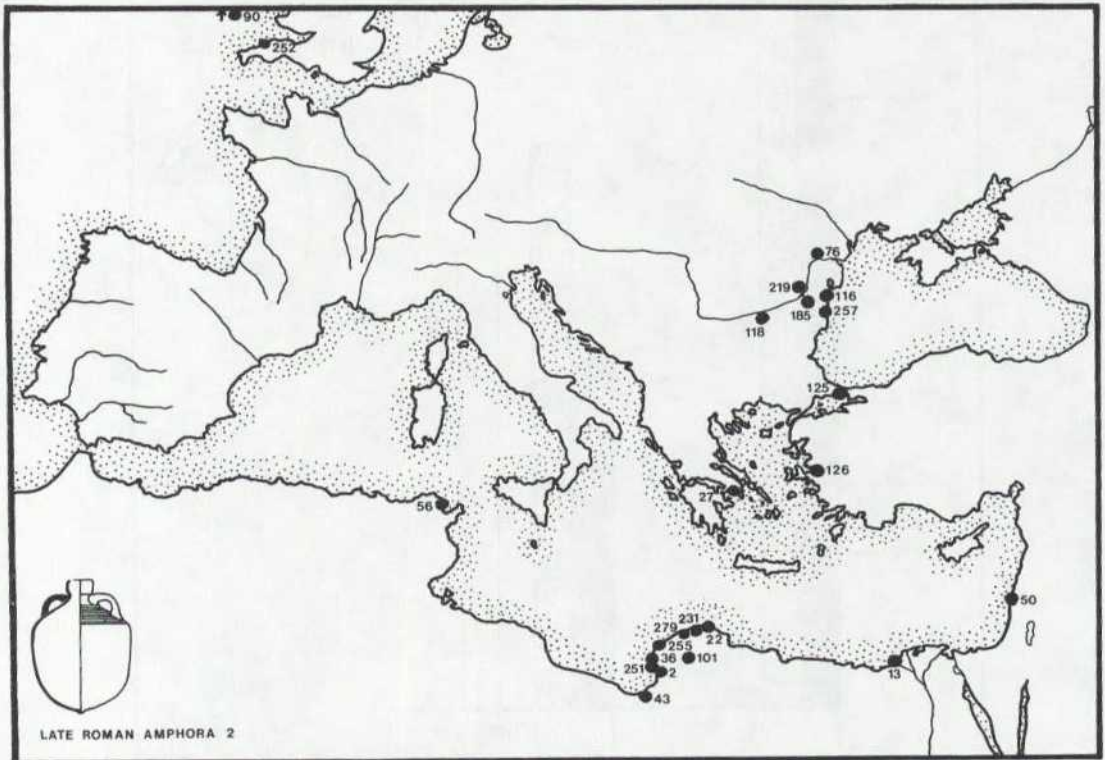


Fig. 44. Distribution Map of LR Amphora 2.



## COARSE POTTERY

inscriptions which seem to correspond with their capacities (*ibid.*). It occurs in sufficient quantity to merit a type number at Histria (Type 4, Condurachi 1954, 459, figs. 383–4) and occurs elsewhere in Roumania at Sacidava (near Celei; Scorpan 1973, 314, fig. 36, No. 3—straight grooved and dated to the sixth century A.D.); Oltina (Irimia 1968, 396, fig. 17, No. 8 and 398, fig. 19, 9—wavy grooved and associated with a brick kiln which ceased production in the second half of the sixth century A.D.); Dinogetia (Barnea 1966, fig. 5, No. 7, fig. 8, Nos. 6 and 7—for a straight grooved version and *ibid.* fig. 12, No. 7, for a wavy grooved version, associated with a coin of A.D. 552–3); Iatrus (Böttger 1972, 132, Abb. 1, No. bc; where it is considered, on no firm grounds, to have contained corn, and where its wide distribution in the Balkans is claimed to continue into the eighth century A.D.). It is noteworthy that the type does not feature in the publication of similarly dated sites in South Russia.

The origin of the type is not known but an Aegean origin is generally assumed (Hayes 1976, 116 favours the eastern Aegean; Rădulescu 1973, 205 looks to the Bodrum region of Turkey). Irimia (1968) tentatively suggests that it may have been manufactured in the vicinity of the brick kiln at Oltina in Roumania, together with LR Amphora 1. Oltina seems unlikely given the quantitative distribution of the type. A (?northern) Aegean origin seems most likely. Further quantification of Aegean stratified pottery as well as fabric analyses are required to solve this problem, and thereby, probably of the contents of the type. The form is typologically similar to MR Amphora 18 (compare Grace 1961, fig. 37) although the fabric is very different. The handles, moreover, are reminiscent of MR Amphora 2. In the light of present knowledge, it is not possible to say whether they are related; the very different fabrics would seem to argue against a direct relationship. The content is unknown. The examples at Tomis contained resin and nails but this probably represents re-use.

### CATALOGUE

(figs. 91, 92)

**D348.** (C2617, SK J5.6) Deposit 137.

Complete rim and one handle. D. = 11.9 cm.

Straight grooving which stops below the handle.

'Normal' fabric.

**D349.** (C66, SK +) Surface find.

Rim and handle. D. = 12.0 cm.

'Normal' fabric.

**D350.** (C2618, SK J5.6) Deposit 137.

Base. 'Normal' fabric.

### LATE ROMAN AMPHORA 3

(*Carthage Late Amphora 4; Almagro type 54*)

This is a narrow bodied, cylindrical but tall amphora, with a short rim and ring handles on the shoulder. There are invariably accretions of clay on the shoulder and around the rim. Most examples have heavy ridging on the shoulder and between the handles although this is

not always the case. The base merges with the body and can be either flat on the underside or rounded. The rim is either short but vertical or plain; in both cases it is inturned. Zemer (1977, Nos. 49–53) considers those with vertical rims to be earlier (third to fourth century A.D.) although the dating evidence for this is unclear. See also Grinsell *et al.* 1974, 49, Figure 9 and Almagro 1955, type 54, for the shape. Zemer 1977 notes two sizes, one 70–80 cm high and the other *c.* 45 cm high, and a range of capacities.

The fabric is a thick drab brown ware (5YR 5/6) sometimes with a greyish (10YR 5/1) core. There are occasional white grits and often horizontal voids *c.* 2 mm wide and up to 4–5 mm long.

The earliest reference to Gaza wine seems to be from the *Totius Orbis Descr.* 29 (dated A.D. 350–3; quoted by Jones 1964, 845, note 50) 'Similiter aliae civitates Ascalon et Gaza in negotiis eminentes et abundantes omnibus bonis mittunt omni regioni Syriae et Aegypti vinum optimum'. The earliest excavated examples are from the fourth century A.D. tomb at Heletz (referred to in Zemer 1977) and from a very late fourth century A.D. context at Carthage (Hayes 1976, 117–8), and it also occurs in the Theodosian Wall foundation fill dated A.D. 425 at Carthage (information, C. Panella). The type occurs at Istanbul in contexts later than *c.* A.D. 430 (Hayes 1976, 117–8), although in small quantities. It occurs widely throughout the Mediterranean, Europe and the Black Sea.

In early to mid sixth century A.D. deposits at Carthage, it comprised *c.* 0.8 per cent of the total amphoras. Other western Mediterranean findspots include Ampurias (Almagro 1955, 320, fig. 305, where it is considered possibly of fourth century A.D. date), possibly Tarragona (illustrated in Beltrán 1970, 547, fig. 224, No. 2), possibly Trier (Hussong & Cüppers 1972, 23, pl. 6, Type 56), Wroxeter and London, in Britain (probably from fifth century A.D. contexts, D. Peacock, personal communication), Tours (*ibid.*), and Ile de Grand

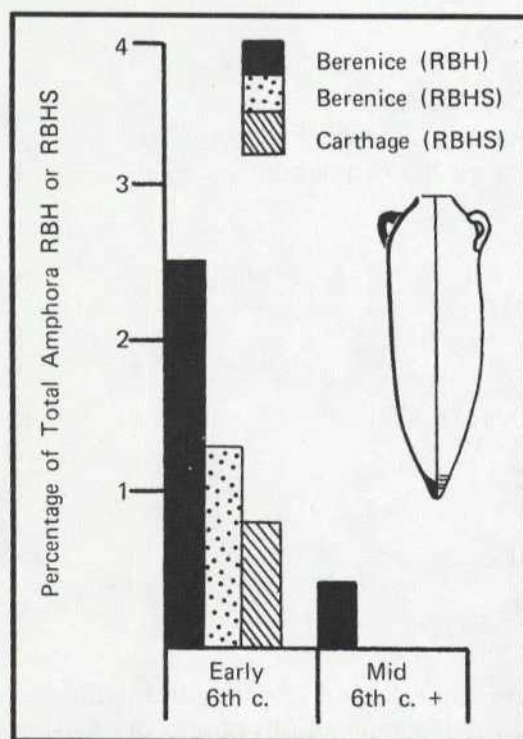


Fig. 45. Histogram to Show Relative Proportions of LR Amphora 3 at Berenice and Carthage.

## COARSE POTTERY

Ribaud in France (Carrazé 1974, 169, No. 72.H3.02, where the type is described as 'très rare'). It was never very common in the western Mediterranean, Black Sea or Aegean. The type does not appear in the pottery report of the Athenian Agora (Robinson 1959), although an example was used as a coffin for an infant burial in a late fourth to sixth century A.D. cemetery at Corinth (Wiseman 1967, pl. 88d). Examples from the Black Sea include Histria (Condurachi 1954, 461, fig. 389, type 7c; sixth century A.D.), Chersones (Yakobson 1951, 329, fig. 3, no. 9; fifth to seventh century A.D.) and Phanagoria (Sokolskii 1966, fig. 4). The type comprises '2.5 per cent of the total amphoras' from a fourth to sixth century A.D. context at Chersones in the Crimea (unpublished information, K. Orlov). See also Kuzmanov 1973, fig. 3, no. 2 and 3 for an example from Kaliakra (with a slightly hooked rim), and Alpözen 1975, 22, fig. 8, no. 8 for one from the Bodrum region in Turkey (undated). The recent report on the pottery from Kellia by M. Egloff provides additional evidence from Egypt that LR Amphora 3 (as well as LR Amphora 1) occurred regularly in the eastern Mediterranean by *c.* A.D. 400 (information, J. Hayes).

The amphora occurs in Cyrenaica but is not particularly common, comprising about three per cent of the total amphoras in the early sixth century A.D. levels at Berenice. It was rare at Ajdabiyah, and it comprised 0.3 per cent of a large sample of amphoras from Apollonia (Riley 1978).

In quantitative terms, the type is most frequent in the south-eastern Mediterranean. It seems to have been fairly regular at Alexandria (M. Rodziewicz, personal communication) and 22 complete examples were noted in the store rooms of the Graeco-Roman museum in Alexandria. It occurs at Abu Mena (Kaufmann 1910, taf. 84, no. 15) but does not seem to have

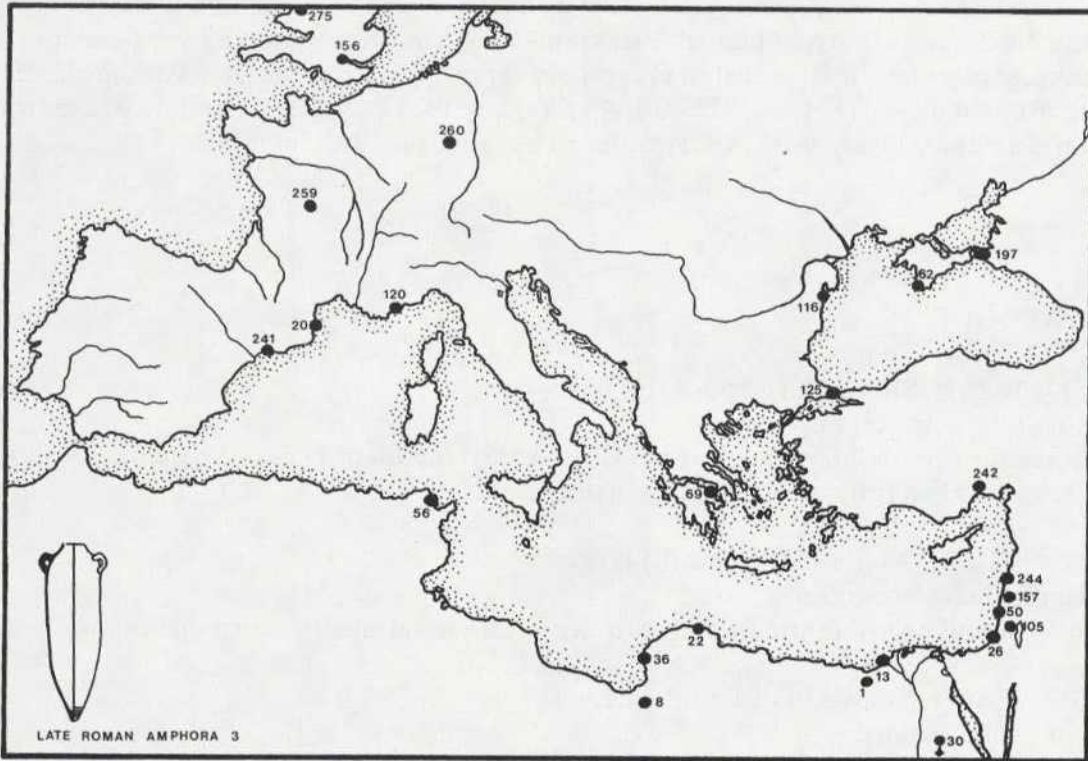


Fig. 46. Distribution Map of LR Amphora 3.

penetrated far southwards up the Nile, as it is not represented in the publications of Nubian sites. It is the second most common amphora at Caesarea, comprising over 20 per cent of the total amphoras in the early sixth century A.D. levels there, and was described as the commonest amphora at Ashdod (Dothan & Freedman 1967, 34, pl. 11, 4). See Zemer 1977, Nos. 49–53, for additional parallels in this area. The type was, however, rare in the sixth century A.D. levels at Tel Keisan near Acre (J. Landgraf, personal communication) and only one example was noted in the latest levels at Tarsus (Jones 1950, No. 835, although the parallels cited by Jones from Cyprus and Sèvres do not belong to the type).

The distribution, therefore, is weighted quantitatively to the south-eastern Mediterranean, although the fabric does not seem local to either Caesarea or Egypt. Petrological comparison of the fabric of LR Amphora 3 with modern yet traditionally made pottery from Gaza strongly supports the likelihood of an origin in the Gaza region (cited in Humphrey 1976). The chronology and the wide distribution of the type throughout the Mediterranean and to Northern Europe are also compatible with the widespread references to Gaza wine in the fifth and sixth century A.D. sources. (For the references to Gaza wine see Cassiodorus, *Var.* 12, 12; Sidonius Apollinaris, *Carmina*, 17, 15–16; Gregory of Tours, *Hist. Franks*, 7, 29; *ibid.*, *In Confessorum*, 65; Corippus, *In Laudem Justini*, 3, 87–9, 98–9; Isidorus of Seville, *Etymol.* 20, cap. 3 ('De Potu') 7; *Venantius Fortunatus Vita S. Martini*, II, 81–2; Dalton 1927, 446–7; Gregoire & Kugener 1930, 124–6).

Taking all this evidence together, a Gaza origin seems confirmed, and with it Lambrecht's view (1937, 58, *contra* Baynes) that the Gaza wine mentioned by Gregory of Tours really was from Gaza.

The contents would have been mainly wine, although Gaza amphoras did contain pickled fish in the fifth and sixth centuries, on the evidence of papyri (Colt 1962, No. 85; Hunt & Edgar 1952, No. 83). Examples of LR Amphora 3 from Kassariwit (Egypt) contained fish remains (Zemer 1977). Dried fish was certainly exported to Palestine from Pelusium in Egypt in the Roman period (Levine 1975, 56). A secondary use of the Gaza amphora was for wheat and the amphoras were used as a measure in Egypt (Colt 1962, no. 85).

## CATALOGUE

(fig. 92)

**D351.** (C2648, SK W66.2) Deposit 167.7.

Rim fr. D. = uncertain.

Fairly abrasive dull brown fabric (5YR 6/6–5/6) containing occasional quartz-like lumps. This fabric is a little more abrasive than normal.

**D352.** (C2676, SK F27 +) Deposit 142.

Rim fr. D. = uncertain.

Normal dull brown fabric (c. 5YR 5/6) with occasional small greyish inclusions.

**D353.** (C891a, SK W35.1) Deposit 142.

Rim fr. D. = uncertain.

The rim is hooked on the inner edge which is not usual.

Normal brown fabric with a pale grey (c. 5Y 5/1) core.

## COARSE POTTERY

---

**D354.** (C891b, SK G17.9) Deposit 143.

Rim fr. D. = uncertain.

'Normal' fabric.

**D355.** (C1195, SK W81.3) Miscellaneous deposit.

Rim fr. D. = uncertain.

'Normal' fabric fired dark grey at the edges.

**D356.** (C923, SK W35.2) Deposit 142.

Handle. Dull brown fabric (5YR 4/6) containing occasional hard, grey grits.

### LATE ROMAN AMPHORA 4

#### *(Carthage Late Amphora 5)*

The form is a bag shaped amphora with two ring handles on the shoulder. The shoulder is grooved and the vertical rim rises from the shoulder; there is no neck. The base is rounded. There is often a dirty yellowish painted decoration on the body, (see Robinson 1959, M329, M330, for the shape although they are of a different fabric; J. Hayes, personal communication).

The fabric is a sandy buff to reddish orange (mainly 10YR 6/4 to 5YR 6/6). The petrology of this fabric is very different from that of LR Amphora 3 (see references in Hayes 1976, Late Amphora 5). The form is the latest of a long tradition of Palestinian amphoras. This long tradition, together with the very high frequency at Caesarea (where it comprises over 50 per cent of the total amphoras), and its low frequency elsewhere, make an origin in the Caesarea region likely. It was probably the container for the white Palestinian wines praised in the fifth and sixth centuries A.D.

The type is rare in Cyrenaica, only one rim and one handle being noted from the whole excavation at Berenice, although one rim and 14 handles were noted at Apollonia. It is also rare in the late sixth and early seventh century A.D. levels at Tocra (Boardman & Hayes 1973, 116-7), seems equally uncommon in Egypt (no examples were observed in the Alexandria Graeco-Roman museum store rooms or inventory, and does not feature in publications of pottery from Egypt), and occurs only in small quantities at Istanbul (Hayes 1968, 215, in post A.D. 550 contexts). Other examples of the form (although these may not necessarily be of the same fabric) appear at Histria where they are attributed to the sixth century A.D. (Condurachi 1954, 459, fig. 385, type 5) and possibly at Chersones in the Crimea (Yakobson 1951, fig. 3, No. 10—although this example seems to have been wrongly reconstructed with a body of LR Amphora 3). It did not occur in a deposit dated A.D. 425 at Carthage (the foundation fill of the Theodosian Wall; information, C. Panella) but did occur by the mid fifth century A.D. (in two well dated deposits from the Michigan excavations at Carthage), although in small quantities. It seems likely that this amphora is more frequent at Carthage in the fifth century A.D. than in the sixth (when it comprises c. 0.6 per cent of the total amphoras). No examples of this type from Cyrenaica have been illustrated as they occurred in too fragmentary a condition.

## LATE ROMAN AMPHORA 5

This amphora is similar in shape to LR Amphora 4 but is very small, being about 28 cm high. The grooves on the shoulder are very fine. The rim tends to be rather low, although proportionally, it has a wide diameter (c. 10 cm).

The fabric is distinctive, being a reddish brown, often with a dark grey core, and contains occasional gold flake and white specks. The ware is fairly hard.

The origin and content of this amphora are uncertain. It occurs in the destruction levels of the basilica at Kourion, in levels dated on coin evidence to post A.D. 670 and before A.D. 700; it also occurs in deposits which seem to be later than the mid seventh century A.D. at Paphos and also from the excavations by the British School at Jerusalem of the Damascus Gate at Jerusalem (Hayes, personal communication). Compare also the possible example from Rome (Vermaseren & van Essen 1965, 353, No. 9, pl. 83, 7). A general, although not specific, Palestinian origin seems likely both by its typological similarity with the Palestinian bag shaped amphoras and by its regular occurrence in the Levant (see Zemer 1977, Nos. 60–2, for Palestinian examples and references). A predominantly seventh to eighth century A.D. date is most likely, although the earliest appearance of the type is uncertain.

At Berenice, it is most frequent in the uppermost levels of the cistern deposit 157 (layers SK G11.1, G11.9), which also contained a rim of a seventh century A.D. Coptic Red Slip Ware dish. Although the bulk of the cistern is late fifth or early sixth century in date, the uppermost level probably represents a much later (seventh century A.D.) fill. The only other occurrence of the form in Cyrenaica noted was a complete example in the store rooms at Apollonia (Inv. No. 247; see pl. XXXVI).

## CATALOGUE

(fig. 92)

**D357.** (C737, SK G1.4) Deposit 158.

Rim and handle fr. D. = 9.7 cm.

Pale brown fabric (5YR 5/6–4/6) containing a little mica and white grits. Creamish orange wash (c. 7.5YR 8/2–8/4) on the exterior.

**D358.** (C713, SK G11.1) Deposit 157.

Rim fr. D. = 10.3 cm.

Hard grey fabric (c. 10YR 5/1–5/2) fired red brown (2.5YR 4/6) at the edges. Occasional small shelly inclusions.

## LATE ROMAN AMPHORA 6

(*Carthage Late Amphora 7*)

This class comprises amphoras made of typical Nile clay, the dull brown (10YR 4/4) fabric being crude and crumbly with a quantity of mica, occasional gold flakes and eruptions of lime.

There are several varieties of shape associated with this fabric, but as the type occurred in very fragmentary form in Cyrenaica, and RBH were rare, all examples in this fabric were grouped under the heading LR Amphora 6. The basic shape falls into two main categories:

Type A has a long, cylindrical, grooved neck and a long, narrow body. There are two handles roughly applied to the rim from the top of the neck. The basic idea of such handles goes back at least as early as the first century A.D. in Egypt (Hayes 1976b, No. 363, which is a wide necked version which contained a hoard of coins dating to c. A.D. 70). In Egypt this seems to be predominant until after the fourth century A.D. Over 60 more or less complete examples were noted by the writer in the store rooms of the Graeco-Roman museum in Alexandria. For the shape see Holwerda 1936, No. 1107 (of uncertain Mediterranean origin), and there is a complete variant of Nile clay in the Ostia site store room (unpublished). The form (but not always the fabric) occurs in third century A.D. contexts at Berenice (see No. 305, and in Deposits 82 and 85), although it is, as in the later period, very rare.

Type B has a short neck, and a sharply carinated, fairly flat shoulder, long tapering body and solid base. There are heavy, exaggerated ridges on the body and on the shoulder. Two handles are roughly applied to the neck from the shoulder. This shape is normal from the fifth century A.D., with examples of the sixth and seventh centuries A.D. having higher necks and more conical shoulders (on this development see Hayes 1976b, Nos. 364–9). This is the dominant amphora of the late Roman levels from the Polish excavations at Alexandria (M. Rodziewicz, personal communication; some of these, especially the smaller versions, are thought possibly to have contained milk or cheese on the basis of residue within them, *ibid.*, unpublished). It also occurs in equal quantities with LR Amphora 1 at Saqqara (J. Bourriau, personal communication) and also at Karanis (J. Hayes, personal communication).

The amphora is not well represented in other parts of the Mediterranean. It occurs at Carthage in sixth century A.D. contexts, although in negligible quantities (Hayes 1976, Late Amphora 7). It is rare at Berenice, comprising only 0.5 per cent of the total amphoras (both RBH and RBHS) in the early sixth century A.D. levels but is more frequent than at Caesarea in contemporary levels, where it comprises only 0.1 per cent of the total amphoras. The amphora also occurs in the Bodrum region (Alpözen, 1975, 23, fig. 10, 2).

The presence of these Egyptian amphoras provides tangible support to the literary evidence for the export of wine from Egypt to Libya (see Hardy 1931, 103, note 1, for references to a papyrus which concerns wine sold by a monastery at Hermopolis to a Libyan bishop probably in the fifth or sixth centuries A.D.). The frequency of these Egyptian amphoras, however, suggests that such trade with Egypt was on a relatively small scale.

## CATALOGUE

(fig. 92)

**D359.** (C719, SK G11.4) Deposit 157.

Base fr. 'Normal' fabric.

## LATE ROMAN AMPHORA 7

This form has only been identified by its distinctive rim, which is thickened and slightly everted. There is a ridge on the outside below the lip and a sharp ledge below this where the rim joins the neck. Two examples had graffito arrows below the rim.

The fabric is generally a fairly hard orange to cream with a little lime. The exterior generally has a greenish cream wash.

The type is not at all common and has occurred only in late Roman contexts at Berenice

(Deposits 142 and 158). A very similar rim is present on large amphoras from Leptis Magna (Bisi 1971, 22, tav. VII, 2 (middle), where they are erroneously equated with Cintas 1950, form 293). The Leptis examples are of Tripolitanian hard fabric (personal observation) while LR Amphora 7 is not.

## CATALOGUE

(fig. 92)

**D360.** (C921, SK F27.1) Deposit 142.

Rim fr. D. = 14.8 cm.

Fairly smooth pale orange fabric (5YR 7/6) fired cream (10YR 7/3–7/4) at the edges. Contains a little lime. Traces of a graffito arrow on the neck.

**D361.** (C853, SK F27 +) Deposit 142.

Rim fr. D. = uncertain.

Pinkish fabric (5YR 7/6) fired cream (10YR 7/3) at the edges.

Cream wash exterior. Graffito arrow below rim.

## LATE ROMAN AMPHORA 8

(*Spatheion*)

The term *spatheion* applies to a group of narrow bodied amphoras with a long tapering toe, fairly high neck, everted rim and two handles applied to the neck. Those from Berenice have been divided into two categories.

## LR AMPHORA 8a

This is a small variety of the *spatheion*, with a thickened rim, which is convex on the outer face. The height averages about 40 cm. There is probably more than one source for amphoras of this shape as the fabric ranges from an abrasive red to a smooth cream buff. All examples normally have a greenish cream wash on the exterior. The diameter of this small variety averages 6.5 cm to 7.5 cm while the capacity is about 2.5 litres.

The type occurred in the sixth century A.D. levels at Berenice, but was very infrequent. It occurred in sixth and seventh century A.D. levels elsewhere, being noted at Yassi Ada (Kapitän 1962, 550, fig. 12; seventh century A.D.); Kythera (Coldstream & Huxley 1972, 173, pl. 49, nos. 57–64; late sixth to early seventh centuries A.D.); Histria and Cetatea (Barnea *et al.* 1971, 194 and 200; sixth century A.D.) and Cartagena (Beltrán 1970, 570, fig. 234, 5). There are four unpublished examples in the store rooms at Sabratha, probably from the Byzantine Basilica (Panella, personal communication). There are several examples in the Tocra store rooms (see Riley 1978, 143, No. 20). An example from the sea 'off eastern Cyrenaica' is in the Manchester Museum, England (Inv. 1970, 7). The contents of this type are unknown.



## COARSE POTTERY

### CATALOGUE

(fig. 92)

**D362.** (C505, SK PVat 21.2) Deposit 150.

Rim fr. D. = 6.1 cm.

Orange brown fabric with greenish cream wash exterior.

**D363.** (C2772, SK F34.1) Deposit 142.

Rim and handle fr. D. = 8.0 cm.

Pale abrasive reddish fabric (2.5YR 6/8) containing many creamish specks. Fairly thick cream wash on the exterior.

**D364.** (C573, SK PVat 22.1) Upper part of deposit 151.

Rim and two handles. D. = 7.2 cm.

Cream to buff fabric (10YR 7/4) containing occasional quartz-like grits. Cream wash exterior and inside rim.

### LR AMPHORA 8b

This is a larger variety of similar form, except that the rim is usually everted and the height ranges from *c.* 75 cm to over 1 m. This amphora is widespread throughout the western Mediterranean (Beltrán 1970, 571, form 65b, fig. 234, 5–6; Panella 1974, 612–3,

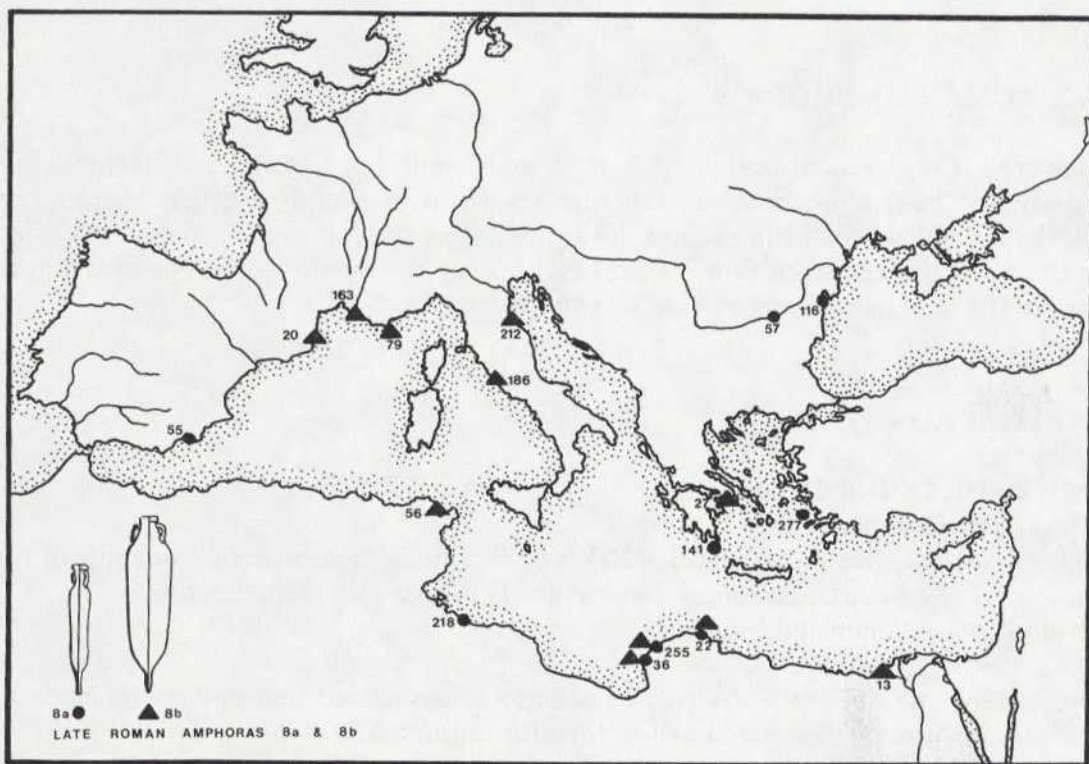


Fig. 47. Distribution Map of LR Amphoras 8a and 8b.

630, fig. 32). The clay is usually a well fired brick red to red brown and there seems to be a wide range of variants (Joncheray 1977, 5, fig. 4, noted 10 variants from 75 restorable examples from the Dramont F ship wreck). Both Panella and Beltrán suggest an African origin for the type. The date range for this large variety of spatheion is from the late fourth century A.D. (Joncheray 1975a) to the fifth or sixth centuries A.D. (Grace 1961, fig. 67). They were extensively re-used in buildings of the fifth century A.D. at Ravenna (*ibid.* fig. 68). There is, however, no firm evidence to the present writer's knowledge that the type is necessarily later than the fifth century A.D. Likewise, there is no evidence that LR Amphora 8a is necessarily earlier than the sixth century A.D. No examples of LR Amphora 8a were noted in the sixth and seventh century A.D. levels at Carthage, nor of LR Amphora 8b (Hayes 1976a, 118), although 8 ?b does occur there (Panella 1972, 106, fig. 77). Several examples of LR Amphora 8b have occurred in the eastern Mediterranean. At least eight more or less complete examples were noted in Alexandria museum (with an average height of 80–5 cm and diameter *c.* 12 cm), and it occurs at Athens (Grace 1961, fig. 67, left and centre). It is rare at Berenice although it is represented (Nos. 387 and 332).

The origin of the amphora has not been proven and its contents are likewise unknown. If petrological analysis can confirm an African origin, then oil would seem to have been a likely content for the amphora.

#### CATALOGUE

See Nos. 332 and 388.

#### LATE ROMAN AMPHORA 9

This type is represented only by rim, neck and handles in Cyrenaica, and the shape of the body and base is not known. The rim is vertical or slightly everted. There are two fairly thick handles, round in section, from just below the rim to the shoulder. The origin is uncertain and there seem to be at least two fabrics sharing this form, one of which may be local. The type has not been noted elsewhere.

#### CATALOGUE

(fig. 93)

##### D365. (C355, SK J5.6) Deposit 137.

Rim and two handles fr. D. = 7.2 cm.

Fairly hard abrasive orange fabric (2.5YR 5/8) containing a moderate quantity of white lime specks and occasional shiny black grits. Thin creamish wash exterior.

Grafitto on shoulder: indecipherable.

##### D366. (C963, SK F27.10) Miscellaneous deposit; associated fine pottery includes Late Roman 'C' ware of the second half of the fifth century A.D.

Rim and handle fr. D. = uncertain.

Red to orange fabric (*c.* 2.5YR 6/8) containing occasional grey inclusions. Possibly local.

## COARSE POTTERY

### LATE ROMAN AMPHORA 10

(Zeest type 95; Carthage Late Amphora 3; Ballana type 13a; British Biv)

The fabric of this amphora is that of MR Amphora 3, and LR Amphora 10 is the later version. At some time in the fourth century A.D., probably around the middle of the century, the type developed, another handle being added and the base becoming convex rather than concave on the underside (see Robinson 1959, pl. 41, M373). Examples from Athens attributed to the late fourth century A.D. (*ibid.* pl. 29) have one handle. The earliest example with two handles seems to be that published by Annis (1975, 31, nos. 1 and 2) from a very late fourth century A.D. context at San Sisto Vecchio in Rome. Other examples attributed to the fourth century A.D. are from Panticapeum, Germonassa and Phanagoria (Zeest 1960, 118–9, type 95) and Tiritake (Glidchkevich 1952, fig. 114, 1–3). For an example from the fifth to seventh century at Chersones see Yakobson 1951, fig. 3, no. 14). The type enjoyed a wide distribution throughout the eastern Mediterranean and the Black Sea region. Zeest 1960, 118–9, discussing the distribution in South Russia, comments that it is ‘well known in the Bosphoran kingdoms and the Crimea although it is rare to the West’. It does occur, however, in Roumania at Dinogetia (Barnea 1966, 250, fig. 12.1). It occurs in Egypt and Palestine (in Nubia at Ballana, Emery & Kirwan 1938, type 13a; Firka, Kirwan 1939, pl. XXIII, no. 5; and at Caesarea). The proportion at Caesarea was always low in all periods, however. At Berenice the proportion of this fabric in the later Roman levels is lower than for the earlier MR Amphora 3. In contrast to the low proportions at Caesarea and Berenice, the

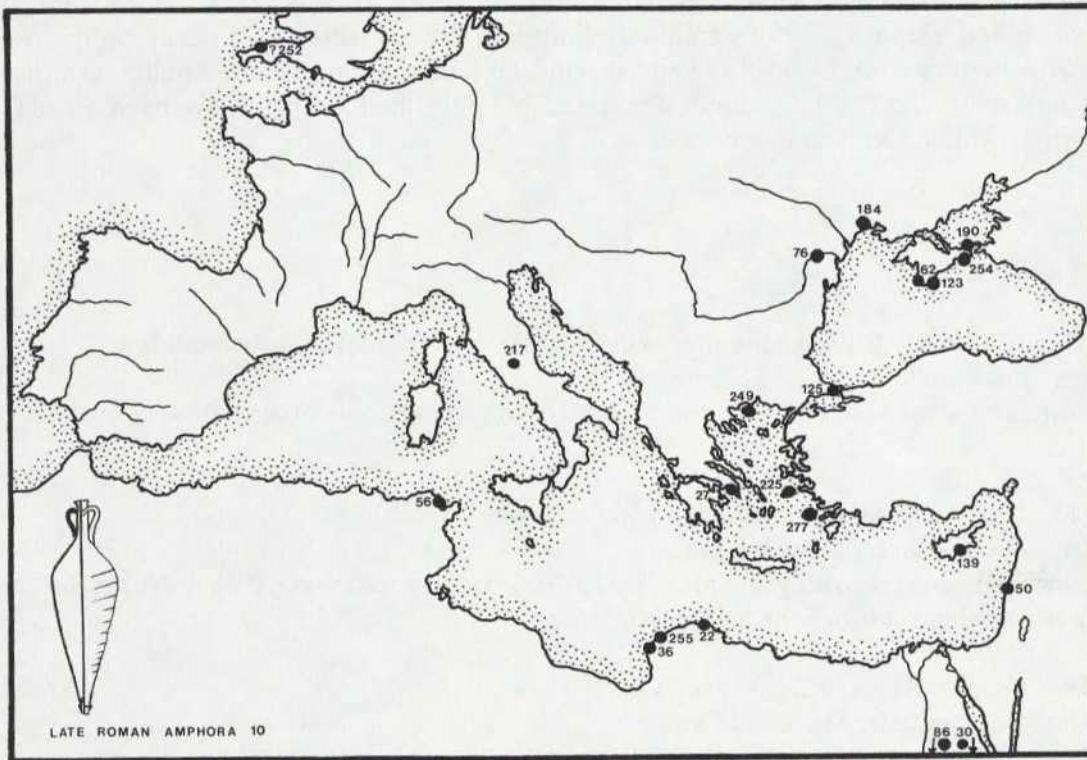


Fig. 48. Distribution Map of LR Amphora 10.

proportion of the type at Carthage was higher in the sixth century A.D. levels, comprising 1.2 per cent of the total amphoras. It occurs in the western Mediterranean and as far north as Britain (Thomas 1959, type Biv, is still the best discussion of the British examples). The type continues until the mid sixth century A.D. in the eastern Mediterranean after which its export seems to have declined rapidly (Boardman & Hayes 1973, 116-7).

The rarity of the type at Berenice permitted no information on its development.

## CATALOGUE

No good drawable examples were found in Berenice.

## LATE ROMAN AMPHORA 11

This amphora has a distinctive form and fabric. The rim is bevelled and rounded and the handles, which are roughly cut, are crudely pressed into the neck below the rim. No lower profile has come to light but the base is probably conical and hollow (Nos. 371 and 372). The hard, gritty red fabric containing white grits is very distinctive, and the walls are relatively thin.

It is not local to Cyrenaica, and is rare at Berenice. The earliest occurrence is in the third century A.D. Deposit 73, but this is the only rim from a third century A.D. context at Berenice and Deposit 73 did contain a number of later intrusions. It occurs in the fourth and fifth century A.D. Deposit 128 and also in later levels. It is present at Apollonia, although it is rare there and the date cannot be refined. No published parallels have been noted from elsewhere in the Mediterranean.

## CATALOGUE

(fig. 93)

**D367.** (C589, SK R40.4) Miscellaneous deposit; see No. 69 for associated finds.

Rim and handle fr. D. = 12.8 cm.

Hard, abrasive red brown fabric (2.5YR 4/6) containing occasional white specks and a little mica.

**D368.** (C2592, SK P48.1) Miscellaneous deposit.

Rim and handle fr. D. = 9.6 cm.

Hard, abrasive greenish grey fabric (c. 10YR 4/3) fired red brown 2.5YR 4/6) at the edges. Contains shelly white grits and a little mica.

**D369.** (C2535, SK R25.2) Deposit 128.

Rim and handle fr. D. = c. 12 cm.

Hard orange fabric (c. 2.5YR 5/8) containing occasional white grits. There are crude accretions of clay where the handle joins the neck.

## COARSE POTTERY

---

### LATE ROMAN AMPHORA 12

The form and fabric are basically similar to LR Amphora 11, except that the rim is flattened on top and bulges inwards. The date, like that of LR Amphora 11, is generally Late Roman.

#### CATALOGUE

(fig. 93)

**D370.** (C582, SK L48.2) Deposit 73.

Rim and handle fr. D. = *c.* 10 cm.

Hard red brown fabric (2.5YR 5/6–4/6) containing a moderate quantity of hard white grits. Traces of pale grey wash exterior.

### MISCELLANEOUS LR AMPHORA 11 AND 12

#### CATALOGUE

(fig. 93)

**D371.** (C2593, SK P48.1) Miscellaneous deposit.

Base. Similar fabric to No. **368** above, probably from the same amphora.

**D372.** (C2747, SK F34.1) Deposit 142.

Base. Hard orange fabric (*c.* 2.5YR 5/6) containing a little mica.

### LATE ROMAN AMPHORA 13

The form is a heavy bag amphora with rounded base. The neck is conical with an everted thickened rim. There are two broad, slightly bowed handles from the top of the neck to the shoulder. Occasionally there is ridging at the base of the shoulder.

The general form seems to occur in two fabrics. The first is an orange to pale brown, containing some mica and white grit specks with a fairly clean break. This tends to be associated with the amphoras from Deposit 157. The second is a hard grey fabric containing many white grits and often fired reddish brown at the edges; this is associated with the examples from Deposit 153.

The amphoras of this form from Deposit 153 have higher and more looped handles than those from Deposit 157: this may or may not have chronological significance. Similar amphoras occur in eighth century A.D. contexts at Istanbul (Hayes, personal communication). One example was noted in the store room at Apollonia; this had horizontal, quasi-banded grooving on the shoulder. An amphora of the general type occurred in the sea near Chersonisos (on the north coast of Crete near Knossos) (Leatham & Hood 1959, fig. 9, 1). The earliest occurrence of the type at Berenice is in deposit 157.2. The five RBH from this deposit may be intrusive as the upper fill of this deposit (157.1) which is probably of the seventh century A.D. contains a larger number (175 RBHS). The complete absence of this amphora in the large early sixth century A.D. Deposit 142 may support this later date.

The origin of the amphora is uncertain. It was not noted at Caesarea and was not published

by Robinson 1959 from Athens. The form occurs in Turkey with much higher, arched handles and continues through to the fifteenth and sixteenth centuries A.D. It is possibly in this region that the origin should be sought.

## CATALOGUE

(figs. 93, 94)

**D373.** (C710, SK G11.1) Deposit 157.

Rim and two handles. D. = 8.4 cm.

Medium hard orange fabric containing a moderate quantity of white grit specks and a little mica. Fairly clean break. Traces of buff wash exterior.

**D374.** (C717, SK G11.1) Deposit 157.

Complete profile. D. = 7.1 cm; Ht. = 45.5 cm.

Hard, abrasive greyish brown fabric containing occasional large white inclusions, grey grits and a very little mica. Greenish wash exterior and inside rim.

**D375.** (C2002, SK P70.2) Deposit 153.

Complete (restored). D. = 6.3 cm; Ht. = 47.2 cm (pl. XXXV).

Hard grey fabric (10YR 4/2) fired reddish brown at the edges (2.5YR 5/6) containing many white grit specks.

## LATE ROMAN AMPHORA 14

This amphora was unique but is included in the typology as it is complete. The body shape tapers to a narrow rounded and hollow toe with a nipple point. There is a very narrow neck and everted rim. There are two handles from the base of the neck to the mid shoulder. The fabric is a softish cream ware and is not local.

The only published amphora to approach this form is from Histria (Condurachi 1954, 461, fig. 387; Histria type 7a) which is dated to the sixth century A.D. This has a similar nipple base and is of a similar height to LR Amphora 14, although the handles are more looped.

## CATALOGUE

(fig. 94)

**D376.** (C2001, SK P70.2) Deposit 153.

Complete (restored). D. = 5.9 cm; Ht. = 52 cm (pl. XXXV).

Fairly smooth cream buff fabric (7.5YR 7/6) containing very occasional white grits.

## MISCELLANEOUS LATE ROMAN AMPHORAS

(figs. 94–96)

The amphoras presented below are either miscellaneous amphoras from good Late Roman stratified levels or from miscellaneous unclassified deposits.

## COARSE POTTERY

---

**D377.** (C847, SK G11.11) Deposit 157.

Complete (restored). D. = 7.9 cm; Ht. = 52.8 cm (pl. XXXV).

Clean, smoothish buff fabric (c. 7.5YR 6/6) with very occasional white inclusions.

The form is related to LR Amphora 1, but cannot be assigned to that category as the body is corrugated rather than ridged and the fabric is altogether cleaner and smoother. Possibly an early variant (see p. 213).

**D378.** (C711, SK G11.7) Deposit 157.

Handles, body and base. Ht. = (extant) = 39.5 cm; D. Base = 8.5 cm.

Local fabric 1. The handles are reminiscent of LR Amphora 9.

**D379.** (C847, SK G11.1) Deposit 157.

Body and base. Ht. (extant) = 39.6 cm.

Light reddish brown fabric containing a little gold flake and many tiny white grits. Patchy dull grey wash exterior. There are three horizontal bands of close horizontal grooving on the shoulder. The shape is LR Amphora 13 but the fabric is not normal.

**D380.** (C846, SK J5.6) Deposit 137.

Rim, neck and handle fr. D. = 24.8 cm.

The vertical neck has close horizontal grooving over which is scored a wavy band of narrow grooving. The decoration on the shoulder consists of bands of narrow horizontal grooving, with lines of gouged slashes between them. Between the shoulder and the neck is a band of wavy grooving.

The fabric is a pale orange (2.5YR 6/8) fired buff (c. 7.5YR 7/4) with occasional white grits. The type is unparalleled, although the decoration is more usually associated elsewhere with the later sixth and seventh centuries A.D. (see for example Hayes 1976, 103—referring to Carthage D46).

**D381.** (C395, SK +) Surface find.

Rim and handle fr. D. = c. 21 cm.

Fairly coarse greyish buff fabric (7.5YR 6/2–6/4) containing occasional lime specks. Pale creamish green wash exterior.

No parallels have been noted but the decoration of bands of horizontal close grooving may suggest a later sixth or seventh century A.D. date.

**D382.** (C2546, SK R4.5) Miscellaneous deposit.

Rim and handle fr. D. = c. 5 cm.

Fairly hard, reddish brown fabric (2.5YR 4/6) containing scattered white grits. Dark grey exterior.

The form and the fabric suggest that this and No. 383 may be later variants of MR Amphora 1 (compare Robinson 1959, pl. 28, M234, M254—fourth century A.D.; pl. 31, M302—fifth century A.D.)

**D383.** (C2784, SK G18.9) Deposit 166.1.

Rim and handle fr. D. = 6 cm.

Fairly hard orange fabric (2.5YR 4/6) containing occasional white grits.

- D384.** (C748, SK F3 +) Surface deposit above Deposit 163.  
Rim and handle fr. D. = 7.1 cm.  
The neck is indented where the handle was pressed into it.  
Orange fabric (2.5YR 5/6) containing occasional creamish grits. This example is unique at Berenice but may be related to a Black Sea type attributed to the fourth century A.D. (Zeest 1960, type 99a; which has a similar out-jutting handle and broad lip). A comparison of the fabric is however necessary to confirm this, however. A complete example (ht. = c. 55 cm.) is on display in a courtyard of the Tripoli Castle Museum. It has a straight body curving into a small pointed base.
- D385.** (C2643, SK F27.4) Deposit 142.  
Rim and handle fr. D. = 10.5 cm.  
Light pinkish grey fabric (c. 2.5YR 6/2-5/2) containing a moderate quantity of white lime grits.
- D386.** (C749, SK G1.4) Deposit 158.  
Rim and handle fr. D. = 7.1 cm.  
Greyish green fabric (5Y 7/2) containing occasional black grits.
- D387.** (C761, SK G12.3) Miscellaneous deposit; related to deposit 164.  
Rim and handle fr. D. = 8.2 cm.  
Orange red fabric (2.5YR 5/6) containing occasional shiny black grits and scattered white grits.
- D388.** (C596, SK P31.5) Miscellaneous deposit; the associated fine ware dates from Hellenistic to the early third century A.D. with one later sherd of the sixth century.  
Rim fr. D. = 17.1 cm.  
Orange fabric (2.5YR 6/8-5/8) with occasional white grits and mica. Greenish cream wash exterior. This is a spatheion of LR Amphora 8b and of fourth to fifth century A.D. date. For the typical base see No. 332 above.
- D389.** (C714, SK G11.3) Deposit 157.  
Rim and handle fr. D. = 9.9 cm.  
Orange fabric (2.5YR 5/6) containing occasional white grits.
- D390.** (C553, SK J22.1) Deposit 144.  
Rim and two handles. D. = 13.1 cm.  
Orange brown fabric (2.5YR 5/6) containing white grits and a little mica. This form appears to be frequent in late third and fourth century A.D. levels at Sabratha (Panella, personal communication).
- D391.** (C394, SK J5.6) Deposit 137.  
Base. Gritty orange fabric (2.5YR 5/6) containing occasional small white grits. Greenish cream wash exterior. The fabric, surface treatment and the shape all suggest a western Mediterranean origin. Compare an example from a post mid fifth century A.D. context from near Barcelona in Spain (Beltrán Form 60). The form has not been noted in contexts of the fifth and sixth centuries A.D. at Carthage.



## COARSE POTTERY

---

- D392.** (C836, SK P59.6) Miscellaneous deposit; associated fine pottery ranges to at least the mid fifth century A.D.  
Base. Gritty buff fabric (2.5YR 6/6) containing occasional white grits and a little mica.
- D393.** (C2672, SK P50.1) Deposit 154.  
Handle. Buff fabric (c. 7.5YR 7/4–8/4) containing occasional white grits. Greenish cream wash exterior. The form occurs at Knossos in late second to early third century A.D. contexts (Hayes, personal communication).
- D394.** (C2560, SK R23.1) Miscellaneous deposit; 16 associated fine ware sherds include pieces of at least the fourth and fifth centuries A.D.  
Rim and handle fr. D. = c. 17.6 cm.  
Granular, pale greyish cream fabric (between 2.5Y 8/2–7/2) containing a moderate proportion of reddish grey quartz-like grits.
- D395.** (C955, SK F27+) Deposit 142.  
Base. Fairly smooth, orange fabric (2.5YR 6/8) containing occasional white grits.
- D396.** (C2565, SK R20.2) Deposit 122.  
Rim and handle fr. D. = 8.5 cm.  
Late Roman Amphora 1. Normal fabric. However, this example is not of the classic shape, having slightly softer features and a smoother handle. It may be an early variant. If it can be assigned a date similar to the bulk of the fine pottery in Deposit 122 (to the mid fourth century A.D.) this is the earliest example of the type in Cyrenaica and among the earliest in the eastern Mediterranean. This amphora resembles one from a deposit of A.D. 425 or a little later from the Italian excavations at Carthage which has thinner handles and is better made than the normal LR Amphora 1. The Carthage example, however, has no flange (I am grateful to C. Panella for showing me this). Compare No. 377.
- D397.** (C743, SK G1.1) Deposit 158.  
Rim and handle fr. D. = uncertain.  
Gritty, bluish grey fabric (2.5Y 3/0) fired orange (2.5YR 4/8) at the edges. It contains numerous mica particles and occasional white specks.
- D398.** (C2685, SK R24.5) Deposit 127.  
Rim and handle fr. D. = 11.2 cm.  
Local fabric 1. Cream to white wash exterior and inside rim.
- D399.** (C590, SK R33.4) Miscellaneous deposit  
Rim and handle fr. D. = 11.5 cm.  
Grey fabric fired orange brown at the edges, containing white shelly grits. Probably local.
- D400.** (C721, SK G11.9) Deposit 157.  
Rim and handle fr. D. = 7.6 cm.  
Dull orange fabric containing lime and occasional specks of mica.

- D401.** (C2733, SK F22.3) Deposit 158.  
Base. D. Base = 6.6 cm.  
Greenish grey granular fabric (c. 5Y 7/2) containing a moderate quantity of quartz-like grits.
- D402.** (C1241, SK W73.11) Miscellaneous deposit.  
Rim fr. D. = uncertain. This may be a Plain Ware fr.  
Orange fabric (c. 2.5YR 6/6–5/6) fired buff (c. 10YR 7/4) containing occasional white grits.
- D403.** (C583, SK P35 +) Miscellaneous surface deposit.  
Rim and handle fr. D. = c. 18 cm.  
Granular buff fabric (c. 7.5YR 6/6) containing white and reddish grey grits. For the form in an early first century A.D. context at Zaragoza in Spain see Beltrán (1970), fig. 156), where it is classified among the Dressel 7–11 series of amphoras. The clay is unlike that of any other Spanish amphora type encountered in Cyrenaica.
- D404.** (C762, SK G8.4) Miscellaneous deposit.  
Rim fr. D. = 8.4 cm.  
Gritty, abrasive buff fabric (7.5YR 5/4) fired reddish orange (2.5YR 5/8) at the edges. Contains a moderate proportion of shining grits and occasional white grits. Similar to Imported Cooking Ware 'A' (see below, p. 239).
- D405.** (C1235, SK W73.9) Miscellaneous deposit.  
Base fr. Firm, brownish buff fabric (5YR 6/6) containing a moderate quantity of dark grey grits and occasional mica specks. Thin creamish wash exterior. This is a base of H. Amphora 7.
- D406.** (C493, SK +) Surface find.  
Base. Pale red, gritty fabric (2.5YR 6/8) fired pale grey (2.5Y 5/2) at the edges. Contains a moderate quantity of creamish grits. Cream wash exterior.  
This type probably has a western origin, and the fabric is similar to some of the Africano Grande series of amphoras (MR Amphora 16).
- D407.** (C494, SK +) Surface find.  
Base. Firm grey fabric (10YR 4/2) containing occasional white grits. This is an unusual base; long bases with hollowed undersides are often Hellenistic.

## COOKING WARES

Cooking wares are defined as pottery exposed to fire during the preparation of food. In all periods they usually have rounded bases and small handles. Many have lid seatings on the rim. In the present study, lids of all periods are treated together for convenience as similar types tend to recur in various periods. Braziers, although they come into contact with fire, have been treated separately and included in the Plain Ware category.

The normal cooking ware fabric at Berenice is either local fabric 1 or 4. Cooking ware body sherds of Benghazi local fabric 1 are difficult to distinguish from plain ware body sherds of the same fabric and those of local fabric 4 are often difficult to distinguish from jugs in the Mid Roman period.

In general the proportion of cooking wares to other wares is fairly low, averaging between 11–16 per cent of the total pottery except in the mid Roman period when the proportion is higher, rising to 32.5 per cent in the early third century A.D. deposits. The Early Roman and the Late Roman periods are represented by a significant proportion of imported cooking wares; they come in the former period from the western as well as the eastern Mediterranean and in the latter period from the eastern Mediterranean. At all times the coarse pottery shapes of Palestine and Egypt do not occur in the local Cyrenaican typology. At all times except in the Late Roman period the local pottery shapes were clearly influenced by those current in the Aegean.

### HELLENISTIC COOKING WARES

The Hellenistic forms seem to have been influenced by those of Euehesperides, although direct development cannot be proven. The commonest cooking ware fabric is local fabric 1 (H. Cooking Ware 1 and 3), although local fabric 4 is represented (H. Cooking Ware 2 and 4). The latter two types cease after the Augustan period while the former two seem to have continued well into the Early Roman period. H. Cooking Ware 3 actually increases during the course of the first century A.D., although generally with wider rims. The variation of rim shapes within the type make close definition of those with wide and those with short rims difficult in many cases.

It is discussed below in more detail that the later development of the fourth century B.C. cooking wares from Euehesperides does not seem to follow that proposed for various Aegean sites. This provides a useful illustration of the pitfalls in assuming that similar shapes on different sites necessarily follow the same or similar development (this caution is also made by Edwards 1975, 4 ff.).

Cooking wares comprise about 14 per cent of the total coarse pottery RBH in the Hellenistic period. This proportion remains fairly constant until the Mid Roman period.

### EARLY ROMAN COOKING WARE

Early Roman Cooking Ware 1 seems to be a later development of H. Cooking Ware 1 and it increases in quantity during the period, peaking in the early second century A.D. The other

frequent locally produced cooking ware, ER Cooking Ware 5, first occurs in the later first century A.D. but is more prevalent in the second and third centuries A.D. and it is perhaps better considered a Mid Roman Cooking Ware form.

Imported cooking wares are regularly found in this period. The origins of the imported cooking wares are mainly unclear, except for ER Cooking Ware 3a which is Campanian. ER Cooking Ware 6 may be eastern: the Greek raised relief signatures on the examples from Mid Roman contexts seem to point to this, as well as their predominantly eastern Mediterranean distribution. Both ER Cooking Wares 3 and 4 peak in the early first century A.D. The frying pan (ER Cooking Ware 6) first occurs in the first century A.D., is most common in the early second but continues until the third century A.D.

ER Cooking Ware 6 can, in sherd form, be confused with unslipped versions of MR Plain Ware 7. The fabric is indistinguishable by eye and probably has a similar origin. Pompeian Red Ware occurs at Berenice, although not frequently. It is not considered in the present typology, as it is the subject of research by P. Kenrick who is studying the fine pottery from Berenice.

#### MID ROMAN COOKING WARE

There seems to have been some kind of re-organization of the pottery industry in Cyrenaica after the mid second century A.D., with the result that the cooking wares are of uniform shape and of the good quality local fabric 4. A distinctive feature is the corrugated body which is rare before the mid second century A.D. Those sherds that do occur in earlier contexts are often imported. Corrugated body sherds can belong either to MR Cooking Ware 3 or MR Jug 1; it is not always possible to distinguish between these two. MR Cooking Ware 1c seems to have been the earliest rim form for the common carinated cooking pot; this is most frequent in the early second century A.D. MR Cooking Ware 1 is more frequent after this date.

The high proportion of cooking ware in the early third century A.D. deposits (over 30 per cent of the total coarse pottery RBH) is unusual and is largely a result of the high proportion of cooking ware RBH in the cistern deposit 82 (48.6 per cent) and probably reflects the mainly domestic nature of the area sampled for this period. The proportion of imported cooking ware is low in the Mid Roman period, probably due to the good quality local products. At no other time in the Hellenistic or the Roman periods at Berenice was such a high and consistent standard of locally produced cooking wares maintained.

#### LATE ROMAN COOKING WARE

With the major exception of LR Cooking Ware 1, and to a lesser extent LR Cooking Ware 2b, which are both of local fabric 1 at Berenice, many of the cooking wares are imported, probably from the Aegean. These include LR Cooking Wares 2a, 3 and 4. The overall proportion of cooking wares to other pottery in this period is similar to that of all other periods except the Mid Roman period (*c.* 15 per cent of the total pottery RBH). LR Cooking Ware 1 is a form unique to Cyrenaica (including Medina es Sultan), which suggests a measure of local initiative. It is the only period in which the shapes produced by the local Cyrenaican potters do not seem to have been influenced by those of the Aegean or elsewhere in the Mediterranean.

## COARSE POTTERY

---

### IMPORTED COOKING WARE FABRICS

Coarse cooking ware was imported into Cyrenaica from the Aegean from as early as the late seventh century B.C. (Boardman & Hayes 1966, 135). This contained black particles and a quantity of mica (muscovite), and an Aeginetan origin was proposed (*ibid.*). Sparkes & Talcott (1970, 36, note 87) point out, however, that the clay of Aegina does not contain muscovite and consider that another origin must be sought. Despite this, an Aegean source seems likely. This tradition of imported coarse wares was maintained in the Hellenistic and Roman periods throughout Cyrenaica, where the imports stand out fairly clearly from the local products. The origin of these imports is more difficult to determine.

It is difficult to locate the precise source of the wares from the Aegean as little study of the petrology of the clays and their inclusions has been made. There is considerable geological variation between the islands of the Aegean and it appears that there is much scope for intensive study of pottery from this region by petrological methods, such as that initiated by Farnsworth (1964; 1970; although see Prag *et al.* 1974, 161 for criticisms of her method and results, at least for Corinth).

In the early Roman period, cooking wares were imported from Italy as well as the Aegean. This could partly be determined on visual grounds and partly by petrological analysis. The study of clays and pottery fabrics of the western Mediterranean is in its infancy but is gaining momentum, particularly through the work of Peacock (1975, 1977c, in press 2).

Three imported wares occurred regularly at Berenice and are described here.

### IMPORTED COOKING WARE 'A'

This is a hard, gritty, coarse, dark grey to brick red fabric, containing large quartz-like grits, a quantity of mica, lime and other grits. Thin sectioning indicates the presence of sanidine feldspar, volcanic rock and glass. Although the fabric resembles that of Pompeian Red ware by eye, the absence of augite in the clay may support an Aegean origin. Pottery types of this clay include ER Cooking Ware 6 and MR Plain Ware 7. This may also be the fabric of ER Cooking Ware 4 and LR Cooking Wares 2, 3, and 4.

### IMPORTED COOKING WARE 'B'

(*Campanian*)

This is a hard gritty orange fabric (2.5YR 4/6 to 5YR 5/6) containing a high proportion of small black grits. It is similar in texture and feel to the Campanian amphora fabric (ER Amphora 4) but not in colour, being darker and mauvish.

Thin sectioning reveals the presence of augite, which points to an Italian origin (compare Peacock, 1977c, 149, fabric 1). Pottery types in this fabric are ER Cooking Ware 3a and Lid type 7.

### IMPORTED COOKING WARE 'C'

This is an orange to dull brown fabric (2.5YR 4/6) containing a quantity of mica and white quartz-like grits. Thin sectioning revealed sanidine feldspar and volcanic material.

This is probably a Pompeian Red ware fabric (possibly as Peacock 1977c, 149, fabric 2?). It is invariably associated with Lid type 8.

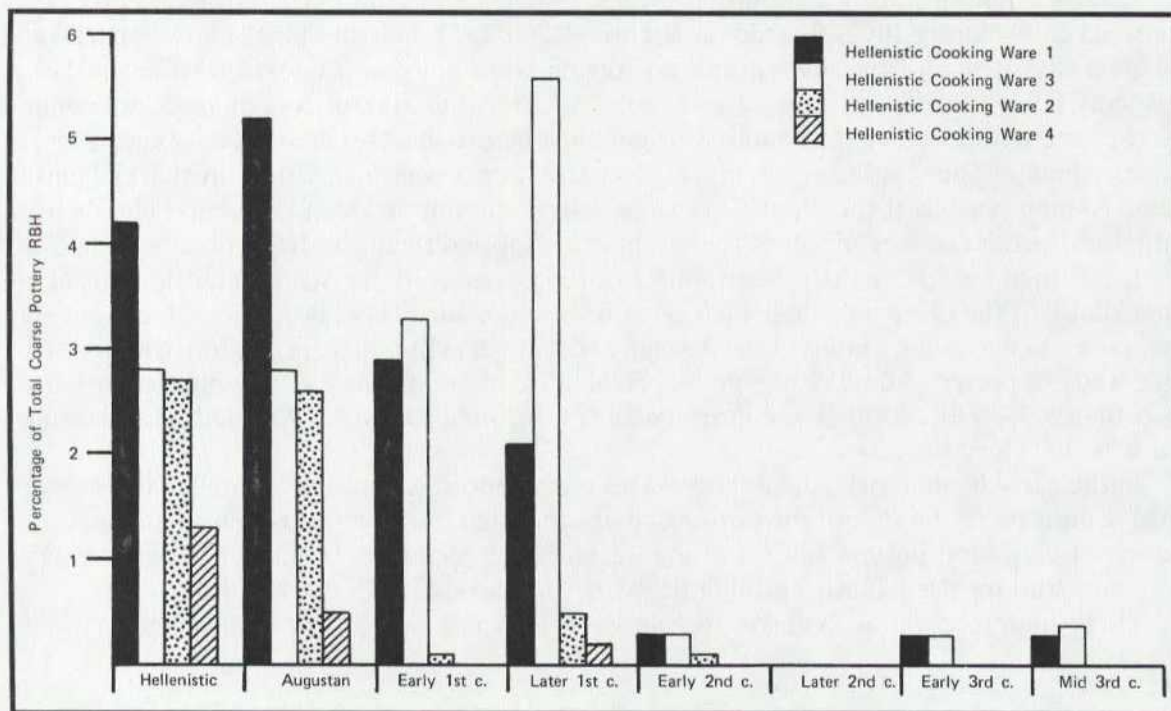


Fig. 49. Histogram to Show Relative Proportions of H. Cooking Wares at Berenice.

## HELLENISTIC COOKING WARE 1

### (Globular Cooking Pot)

The type has a globular body with a low, thickened, slightly everted rim which is usually flattened on top. Two broad, vertical handles from the body merge with the rim. There are usually two finger indentations at the base of the handle where it has been pressed into the body. The base is clearly rounded. There are generally blackened traces on the exterior. The rim diameter varies on the whole between 15 and 18 cm. Practically all the examples of this type at Berenice were of the local fabric 1. (See Riley 1973, 18, fig. 1, for a previously published illustration of the form).

This form did not occur at Euesperides, which suggests that it was introduced later than the mid third century B.C. It is the commonest cooking ware in the second and first century B.C. levels at Berenice where it comprises four to five per cent of the total coarse pottery RBH (fig. 49). The form may still have been produced during the first century A.D., although the frequency declines throughout the century. By the early second century A.D. the type is certainly a survival.

There is little discernible typological development of the type during the Hellenistic period and slight rim changes cannot be proved to have chronological significance. It is clear, however, that at some time during the later first century B.C. or the early first century A.D. a higher collar neck was introduced, although the form retained the basic shape and handle

## COARSE POTTERY

---

treatment (= ER Cooking Ware 1). This development may have begun earlier in the Aegean (compare Edwards 1975, fig. 29, Nos. 28–9 from Antikythera, dated to the second quarter of the first century B.C., although the pots are miniatures, having diameters of 8 cm). Some examples of this type were noted in general Hellenistic levels at Cyrene: these were cruder and thicker than the Berenice examples.

### CATALOGUE

(fig. 97)

**D408.** (C146, SK J56.3) Upper levels of Deposit 25 (see No. 14).

Rim and handle fr. D. = 16.4 cm.

Fire blackening on the exterior. Local fabric 1.

**D409.** (C162, SK J56.3) Upper levels of Deposit 25 (see No. 14).

Rim and handle fr. D. = 21.4 cm.

Fairly hard, local fabric 1.

**D410.** (C17, SK L44.3) Deposit 73.

Rim, two handles and most of body. D. = 12.8 cm.; Ht. (extant) = 17.1 cm.

Pale brown local fabric 4. Pale greenish cream wash exterior. Light corrugations on the shoulder. This cooking pot is unique and is probably a first century A.D. hybrid of H. Cooking Ware 1 and ER Cooking Ware 2.

### HELLENISTIC COOKING WARE 2

#### *(Globular Cooking Pot)*

The type has a globular body, everted rim, and one, or sometimes two, small vertical handles from the shoulder and merging with the rim. It has a rounded base. The fabric is distinctive, as it is always the hard, good quality cooking ware fabric (local fabric 4).

The typical Hellenistic rim form is the plain, everted rim as Nos. 411–2 and this comprises about 2.5 per cent of the total pottery of the Hellenistic and Augustan levels (fig. 49). Its frequency drops dramatically by the early first century A.D. when it can best be considered as a survival. ER Cooking Ware 2, which is always rare, may have developed from this tradition: this, however, is arguable on the grounds of fabric rather than on rim development. No significant chronological development could be argued from the rim shape. The form was not included in the corpus of pottery in pre 146 B.C. deposits at Corinth (Edwards 1975) but a miniature version occurs in the Antikythera shipwreck dated to the second quarter of the first century B.C. (Edwards 1965, 27, fig. 29, No. 33; with a diameter of 7.7 cm). This may or may not be significant for its introduction into Berenice; further refining of the dates for the Hellenistic deposits at Berenice may cast more light on this problem.

### CATALOGUE

(fig. 97)

**D411.** (SM 73.13, S3, No. 89) Selmani tombs.

Complete profile (restored). D. = 11.5 cm; Ht. = 12.1 cm.

There is one handle only. Local fabric 4.

- D412.** (C269, SK J56.4) Deposit 25.  
Rim fr. D. = 14.0 cm.  
Local fabric 4.

## HELLENISTIC COOKING WARE 3

*(Shallow Cooking Pot with Horizontal Handles)*

The type has a curved, slightly hunched body with an everted rim. There is a lid seating-ridge on the inside edge of the rim and two horizontal handles from the body, squeezed into the rim at the centre with a resulting finger/thumb impression. The base is flattened and rounded. The size varies but the commonest range has a diameter of *c.* 24–26 cm and a height of about 6.5 cm, although there are larger and smaller varieties. The Berenice examples are invariably of the local fabric 1.

The type was not present at Euhesperides, which suggests an introduction later than the mid third century B.C. There is a wide variety of rim shapes, most of which are represented in the catalogue below. Although no fine chronology could with certainty be proposed, it seems very likely that from about the Augustan period the rim became more widely flared and everted (as Nos. **422** and **423**). It is this wider variety which accounts for the high proportion of the type (nearly 5.5 per cent of the total coarse pottery RBH) in the first century A.D. The shorter rimmed variety continued alongside the wider during the first century A.D. Both varieties were included under the same category in the quantification owing to the difficulty of establishing clear distinctions between them in the field and especially when they were of intermediate size. The type was not evident in Hellenistic levels at Cyrene. For a published example from Berenice see Riley 1973, 18, fig. 2.

## CATALOGUE

(figs. 97, 98)

- D413.** (C31, SK B5.12) Deposit 32.  
Rim, handle and body fr. D. = 22.9 cm.  
Local fabric 1.
- D414.** (C139, SK J56.3) Upper levels of Deposit 25 (see No. 14).  
Rim and handle fr. D. = *c.* 25 cm.  
Local fabric 1.
- D415.** (C145, SK J56.4) Deposit 25.  
Rim and handle fr. D. = *c.* 20 cm.  
Local fabric 1.
- D416.** (C138, SK J56.3) Upper levels of Deposit 25 (see No. 14).  
Rim and handle fr. D. = 22.4 cm.  
Grey local fabric 1.



## COARSE POTTERY

---

- D417.** (C143, SK J56.3) Upper levels of Deposit 25 (see No. 14).  
Rim and handle fr. D. = c. 26 cm.  
Local fabric 1.
- D418.** (C1234, SK K2.8) Deposit 54.  
Rim and handle fr. D. = c. 28 cm.  
Local fabric 1.
- D419.** (SK R26.10) Deposit 7.  
Complete profile and one handle. D. = 17.1 cm; Ht. = 5.7 cm.  
Local fabric 1.
- D420.** (C136, SK J56.3) Upper levels of Deposit 25 (see No. 14).  
Complete profile. D. = 11.0 cm; Ht. = 3.7 cm.  
Local fabric 3.
- D421.** (C687, SK A31.2) Miscellaneous deposit: 17 sherds of associated fine pottery are of Hellenistic to first century A.D. date.  
Complete profile. D. = 19.3 cm; Ht. = 4.7 cm.  
Orange brown local fabric 1 fired grey at the edges.
- D422.** (C438, SK X48.2) Deposit 58.  
Rim fr. D. = 22 cm.  
Grey local fabric 1.
- D423.** (C478, SK L55.4) Deposit 103.  
Rim and handle fr. D. = c. 33 cm.  
Local fabric 1.  
The handle is pressed into the outside edge of the rim.

## HELLENISTIC COOKING WARE 4

### *(Carinated Cooking Pot with Sharp Lid Seating)*

The type has a fairly shallow, slightly everted, but generally straight body, which is carinated to a rounded base. The rim is plain and fairly sharp in profile, with an angular lid seating. There is at least one horizontal handle, round in section but rectangular in general shape, from the carination to the rim. The fabric is invariably the Benghazi local fabric 4 at Berenice.

The type is in the same tradition as a form found at Euhesperides from which it surely develops. At Berenice, this distinctive type comprises just over one per cent of the total coarse pottery RBH in the Hellenistic deposits but declines by the Augustan period, and is rare in later contexts. It seems likely that it is a predominantly early Hellenistic form. It occurs elsewhere, in the Aegean (for example at Corinth from mid second century B.C. contexts; Edwards 1975, pl. 29. Nos. 670-1), but does not seem to occur in Hellenistic Palestine (it is not in Lapp 1969).

## CATALOGUE

(fig. 98)

- D424.** (C661, SK K3.13) Miscellaneous deposit: the three associated fine pottery sherds are all Hellenistic.  
Rim fr. D. = 13.9 cm.  
Orange local fabric 4.
- D425.** (C293b, SK A23.7) Miscellaneous deposit: with the exception of five sherds of ARS, the large quantity of associated fine ware is all Hellenistic.  
Rim and handle fr. D. = *c.* 18 cm.  
Orange local fabric 4.
- D426.** (C1243, SK W73.11) Miscellaneous deposit.  
Rim fr. D. = *c.* 29 cm.  
Red brown local fabric 4.
- D427.** (C2775, SK J6.40) Deposit 168.7.  
Rim and handle fr. D. = *c.* 20 cm.  
Gritty, orange fabric (5YR 6/6) containing a high proportion of mica, some quartz like grits and occasional white grits. The ware is not local.

## MISCELLANEOUS HELLENISTIC COOKING WARES

With the exception of No. **430**, which comes from a miscellaneous deposit, but in an area (Area B) of Berenice which contained a high proportion of Hellenistic pottery, the other forms in this miscellaneous category are all dated to the Hellenistic period by their contexts at Sidi Khrebish.

## CATALOGUE

(fig. 99)

- D428.** (C291a, SK A19.7) Miscellaneous deposit: for dating evidence see No. **53**.  
Rim and handle fr. D. = *c.* 19.5 cm.  
Gritty, light grey fabric with thick, dark grey crude slip on the interior. Not local. For a possible rim parallel from a second to first century B.C. context at Delos see Bruneau 1970, pl. 49, D225.
- D429.** (C1004, SK B5.22) Deposit 33.  
Rim fr. D. = uncertain.  
Hard, reddish brown local fabric 4.
- D430.** (C2622, SK B14.8) Miscellaneous deposit.  
Rim and handle fr. D. = uncertain.  
Micaceous, gritty, dark grey fabric fired brown (5YR 5/3) at the edges. Similar to imported cooking ware 'A'. Not local.

## COARSE POTTERY

**D431.** (C444, SK B7.4) Deposit 39.

Rim fr. D. = 16.4 cm. Local fabric 4.

**D432.** Vacant.

**D433.** (C2771, SK A20.2) Deposit 32.

Rim fr. D. = 19 cm.

Buff fabric (10YR 6/4) with occasional white grits. Probably local fabric 5.

**D434.** (C1270, SK J56.4) Deposit 25.

Rim fr. D. = c. 25 cm. Local fabric 1.

This is basically a Hellenistic Cooking Ware 3 profile and is best considered with that category.

**D435.** Vacant.

**D436.** (C1003, SK B5.22) Deposit 33.

Rim fr. D. = 6.4 cm.

Red brown local fabric 4.

**D437.** (C2759, SK J6.50) Deposit 168.3.

Rim fr. D. = c. 11 cm.

Local fabric 2 with a white wash exterior and inside neck.

**D438.** (C1226, SK A19.13) Deposit 19.

Rim fr. D. = c. 22 cm.

Orange brown local fabric 1. This is probably related to Hellenistic Cooking Ware 1.

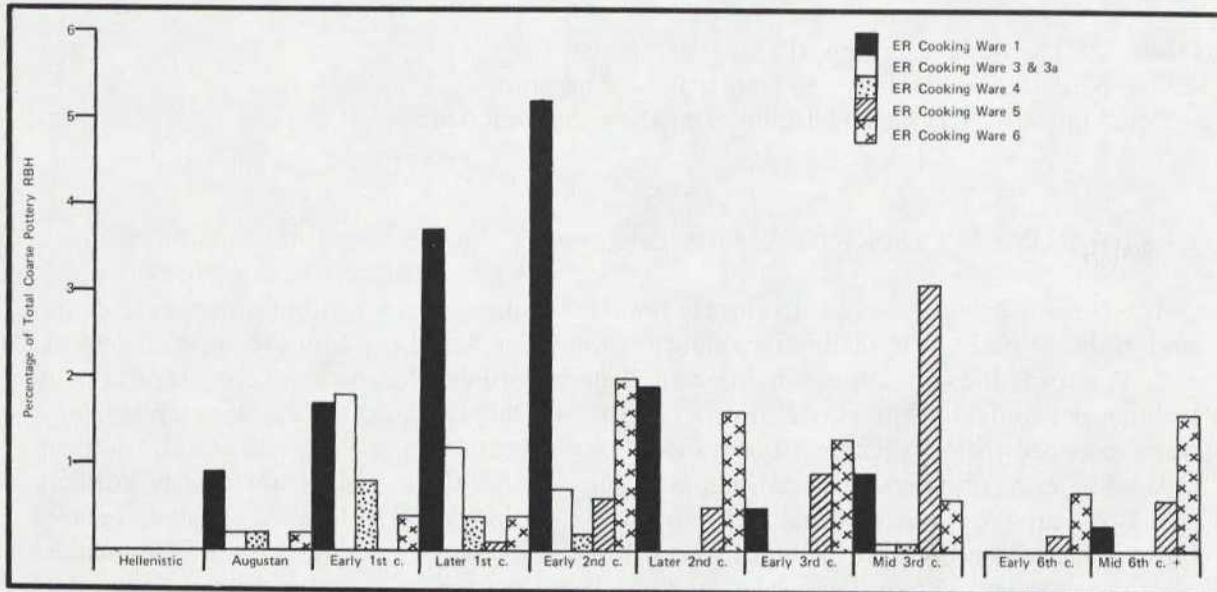


Fig. 50. Histogram to Show Relative Proportions of ER Cooking Wares 1, 3, 4, 5, 6 at Berenice.

## EARLY ROMAN COOKING WARE 1

This is a globular cooking pot with a more or less vertical neck and everted rim. There is often a concave depression on the top of the rim. Two vertical handles from the shoulder merge with the rim. The base is rounded, and often fire blackened. The clay of the Berenice examples is invariably Benghazi local fabric 1.

This is a later version of Hellenistic Cooking Ware 1 and seems to have been introduced during the Augustan period. The major difference is the high neck and rim treatment; there are no finger depressions where the handle joins the shoulder. The development may have resulted from Aegean influence, although this cannot be proved. An early first century B.C. miniature example has been referred to above (p. 241) and better quality, harder fired cooking pots related to this shape occur in Augustan/Claudian contexts at Knossos (Hayes 1971, 268, Nos. 41-2). The form occurs at Cyrene in the Sanctuary of Demeter in the Hellenistic and early Roman levels there; these levels, have, however, not been closely dated. The Cyrene examples are thicker and cruder than those of Berenice and are of the local Cyrene fabric 1.

At Berenice, the type becomes steadily more frequent throughout the first century A.D. and is commonest in the early second century A.D. deposits (where it represents over 5 per cent of the total coarse pottery RBH; see fig. 50). There is a fairly sharp decline in their occurrence by the later second century A.D., which can be directly related to the introduction of the sturdier, better quality Mid Roman cooking wares around the middle of the century.

## CATALOGUE

(fig. 99)

**D439.** (C14, SK N1.3) Miscellaneous deposit.

Complete profile. D. = 14.7 cm; Ht. = 24.8 cm.

Local fabric 1 with cream wash exterior and inside neck.

**D440.** (C13, SK L44.3) Deposit 73.

Complete (restored). D. = 16.8 cm; Ht. = 23.8 cm.

Local fabric 1. The base is fire blackened on the underside.

## EARLY ROMAN COOKING WARE 1a

The form is broadly similar to the Hellenistic Cooking Ware 1, with a short, everted rim and globular body. The distinctive feature is the holes bored through the vessel below the rim. The form does not appear in domestic contexts at Berenice, where it has only occurred in funerary contexts. The clay is the local fabric 1. Only three examples, all complete, have been recorded from Cyrenaica. For an example from a tomb in Benghazi see Ghislanzoni (1913, 89, fig. 9; the associated grave goods ranged in date from Hellenistic to early Roman). The two examples presented below are from excavations at Sidi Hussein, where associated finds ranged from the first to the third centuries A.D. In all cases the type was associated with braziers and it may have been manufactured primarily for a funerary purpose. The function of the holes is unclear.

## COARSE POTTERY

---

### CATALOGUE

(fig. 99)

**D441.** (Sidi Hussein+).

Complete. D. = 8.9 cm; Ht. = 11.1 cm; Weight = 385 gr.

There are six holes at equal intervals around the neck. Local fabric 1.

**D442.** (Sidi Hussein+).

Complete. D. = 8.3 cm; Ht. = 10.8 cm; Weight = 330 gr.

There are nine holes around the top of the body. There are no handles.

Local fabric 1.

### EARLY ROMAN COOKING WARE 2

The type has a globular body, and a fairly high, thickened, and slightly inturned rim. Examples with one and two grooves on the shoulder have been noted. There are two fairly wide vertical handles from below the rim to the shoulder. The fabric of the Berenice examples is the good quality local fabric 4. From the point of view of the fabric, the type may be considered part of the H. Cooking Ware 2 tradition. There is, however, no evidence that the type was introduced earlier than the later first century A.D. and the earliest datable example is of the third quarter of the first century A.D. (No. **444**). This type does not feature in the quantification tables as it was not quantified in the field. It is, however, rare and was not noted elsewhere in Cyrenaica.

### CATALOGUE

(fig. 100)

**D443.** (C152, SK X37.7) Miscellaneous deposit.

Rim and two handles. D. = 16 cm.

Red local fabric 4.

**D444.** (C1261, SK X56.1) Deposit 59.

Rim and one handle fr. Est. D. = 14 cm.

Red local fabric 4.

**D445.** (C1118, SK P49.8) Deposit 79.

Rim and handle fr. D. = uncertain.

Orange-red local fabric 4.

### EARLY ROMAN COOKING WARE 3

(*'Orlo bifido' Cooking pots*)

The form is a flat bottomed cooking vessel with convex sides and a plain, slightly inturned rim with a narrow groove on top. There is often, but not always, an off-set on the inside floor at the junction with the wall (Nos. **446**, **450**). There is sometimes blackening on the exterior.

This is a western Mediterranean form with a long tradition. However, a study of the type is complicated as it is clear that there are at least two, and quite probably more, production centres for the type. The two most clearly defined are Campania and Tunisia. This is on the grounds of fabric.

#### AFRICAN FABRIC (=ER COOKING WARE 3)

The fabric of the African examples is gritty and orange red (*c.* 2.5YR 6/8–5/8) containing lime particles. It is the classic African Red Slip fabric (for which see Hayes 1972, 13–4). This variety occurs regularly at Carthage in first century A.D. levels (over 4 per cent of the total fine and coarse RBH; see Hayes 1975, 94 'Early Cooking Ware 1G'). The African variety was certainly exported to Italy in the first century A.D. and it occurs in quantity at Cosa (e.g. Dyson 1976, fig. 44–5; Nos. 22–5 from the early first century A.D. Deposit 6 (22II) are African: Hayes, personal communication, as a result of a re-examination of the Cosa pieces in August 1977). The African type occurs at Berenice (No. 451) but unequivocal examples are not common, and are difficult to separate from the miscellaneous varieties by eye. In the quantification tables ER Cooking Ware 3 refers to non local and non Campanian examples in this form.

#### CAMPANIAN FABRIC (=ER COOKING WARE 3a)

The example of this form in Campanian fabric (= imported fabric 'B') are frequent at Berenice, and occurred in equal proportions to the non Campanian. It is not always possible to distinguish between the two types from published descriptions of those found in western contexts. The high proportion of examples in African fabric at Cosa (as much as 50 per cent; Hayes, personal communication) prevents one from automatically assuming an Italian origin for those from other Italian sites. Moreover, the possibility of other production areas must be considered; for example, the form occurs in various fabrics in Spain (Vegas 1973, Type 14a; late Republican to the first century A.D.) where those of Baetica have a 'grey' fabric and those of Tarragona have a 'red' fabric.

The distribution of the type in the eastern Mediterranean is unclear but it occurs at Caesarea and an unpublished example from Paphos may be Campanian (Hayes, personal communication: it has a brick red clay with many fine black specks, is non-micaceous and partially blackened on the exterior).

#### LOCAL FABRIC (=ER COOKING WARE 3b)

A few examples in local fabric 1 occurred at Berenice but these were always very rare.

#### DISCUSSION

The form has a long tradition in the western Mediterranean and it spans the period from the early first century B.C. to the late first century A.D. at least (for this see especially

## COARSE POTTERY

Bruckner 1965, Abb. 1.2 and bibliography cited). The type occurs at Athens in the Hellenistic period (Thompson 1934, 467, fig. 121). The rim occurs in levels dated late Republican to *c.* 30 B.C. at Magdalensburg, without an off-set on the inside of the base (Scheffenecker & Schindler-Kaudelka 1977, 76, Abb. 9, No. 13). Although the absence of an offset may be an early feature (Berenice casts no light on this), the Berenice evidence provides good evidence that examples without off-sets continued into the late first and second centuries A.D. (see No. 40 and 41 above from Deposits 77 and 59 respectively). Dyson (1976, 68: 'Flat Bottomed Pans' Class 1, and p. 119) suggests a date range for the type at Cosa from *c.* 100 B.C. to A.D. 50 with occasional possible strays from levels of *c.* 200 B.C. and earlier. The type did not appear at Berenice until at least the Augustan period so nothing can here be added to the early history of the form.

Evidence from the later first and second centuries A.D. is lacking at Cosa due to the nature of the site. However, the rim is attested at Ostia during the Flavian period but it is rare after the mid second century A.D. (Ostia iii, 414). At Ostia, two types occur. One has a carinated body with a ribbed, rounded base below the carination (Ostia ii, 306, 307). This does not occur at Berenice. The other is the flat based variety discussed here (Ostia ii, 308). This latter type occurs in earlier contexts at Ostia (Zevi & Pohl 1970, fig. 59, 299; Tiberian period; fig. 55, 115 and 170; Tiberian; fig. 117, 100; Trajanic-Hadrianic). For the type at Pompeii see Bruckner 1975, 208, fig. 205, 3. The form occurs in Tripolitania and was found in mid first century A.D. levels at Sabratha, although it was rare there, only about six sherds occurring from the 1948 excavations (Kenyon, personal communication). There is a complete example (with off-set) from Leptis Magna on display in the museum from 'tombs south of Leptis', the latest associated fine ware being Italian Sigillata.

The evidence from Berenice provides important information about the distribution of the form (in both fabrics) in the first century A.D. It is first attested in Deposit 39, which may be Augustan. It is most common in the early first century A.D. (comprising just over 1.5 per cent of the total coarse RBH) and declines after this, becoming very rare after the mid second century A.D. This general trend is similar to that of ER Cooking Ware 4.

### CATALOGUE

(fig. 100)

**D446.** (C2800, SK H6.9) Deposit 62.

Rim and base fr. D. = 25 cm.

Gritty micaceous greyish brown fabric (5YR 3/2) containing some white grits. Probably a reduced Campanian fabric. A thin section of this example (pl. XXc) revealed leucite, augite and volcanic glass.

**D447.** (C1056, SK D1/4.13) Deposit 53.

Rim fr. D. = uncertain.

Gritty orange fabric (2.5YR 4/6) containing a high proportion of black grits. Campanian.

**D448.** (C2801, SK P100.4) Deposit 77.

Rim and base fr. D. = *c.* 32 cm.

Gritty orange-buff fabric (5YR 5/6) containing a high proportion of black and white grits as well as shining particles. Campanian.

**D449.** (C1278, SK X56.2) Deposit 59.

Rim and base fr. D. = c. 43 cm.

Very gritty orange fabric (2.5YR 5/6) containing a high proportion of black grits and shining particles. Campanian.

**D450.** (C508, SK R24.16) Miscellaneous deposit: five associated sherds of fine pottery date to the late first or early second century A.D.

Rim and base fr. D. = c. 26 cm.

Gritty, dull orange brown fabric (2.5YR 4/4) containing a quantity of small black grits. Probably Campanian.

**D451.** (C345, SK H1.14) Deposit 85.

Rim fr. D. = c. 28 cm.

Orange fabric (2.5YR 5/6), fairly gritty, containing occasional white and shining grits. The absence of black grits and the texture of the clay suggest a Tunisian rather than a Campanian origin.

## EARLY ROMAN COOKING WARE 4

The form is a deep bodied cooking pot which is carinated to a rounded base. The rim is horizontally everted and flat on top. There is a distinctive pronounced bulge on the inside below the rim. Some examples of the form have horizontal lug handles. The fabric of the Berenice examples is similar in appearance to the imported cooking ware 'C', being a gritty orange brown (c. 2.5YR 5/6-5/4-4/3) containing a high proportion of shining particles and grey and white lumps. Thin sections (Nos. 459-60) reveal hornblende, tourmaline, potash feldspar and plagioclase feldspar (identified by D. Peacock; see pl. XXd for No. 459).

As is the case with ER Cooking Ware 3, at least two production areas for the type are likely, including Tunisia. A chronological development of the form is proposed in Ostia iii (85-6, type III) and a three stage evolution is argued:

- a) In the first century A.D. the type has a horizontal rim, flat on top as described above (e.g. Nos. 452, 453, 459; see Ostia ii, No. 310).
- b) The early second century A.D. version has a downturned rim (e.g. No. 454; Ostia ii, 311).
- c) From the mid second century the type becomes the classic Hayes (1972) ARS from 197.

The evidence from Berenice does not support this direct typology at least, as far as Cyrenaica is concerned. No examples of ER Cooking Ware 4 occurred in an African fabric and ARS 197 does not occur in imported fabric 'C'. It seems unlikely that the earliest version found at Ostia is actually from Africa. Excavations of first and second century A.D. levels at Carthage have produced no examples of the first century form in African fabric. There is a possibly related form (as Hayes 1972, form 191; see also Hayes 1975, ER Cooking Ware 1a) with a lower and sharper profile, but this is not the type discussed in the Ostia publication. The early second century A.D. version with the downturned rim occurs at Carthage in early second century A.D. contexts (e.g. Hayes 1975, 63, XI, 12; 73, fig. 11, No. 7) as well as in Berenice in imported cooking ware 'C' (No. 454). There seems to be no problem with the dates proposed in the Ostia publication; these are in fact supported by the Berenice evidence



## COARSE POTTERY

---

as far as the form is concerned. What is suggested is that the sequence proposed for this type of 'ceramica a patina cenerognola' does not necessarily comprise one fabric alone.

At Berenice the flat rimmed 'early' form is commonest, with only occasional examples of the downturned rim (as No. 454). The flat rimmed form occurs regularly throughout the western Mediterranean during the first century A.D. (e.g. from the mid first century A.D. Dramont D wreck off France: Joncheray 1974, pl. IV, f, in a gritty light chestnut coloured fabric; from Pompeii—Bruckner 1975, 207, fig. 204, No. 9) and as far north as Neuss (Vegas 1975, 40, taf. 24; in uncertain fabric but in first century A.D. levels). The form is not represented in the corpus of Spanish coarse wares (Vegas 1973) and does not appear to have been noted at Cosa (Dyson 1976; the closest parallels are *ibid.* fig. 54, LS4 and LS5 but these are not of the classic shape).

The frequency of this cooking pot in the eastern Mediterranean is not clear. The form seems to occur at Paphos in the Flavian contexts (Hayes, personal communication). The Berenice evidence is therefore of some importance. The type first appears in the Augustan levels and is commonest (although never frequent) in the first half of the first century A.D. (fig. 50). It declines steadily in the later first and early second centuries A.D., after which it is a survival. It follows a similar quantitative distribution to ER Cooking Ware 3, which may add a little weight to a hypothesis of a western Mediterranean origin for the type based on typological grounds and frequency of distribution. In the final analysis, however, the origin is uncertain.

### CATALOGUE

(figs. 100–1)

**D452.** (C321a, SK J18.9) Miscellaneous deposit.

Rim and body fr. D. = c. 28 cm.

Gritty orange fabric (2.5YR 5/8–4/8) containing a quantity of grey grits and shining particles.

**D453.** (C481, SK L55.4) Deposit 103.

Rim fr. D. = Uncertain.

Gritty orange fabric (2.5YR 5/6) containing grey grits.

**D454.** (C2637, SK R28.6) Deposit 75.

Rim fr. D. = c. 31 cm.

Fairly gritty orange fabric (2.5YR 5/6) containing occasional grey and shining grits.

**D455.** (C2627, SK P51.5) Deposit 67.

Rim and handle fr. D. = 19.5 cm.

Gritty brown fabric (5YR 4/3) containing grey lumps and shining grits. Very similar to the fabric of Lid Type 8 (see below p. 325).

**D456.** (C2723, SK R35.8) Miscellaneous deposit.

Rim and handle fr. D. = 26 cm.

Gritty, pale orange brown fabric (5YR 5/4) containing white and grey grits with some mica.

- D457.** (C2628, SK P12.3) Miscellaneous deposit: 13 sherds of fine pottery range to the early third century A.D.  
Rim and handle fr. D. = 26 cm.  
Gritty orange brown fabric (2.5YR 5/6) containing shining grits and occasional white grits.  
Grey exterior.
- D458.** (C321, SK H6.3) Deposit 84.  
Rim fr. D. = 28 cm.  
Gritty, micaceous, reddish brown fabric containing white grits.
- D459.** (C2638, SK X30.1) Deposit 60.  
Rim fr. D. = 38 cm.  
Fairly gritty, orange fabric (2.5YR 5/6) containing white grits and quartz-like particles.  
(see pl. XXd for thin section).
- D460.** (C2636, SK P52.4) Miscellaneous deposit: the five associated fine pottery sherds suggest a first century A.D. date.  
Rim fr. D. = c. 37 cm.  
Gritty, orange fabric (2.5YR 4/6) containing white and quartz-like grits and mica.
- D461.** (C2095, SK L44.3) Deposit 73.  
Rim fr. D. = c. 36 cm.  
Dark, brownish grey (5YR 2.5/2) gritty fabric containing mica and a high proportion of white grits.

## EARLY ROMAN COOKING WARE 5

*(Local Frying Pan)*

The form has a curved, slightly carinated body and a shallow rounded base. The rim is everted with a hollow, tubular handle set onto it following the line of the body. It occurs in local fabric 1 (= 5a; as Nos. 463, 466-7) and local fabric 4 (= 5b; as Nos. 462, 464-5, 468), in more or less equal proportions. Type 5b has a small groove on the top of the rim and is more uniform in shape than 5a. Type 5a first appears in the later first century A.D. and continues to the mid third century. Type 5b did not occur before the mid second century. The type in general increases from about 0.5 per cent of the coarse pottery RBH at Berenice in the second to over 3 per cent by the mid third centuries A.D. This may be connected with the decline of the imported ER Cooking Ware 6 over this period (fig. 50). Its frequency at Berenice contrasts with its rarity at Tocra. Only one example occurred at the Tocra kiln site (Riley in press 1).

The general form occurs at Athens in later first and late second century A.D. contexts (Hayes, unpublished information), but without the groove on the top of the rim. Only two imported examples were noted at Berenice (Nos. 469-70). Types 5a and 5b are amalgamated in the figures.

## COARSE POTTERY

---

### CATALOGUE

(fig. 101)

- D462.** (C130, SK B4.20) Deposit 105.  
Rim and handle fr. D. = 24 cm.  
Local fabric 4.
- D463.** (C246, SK P10.6) Deposit 80.  
Rim and handle fr. D. = 36 cm.  
Local fabric 1.
- D464.** (C2505, SK H22.2) Deposit 82.  
Rim and handle fr. D. = 24 cm.  
Reddish local fabric 4.
- D465.** (C398, SK+) Surface find.  
Rim and body fr. D. = 25 cm.  
Reddish brown local fabric 4.
- D466.** (C1019, SK J45.9) Deposit 51.  
Rim fr. D. = uncertain.  
Local fabric 1.
- D467.** (C232, SK P5.5) Deposit 81.  
Rim fr. D. = 26 cm.  
Local fabric 1.
- D468.** (C214, SK J31.14) Deposit 101.  
Rim fr. D. = c. 23 cm.  
Local fabric 4.
- D469.** (C2071, SK L36.3) Deposit 73.  
Rim and body fr. D. = 24 cm.  
Fairly hard grey fabric fired orange brown (5YR 4/4) at the edges. Contains a little mica and occasional shining particles. Probably not local.
- D470.** (C406, SK J13.3) Deposit 27.  
Rim fr. D. = 12.2 cm.  
Grey to buff fabric containing black and pale grits. Grey wash exterior and interior. Probably not local. Whether this small version is an early variant or intrusive in this deposit is not clear.

### EARLY ROMAN COOKING WARE 6

#### *(Imported Frying Pan)*

The type is a heavy, flat based pan with steep, straight sides and a plain, slightly thickened rim. There is one tubular handle set onto the rim. The rim occasionally has a small applied

strip of clay on the top with impressed finger indentations. There is little variation in form, and the fabric is invariably the imported cooking ware 'A'.

Coarse, flat bottomed frying pans were widely used in the eastern Mediterranean in the Hellenistic period (see Lapp 1969, type 78; they first occur at Tel Anafa in Palestine in pre 150 B.C. levels and appear in Cyprus *c.* 100 B.C.—Hayes, personal communication). The present writer has not had the opportunity to study the clays of these eastern Mediterranean examples and such flat bottomed pans do not occur in indisputed Hellenistic contexts at Berenice.

The earliest example at Berenice is from Deposit 39 (probably the Augustan period) and they certainly occurred in the early first century A.D. (in Deposits 46 and 53). However, they were never frequent until the first half of the second century A.D. (when they represent two per cent of the total coarse pottery RBH). They decline through the later second and third centuries A.D. (fig. 50).

The type has a wide distribution throughout the eastern Mediterranean and also in Italy, but was not noted in the Michigan University excavations at Carthage. Its predominantly eastern Mediterranean distribution and tradition, together with their introduction into Berenice on a fairly large scale in the early second century A.D. (by which time imports from Italy in fabrics which are clearly Italian seem to have declined) seems to support this.

The pan has been noted at Athens (Robinson 1959, G114-5; first quarter of the first century A.D., following Lapp 1961), Perachora (Tomlinson 1969, fig. 30.25; dated to the second quarter of the first century A.D.), Caesarea (from an early second century A.D. context), Knossos (Villa Dionysus; second to late third century A.D.—Hayes, personal communi-

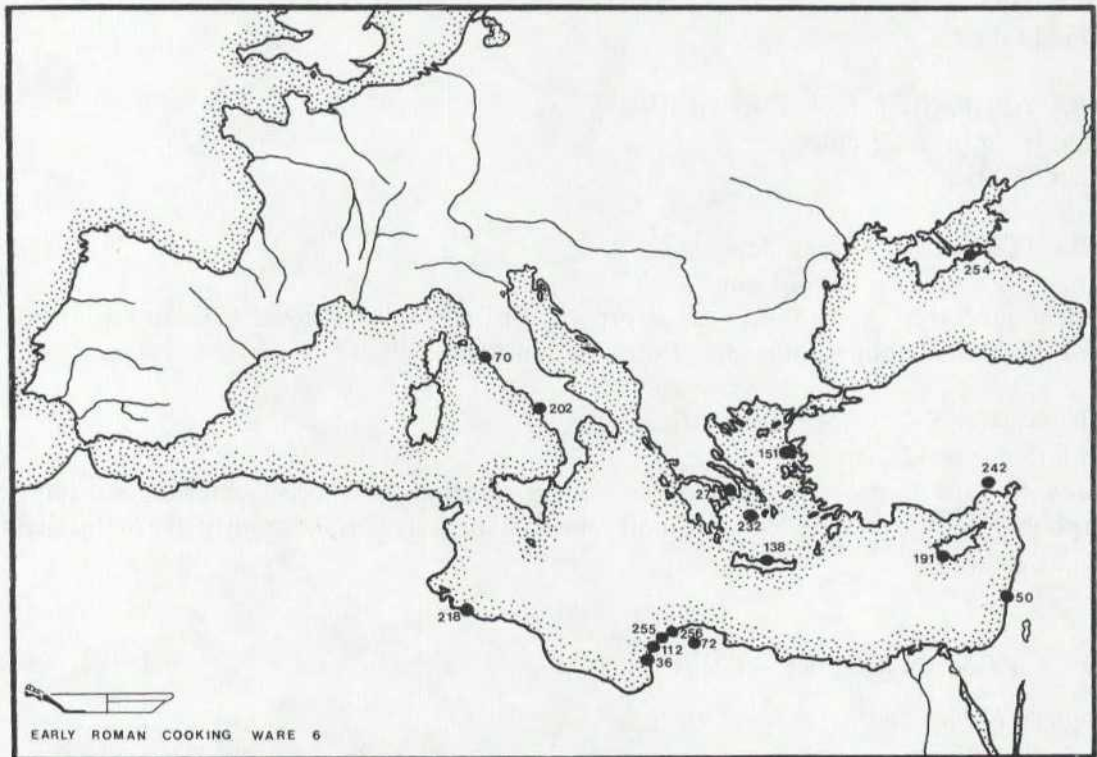


Fig. 51. Distribution Map of ER Cooking Ware 6.

## COARSE POTTERY

tion; Sackett 1973, 69, fig. 30 from a third century A.D. context at Knossos), Tarsus (Jones 1950, pl. 163a, fig. 206, No. 803; dated second to late third century A.D.; *ibid.* fig. 159H, No. 722 for an example with impressed finger indentations on an applied strip of clay attached to the tip of the rim; dated to the early Imperial period), Lesbos (from Methymna, Lamb 1932, fig. 3, No. 16; from an unstratified context), Siphnos (Brock 1949, 65, fig. 12, No. 1; from a Hellenistic context), Tiritake (Glidchkevich 1952, 169, fig. 62; with no clear date). From this it is clear that the type is well spread around the eastern Mediterranean.

The type is not as well attested in the western Mediterranean, but has been noted at Sabratha (where it first appears around the mid first century A.D. and continues into the Severan period and from then until the fourth century A.D.—Kenyon, personal communication), Pompeii (where it is not common, three or four complete examples having been noted by Annechio—personal communication; see also Annechio et al. 1977), and Cosa (the general form seems to be present in the early first century A.D. levels, although no lugs have been presented in Dyson 1976, 122, class 19, fig. 46, Nos. 43–5). The type was not published from Ostia.

Several fragments have also been noted by the present writer at Cyrene (unpublished, from D. White's excavations in levels of the third century A.D.), four fragments have been noted from the surface at Apollonia, six fragments at least are present from Goodchild's excavations at Tocra in 1965 (unpublished, in Tocra store-rooms), and one rim fragment occurred from the kiln site at Tocra (Riley in press 1, No. 25).

No reliable indications of the development of the form were observed, but it is possible that examples with higher walls and wider diameters may be later rather than earlier in the series. This is based on their relative frequency in the later levels of the second and third centuries A.D.

### CATALOGUE

(fig. 101)

**D471.** (C98, SK+) Surface find.

Rim and handle fr. D. = 23 cm.

Hard, gritty, grey fabric (5YR 3/2) containing mica, quartz and other grits. Imported cooking ware 'A'.

**D472.** (C8, SK R27.3) Miscellaneous deposit: the associated fine pottery spreads to the sixth and seventh centuries A.D.

Rim and part of handle. D. = 29.4 cm; Ht. = 4.7 cm.

Imported cooking ware 'A'.

**D473.** (C2837, SK H8.2) Deposit 84.

Rim fr. D. = 32 cm; Ht. = 4.9 cm.

Small, applied strip of clay on the top of the rim with impressed finger indentations. Imported cooking ware 'A'.

**D474.** (C907, SK F30.2) Deposit 132.

Rim fr. D. = uncertain.

Imported cooking ware 'A'.

- D475.** (C1054, SK D1/4.13) Deposit 53.  
Rim fr. D. = uncertain.  
Imported cooking ware 'A'.

## EARLY ROMAN COOKING WARE 6a

*(Stamped Frying Pan)*

The form is similar to type 6 above. The characteristic of this type is that there are raised relief circles on the underside of the base, occasionally with a Greek signature also in raised relief. The fabric is not distinguishable from that of type 6 by eye. A thin section of No. 477 revealed sanidine feldspar, and lumps of volcanic rock (pl. XXe). Augite was not present which together with the Greek signatures and the distribution of type 6 (fig. 51) may point to an Aegean rather than to a western origin for the type. Such stamped examples were rare at Berenice, only six fragments occurring from the whole excavation. The type occurs in the Aegean (unpublished information, Hayes) and occurs on a different type of flat based cooking ware on Cyprus (see Calvet 1972, Nos. 174-5). One example with two raised circles on the underside of the base is present in the Tolmeita store (not dated). The stamps are all indecipherable but J. Reynolds has kindly provided the following partial readings.

## CATALOGUE

(fig. 102)

- D476.** (C2020, SK X34.2) Miscellaneous deposit.  
Rim and handle fr. D. = 23 cm; Ht. = 3.8 cm.  
Indistinct Greek lettering in raised relief on the underside.  
Imported cooking ware 'A'. ]HPENI (pl. XXIX).
- D477.** (C44, SK+) Surface find.  
Base fr. Indistinct Greek raised relief signature on the underside.  
Imported cooking ware 'A'. ]BOLKY[ (pl. XXX).
- D478.** (C45, SK H5.2) Deposit 84.  
Base fr. Indistinct Greek raised relief signature on the underside.  
Imported cooking ware 'A'. ]MOΛ or ]OT[; outside circle ]TI (pl. XXX).
- D479.** (C1174, SK W79.4) Miscellaneous deposit.  
Base fr. Indistinct Greek lettering in raised relief on the underside.  
Imported cooking ware 'A'. ]CA NΦOIOC (pl. XXX).
- D480.** (C45a, SK Z8.2) Miscellaneous deposit.  
Base fr. Raised circle decoration on underside of base.  
Imported cooking ware 'A'.
- D481.** (C45b, SK F33.2) Deposit 142.  
Base fr. Raised relief decoration on the underside.  
Imported cooking ware 'A'.

## COARSE POTTERY

---

### MISCELLANEOUS EARLY ROMAN COOKING WARE

(Forms in *Benghazi Local Fabric 1*)

These rim forms are not recurrent but they did occur in well dated deposits from Berenice from the mid first to the mid second centuries A.D.

#### CATALOGUE

(fig. 102)

- D482.** (C1031, SK J45.9) Deposit 51.  
Rim fr. D. = uncertain.  
Local fabric 1.
- D483.** (C1015, SK H6.9) Deposit 62.  
Rim fr. D. = c. 26 cm.  
Local fabric 1.
- D484.** (C1017, SK P10.6a) Deposit 80.  
Rim fr. D. = c. 28 cm.  
Local fabric 1.
- D485.** (C2816, SK BB1.2) Miscellaneous deposit; associated coarse pottery is mainly early Roman with some mid Roman pieces.  
Rim fr. D. = 29 cm.  
Local fabric 1.
- D486.** (C659, SK X39.1) Miscellaneous deposit; over 20 associated sherds of fine pottery spread thinly to the late first or early second centuries A.D.  
Rim fr. D. = c. 26 cm.  
Brownish grey (5YR 4/2) local fabric 1.
- D487.** (C1018, SK X48.2) Deposit 58.  
Rim fr. D. = c. 23 cm.  
Local fabric 1.
- D488.** (C1016, SK H6.9) Deposit 62.  
Rim fr. D. = uncertain.  
Local fabric 1.
- D489.** (C658, SK X5.5) Miscellaneous deposit; seven fine pottery sherds range to the late first or early second centuries A.D.  
Rim fr. D. = 28 cm.  
Local fabric 1.
- D490.** (C1023, SK P49.8) Deposit 79.  
Rim fr. D. = 14 cm.  
Local fabric 1.

- D491.** (C1049, SK P10.6a) Deposit 80.  
Rim fr. D. = uncertain.  
Local fabric 1.

MISCELLANEOUS EARLY ROMAN COOKING WARES BOTH LOCAL  
AND IMPORTED

CATALOGUE

(fig. 102)

- D492.** (C160, SK P10.6) Deposit 80.  
Rim fr. D. = 20 cm.  
Local fabric 4.  
Compare Dyson (1974, 116, class 7, fig. 42–3, Nos. 5–8) of the early first century A.D. for similar example with a 'duck billed rim that tapers to a blunt point'. No. **492** is the only example of possible western influence on the local Cyrenaican pottery industry.
- D493.** (C298a, SK L58.5) Miscellaneous deposit; three associated fine ware sherds range from Hellenistic to the first century A.D.  
Rim fr. D. = 15 cm.  
Greyish brown local fabric 4.
- D494.** (C1034, SK J45.9) Deposit 51.  
Rim fr. D. = c. 19 cm.  
Grey fabric (5YR 4/3) fired red brown (2.5YR 5/6) at edges with white and shining grits. Not local. Nos. **555** and **556** belong to this type (see below).
- D495.** (C1037, SK X48.2) Deposit 58.  
Rim fr. D. = c. 25 cm.  
Hard, gritty orange fabric (2.5YR 5/6) containing grey grits and shining particles. Not local and of uncertain origin.
- D496.** (C2658, SK X53.2) Deposit 61.  
Rim fr. D. = 12 cm.  
Micaceous, dark brown fabric (5YR 3/2) containing occasional white grits. Not local. For the form, compare with the common cooking pot from the kilns of the third quarter of the first century A.D. at Sutri in Italy (Duncan 1964, form 27), which also have a narrow but characteristic ledge on the shoulder. The origin of No. **496** is uncertain.
- D497.** (C1216, SK K1.9) Deposit 54.  
Rim fr. D. = c. 19.0 cm.  
Hard grey fabric containing shiny grits and a little lime. It is fired brown at the edges (5YR 4/3). This is imported but is not as rough as the normal imported cooking ware 'A'. For the general form at Ostia in a Flavian context see *Ostia iii*, tav. XV, No. 27.
- D497a.** (C2662, SK A23.7) Miscellaneous deposit: see No. **425** for the dating evidence.  
Rim fr. D. = uncertain.



## COARSE POTTERY

---

Gritty, bluish grey fabric (2.5Y 4/0) fired dark grey. It contains mica, shining grits and white lumps. This is not local and may be related to imported cooking ware 'A'.

**D498.** (C2549, SK R10.8) Deposit 63.

Rim fr. D. = 16 cm.

Hard, micaceous grey fabric (5YR 4/1). Not local.

**D498a.** (C2630, SK R35.5) Deposit 46.

Rim fr. D. = 15 cm.

Gritty orange fabric with black grits. Not local.

**D499.** (C1043, SK P49.8) Deposit 79.

Rim fr. D. = uncertain.

Grey fabric fired buff (7.5YR 6/4) at the edges containing grey grits and a little mica. Not local and of uncertain origin.

**D500.** (C2568, SK R24.28) Deposit 48.

Rim fr. D. = 18 cm.

Hard, brownish grey fabric (7.5YR 4/2) containing a little mica. Not local.

## MID ROMAN COOKING WARE 1

### *(Carinated Cooking Pot)*

The basic form has steep, inward sloping, straight sides, a carinated body and rounded base, occasionally with light corrugations on the base. The rim is everted and there are usually two small lug handles below the rim on the examples from Berenice, although handles were rare on those from the Tocra kiln site. The examples from Tocra are of two main sizes, of rim diameter 23–5 cm and 18–20 cm, whereas at Berenice only one size was predominant (20–2 cm). The commonest rim type had a lid seating-groove on the upper face (= MR Cooking Ware 1). The form is common throughout Cyrenaica and occurs in parts of the Aegean.

The form seems to have been introduced at some stage in the late first or early second century A.D., probably later rather than earlier, as the examples in Deposit 69 are likely to be intrusive. The form seems to have been established by the early second century A.D., when it comprises just over one per cent of the coarse pottery RBH. The proportion rises steadily to a peak of nearly eight per cent in the early third century A.D., after which it seems to decline. It is unclear how late this form continues. It was fairly well represented in the latest levels of the 1968–69 excavations by G.D.B. Jones at Tocra and is regular in the latest levels at Berenice. It is, however, rare in the most closely dated groups of the early sixth century A.D. (Deposits 142 and 143) and it may already have been a survival piece by that period (fig. 52).

The form may have been influenced by similar wares which were made in the Aegean from the later first or early second centuries A.D. These were also imported into Berenice on a small scale from this time (see below MR Cooking Ware 1c).

There are dated parallels for this form at Knossos (Villa Dionysus, D/61 P4i, of the late second to early third centuries A.D.—Hayes, personal communication) and Tocra (Wright 1963, fig. 3; see also Riley in press 1, Nos. 12–14 for examples from the early third century A.D. kiln site at Tocra. The type comprised 11.8 per cent of the total pottery from the excavation). The form occurs widely throughout Cyrenaica, unpublished examples having been noted at Cyrene (from the excavations by D. White at the Sanctuary of Demeter, in the third century A.D. levels), Tolmeita, Hadrianopolis, Ajdabiyah, El Zuwaytinah, Boreum, Automalax, Gasr Tecasis, Ghemines. For the general rim form, but with an inward sloping body, compare Rebuffat *et al.* 1967, 126, C60–4, C66–7, (probably of late second to early third century A.D. date). An example of this form Tell Timai (Egypt) has been assigned a date of late second to early first centuries B.C. (Ochsenschlager 1967, fig. 7). It is certainly not as early as this in Cyrenaica and has not been noted elsewhere in the Aegean or eastern Mediterranean in such early contexts. For this reason the dating of the Tell Timai example should be regarded with caution.

The basic type was subdivided into three further groups, based on fabric and/or rim form.

#### MID ROMAN COOKING WARE 1a

The body form is similar to type 1 except that there is no lid seating-groove on the top of the rim, which is horizontal and straight (as No. 506). Such rims are rare at Berenice and

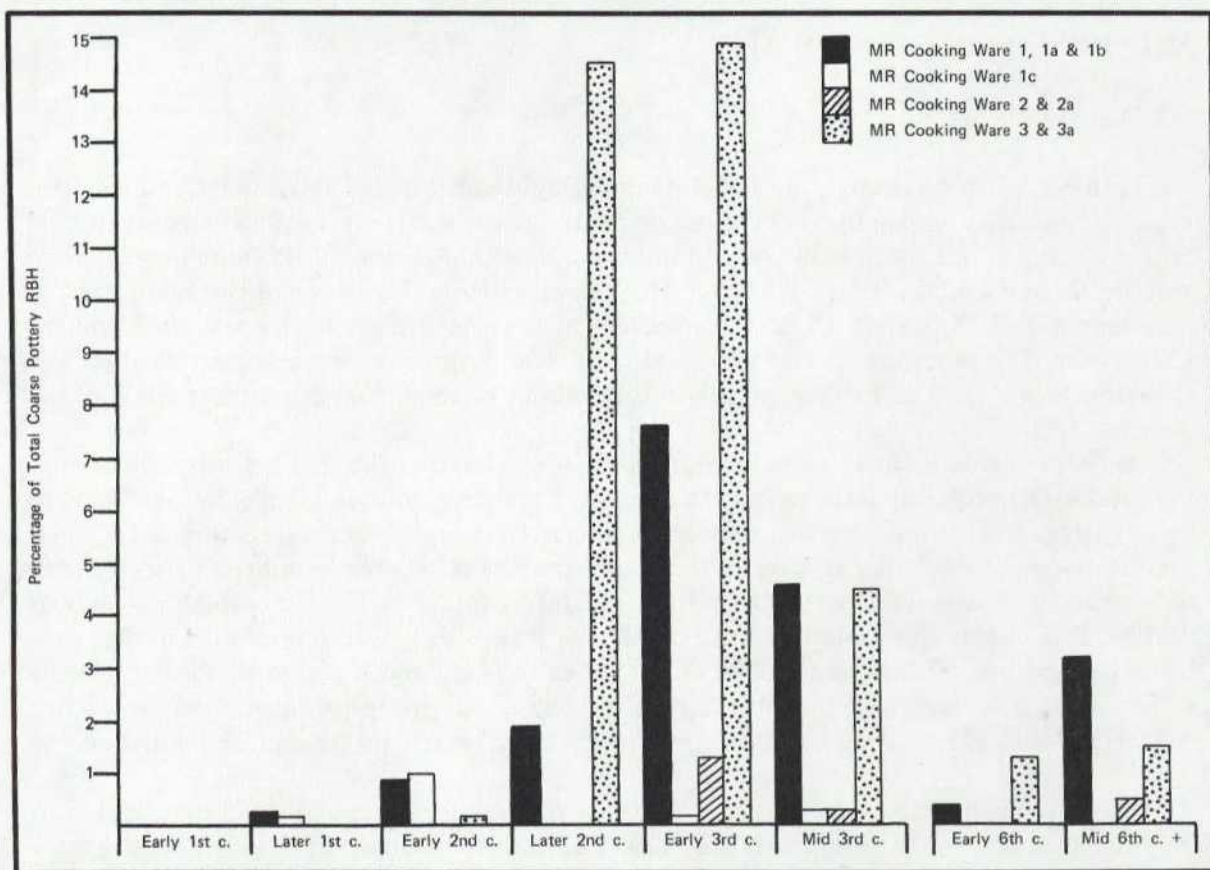


Fig. 52. Histogram to Show Relative Proportions of MR Cooking Wares 1, 2, 3 at Berenice.

## COARSE POTTERY

---

scarcely occur in the deposits which have been quantified. The variant occurs at Hadriano-  
polis (Jones & Little 1971, 66, fig. 6, Nos. 4 and 5) and also in Antonine-Severan contexts  
at Germa in the Fezzan, where it first occurs in the late first century A.D. (*ibid.*, 67).

### MID ROMAN COOKING WARE 1b

The body form is similar to type 1 and the rim is either 1, 1a or 1c. The fabric, however, is  
the Benghazi local fabric 1 and the type is only found at Berenice, where it is very uncommon.  
It is present in third century A.D. levels (Deposit 103) and may continue later, although there  
is little evidence to confirm that it continues later than the varieties in the local fabric 4.

### MID ROMAN COOKING WARE 1c

The body form is again as type 1 but the rim is straight and everted to an angle of about  
45 degrees (as No. 507). The body can be slightly inward sloping (as No. 507). The fabric  
varies: some examples are of the Benghazi local fabric 4, but many are imported, containing  
a quantity of mica, shining particles and other grits. The earliest examples are from Deposit  
61 (third quarter of the first century A.D.); these are at present being analysed as it is felt  
that they are not of local origin (by neutron activation analysis at the University of Man-  
chester). This is the form that is most widely paralleled elsewhere, occurring at Athens  
(Robinson 1959, G194-5; deposit ascribed by Robinson to the first and the early second  
centuries A.D. but argued by Lapp 1961, 85 to be of mid second century A.D. date; J57:  
second to early third century A.D.; K93: mid third century A.D.) Halae (Goldman 1940, 481,  
fig. 218: possibly second century A.D.); Paphos (Hayes 1977, fig. 7, No. 8: probably before  
A.D. 126) and also Knossos (in the late first to the early second centuries A.D.—Hayes,  
personal communication). The form is also noted in Italy (Ostia iii, tav. XIX, Nos. 84-6:  
late second to early third centuries A.D.; Ostia i, tav. XIII, 290-1; third century A.D.)  
although it is never common there (Panella, personal communication). The form was not  
noted at Sabratha (Kenyon, personal communication).

### CATALOGUE

(fig. 103)

**D501.** (C6e, SK G15.10) Miscellaneous deposit.

Complete. D. = 19.2 cm; Ht. = 12.5 cm.

Reddish brown local fabric 4.

**D502.** (C6, SK J31.14) Deposit 101.

Rim, one handle and most of body. D. = 21 cm.

Reddish brown local fabric 4.

**D503.** (C6g, SK V5.6) Deposit 119.

Complete except for chipped rim. D. = 21.6 cm; Ht. = 11.1 cm.

Orange local fabric 4.

- D504.** (C6f, SK PVat) Miscellaneous deposit.  
 Nearly complete. D. = 19.2 cm; Ht. = 12 cm. No handles.  
 Very flakey orange brown local fabric 1. This is type 1b with a 1a rim.
- D505.** (C6c, SK J31.14) Deposit 101.  
 Rim and handle fr. D. = 21 cm.  
 Local fabric 4.
- D506.** (C117, SK B4.13e) Deposit 105.  
 Rim and body fr. D. = 15.5 cm.  
 Red local fabric 4.
- D507.** (C257, SK B4.20) Deposit 105.  
 Rim, handle and body fr. (type 1c). D. = 15.5 cm.  
 Red local fabric 4.
- D508.** (C2651, SK X16.1) Miscellaneous deposit.  
 Rim and handle fr. D. = 18.5 cm.  
 The form is as type 1 but the fabric is not local, being a firm reddish brown (5YR 5/4) containing mica and occasional shining grits. Fairly smooth break and a grey wash on the exterior.

## MID ROMAN COOKING WARE 2

*(Low Carinated Cooking Pot)*

The form has a short, straight but slightly everted shallow body which is carinated to a rounded base. The rim is everted and horizontal. There are no handles and there is often wheel ridging on the interior. The type was never very common at Berenice, where at its peak it comprised just over one per cent of the total coarse pottery RBH. It was more common from the kiln site at Tocra, where it represented eight per cent of the total pottery. At Tocra, the rim diameters vary from 16–32 cm, the most common measurement being 23–5 cm. The quantitative distribution of the type at Berenice seems to parallel that of MR Cooking Ware 1. It was introduced in the early second century A.D., reached its peak in the early third century and declined thereafter (fig. 52). The type was not noted elsewhere in Cyrenaica.

## CATALOGUE

(fig. 103)

- D509.** (C335, SK H2.11) Deposit 84.  
 Rim and body fr. D. = 22.4 cm.  
 Orange red local fabric 4.
- D510.** (C350, SK H1.14) Deposit 85.  
 Rim and body fr. D. = 22 cm.  
 Reddish brown local fabric 4.

## COARSE POTTERY

---

**D511.** (C1277, SK P101.1) Deposit 78.

Rim and body fr. D. = c. 26 cm.

Dark grey fabric containing a little mica and occasional white grits. This example contains a little more mica than is normal for local fabric 4.

**D512.** (C2726, SK H7.1) Deposit 85.

Rim and handle fr. D. = 28 cm.

Orange fabric (2.5YR 5/6) containing a little mica and white grits. Probably local fabric 4.

### MID ROMAN COOKING WARE 2a

The form is similar to type 2 but is generally a larger version all round, with the rim being as much as 3 cm wide. At Tocra the diameter varies from 26–40 cm but is most common between 32–40 cm (Riley in press 1, Nos. 17–9). The fabric, as with type 2, is invariably local fabric 4 at Berenice or Tocra fabric 2 at Tocra. The type is uncommon at Tocra, comprising one per cent of the total pottery from the kiln site, and is very rare at Berenice. It does not occur in any of the collections of coarse pottery from other parts of Cyrenaica. No suitable parallels have been noted outside Cyrenaica.

### CATALOGUE

(fig. 104)

**D513.** (C7, SK J31.14) Deposit 101.

Complete profile. D. = 25 cm; Ht. = 5.1 cm.

Orange brown local fabric 4.

**D514.** (C1080, SK B4.20) Deposit 105.

Rim and body fr. D. = c. 25 cm.

Orange red local fabric 4.

### MID ROMAN COOKING WARE 3

*(Corrugated Cooking Pot)*

This is a globular cooking pot with a rounded base, with numerous wheel corrugations on the body and two small handles situated below the rim, which is down-turned. The fabric is the hard local fabric 4 at Berenice and, elsewhere in Cyrenaica, the hard, local fabric 2. The diameter range at Berenice is mainly 19–21 cm and at Tocra 17–20 cm. The body sherds are often indistinguishable from those of MR Jug 1 but both types seem to follow a similar chronology (p. 385).

The earliest corrugated wares at Berenice seem to be imported. A thin section of a corrugated sherd from the cistern deposit 59 (Flavian) indicates that it is not local (pl. XXf) and it seems likely that the type was imported into Berenice before it was manufactured locally on any scale. It is only after the mid second century A.D. that it becomes common.

Wheel corrugations occur from Ptolemaic times in Egypt (Bourriau, personal communication), and are well attested in the later Hellenistic period in Palestine (Lapp 1961, 19–20 and note 111). However, the earliest corrugation in the Aegean occurs from A.D. 80–100, with the typical corrugations appearing after *c.* A.D. 100+ (Hayes, personal communication), and it seems possible that the idea spread from the eastern Mediterranean to the Aegean and from there to Cyrenaica. This hypothesis seems to be supported by a fine example of the form in 'Pergamene' ware (= Eastern Sigillata 'A' ware) from Tarsus (Jones 1950, pl. 160, No. 758).

Parallels for the form have been noted at Athens (Robinson 1959, G193; dated by Robinson to the first or early second centuries A.D. but argued by Lapp (1961, 85) to be at least mid second century A.D.), Knossos (the form appears in the late second to early third century A.D. contexts of the Villa Dionysus—Hayes, unpublished information), Ramla, Malta (in the Gozo museum), Dura Europos (Dyson 1968, fig. 13, Nos. 429–30; not later than A.D. 256) and a variant form has been published from Kythera (Coldstream & Huxley 1972, pl. 42, 4, from a third century A.D. context; this has corrugations but a moulded base (as Jug Base 'G')).

The type is well represented in the mid third century A.D. levels of D. White's excavations at Cyrene, and has occurred at Ajdabiyah, Tika, Ghemines, and Hadrianopolis.

At Berenice, the type is very common in the late second and early third century A.D. deposits (comprising nearly 15 per cent of the total coarse pottery RBH—this includes type 3a discussed below). The frequency has dropped by the mid third century to about four per cent. It seems likely, therefore, that the type had a limited period of production in Berenice. The latest date claimed for it is from Kraeling's excavations at Tolmeita (Kraeling 1962, pl. LXII) from a 'Byzantine' context. The Tolmeita examples have much broader and well defined handles than those from elsewhere in Cyrenaica but it could be argued that the stratigraphical evidence from Tolmeita is unclear and is inadmissible as unequivocal evidence that the type continued into the fifth and sixth centuries there, although the possibility remains that it continued into the fourth century (see Riley 1978).

#### MID ROMAN COOKING WARE 3a

The form and fabric are similar to type 3 above except that the rim is everted. The diameter range is similar to that of type 3 at both Tocra and Berenice, and the relative proportion of the two types is similar in all periods which suggests that the differences in rim have no chronological significance.

This rim form occurs at Athens (Robinson 1959, J55–6: mid third century A.D.), Knossos (Villa Dionysus, level J (*c.* A.D. 100–150)—Hayes, unpublished information), and Sabratha (one complete example in the museum at Sabratha). The form occurs in the western Mediterranean and may have also been produced there. Findspots include Ventimiglia (Lamboglia 1950, 137, fig. 75, No. 1: second to third centuries A.D.), Rome (Vermaseren & Van Essen 1965, 465, No. 25 and pl. CXXIV.3: of uncertain Roman date) and Portoreanati (Capitanio 1974, 298, fig. 208b for a complete example from a tomb which dates possibly to the second century A.D.). The type occurs widely in Cyrenaica at sites including Tocra (where it represents about 2.5 per cent of the total pottery PHB), Tolmeita, Cyrene and Gasr Tecasis. It is not possible to distinguish the fabrics of the various examples from different parts of Cyrenaica visually, although it has been possible to do so by neutron activation analysis (see Riley 1978).

## COARSE POTTERY

---

### MID ROMAN COOKING WARE 3b

This class refers to examples of corrugated cooking ware of either rim form 3 or 3a, but of local fabric 1. (e.g. Nos. **518**, **520**). These occur only at Berenice and are rare.

### CATALOGUE

(fig. 104)

**D515.** (C1, SK H1.30) Miscellaneous deposit: associated fine pottery spreads thinly to the early third century A.D.

Nearly complete (restored). D. = 13 cm; Ht. = 13.3 cm.

Orange red local fabric 4. (Type 3).

**D516.** (C2, SK+) Surface find.

Complete. D. = 19.4 cm; Ht. = 20.6 cm; Weight = 1315 gr.

Reddish brown local fabric 4. (Type 3).

**D517.** (C259, SK B4.20) Deposit 105.

Rim and handle fr. D. = 23 cm.

Dark brown local fabric 4. (Type 3).

**D518.** (C233, SK J31.14) Deposit 101.

Rim fr. (Type 3b) D. = 14 cm.

Local fabric 1.

**D519.** (C3, SK+) Surface find.

Rim and two handles of type 3a. D. = 18.5 cm.

Red local fabric 4.

**D520.** (C2620, SK P Vat 7.2) Deposit 116.

Rim and handle fr. of type 3b. D. = c. 20.5 cm.

Local fabric 1.

### MID ROMAN COOKING WARE 4

This type has a small, globular body and an everted rim. It has only one handle which is situated below the rim. The diameter of the rim ranges from about 10–2 cm. The type is very rare at Tocra, where it accounts for only 0.1 per cent of the total pottery RBH, and at Berenice, where it scarcely appears in the quantified levels. The Berenice examples are of local fabric 4.

The type occurs outside Cyrenaica at Athens (Robinson 1959, G192: deposit considered by Robinson to be first or early second centuries A.D., but argued by Lapp to be at least mid second century A.D.—Lapp 1961, 85), Knossos (Sackett 1973, 69, fig. 29: two examples from a third century A.D. context) and Smyrna (Holwerda 1936, No. 946, for a possible parallel).

## CATALOGUE

(figs. 104, 105)

- D521.** (C4, SK P44.5) Miscellaneous deposit.  
Complete. D. = 10.4 cm; Ht. = 9.8 cm.  
Brownish red local fabric 4.
- D522.** (C2781, SK H1.2) Deposit 84.  
Rim fr. D. = 12 cm.  
Orange brown fabric containing black specks and shining grits.  
Grey exterior with light orange wash on the interior. Uncertain origin but certainly not local to Cyrenaica.
- D523.** (C353, SK H1.14) Deposit 85.  
Rim fr. of possible variant of type 4. D. = 12 cm.  
Orange red local fabric 4.

## MISCELLANEOUS MID ROMAN COOKING WARES

(fig. 105)

- D524.** (C10, SK J31.14) Deposit 101.  
Complete apart from a chipped rim. D. = 15 cm; Ht. = 11.4 cm.  
Everted rim, globular body, hollowed base. One handle only. There is a band of narrow grooving on the shoulder and light corrugations on the lower part of the body. Local fabric 4.
- D525.** (C2792, SK H1.28) Miscellaneous deposit: the associated fine pottery spreads thinly to the early third century A.D.  
Rim and handle fr. D. = 12.8 cm.  
Orange red local fabric 4. Compare Ostia iii, tav. XXIX, No. 185 in an early to mid third century A.D. context. The form was unique at Ostia.
- D526.** (C2063, SK L30.3) Deposit 73.  
Rim and handle fr. D. = c. 9 cm.  
Local fabric 3. Compare the form with that from a first or second century A.D. context at Gabbary near Alexandria (Habachi 1937, fig. 10).
- D527.** (C2682, SK L50.4) Miscellaneous deposit.  
Rim and handle fr. D. = c. 12-3 cm.  
Red local fabric 4.
- D528.** (C2813, SK BB6.3) Miscellaneous deposit: see No. 283 for associated finds.  
Handle fr. Hard, gritty, brownish grey fabric (5YR 4/3) containing mica. Not local. For the shape, although in a different fabric, in a fourth century A.D. context at Carthage see Hayes 1976, 68, No. 55.
- D529.** (C2812, SK BB6.3) Miscellaneous deposit: see No. 283 for associated finds.  
Rim and handle fr. D. = c. 30 cm. Similar fabric to No. 528 above.



## COARSE POTTERY

---

**D530.** (C2729, SK M6.4) Miscellaneous deposit: 14 fine pottery sherds range from Hellenistic to the sixth century A.D.

Rim fr. D. = 21 cm.

Orange red local fabric 4. This rim may not belong to the Mid Roman period. However, its typological similarity to No. 529 may be chronologically significant.

**D531.** (C2511, SK H22.2) Deposit 82.

Rim and body fr. D. = 31 cm.

Dark red to brown fabric; probably local fabric 4.

**D532.** (C2730, SK M6.4) Miscellaneous deposit: for associated finds see No. 530.

Rim fr. D. = c. 30 cm.

Brownish red local fabric 4.

**D533.** (C315, SK H2.11) Deposit 84.

Rim fr. D. = 22 cm.

Grey local fabric 4. This is a local copy of a widespread first century A.D. form (compare Hayes 1972, form 194; Ostia iii, No. 413; Dyson 1976, 122, Class 21, fig. 47, Nos. 49–50; Vegas 1973, type 6; all these contexts date the form generally to the later first and early second centuries A.D.).

**D534.** (C2522, SK H22.2/3) Deposit 82.

Body and handle fr.

Dull brown local fabric 4.

**D535.** (C2503, SK H22.2) Deposit 82.

Rim and body fr. D. = c. 23 cm.

Red local fabric 4.

**D536.** (C291, SK B6W.1) Miscellaneous deposit.

Rim and body fr. D. = uncertain.

Micaceous, reddish brown fabric fired grey, containing white lime specks. Not local.

**D537.** (C2703, SK R24.11) Deposit 123.

Rim fr. D. = c. 30 cm.

Crude local fabric 1. This example may be later than the general Mid Roman period, probably into the fourth century from the context.

### LATE ROMAN COOKING WARE 1

#### *(Coarse Gritted Cooking Pot)*

This is a distinctive, crude, hand-made cooking pot with a rounded body and a plain, thickened, slightly incurved rim. It has a flat, flanged lug attached below the rim, often with a row of finger indentations on the top of the lug. The class has been subdivided on the basis of the lugs. The fabric is very coarse and the Berenice examples are of local fabric 1; those of other Cyrenaican sites are of the crude, calcite-gritted fabric 1 (for these see Riley 1978).

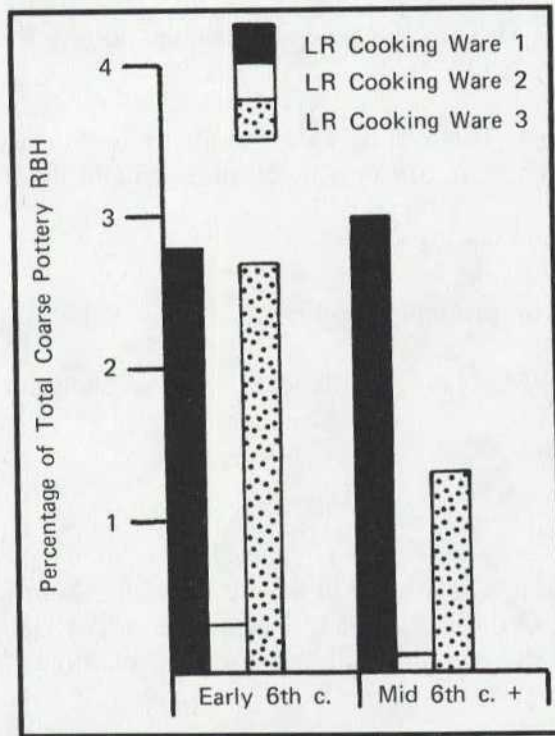


Fig. 53. Histogram to Show Relative Proportions of LR Cooking Wares 1, 2, 3 at Berenice.

This type does not seem to have been influenced by examples from elsewhere, and, although crude, is one of the very few types to have been developed solely by the local Cyrenaican pottery industry. The type does not occur in contemporary deposits in the Aegean, Palestine or Egypt (it does not occur in the sixth century A.D. levels at Saqqara—Bourriau, personal communication). A similarly crude cooking pot which occasionally has a lug occurs at Carthage (Hayes 1976, Late Cooking Ware V.1, compare especially p. 99, fig. 15, No. 53) although these have flat, grit-studded bases.

It is unclear when the type was introduced, but by the early sixth century A.D. it represented over 2.5 per cent of the total coarse pottery RBH. The form was common in the sixth and seventh century A.D. levels at Tocra (Boardman & Hayes 1973, 114, and fig. 51). Hayes noted a tendency for examples from the sixth century A.D. levels to have shorter lugs, sometimes undecorated, while those of the early seventh tended to be longer. There was not enough evidence to test this hypothesis from Berenice and little chronological significance could be extracted from the various lug types.

The type occurs on many other Cyrenaican sites including Tolmeita, Latrun, Gasr Tecasis, Gasr el Atallat, Cyrene, Apollonia, Ajdabiyah, and Medina-es-Sultan, and may have continued into the Islamic period at Tocra (Jones & Little 1971, 79). Evidence from the twelfth century A.D. at Ajdabiyah indicates that the general form continued into the Islamic period. However, by this time, the body has burnishing (as No. 591 below, and the rim is often bevelled at the top. The presence of the form cannot be taken as evidence of an Islamic date by itself. It did not occur in the tenth century A.D. kitchen at Berenice (for this see Lloyd 1973, 16–7). For the quantification and in order to examine possible chronological significance, the form was divided into the following sub types on the basis of the lugs.

## COARSE POTTERY

---

### LATE ROMAN COOKING WARE 1A

On this example the lugs are plain with no decoration. The form was rare.

### LATE ROMAN COOKING WARE 1B

The lug has a central notch on the edge. This variety occurs regularly and the ratio of occurrence of this type to the finger indented type 1 is roughly 1:4. No chronological significance could be obtained however.

### LATE ROMAN COOKING WARE 1C

The distinctive feature of this type is that the lug has more than one notch on the edge. The lug is rare.

### LATE ROMAN COOKING WARE 1D

The basic form is similar to the other type 1 cooking pots but the lug is replaced by two vertical ring handles. (Compare No. 562 for the form). The type was rare at Berenice but several were noted at Apollonia where the type comprised 1.3 per cent of a pottery dump. There are a further two examples in the store room at Apollonia in a box (No. 2037) marked Ras el Hilal church (see Riley 1978).

### LATE ROMAN COOKING WARE 1E

The form is similar to the other type 1 cooking pots but instead of a lug there are two horizontal ring handles. The type did not occur at Berenice but one example was present in a pottery dump at Apollonia (see Riley 1978).

## CATALOGUE

(fig. 105, 106)

**D538.** (C709, SK G11.9) Deposit 157.

Rim and body fr. Int. D. = 23 cm.

Local fabric 1. The pot probably has lugs.

**D539.** (C898, SK F30.2) Deposit 142.

Rim and lug fr. of type 1a. Int. D. = c. 15.2 cm.

Local fabric 1.

**D540.** (C358b, SK F27.1) Deposit 142.

Rim and lug fr. of type 1b. D. = uncertain.

Local fabric 1.

- D541.** (C358, SK J12.2) Miscellaneous deposit.  
Rim, lug and body fr. of type 1b. Int. D. = 15.2 cm.  
Local fabric 1.
- D542.** (C709a, SK G11.3) Deposit 157.  
Rim and lug fr. of normal type 1. D. = uncertain.  
Local fabric 1.
- D543.** (C964, SK W31.4) Miscellaneous deposit.  
Rim and lug fr. of a type 1b variant; the lug is smaller than normal. D. = uncertain.  
Local fabric 1.
- D544.** (C902, SK W35.1) Deposit 142.  
Rim and lug fr. of type 1a. D. = uncertain.  
Local fabric 1.
- D545.** (C373, SK J12.3) Miscellaneous deposit.  
Rim and lug fr. of a variant type 1; possibly related to the form.  
D. = c. 24 cm.  
Local fabric 1.
- D546.** (C2621, SK R+) Miscellaneous deposit.  
Rim and lug fr. of a type 1b variant. D. = 19.5 cm.  
Local fabric 1.

## LATE ROMAN COOKING WARE 2

*(Imported Cooking Ware with Everted Rim)*

The type has a globular body, everted rim with a sharp lid seating on its inside edge and a broad, vertical handle from just below the rim to the body.

The fabric is a hard, gritty brown, containing shell, some mica and other shining grits. It is usually fired grey at the edges. Thin sectioning shows a high proportion of quartz, felspar, cherty matter and a quantity of red lumps of iron ore. The fabric is clearly imported and seems likely to have an unspecified Aegean source. In this connection, I am grateful to J. Hayes for the information that the fabric of the Berenice examples is similar in appearance to that of similar forms found in the Aegean and in Crete.

The date of the introduction of the type is uncertain. It certainly does not occur in the mid third century A.D. levels. It occurs in a possible mid fourth century A.D. context (Deposit 122; however, the presence of LR Amphora 1 in this deposit may point to a later date for the deposit). The type was never very common at Berenice, comprising about 0.5 per cent of the total pottery from the early to mid sixth century A.D. deposits. The general form and fabric are typical of the fourth century A.D. at Athens (Hayes, unpublished information). The general shape occurs at Knossos in a level dating from the sixth century A.D. (Frend & Johnston 1962, 223, fig. 16, No. 37; see also 225-7; the type with a square in-bent rim which occurs at Knossos (*ibid.* 226, Nos. 47, 49, 51) does not occur at Berenice and has

## COARSE POTTERY

---

not been noted elsewhere in Cyrenaica). The type did not occur in a pottery dump at Apollonia.

Variants of a similar form have also been noted and separated.

### LATE ROMAN COOKING WARE 2a

The form and the fabric are similar to type 2 except that on the surface of the rim there is a pronounced ridge (e.g. Nos. 551-2). This does not appear to be chronologically significant, although it is a very rare rim form at Berenice. It is reminiscent of the earlier Nos. 431-2. This form also occurs in the fourth century A.D. at Athens (Hayes, unpublished information).

### LATE ROMAN COOKING WARE 2b

The form is similar to type 2, although the fabric is the local coarse gritted fabric 1, and it may be a local imitation of type 2. The form is not very common at Berenice. It occurs in late Roman contexts at Ajdabiyah in the Ajdabiyah local fabric 1.

### CATALOGUE

(figs. 106, 107)

**D547.** (C2713, SK R24.5). Deposit 127.

Rim and handle fr. of type 2a. D. = c. 22 cm.

Gritty buff fabric (10YR 6/3) fired orange brown (5YR 5/4) at the edges. Contains mica and occasional grey and white grits. Not local.

**D548.** (C2718, SK R24.11) Deposit 123.

Rim and handle fr. of type 2b. D. = c. 21 cm.

Local fabric 1.

**D549.** (C2554, SK R10.8) Deposit 63.

Rim and handle fr. of type 2b. D. = c. 21 cm.

Local fabric 1.

**D550.** (C2555, SK R4.1) Miscellaneous deposit: over 20 associated fine pottery sherds spread to the late fifth century A.D.

Rim and handle fr. of type 2a. D. = c. 22 cm.

Hard, gritty, orange brown fabric (2.5YR 4/6) containing mica and white grits. Not local. See pl. XXIa for thin section.

**D551.** (C842, SK F22.13) Deposit 158.

Rim, one handle and body fr. D. = 14.8 cm.

Type 2a. Greyish brown fabric (5YR 4/2) containing occasional mica specks. Not local.

- D552.** (C575, SK+) Surface find.  
Rim and handle fr. D. = 16.2 cm.  
Gritty orange (c. 5YR 6/8–5/8) fabric with occasional white inclusions. Not local and of uncertain origin. Probably a LR Cooking Ware 2 variant.
- D553.** (C2557, SK R20.2) Deposit 122.  
Rim fr. of type 2a. D. = c. 23 cm.  
Gritty grey fabric, containing quartz lumps and mica. Not local.
- D554.** (C478a, SK L58.6) Miscellaneous deposit: seven associated fine pottery sherds are all Hellenistic.  
Rim fr. possibly of type 2b. D. = c. 22 cm.  
Brown fabric (5YR 4/4) fired grey at edges, containing grey fossil grits. Harder version of local fabric 1. The shoulder is as one would expect in fourth century A.D. contexts in the Aegean (Hayes, personal communication), and for this reason is included here.
- D555–7.** Vacant.

## LATE ROMAN COOKING WARE 3

The form has a curved body with a thickened, often squarish rim. There is at least one thick, vertical handle, round in section, from the rim to the shoulder. The clay is similar to that of type 2 and thin sectioning has revealed quartz, limestone, epidote, chert and potash feldspar, together with iron ore lumps. It is clearly imported, probably from the Aegean.

The type occurs at Berenice in deposits of the fourth to the sixth centuries A.D. and represents 2.5 per cent of the total pottery in early to mid sixth century A.D. deposits. No. 559 is likely to be intrusive in Deposit 63, given the nature of the deposit (Lloyd 1978). The form occurs at Apollonia (unpublished, museum store) and occurred in the Boardman & Hayes excavations at Tocra (unpublished, Tocra museum store). It was not noted at Ajdabiyah.

A not dissimilar shape occurs in an early sixth century A.D. context at Knossos (Frend & Johnston 1962, 224, fig. 17, 45–6).

## CATALOGUE

(fig. 107)

- D558.** (C911, SK F27.1/4) Deposit 142.  
Rim and handle fr. D. = 20.4 cm.  
Dark brownish grey fabric (5YR 3/1) containing white and grey lumps. Not local.
- D559.** (C2552, SK R10.8) Deposit 63.  
Rim fr. D. = 18 cm.  
Gritty brown fabric (5YR 4/3) containing dark grey and white lumps. Not local. See pl. XXI*b* for a thin section.
- D560.** (C912, SK F27.4) Deposit 142.  
Rim fr. D. = 17 cm.

## COARSE POTTERY

---

Gritty grey fabric (7.5YR 5/0) fired orange brown at the edges. Contains a little mica and a quantity of cream grits. Probably not local. Compare Frensd & Johnston 1962, 224, fig. 17, No. 45, from Knossos. The Knossos example has traces of horizontal strap handle.

**D561.** (C2633, SK W66.2) Deposit 167.7.

Rim fr. D. = 18 cm.

Gritty brown fabric (5YR 4/3) containing large (up to 1 mm<sup>2</sup>) grey lumps and occasional white grits. Not local.

**D562.** (C925, SK F27.1) Deposit 142.

Rim and handle fr. D. = uncertain.

Micaceous grey fabric (c. 5YR 5/1-4/1) containing white quartz-like grits. Not local.

**D563.** (C2598, SK P48.1) Miscellaneous deposit: see No. 368 for associated finds.

Rim and handle fr. Int. D. = 15 cm.

Gritty grey fabric containing large (up to 1 mm<sup>2</sup>) white grit lumps.

Not local.

**D564.** (C963, SK F30.1) Deposit 142.

Rim and handle fr. D. = 15.4 cm.

Orange to buff fabric (5YR 7/6) containing occasional grey lumps and white grits. Not local. For the general shape compare Frensd & Johnston 1962, 223, fig. 16, No. 37.

## LATE ROMAN COOKING WARE 4

*(Late Frying Pan)*

This is a frying pan with shallow, flaring sides, thickened in the centre. The rim is thickened and the base is flat. The fabric is a gritty grey, very similar to that of types 2 and 3, and is probably of the same origin. The form was not common in Berenice and was not noted elsewhere in Cyrenaica. It occurs in contexts of the fourth to sixth centuries A.D. but it is not possible to bracket the date of the type.

## CATALOGUE

(fig. 107)

**D565.** (C2566, SK R4.1) Miscellaneous deposit: for associated finds see No. 550.

Rim and base fr. D. = c. 33 cm.

Micaceous, gritty, dark grey to brown (c. 5YR 3/1-3/2) containing white grit lumps. Not local.

**D566.** (C375, SK J12.1) Miscellaneous deposit.

Rim and handle fr. D. = c. 30 cm.

Hard, micaceous grey fabric, containing occasional white specks. Not local.

**D567.** (C928, SK G17.10) Deposit 143.

Rim and base fr. D. = 30 cm.

Gritty dark brown fabric (2.5YR 3/4) containing a quantity of mica and quartz-like lumps. Not local.

## LATE ROMAN COOKING WARE 5

The form has a high, vertical body which merges with a vertical, slightly thickened and rounded rim. There are often one or two broad grooves on the exterior of the body. The base is probably shallowly rounded, although this is not certain. The fabric is invariably a coarse local fabric 1. The form does not occur in the mid third century A.D. deposits at Berenice and is rare in the later deposits. It only occurs at Berenice.

## CATALOGUE

(fig. 107)

**D568.** (C2561, SK R4.1) Miscellaneous deposit: for associated finds see No. 550.

Rim and body fr. D. = 24 cm.

Local fabric 1.

**D569.** (C2556, SK R20.2) Deposit 122.

Rim and handle fr. Int. D. = 23 cm.

Local fabric 1.

## MISCELLANEOUS LATE ROMAN COOKING WARES

(fig. 108)

**D570.** (C2681, SK R32.4) Miscellaneous deposit.

Rim and handle fr. D. = 11 cm.

Abrasive, light orange fabric (2.5YR 6/6) containing a little mica. Fired grey on the surface. Not local. There is a certain similarity between this and No. 571 and Palestinian cooking vessels of the later Roman period (e.g. Loffreda 1974, type A4, p. 30, fig. 4; Meyers *et al.* 1974, fig. 10) although the Palestinian examples are generally more vertical. The fabric, however, does not seem to be Palestinian by eye.

**D571.** (C2550, SK R10.8) Deposit 63.

Rim fr. D. = 16 cm.

Although the deposit is mainly early Roman, it contained a significant proportion of Late Roman pottery. Gritty brown fabric (c. 2.5YR 4/4) containing mica and white lumps. Not local. See discussion to No. 570 above. The fabric of this example is more similar to that of the Palestinian cooking wares.

**D572.** (C2810, SK BB1.2) Miscellaneous deposit: see No. 134 for this deposit.

Rim fr. D. = 12 cm.

Very gritty orange fabric containing a high proportion of quartz-like grits. Not local.

**D573.** (C1244, SK G7.27) Deposit 129.

Rim fr. D. = c. 19 cm.



## COARSE POTTERY

---

Dark grey fabric containing large red lumps (up to 2 mm<sup>2</sup>) and white grits. Not local.

**D574.** (C793, SK F5+) Miscellaneous deposit.

Rim fr. D. = 9.2 cm.

Brownish buff fabric (5YR 5/4) containing a little mica and white grits. This may be local.

**D575.** (C962, SK F22.2) Miscellaneous deposit: the fine pottery from this deposit was not studied but the 157 associated sherds of coarse pottery were mainly to the mid third century A.D. Four sherds of LR Amphora 1 were later, however.

Rim and handle fr. D. = uncertain.

Gritty, micaceous orange fabric with grey core. Not local.

**D576.** (C2731, SK F22.1) Miscellaneous deposit: the fine pottery was not studied but the 172 coarse pottery sherds included classified Late Roman pottery types.

Rim fr. D. = 18 cm.

Micaceous brown fabric (5YR 5/4) containing white grits. Not local.

**D577.** (C2563, SK R25.3) Deposit 128.

Rim and body fr. D. = c. 22 cm.

Local fabric 1.

**D578.** (C2537, SK R25.2) Deposit 128.

Rim fr. D. = c. 20 cm.

Local fabric 1. Both No. 577 and 578 can be considered LR Cooking Ware 2b.

**D579.** (C739, SK G3+) Surface deposit above Deposit 158.

Rim fr. D. = uncertain.

Gritty grey fabric (7.5YR 4/0) containing occasional light grey lumps. Not local. For the type at Istanbul in a mid seventh century A.D. context see Hayes 1968, 214, No. 108. The form is round bottomed with vertical handles from the base of the rim to mid body. The fabric of the Istanbul examples is also grey and gritty. This type of cooking pot (in the Istanbul fabric) has also occurred in seventh century A.D. levels at Carthage (to be published). The type may begin earlier, in the sixth century, as at Histria in Roumania (Condu-rachi 1954, 463, fig. 393), also with a twisted handle.

**D580.** (C2088, SK P Vat 23.2) Deposit 152.

Rim fr. D. = c. 14 cm.

See discussion to No. 579. Gritty, greyish brown fabric (7.5YR 4/2) containing a little mica and occasional white grits. Not local; possibly from the Istanbul region.

**D581.** (C2583, SK R4.1) Miscellaneous deposit: for associated finds see No. 550.

Rim and body fr. D. = c. 19 cm.

Fairly micaceous brown fabric (c. 5YR 5/4) containing occasional white grits. Not local. Compare the form with Dyson 1976, 164, 19 (late fourth to fifth centuries A.D. at Cosa).

**D582.** (C2705, SK R24.3) Deposit 127.

Rim fr. D. = 18 cm.

- Gritty, brown, micaceous fabric (5YR 4/2) containing occasional white grits. Not local.
- D583.** (C2559, SK R18.2) Deposit 122.  
Rim fr. D. = c. 14 cm.  
Micaceous, gritty, red brown fabric containing greyish lumps. Not local.
- D584.** (C2702, SK R24.11) Deposit 123.  
Rim fr. D. = 12 cm.  
Local fabric 1.
- D585.** (C2717, SK R24.11) Deposit 123.  
Rim fr. D. = 14 cm.  
Red brown local fabric 4.
- D586.** (C2661, SK P Vat 12.2) Deposit 146.  
Rim fr. D. = 23 cm.  
Micaceous brown fabric containing occasional white grits. Not local.
- D587.** (C2591, SK P48.7) Miscellaneous deposit: 12 fine pottery sherds spread to Late Roman.  
Rim and body fr. D. = uncertain.  
Micaceous, gritty, brown fabric, fired dark grey on the surface. Not local.
- D588.** (C2542, SK R25.3) Deposit 128.  
Rim fr. D. = c. 26.5 cm.  
Fairly micaceous dark brown fabric containing quartz lumps. Grey exterior. Not local.
- D589.** (C753, SK G1.2) Deposit 158.  
Rim fr. Int. D. = 12.8 cm.  
Orange, local fabric 4.
- D590.** (C2612, SK J28.3) Deposit 136.  
Rim and handle fr. D. = uncertain.  
Micaceous brown fabric containing occasional white grits. Not local.
- D591.** (C745, SK G7.12) Miscellaneous deposit.  
Rim and body fr. D. = 15 cm.  
Grey fabric (10YR 5/1) containing white grits and a little mica. Fired dark grey at the edges. Probably local. This type of burnishing (horizontal burnishing) is typical of the twelfth century A.D. cooking wares at Ajdabiyah, although the rim tends to slope inwards more on the Ajdabiyah examples. See pl. XXIc for thin section.
- D592.** (C2006, SK P70.3) Deposit 153.  
Nearly complete. D. = 14.6 cm; Ht. (extant) = 12.5 cm.  
Double wavy incised decoration on the body below the rim. Hand-made (i.e. not wheel turned). Local fabric 1. This is very likely to be nineteenth or early twentieth century A.D. and very similar pots occurred in the excavations by D. Whitehouse at Ajdabiyah.

## PLAIN WARES

Although most of the plain ware (i.e. pottery that does not normally come into contact with fire, but which is used in the preparation or serving of food) has been classified according to general period, certain classes of pottery such as lids, braziers, mortaria, Late Roman Unguentaria and St. Menas flasks have been grouped and studied separately for convenience. The first two are strictly cooking wares but have been considered plain wares in the discussion of the relative proportions of plain to other wares.

The quantification illustrates that braziers were especially frequent in the Hellenistic and Early Roman periods (where they comprise 3–5 per cent of the total coarse pottery RBH). Their use seems to have declined in the Mid Roman period. Although cooking pots have rounded bases in all periods, their relative frequency does not follow a similar trend to that of the braziers, for the general proportion of cooking wares rises in the Mid Roman period. This suggests a certain measure of change: possibly to metal braziers (for which there is no evidence) or in cooking habits. The widespread use of braziers at Berenice contrasts with their scarcity at Carthage in Early Roman contexts, and also at Tarsus (Jones 1950). The relative proportion of braziers in other parts of the Eastern Mediterranean is uncertain but appears to have been regular at least in the second and first centuries B.C. in the Aegean.

Imported plain wares are not frequent. Most mortaria were imported. The Hellenistic mortaria were probably imported from the Aegean while the Roman ones were practically all from Italy. No Syrian mortaria (of the third and fourth centuries A.D.) occurred at Berenice and only one fragment was noted elsewhere in Cyrenaica at Tolmeita (surface find). Tiles are uncommon in all periods (unlike other Mediterranean sites such as Carthage or Caesarea), but are most frequent in the later first century A.D. levels and probably belong to Hellenistic or late Hellenistic buildings.

Much of the plain ware was in fragmentary condition and several bases could potentially belong to wide variety of rim forms. For this reason bases were classified separately. The hollowed conical bases (Base 1) declined in frequency rapidly after the mid first century A.D., while footed bases declined from the later second century. Such general results can be used to their best advantage when considering a large sample of coarse pottery from a deposit to be dated; they help to set a general chronological context.

In general, the Hellenistic plain wares have more rounded and gentle shapes than the sharp and often angular Mid Roman period forms. The overall proportion of plain wares declined after the Early Roman period, (from about 50 to 30–40 per cent of the total coarse pottery RBH). The reasons for this are not known.

## HELLENISTIC PLAIN WARES

Most of the plain ware forms (with the exception of H. Plain 6) do not occur at Euhesperides and were therefore probably introduced after the mid third century B.C. There seems to have been little clear development of form during the Hellenistic period and many of the Hellenistic shapes are regular in the Augustan deposits also. Survival pottery is, for this

reason, not always possible to detect. Until larger groups of stratified first century B.C. and Augustan pottery are uncovered and studied, a clearer definition of the relationship between Hellenistic and Augustan plain ware is not possible. While forms such as H. Plain 2 and 9 continue through to the Early Roman period, other forms (especially H. Plain 1, 4, 10 and Lid 2) seem to cease fairly abruptly after the Augustan period. Mortaria are regular (c. 0.9 per cent of the total coarse pottery RBH), but never frequent.

#### EARLY ROMAN PLAIN WARES

Imported plain wares are not frequent and are represented mainly by mortaria, especially after the middle of the first century A.D. Lids 6–8, which are not strictly plain wares, were also imported and were regular, especially in the later first century A.D. contexts (comprising 1–1.3 per cent of the total coarse pottery RBH). Other predominantly Mid Roman wares commence in the Early Roman period (especially MR Plain 1a, 7 and 7a) and other forms may do so (such as MR Plain 1), although there is the difficulty of separating such sherds from possible intrusions. Tile, which was never frequent in any period, is most frequent in this period, when it comprises 1.0 per cent of the total coarse pottery RBH.

#### MID ROMAN PLAIN WARES

Several of the MR Plain wares first occur in the early second century A.D. deposits (such as MR Plain 1, 1a, 2, 3, 5, and Brazier 'C'). Both MR Plain 2 and 4 seem to be predominantly second century A.D. types while MR Plain 3 occurs mainly in the third century A.D. deposits. Plain bases were mainly flat, and proportions of Plain Base types 1 and 2 are low in this period. Syrian mortaria do not occur in the third century A.D. contexts at Berenice and vaulting tubes, which are so common in Tunisia from the mid second century A.D. (Hayes 1976, 103–4) do not occur at all. The proportion of plain wares to other coarse wares drops from this period to 35–40 per cent of the total coarse pottery.

#### LATE ROMAN PLAIN WARES

The proportion of plain ware forms to other coarse wares remains low in the first half of the sixth century A.D. deposits (c. 15 per cent) but one third of this plain ware is either MR Plain Ware 1 or 3. LR Plain 5, which may be a later development of MR Plain 3, belongs to this period but it is not clear to what extent MR Plain 1 and 3 belong to the Late Roman period or are survivals from ancient disturbance of third century A.D. destruction levels. This problem will be resolved by future research.

Late Roman Unguentaria are rare at Berenice although they were common at Tocra in later sixth and seventh century A.D. contexts (Hayes 1973). This might suggest that they were not exported on any scale to Cyrenaica before the middle of the sixth century A.D. St. Menas flasks also seem to be rare; although complete examples are in the Apollonia museum and store rooms, only two fragments occurred at Berenice.

## COARSE POTTERY

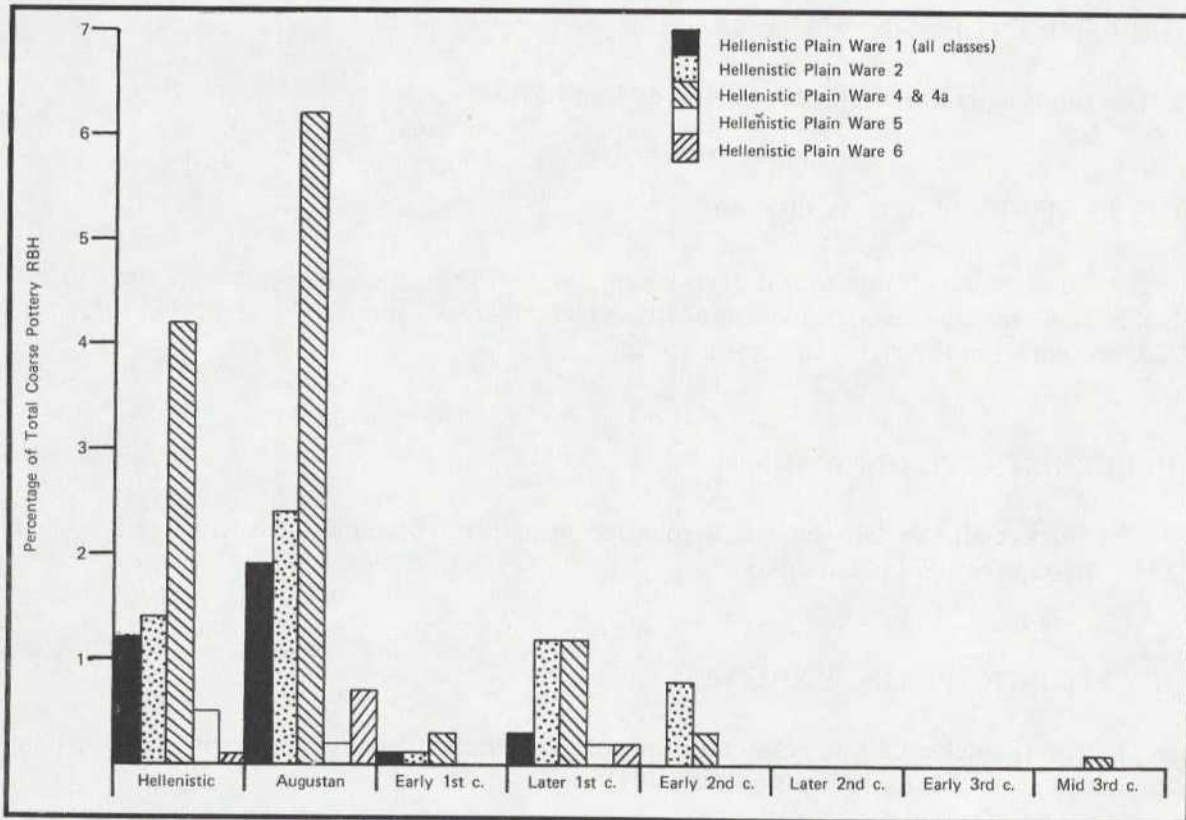


Fig. 54. Histogram to Show Relative Proportions of H. Plain Wares 1, 2, 4, 5, 6 at Berenice.

### HELLENISTIC PLAIN WARE 1

#### (Steep Sided Bowls)

The form has steep, flaring walls and an everted rim. Occasionally there is a crude lug beneath the rim. Only two complete profiles were noted at Berenice (Nos. 594 and 595) and both had flat bases. Although flat bases are rare among the base fragments (most being footed) during this period, it seems likely that this type normally had a flat base (see also the example from Alexandria cited below under type 1b).

At Berenice, the form occurs in a variety of local fabrics. In function and general form, the type probably descends from the *lekane* (for this see Sparkes & Talcott 1970, pl. 87, Nos. 1835-8, for examples from late fourth century B.C. levels at Athens; it is in the third quarter of the fourth century B.C. that the handle becomes insignificant and pressed to the rim—see Thompson 1934, 469, fig. 122 and p. 468 where it is considered to develop into ER Plain Ware 1 by the second century B.C.). Such a straight forward development of this type is unproven for the examples from Berenice.

A quantitative study of the type at Berenice indicates that it was never very common although regular (not more than 1.5 per cent of the total coarse pottery RBH) until the Augustan period, after which it is rare. There were several rim forms and the most distinctive have been classified.

## HELLENISTIC PLAIN WARE 1a

The rim is squarish in profile (as Nos. 594 and 596).

## HELLENISTIC PLAIN WARE 1b

The rim is squarish but with a deep triangular groove in the outside face of the rim (as No. 597). Compare this with an example from Hellenistic Alexandria (Sieglin 1908, 301, Abb. 223, second from the right; this has a flat base).

## HELLENISTIC PLAIN WARE 1c

The thickened, everted rim has a rounded groove in the outer face to make it appear 'claw'-like in section (as No. 598).

## HELLENISTIC PLAIN WARE 1d

The rim is thickened and rounded in profile and there is invariably a groove on top near the inside edge of the rim (as Nos. 599-601).

## CATALOGUE

(fig. 109)

**D593.** (C144, SK J56.3) Upper levels of Deposit 25; see No. 14.

Rim and body fr. of miscellaneous type 1. D. = c. 36 cm.

Grey, local fabric 5.

**D594.** (C280, SK B11.7) Deposit 32.

Rim, handle and body fr. of type 1a. D. = 39 cm; Ht. = 15 cm.

Brown to grey local fabric 1/2.

**D595.** (C402, SK A24.2) Miscellaneous deposit; five associated fine pottery sherds are all Hellenistic.

Rim, handle and body fr. of type 1. D. = 39 cm; Ht. = 17.9 cm.

Fairly hard, red local fabric 1.

**D596.** (C184, SK J56.4) Deposit 25.

Rim and handle fr. of type 1a. D. = 36 cm.

Local fabric 3.

**D597.** (C164, SK J56.4) Deposit 25.

Rim fr. of type 1b. D. = c. 36 cm.

Hard, grey local fabric 3 with a fairly smooth break.

## COARSE POTTERY

---

**D598.** (C147, SK J56.4) Deposit 25.

Rim fr. of type 1c. D. = *c.* 46 cm.

Buff fabric (10YR 6/4) fired grey at the edges containing white lime; probably local fabric 5.

**D599.** (C1014, SK J56.3) Upper level of Deposit 25; see No. 14.

Rim and handle fr. of type 1d. D. = uncertain.

Local fabric 1.

**D600.** (C178, SK J56.4) Deposit 25.

Rim fr. of type 1d. D. = *c.* 40 cm.

Fairly gritty local fabric 5.

**D601.** (C137, SK J56.2) Upper level of Deposit 25; see No. 14.

Rim fr. of type 1d. D. = *c.* 34 cm.

Local fabric 5.

## HELLENISTIC PLAIN WARE 2

### *(Hunched Bowl)*

The form has a shallow, flaring body and a distinctive 'hunched' shoulder leading to an everted rim. There are two ribbon-like horizontal handles on the shoulder. The base is hollowed and conical on the underside. There is usually a thin, poor quality, dark red or grey slip on the interior and over the rim. The clay is generally a fairly smooth buff containing some lime and is probably local, although it is rare on other coarse ware forms.

The shape does not occur at Euesperides, which suggests a date later than the mid third century B.C. for its introduction into Cyrenaica. Although there is a possible early variant of the shape from a third century B.C. context at Alexandria (Rowe 1941, pl. 17.1), most parallels in the eastern Mediterranean are from contexts dated in, and not after, the second century B.C. The form occurs in early second century B.C. contexts at Tel Anafa in Palestine and in similarly dated contexts at Samaria Sebaste and Beth Zur (Lapp 1961, type 151.4) where it is not considered to date later than *c.* 100 B.C. (*ibid.*). It also occurs in a context dated not earlier than 125–126 B.C. at Shiqmona (Elgavish 1976, 70, fig. 3, No. 4) and there is a complete, but undated example in the Rockefeller Museum in Jerusalem (Inv. No. 861). The form occurs in Egypt (Sieglin 1908, 301, Abb. 223, from Alexandria; not dated but seems to be associated with lagynoi and a first century A.D. mortarium). A complete example is recorded in the Alexandria Museum inventory from an undated context at Ezbet Mahlouf (Inv. No. 22707).

The form occurs at Delos, in second to first century B.C. deposits (Bruneau 1970, pl. 47, D173) and Corinth (Edwards 1975, 94, No. 554, dated 175 B.C., although it could be as late as 146 B.C.; Edwards suggests that at Corinth the type was not current by the mid second century B.C. on the grounds that it did not occur in the 146 B.C. destruction levels).

The local examples of the form at Berenice are not likely to have preceded the examples from elsewhere in the eastern Mediterranean, and so an initial, possible early second century B.C. date is likely. The form comprises about 2.0 per cent of the total coarse pottery RBH

in the Hellenistic levels (and this is a conservative figure as it does not include 43 fragments of this form which have been studied as local fine pottery by P. Kenrick). The quantitative distribution of this type is similar to that of H. Plain 4 (fig. 54) although it is uncertain how late both of these types continued. The proportion of both types seems to have dropped dramatically by the early first century A.D. (fig. 54). Their apparent increase in the later first and early second century A.D. deposits may be due to their occurrence as survivals. The recognised survival rate in the later first century A.D. deposits is at least 13.7 per cent of the total coarse pottery (fig. 4). The form occurs regularly in the Hellenistic levels of the Sanctuary of Demeter at Cyrene. There is one example in Apollonia store room (Inv. 686).

## CATALOGUE

(fig. 109)

**D602.** (C179, SK J56.4) Deposit 25.

Rim and handle fr. D. = *c.* 19 cm.

Red, local fabric 4 with traces of a dull, brownish red slip on the exterior.

**D603.** (C185, SK J56.4) Deposit 25.

Rim fr. D. = *c.* 19 cm.

Orange red local fabric 4, with traces of a dull red slip on the interior and over the rim.

**D604.** (C536, SK A31.2) Miscellaneous deposit; for associated finds see No. 421.

Complete except for chipped rim. D. = 15.4 cm; Ht. = 7.7 cm; D. Base = 4.5 cm.

Fairly smooth buff fabric containing a little lime. Thin dark grey slip interior and over rim.

**D605.** (C619, SK A31.2) Miscellaneous deposit; for associated finds see No. 421.

Complete profile. D. = 16.4 cm; Ht. = 7.8 cm; D. Base = 4.4 cm.

Fairly smooth, pinkish buff fabric containing lime. Orangery red thin slip on the interior and over the rim.

## HELLENISTIC PLAIN WARE 3

The form is campanulate with an everted rim. The base is hollowed and conical on the underside and the interior usually has a poor quality thin slip. The fabric is similar to that of H. Plain Ware 2.

The form is a local copy developed from a similar shape in black glazed pottery which was common from the fifth and fourth centuries B.C. Both black glazed and coarse varieties of this form are regular throughout the Mediterranean, occurring for example in the West (Lamboglia 1952, form 28), in Palestine (Lapp 1961, 203 type 151.3, dated 200 B.C. – 25 B.C.), Athens (Thompson 1934, *passim*), Alexandria (Rowe 1941, pl. 17, 13), and Corinth (Edwards 1975, 33–4). These general parallels on the basis of form can only put this local type in a broad chronological context and it can only be considered, in the present light of knowledge, a general Hellenistic form.



## COARSE POTTERY

### CATALOGUE

(fig. 110)

- D606.** (C535, SK A31.2) Miscellaneous deposit; for associated finds see No. 421.  
Complete profile. D. = 13.9 cm; Ht. = 7.0 cm; D. Base = 4.1 cm.  
Fairly smooth, pale brown fabric containing lime. Thin, dull red slip in the interior.  
Probably local.
- D607.** (C541, SK A31.2) Miscellaneous deposit; for associated finds see No. 421.  
Complete profile. D. = 8.4 cm; Ht. = 4.3 cm; D. Base = 3.4 cm.  
Fairly smooth, buff fabric containing lime. Thin, reddish grey slip in the interior. Probably local.
- D608.** (C34, SK J18.10) Miscellaneous deposit.  
Complete profile. D. = 9.5 cm; Ht. = 5.7 cm; D. Base = 2.7 cm.  
Pale brown fabric containing lime. Local.

### HELLENISTIC PLAIN WARE 4

(*Bowl with Incurved Rim*)

The form is a simple curved body with an incurved rim. The base is hollowed and conical on the underside. The fabric is either from Benghazi local fabric 3, 4, or 5. There is occasionally a thin red wash/slip on the interior and over the rim.

Again, this is a common black glaze form which was revived in the second quarter of the fourth century B.C. according to Thompson (1934, 434). The shape occurs widely throughout the eastern Mediterranean, for example in Palestine (Lapp 1961, type 15) and Egypt (Ochsenschlager 1967, 44, figs. 14-6). It is worth noting that for the black glazed varieties, Thompson (*ibid.*) notes a typological development from incurved rims in the fourth century B.C. to vertical (truly hemispherical) in the second century B.C. Edwards (1975, 30) could, however, detect no such typology from the Corinth evidence. The coarse examples from Cyrenaica fall into no obvious evolutionary sequence, but it is possible that footed examples (such as No. 609) may be early in the series.

The quantitative evidence from Berenice suggests that although the form was common throughout the Hellenistic period (comprising 4 to 6 per cent of the total coarse pottery RBH), its frequency declined markedly by the early first century A.D. (fig. 54).

Although there is evidence from the Tocra kiln site that the general form may have still been produced in the third century A.D. (Riley in press 1, No. 41), it is clear that this would have been on a very small scale. The form is essentially and primarily Hellenistic.

### CATALOGUE

(fig. 110)

- D609.** (C988, SK AA4.3) Deposit 1.  
Rim, one handle and base fr. (the base does not join the rim fr., but clearly belongs to the same vessel).  
Int. D. = 24 cm; D. Base = 8.2 cm.  
Local fabric 3.

- D610.** (C2579, SK CC3.11) Deposit 21.  
Complete profile. D. = 5.2 cm; D. Base = 3.8 cm.  
Orange brown fabric 5.
- D611.** (C557, SK R37.10) Miscellaneous deposit.  
Complete profile. D. = 8.5 cm; Ht. = 2.3 cm; D. Base = 3.8 cm.  
Buff (7.5YR 6/6) local fabric 5 with grey wash exterior and interior.
- D612.** (C540, SK A31.2) Miscellaneous deposit; for associated finds see No. 421.  
Complete profile. D. = 14.5 cm; Ht. = 5.8 cm; D. Base = 4.5 cm.  
Local fabric 5.
- D613.** (C2572, SK CC3.10) Deposit 23.  
Rim and base fr. D. = 11.0 cm; Ht. = 3.2 cm; D. Base = 5.6 cm.  
Reddish orange local fabric 4. Thin reddish slip on interior and over rim.
- D614.** (C539, SK A31.2) Miscellaneous deposit; for associated finds see No. 421.  
Complete profile. Int. D. = 9.0 cm; Ht. = 4.7 cm; D. Base = 4 cm.  
Buff local fabric 5. Thin, dull red slip interior and over the rim.

## HELLENISTIC PLAIN WARE 5

The form is carinated with a plain, vertical rim. There is a horizontal handle which is bent upward at the outer extremity of the loop. The fabric is invariably local fabric 4, and it is a locally produced version of a fairly common Aegean type, probably from the Knidos or Kos regions.

The shape occurs from the second century B.C. in the Aegean. The earliest published example is from a mid second century B.C. context at Athens (Thompson 1934, 373, fig. 58, D17; fig. 118 for profile; also, from a late second to early first century B.C. context, *ibid.* E52-3). A later example from Athens is presented in Robinson 1959 (pl. 1, F30, F32, pl. 64, F29; this deposit is dated generally to the first century B.C. by Robinson, but Lapp 1961, 80-5, states a good case for reducing the date of Agora deposit F to the third quarter of the first century B.C.). Lapp (*ibid.*, 83) cannot accept, however, that this form is simply no more than a survival from the second to early first century B.C., mainly on the basis of 'the anomalous situation of a very unusual form continuing unchanged through two centuries when none of the other forms are static'. This view has been weakened by subsequent research which continues to provide increasing evidence for the occurrence of the form in late first century B.C. and first century A.D. contexts elsewhere. These include Knossos (Hayes 1971a, 265, fig. 15, No. 24; where it is referred to as 'Koan or imitation', and dated late first century B.C. or Claudian), Paphos (Hayes 1977, 99, fig. 7, No. 6; referred to as Koan/Knidian and dated late first to early second century A.D.) and Perachora (Tomlinson 1969, fig. 30.7; dated to the second quarter of the first century A.D.). The type occurs in a Tiberian context at Corinth (Williams 1977, 79, Nos. 38-9). It also occurs in a general Hellenistic context at Siphnos (Brock 1949, 63, No. 16, pl. 21.23; fig. 11.1).

An imported version, regarded as Knidian by P. Kenrick, is well represented at Berenice and dates from the early second century B.C. until at least the third quarter of the first century

## COARSE POTTERY

---

A.D., with little or no evolution (P. Kenrick, personal communication). The coarse form is rare at Berenice but occurs in both Hellenistic (Deposits 25, 38) and first century A.D. (Deposits 62, 63, 69) contexts. The type is rare elsewhere in Cyrenaica and only one other example, in the Apollonia store (Inv. No. 684) and of uncertain origin, was noted.

### CATALOGUE

(fig. 110)

**D615.** (C323, SK H5.2) Deposit 84.

Rim and handle fr. D. = c. 10 cm.

Orange red local fabric 4.

**D616.** (C1230, SK W56.18) Miscellaneous deposit: the associated fine pottery was not studied. None of the 28 associated coarse pottery sherds are necessarily later than Augustan.

Rim and handle fr. D. = uncertain.

Grey local fabric 4.

**D617.** (C2725, SK G12.14) Miscellaneous deposit.

Rim and handle fr. D. = 10 cm.

Brownish red ? local fabric 4. There is a little mica on the exterior and a thin grey wash on the exterior above the carination.

### HELLENISTIC PLAIN WARE 6

(*Local Mortarium*)

The type has a flaring, thick body, curved and slightly down turned rim and a high, squarish ridge on the top of the rim. The base is fairly flat. The fabric is invariably local fabric 3. The form is probably a local copy of the standard imported Hellenistic mortarium (see below p. 292 ff.). The form occurs at Euhesperides and continues through the Hellenistic period.

It was never common at Berenice, representing no more than 0.5 per cent of the total coarse pottery RBH, but it occurred consistently. The form was not noted elsewhere in Cyrenaica.

### HELLENISTIC PLAIN WARE 6a

This is similar in form to type 6 but is of imported ware. This type was rare and is probably a variant of the normal Hellenistic mortaria.

### CATALOGUE

(fig. 110)

**D618.** (C1143, SK J14.14) Deposit 102.

Rim fr. and base fr. (the base and the rim frs. do not join but clearly belong to the same vessel). Type 6a. D. = 28.4 cm.

Fairly gritty, greyish cream fabric (2.5Y 7/4) containing white grits.  
Scattered lumps of dark grey grits are embedded in the floor. Not local.

**D619.** (C1046, SK A23.4) Miscellaneous deposit; the large quantity of associated fine pottery is mainly Hellenistic but does include later pieces.

Rim fr. of type 6a. D. = uncertain.

Brown fabric (7.5 YR 5/4) containing large lumps (up to 2 mm<sup>2</sup>) of black grits and some lime. Not local.

**D620.** (C2584, SK CC3.11) Deposit 21.

Rim fr. D. = 31 cm.

Local fabric 3.

#### HELLENISTIC PLAIN WARE 7

The type has a hunched shoulder (compare with H. Plain 2), plain, flat base and a small but slightly thickened, inturned rim. The fabric is normally local fabric 4.

The earliest context for the type is Deposit 32 (possibly late second or early first centuries B.C.), but it is not common in any period. It could be a later and local development of H. Plain 2 but this is not clear.

#### CATALOGUE

(fig. 110)

**D621.** (C2079, SK P101.3) Deposit 78.

Complete profile. D. = 12.5 cm; Ht. = 5.7 cm; D. Base = 3.7 cm.

Orange local fabric 4.

**D622.** (C509, SK R40.4) Miscellaneous deposit; for associated finds see No. 69.

Rim, handle and body fr. D. = 14.1 cm.

Dark grey local fabric 4.

#### HELLENISTIC PLAIN WARE 8

(*Pyxis*)

Pyxides are rare in Cyrenaica, only four examples occurring in the Hellenistic period at Berenice. One is from the Selmani tombs (Riley in press 2, No. 17) and another decorated example from Benghazi, at present in the British Museum, is thought to be of late fourth or early third century B.C. date (Bailey 1972, 9 and pl. 3b, 3c). For a discussion of the pyxis at Athens in the sixth to fourth centuries B.C. see Sparkes & Talcott 1970, 173–8. The two examples presented below (Nos. 623 and 624) are from miscellaneous deposits and cannot be closely dated.

## COARSE POTTERY

CATALOGUE

(fig. 110)

**D623.** (C2615, SK L17.3) Miscellaneous deposit.

Rim fr. D. = 7.4 cm.

Local fabric 3.

**D624.** (C2822, SK B19.2) Miscellaneous deposit.

Rim and body fr. D. = 9.0 cm.

Local fabric 1/2. Greenish cream wash exterior.

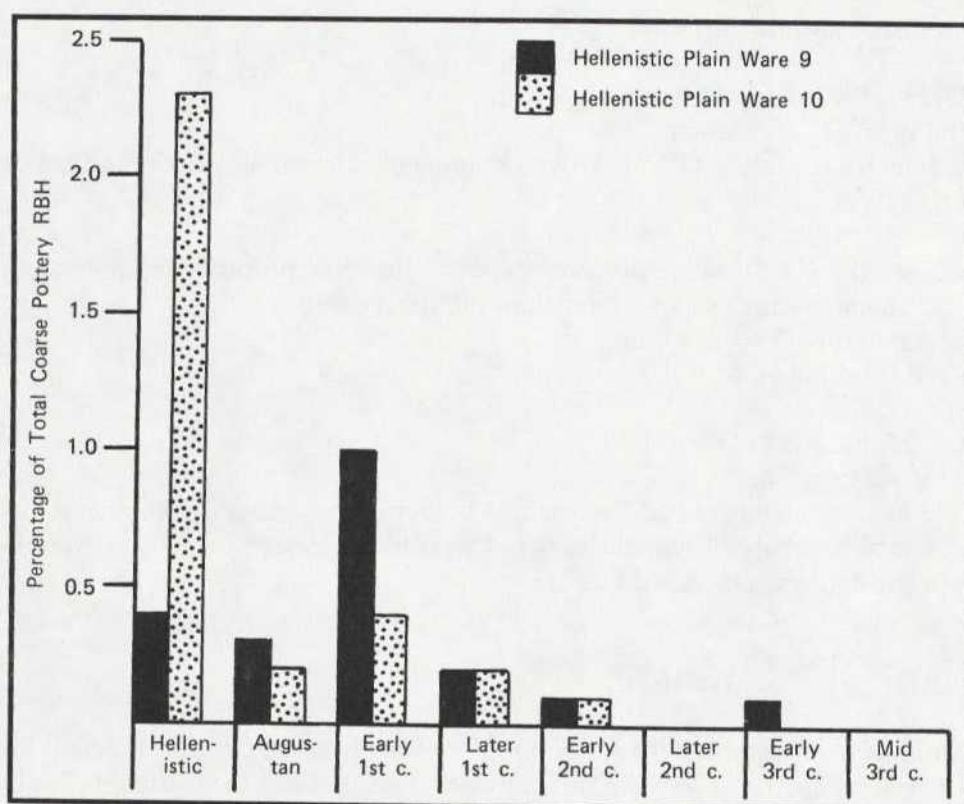


Fig. 55. Histogram to Show Relative Proportions of H. Plain Wares 9 & 10 at Berenice.

### HELLENISTIC PLAIN WARE 9

This form has an everted, thickened rim, with a concave top to the rim. There is a sharp lid seating on the inside edge. The lip is thickened. There is sometimes a horizontal lug either on the top of the rim or below it. The body is curved and the base is probably footed, as with H. Plain Ware 10, although this has not been confirmed. The fabric is local fabric 4 or 5. The form is not common at Berenice in the Hellenistic period but it does occur consistently (c. 0.4 per cent of the total coarse pottery RBH). It seems to become more common in the first half of the first century A.D. (although only one per cent of the pottery), and declines in frequency after that. Compare Jones & Little 1971, 66, Nos. 8 and 9 from Hadrianopolis.

## HELLENISTIC PLAIN WARE 9a

This is similar in form to type 9 but is of miscellaneous imported fabrics. This variety was very rare.

## CATALOGUE

(fig. 110)

**D625.** (C167, SK J56.3) Upper levels of Deposit 25; see No. 14.

Rim fr. D. = *c.* 34 cm.

Hard, reddish brown local fabric 3.

**D626.** (C1231, SK K1.15) Deposit 34.

Rim and lug fr. D. = *c.* 40 cm.

Type 9a. Pale brown fabric (7.5YR 5/6) containing occasional black grits and red smudges. Not local.

**D627.** (C374, SK J11.2) Miscellaneous deposit; the fine pottery was not studied, but associated coarse pottery was no later than the third century A.D.

Rim and handle fr. D. = *c.* 44 cm.

Orange red local fabric 4.

**D628.** (C1222, SK K2.8) Deposit 54.

Rim fr. D. = uncertain.

This sherd has been overfired and warped. Whether it is a 'waster' or whether it has simply been subjected to heat subsequently, is not possible to determine. There were no other wasters in the deposit. Overfired local fabric 3.

## HELLENISTIC PLAIN WARE 10

This form has a similar body to H. Plain Ware 9 and the rim is also everted. However, there is a curved ledge on top of the rim at its outer edge. The base is footed (See No. 630). The fabric is usually either local fabrics 3, 4 or 5. The form occurs at Euesperides and continues through the Hellenistic period at Berenice (comprising 2 per cent of the coarse pottery in the Hellenistic deposits). The form lingers into the first and early second centuries A.D. (see fig. 55) when it may be a survival (although determination of survivals is not easy).

## CATALOGUE

(fig. 110, 111)

**D629.** (C312, SK B5.25) Miscellaneous deposit; with the exception of one possibly intrusive sherd, all the associated fine pottery is Hellenistic.

Rim and body fr. D. = 33 cm.

Orange red local fabric 4.

**D630.** (C941, SK 27.4) Miscellaneous deposit.

## COARSE POTTERY

---

Complete profile. D. = 29 cm; Ht. = 10.4 cm; D. Base = 10.2 cm.  
Pinkish red local fabric 5.

### HELLENISTIC PLAIN WARE 11

#### *Pot Stand*

The Hellenistic pot stands have flat bases, vertical walls and everted rims. The form is rare, however, and only four examples occurred from the whole of the excavations at Berenice. One example was present at Selmani, also in a Hellenistic context (Riley in press 2, No. 56).

#### CATALOGUE

(fig. 111)

**D631.** (C642, SK B23.9) Deposit 18.

Rim and base fr. D. = 15.2 cm.; Ht. = 3.6 cm.; D. Base = 12.9 cm.

Orange brown local fabric 5 fired creamish buff at the edges.

### HELLENISTIC PLAIN WARE 12

Only the rim and lugs of this form have been noted. The rim is thickened and flattened on top and leads straight into the body. There is a lug, down curved at the edges, attached to the body below the rim. One example occurs in Deposit 9 which may be of the second century B.C. The form is rare at Berenice and no parallels have been noted elsewhere.

### HELLENISTIC PLAIN WARE 12a

The rim is similar in form to that of type 12 except that the lug is attached to the rim and is not down turned.

#### CATALOGUE

(fig. 111)

**D632.** (C2721, SK A22.7) Miscellaneous deposit.

Rim and lug fr. type 12. D. = c. 33 cm.

Local fabric 3.

**D633.** (C2727, SK X10.7) Deposit 9.

Rim and lug fr. of type 12. D. = c. 36 cm.

Orange brown local fabric 5.

**D634.** (C1001), SK J56.4) Deposit 25.

Rim and lug fr. of type 12a. D. = c. 30 cm.

Fairly firm local fabric 1.

## MISCELLANEOUS HELLENISTIC PLAIN WARES

## CATALOGUE

(fig. 111)

- D635.** (C1005, SK J56.1/2) Upper levels of Deposit 25; see No. 14.  
Rim fr. D. = uncertain.  
Orange brown local fabric 5.
- D636.** (C993, SK AA4.3) Deposit 1.  
Rim fr. D. = uncertain.  
Gritty, orange fabric (5YR 6/6) containing large lumps of quartz-like grit and mica. Not local.
- D637.** (C1220, SK K1.15) Deposit 34.  
Rim fr. D. = c. 27 cm.  
Local fabric 1.
- D638.** (C173, SK J56.2) Upper levels of Deposit 25; see No. 14.  
Rim fr. D. = c. 40 cm.  
Orange brown local fabric 5.
- D639.** (C169, SK J56.4) Deposit 25.  
Rim fr. D. = c. 32 cm.  
Buff to brown local fabric 5.
- D640.** (C2807, SK B23.4) Deposit 33.  
Rim and body fr. D. = 27 cm.  
Local fabric 2.
- D641.** (C1272, SK J56.4) Deposit 25.  
Rim fr. D. = c. 40 cm.  
Local fabric 3 with creamish wash interior and exterior.
- D642.** (C2760, SK J6.58) Deposit 168.2.  
Rim fr. D. = c. 30 cm.  
Creamish grey local fabric 5.
- D643.** (C997, SK J56.1/2) upper levels of Deposit 25; see No. 14.  
Rim fr. D. = 13.2 cm.  
Orange brown local fabric 5. This may belong to a jug rather than to a bowl.
- D644.** (C2754, SK A26.12) Deposit 17.  
Rim fr. D. = 26.5 cm.  
Local fabric 2.
- D645.** (C571, SK R30.11) Miscellaneous deposit; 21 associated fine pottery sherds are



## COARSE POTTERY

---

mainly Hellenistic, possibly second century B.C., but include four first century B.C. sherds which may be intrusive.

Complete. D. = 2.5 cm; Ht. = 9.5 cm; D. Base = 21. cm.

Granular pinkish fabric containing lime. Thin creamish wash exterior. This type of unguentarium is of a distinctly Punic shape, although the fabric could be local. The type occurs in fourth and third century B.C. tombs at Carthage (Cintas 1950, 38 bis); these are often decorated with red paint, and also in fourth century B.C. contexts in Spain (Almagro 1963, 396). The form also occurs at Sabratha (K. Kenyon, personal communication).

**D646.** (C273, SK J56.4) Deposit 25.

Rim fr. D. = 10 cm.

Grey to brown local fabric 4. This rim may belong to a jug rather than to a bowl.

**D647.** (C1035, SK A23.7) For this deposit see No. 425.

Rim fr. D. = uncertain.

Orange brown local fabric 4.

**D648.** (C1225, SK A19.13) Deposit 19.

Rim fr. D. = c. 32 cm.

Pinkish brown local fabric 1.

**D649.** (C2075, SK J56.4) Deposit 25.

Rim and body fr. D. = c. 14 cm.

Grey to orange brown local fabric 4. The underside of the base is hollowed.

**D650.** (C647, SK B13.9) Miscellaneous deposit: 16 associated fine pottery sherds are all Hellenistic, possibly second century B.C..

Rim and body fr. D. = c. 16 cm.

Orange brown local fabric 1.

**D651.** (C1048, SK B5.29) Deposit 33.

Base fr. D. = uncertain.

Fairly clean, grey fabric (2.5Y 4/0) fired brown (5YR 4/3) at the edges, containing a little white grit and some mica. Clean break. Probably not local.

**D652.** (C1036, SK A23.6) Deposit 32.

Base fr. D. = uncertain.

Grey fabric (7.5YR 5/2) containing occasional white particles. Fairly smooth break. Possibly local.

**D653.** (C271, SK J56.4) Deposit 25.

Rim fr. D. = c. 40 cm.

Local fabric 1.

**D654.** (SK B5.25) Miscellaneous deposit; see No.629 for associated finds.

Rim fr. D. = uncertain.

Local fabric 1.

**D655.** (C270, SK J56.4) Deposit 25.

Rim fr. D. = c. 38 cm.

Local fabric 1.

**D656.** (C651, SK K3.12) Miscellaneous deposit; the fine pottery was not studied but of the 30 associated RBHS coarse pottery, all except one corrugated cooking ware sherd was no later than Hellenistic.

Rim fr. D. = c. 42 cm.

Reddish grey fabric (around 5YR 5/3–5/4) containing a large quantity of cream grits and occasional large (up to 1 mm<sup>2</sup>) black grits. Not local. Creamish wash exterior, over rim.

## MORTARIA

Mortaria are heavy, spouted basins used for grinding and pounding, and they occur regularly in Cyrenaica in the Hellenistic, and, to a lesser extent, the early Roman periods (For a brief summary of the function and origin of mortaria in general see Baatz 1977). Practically all found in Cyrenaica were imported: the Hellenistic ones probably came from the Aegean region, and the Roman ones from Italy. It seems clear that mortaria were rarely used in Cyrenaica after the third century A.D., as the North Syrian variety which occurs regularly in the eastern Mediterranean from that time (Hayes 1967) is all but absent, with one exception.

Mortaria are difficult to date, especially if they are not stamped. By their nature, they are likely to remain in circulation longer than other coarse ware forms.

## HELLENISTIC MORTARIA

Hellenistic mortaria with fluted spouts occur regularly, but never commonly, in Cyrenaica. A variety of forms is represented and the fabrics are practically all imported. Insufficient recurrent types from Berenice made the attempt to classify them according to individual types unrewarding. Such work will only be significant when more study is made of the clays in order to determine the origin of many of the types.

Mortaria occur from the sixth century B.C. at Athens (Sparkes & Talcott 1970, 221–3, pl. 90–3), although the fluted spout does not appear there until the mid to third quarter of the fourth century B.C. (*ibid.* 223, note 8). The fully developed Hellenistic mortarium of the second century B.C. has a fluted spout, piecrust lug and a raised inner edge to the rim, as well as narrower side walls than the earlier type (for the typical Hellenistic mortarium from Athens see Thompson 1934, 416, fig. 102, E124 and p. 470). Similarly, Edwards (1975, 109–11) divides the Hellenistic mortaria from Corinth into two basic types, the earlier having a low wall and rounded rim (as Nos. 657–9) below). Edwards suggests a similar later development to those of Athens but notes a deterioration in the quality of the fluted lug between the early fourth and mid third centuries B.C.

Hellenistic mortaria tend not to have grits on the inside floor, and Edwards, following de Waele (1933, 447), argues that, as there is little evidence of grinding, and as the lugs are placed offcentre from the spout to facilitate pouring, mortaria may have been used rather as milk basins or cheese vats in the home. Evidence of a complete mortarium from Euhesperides (unpublished) which is worn down through the centre through grinding action indicates, however, that at least in Cyrenaica, mortaria were used for grinding.

## COARSE POTTERY

---

The evidence from Cyrenaica does not contribute much to the chronology of mortaria except in very general terms. However, all examples from Berenice are probably later than the mid third century B.C., and the presence of the examples with rounded rims (admittedly no spouts were found associated with this rim at Berenice) may suggest that the form (which is clearly earlier, being attested at Euhesperides) continued at least into the later third century B.C., if not a little later, (i.e. Nos. 657-9). A published mortarium from Cyrene with a fluted spout and fairly fine, frilled lugs (Rowe 1959, pl. 34a) is unfortunately not closely dated. Such lugs, where they do occur at Berenice (as No. 661), are very crude. Locally made mortarium-like basins with ridges on the inner edge of the rim (Hellenistic Plain Ware 6) start before the mid third century B.C. in Benghazi as they occur at Euhesperides, which may suggest that imported examples with similar ridges (as No. 660, 661) are not *a priori* later Hellenistic.

It is unclear how late these mortaria continue but they are rare in deposits dated after the first century B.C. It seems likely that they ceased to be imported at some stage during the first century B.C.

### CATALOGUE

(fig. 112)

**D657.** (C2654, SK R34.12) Miscellaneous deposit.

Rim fr. D. = c. 40 cm.

Pale buff fabric (7.5YR 7/6) containing small voids and occasional small red grits. Not local.

**D658.** (C2062, SK R100.4) Miscellaneous deposit.

Rim fr. D. = uncertain.

Pale, greenish cream fabric (5Y 8/3) containing occasional small black grits. Not local.

**D659.** (C2673, SK A21. Ext. 4) Miscellaneous deposit.

Rim, body and base fr. D. = c. 36 cm; Ht. = 7.4 cm.

Pale, greenish cream fabric (5Y 7/3) containing occasional white grits.

**D660.** (C564, SK A26.12) Deposit 17.

Complete profile. Int. D. = 28 cm; Ht. = 6.3 cm; D. Base = 15.5 cm.

Buff fabric (7.5YR 6/4) fired orange brown (5YR 6/6) containing white shelly grit and large (up to 1 mm<sup>2</sup>) black grits. The interior is smooth. Cream wash exterior. Not local.

Compare Bruneau 1970, pl. 49, D227 and p. 259, fig. 132 from second to first century B.C. contexts at Delos.

**D661.** (C643, SK B13.5) Miscellaneous deposit; over 20 associated fine ware sherds are all Hellenistic.

Complete profile. Int. D. = 33 cm; Ht. = 7.2 cm; D. Base = 20.4 cm.

There is a fragment of lug applied to the top of the rim with crude finger impressions. Orange buff fabric containing lime. Possibly local.

**D662.** (C838, SK X +) Surface find.

Rim and spout fr. D. = uncertain.

Greyish brown fabric (2.5YR 4/2) mottled with greenish cream grits.

- D663.** (C1142, SK A32.2) Miscellaneous deposit.  
Rim and spout fr. D. = uncertain.  
Buff fabric (10YR 7/4) containing small quartz lumps and occasional lime grits.
- D664.** (C408, SK J13.4) Deposit 27.  
Rim and spout fr. D. = uncertain.  
Fairly gritty, buff fabric (10YR 7/3) containing occasional quartz lumps and a little white grit.
- D665.** (C2678, SK X11.14) Miscellaneous deposit.  
Rim fr. of a wide flat dish which may have served the function of a mortarium. D. = 50 cm. + ; Ht. = 5.5 cm.  
Orange red local fabric 1/2. Thin creamish wash on the interior only.
- D666.** (C565, SK X14.3) Miscellaneous deposit.  
Rim and base fr. of a low flat dish which may have served the function of a mortarium. D. = c. 64 cm; Ht. = 4.6 cm.  
Hard, coarse buff fabric fired pale red at the edges, containing a quantity of mauvish grits. Cream wash exterior and over rim. The rough interior is due to many voids. Not local.

#### EARLY ROMAN MORTARIA

The mortaria imported from Italy from the first century A.D. were more clearly used for grinding as they have hard grits embedded in the interior floor. Although Roman recipes certainly required much pounding by mortaria (Flower & Rosenbaum 1958, *passim.*), it is difficult to evaluate the extent to which the introduction of Italian mortaria may be related to the arrival of Italian immigrants in the Early Roman period (see p. 413). Mortaria and other coarse vessels would have been a useful subsidiary cargo for ships returning from Italy and would at least have found an initial market through the Italian immigrants.

The early Roman mortaria have been classified into two groups.

#### EARLY ROMAN MORTARIUM 'A'

The form has a thick, flaring body with a heavy, everted rim, often with a swelling at the lip and a raised inner edge. The rim is sometimes stamped near the spout. Joncheray (1972, 22 ff.), notes four different sizes for the type from the Dramont wreck, with rim diameters of 27 cm, 33 cm, 40 cm and 46 cm.

The clay is uniform and is a fairly micaceous pink, containing dark grey grits. There are large flecks and pebbles of quartz-like grit on the interior.

It is uncertain precisely when the type begins. Possible unstamped examples occur at Ventimiglia (Lamboglia 1950, fig. 21, No. 80; dated c. 10 B.C. – A.D. 20) and from an early Augustan to 10 B.C. context at Magdalensburg (Scheffenecker & Schindler-Kaudelka 1977, 69, Abb. 2, No. 26, where it is referred to as a milk bowl). No. 668 from Berenice, which is a variant, occurs in a deposit dated to the second quarter of the first century A.D. (Deposit

## COARSE POTTERY

---

44). The type occurs in the Dramont wreck which is dated A.D. 40/50 (Joncheray 1972, type 1).

The form occurs elsewhere in North Africa, at Sabratha (where K. Kenyon considers them to be Flavian, personal communication) and Carthage (Hayes 1975, Group X, No. 13, from a first century A.D. deposit; of over 80,000 sherds examined by the writer from the 1975 Michigan excavations at Carthage, which comprised mainly first century A.D. material, only one mortarium rim and one base were recognised. As the material was mainly early first century A.D., this indicates that the form was not a regular import at that time.).

Findspots in the eastern Mediterranean include Athens (unpublished, Inv. No. P16183, mentioned by Joncheray 1972, 25), and Alexandria (unpublished, in the Alexandria Museum inventory attributed to Colomie, Inv. No. 21139). Apart from Berenice, the form also occurs at Tocra (from the top levels of G. D. B. Jones' excavation in 1969) and Cyrene (surface find by the present writer).

A general first century A.D. date seems likely. Although their presence with type 'B' mortaria in the Dramont wreck (A.D. 40–50) indicates that both types 'A' and 'B' were contemporary then, it is type 'B' that is most common at Berenice from the second half of the first century A.D.

### CATALOGUE

(fig. 112)

**D667.** (C669, SK P50.1) Deposit 154.

Rim fr. D. = c. 44 cm.

Fairly micaceous pinkish fabric containing dark grey grits. There are large lumps of quartz-like grits embedded in the interior floor.

**D668.** (C669a, SK X33.1) Deposit 44.

Rim fr. D. = uncertain.

There is a circular flat knob of clay attached to the upper face of the rim.

Smooth, pale pink fabric (5YR 6/4) containing occasional lumps of quartz and reddish grey grits. Hard, quartz-like grits embedded in the interior floor.

### EARLY ROMAN MORTARIUM 'B'

The form has heavy, steep sides, a flat base and a fairly wide, overhanging rim. There is usually a slight groove on the inside edge of the rim.

The clay is consistently a hard, fairly micaceous buff to pink containing quantities of greyish red quartz-like grit and other particles. The grits of those from the mortar wreck in Mellieha Bay, which the writer has examined in Malta and found to be similar by eye to the examples from Cyrenaica, include adularia (Frost 1969, 20), a form of feldspar whose provenance in the western Mediterranean is limited to the Piedmont region. An Italian origin is also clear for the stamped varieties (Hartley 1973).

Joncheray (1972, type 2, 22 ff) notes two main sizes, with diameters of 42 cm. (weighing 7900 gr.) and 48.8 cm (weighing 11550 gr.). The type has a fairly long history lasting from the first to about the mid third centuries A.D. The earliest examples seem to be those from the Dramont wreck (A.D. 40–50 Joncheray 1972) but they are well attested elsewhere in first century A.D. contexts (Hartley 1973). The rims of the first century A.D. examples tend to be

more down-turned than on the later examples. Many of the first century A.D. examples have rims angled at 60°–40° to the horizontal plane (as Joncheray 1972) while those in third century A.D. contexts have angles ranging from 30°–15° (Frost 1969; average 15°; Ostia i, tav. XX, 410, is *c.* 30°; No. 681 below from Berenice is *c.* 20°; however, an example no later than the second century from Paphos (Hayes 1977, 107, No. 10) has an angle of 20°). The later examples generally seem to have straighter rims. Italian mortaria are not always of standardised forms (Frost 1969, 20) and such considerations can at present only be used as hypothetical dating characteristics to be tested by future research.

The type was often stamped on both sides of the spout and sometimes elsewhere on the rim. The stamp bears the *tria nomina* of the owner or manager of the *figlina* where they were made. They do not seem to have been stamped after the mid second century A.D. (Hartley, personal communication) and were stamped from the second quarter of the first century A.D. Hartley (1973) published all 43 known stamps from outside Italy with a distribution map; most of these were from the western Mediterranean. The excavation at Berenice produced 15 stamps, which suggests that mortaria from Italy were exported to the eastern Mediterranean in larger quantities than has hitherto been suspected.

The type seems to occur at Alexandria (unpublished, Inv. Nos. 19718, 21130, 21131, 21134, 21137, 21138, 21437; the present writer has seen photographs of these in the Inventory of the Graeco-Roman Museum at Alexandria and most have traces of Latin stamps—the lettering is not as on the North Syrian mortaria). It also occurs in Palestine, Athens (Hartley 1973, 53) and Paphos (Hayes 1977, 109, No. 10). For a possible example from Bu Njem see Rebuffat *et al.* 1970, 104, No. A131.

The type is first attested in Cyrenaica during the Flavian period (Deposits 59 and 62) and occurs until the mid third century A.D. if No. 681 does belong late in the series on typological grounds. A problem remains that several examples which were clearly first or early second century A.D. did occur in the mid third century A.D. deposits.

## CATALOGUE

(figs. 112, 113)

(I am very grateful to Mrs. K. Hartley for her readings of the stamps and her comments).

**D669.** (C2601, SK +) Surface find.

Complete profile. D. = *c.* 38 cm; Ht. = 8.5 cm.

Normal fabric.

**D670.** (C527, SK J50.2) Deposit 102.

Rim fr. D. = uncertain.

Normal fabric.

Stamp: /VCTILIVS (K. Hartley knows of no parallel)(pl. XXX) and J. Reynolds comments that no *nomen* that could be restored is catalogued in W. Schutze, *Zur Geschichte Lateinischer Eigennamen*.

**D671.** (C36, SK H7.5) Associated with Deposit 85.

Rim fr. and stamp. D. = uncertain.

Normal fabric.

Stamp: ST(atius)MAR(cius)OPTAT(us) (pl. XXX).

K. Hartley comments that this is a stamp of Statius Marcius Optatus and that eight of his stamped tiles were found on the first ship of Nemi (Bloch in Ucelli 1950, 340) which can be dated c. A.D. 40, when he was already producing tiles, and, possibly, mortaria. J. Reynolds comments that in relation to this example and No. 675, the *praenomen* Statius and the distribution of dolia etc, made by other Statii Marcii strongly suggest a Campanian connection. For a summary of the evidence on Statius Marcius see now T. P. Helen, *Acta Instituti Romani Finlandiae*, IX: 1, pp. 125–27. (information J. Reynolds).

**D672.** (C2018, SK L46.3) Deposit 73.

Rim fr. D. = uncertain.

Normal fabric.

Stamp: ]PVDENT[IS  
]vac. TQ[

The name might possibly be Prudens; line 2 may contain a reference to the *figlinae Tonneianae* but there seems to be no exact parallel for the stamp (information J. Reynolds).

**D673.** (C2541, SK+) Surface find.

Rim fr. D. = uncertain.

Normal fabric.

Stamp: ]LAĒLFID[  
]OLIAFIG[§ (pl. XXX)

There seems to be no published example to provide an exact parallel, but the name could be a variant, and more correct spelling, for L. Aelius Phidelis (see T. P. Helen, *Acta Instituti Romani Finlandiae*, IX: 1, sub no. 671. p. 139, no. 4; and H. Bloch, Supp. Indices s.v.: his stamps are of Severan date. In line 2, the formula used cannot have been the standard one, but *cf* the apparently unique *doliaris figlina* of CIL XV, 236 (information J. Reynolds).

**D674.** (C88, SK L55.4) Deposit 103.

Rim fr. D. = uncertain.

Normal fabric.

Stamp: ]NDVS[ (pl. XXXI).

K. Hartley comments that there are too many possible restorations for this stamp to be identified with certainty. M. Alfius Secundus, Cn. Domitius Secundus, T. Iulius Iucundus and L. Lurius Verecundus are all possibilities.

**D675.** (C1173, SK BB+) Miscellaneous deposit.

Rim fr. D. = uncertain.

Normal fabric.

Stamp: STATI.MARC.SECVNDIO/FEC.IN.FIGLIN.OCEAN(ia) (pl. XXXI)

K. Hartley comments that the interpretation above is based on tiles of Statius Marcius Secundio from Rome (CIL XV,I, 357), although they are not of the same die. Tiles of his have been noted in Narbonne (CIL XV,I, 1287, and CIL XII, 5679, 67) and several of his mortaria are known, including six from Pompeii (CIL X,II, 8048, 41–2) showing that he was at work before A.D. 79.

**D676.** (C279,SK R41.2) Miscellaneous deposit.

Rim fr. D. = uncertain.

Normal fabric.

Stamp: ]IAFRISV[ (pl. XXXI).

K. Hartley comments that the upper line of the stamp is unclear and neither the beginning nor the end of the inscription on the lower line is certain. It is, however, possible that AFRI followed by a slave's name beginning with SV might indicate that it was from the *figlina* of Cn. Domitus Afer, the famous Tiberian lawyer, who founded his brickyard before A.D. 40 and died in A.D. 59 (*Prosopographia Imperii Romani*, Berlin, 1943, Saec. I-III, 126).

**D677.** (C449, SK H6.9) Deposit 62.

Rim fr. D. = c. 42-44 cm.

Normal fabric. No stamp.

**D678.** (SK X56.1) Deposit 59.

Rim fr. D. = uncertain.

Normal fabric. There is no shallow groove on the inside edge of the rim. No stamp.

**D679.** (C517, SK L36.1) Deposit 73.

Rim fr. D. = uncertain.

Normal fabric.

Stamp: APOLLONIET/ISMARI CN CN/DOMITIORVM (pl. XXXI).

K. Hartley comments that this stamp indicates that the mortarium was made by the slaves of the brothers Cn. Domitius Lucanus and Cn. Domitius Tullus, who jointly inherited the brickyard of Cn. Domitius Afer in A.D. 59. The manufacture of this mortarium and No. 680 below is to be dated within the period A.D. 59 to A.D. 93/4 when Lucanus died. A mortarium with a similar stamp is recorded from Pompeii (i.e. before A.D. 79).

**D680.** (C680, SK L25.3) Miscellaneous deposit.

Rim fr. D. = uncertain.

Normal fabric. Stamp: as No. 679 above.

**D681.** (C132a, SK L36.1) Deposit 73.

Rim fr. D. = uncertain.

Normal fabric. This rim type most closely resembles those of Mellicha Bay.

## MISCELLANEOUS MORTARIA

### CATALOGUE

(fig. 113)

**D682.** (C757, SK D1/4.13) Deposit 53.

Rim fr. D. = c. 30 cm.

Buff fabric (5YR 5/3) containing white grits. Possible local.

**D683.** (C2602, SK J41.14) Deposit 102.

Rim and body fr. D. = c. 27 cm.

Granular buff fabric (7.5YR 6/4) fired cream (2.5Y 8/2) containing volcanic lumps.



## NORTH SYRIAN MORTARIA

From the first century A.D. onwards, mortaria were manufactured locally throughout western Europe, but were not manufactured in the eastern Mediterranean until the third century A.D. The clay of these eastern examples is distinctive, being a dull red brown fabric (c. 2.5YR 4/4) and contains white and black grits. There is no danger of confusion with the Italian varieties. The form, however, seems to be distinctly related to that of the Italian mortarium 'B', with an everted body, flat base and overhanging rim. The angle of the rim is 15°–20°, which compares with that of the Mellieha Bay Italian examples. Moreover, the Syrian mortaria often have a narrow groove on the inside of the rim, as to the Italian. For the type see Hayes 1967; the form with the overhanging rim is found throughout the eastern Mediterranean in third and fourth century A.D. contexts; it develops a squarer rim later. If, as seems possible given the occurrence of Italian mortaria in the eastern Mediterranean, the shape was influenced by Italian examples, the production of the Syrian mortaria may have coincided with the decline of the Italian. The production area of the Syrian mortaria has been identified as Ras el Basit, about 25 kilometres to the south west of the mouth of the Orontes (Hayes 1967).

Although Syrian mortaria are frequent throughout the eastern Mediterranean, and frequent from excavations at Alexandria (Rodziewicz, personal communication), not one fragment was noted from Berenice and only one rim fragment (unstamped), from the surface at Tolmeita, was noted from Cyrenaica.

## FUSIFORM UNGUENTARIA

Fusiform unguentaria are spindle-like bottles probably for containing perfumes or oils. They occur in most Hellenistic tomb groups, but were not solely funerary vessels as they do occur in domestic contexts at Berenice.

The form first appears in Athens around the mid fourth century B.C. (Kuntz & Boardman 1971, 164; Thompson 1934, 473) and possibly a little later, in the third quarter of the fourth century B.C., at Corinth (Edwards 1975, 99). The original source of the form is uncertain, but an Egyptian origin (suggested by Lapp 1961, 228) remains unproven. The form rapidly became very popular and it seems likely that there were eventually areas of production throughout the Mediterranean. The type soon occurred as far west as Spain (Almagro 1953, 397, 18–40) and as far north as Roumania and the Black Sea (Bucovalá 1967, 1969).

The earliest published examples from Cyrenaica are claimed to be the coarse examples from cyst graves at Tocra (Wright 1963, 60, fig. 15) where two are attributed to the mid third century B.C. and one to pre-300 B.C. These dates must, however, be treated with caution as they rely on Thompson's evolutionary sequence for finer examples from Athens (Thompson 1934, 472). Thompson suggests a development from a bulbous to a narrow body over the period from the fourth to the first centuries B.C., with a sharply defined shoulder being considered an early feature, and careless workmanship, especially in the treatment of the foot, as later. (This is followed by Bucovalá 1967, 127 ff; 1969, 312 ff. on little firm, independent chronological evidence; Dyson (1976, 108–9) also sees a similar development at Cosa (*ibid.* 108, note 140).)

Thompson's conclusions have, however, been questioned by Lapp (1961, 79) who considers them too general, pointing, for example, to a bulbous example from the Sullan levels at Athens (Robinson 1959, F48). Lapp in turn suggests a thinning of the fabric and an

increase in capacity in the first century B.C. for his Palestinian examples. Other workers have experienced difficulty with Thompson's typology (Anderson 1955, 164 at Chios; McFadden 1946, 474, No. 25 at Kourion).

It seems likely to the writer that as there were several production areas for the type in the Mediterranean there is no reason why a general typology should apply to all areas simultaneously. In the present stage of unguentaria studies it is important to concentrate on the clay of the vessels, especially from well dated deposits, and to establish local trends and typologies if possible.

Such work was hampered at Berenice by a lack of fusiform unguentaria from well dated deposits. Those from the Selmani tombs exhibited a variety of nuances of form and could be divided into three general groups. The nature of the tombs did not permit and sequential classification as firm chronological evidence was lacking.

The fusiform unguentarium disappears about the turn of the era (it still occurs at Haltern, 11 B.C. – A.D. 9; Loeschcke 1909, taf. XI, No. 30; and is found in the Augustan period in the western Mediterranean, Vegas 1973, type 63a) and seems to have been replaced by the piriform unguentarium.

#### FUSIFORM UNGUENTARIUM 'A'

*(Imported Fusiform Unguentarium)*

The fabric ranges from a fairly fine orange buff through to reddish brown with occasional specks of lime and some mica. An imported origin is assumed but is by no means certain. There is generally some form of slipped decoration, usually horizontal bands. See Riley in press 2, Nos. 64–9 for a selection of this type from the tombs at Selmani.

#### FUSIFORM UNGUENTARIUM 'B'

*(Bulbous Fusiform Unguentarium)*

The form is bulbous with a short stem (as Riley in press 2, Nos. 70–2). In fragmentary form it is not possible to distinguish this type from fusiform unguentarium 'A'.

#### FUSIFORM UNGUENTARIUM 'C'

*(Local Fusiform Unguentarium)*

These are unguentaria which were clearly locally produced. Many of these are of local fabric 1 (see Riley in press 2, Nos. 73–75).

#### CATALOGUE

(fig. 113)

**D684.** (C25, SK J18.9) Miscellaneous deposit.

Complete profile. D. = 2.5 cm; Ht. = 19.3 cm; D. Base = 2.4 cm. Type 'A'. Light, pinkish brown fabric with a creamish wash exterior.

## COARSE POTTERY

---

**D685.** (SM 73, 4.124) Selmani tombs.

Complete. Type 'B'. D. = 2.7 cm; Ht. = 16.1 cm; D. Base = 2.2 cm.  
Local fabric 1.

**D686.** (C181, SK J56.4) Deposit 25.

Rim fr. D. = 2.5 cm. Type 'A'.

Smooth buff fabric containing occasional grey grit specks. Thin grey slip on exterior and inside rim.

**D687.** (C180, SK J56.3) Upper levels of Deposit 25; see No. 14. Rim fr. D. = 3.7 cm.

Type 'A'. Buff fabric containing brownish grit specks and occasional white lime. Metallic brown slip on the exterior and inside neck. Compare Pagenstecher 1913, Taf. XLVI, 25 for the distinctive rim.

**D688.** (C549, SK B23.9) Deposit 18.

Rim and body fr. D. = 3.5 cm.

Smooth, pinkish buff fabric. Grey slip bands around the neck and shoulder.

## PIRIFORM UNGUENTARIA

Piriform unguentaria owe their name to their flame-like shape and were probably used for the same purpose as the fusiform unguentaria which they replaced.

The earliest examples occur in the later first century B.C., soon after 55 B.C. in Cyprus (Vessberg and Westholm 1956, 501, Nos. 430-6, Pl. CLXXVI, 8) and in the last quarter of the first century B.C. at Tarsus (Jones 1950, fig. 159, No. 730) and Athens (Robinson 1959, F50). Other well dated deposits include Jericho (Pritchard 1951, 15 fig. 6 for a group of 122 with 49 associated coins ranging from the last third of the first century B.C. to the second third of the first century A.D.).

It seems clear that the form was rapidly adopted by potters throughout the Empire, local products being noted in Italy (Hayes 1976b, 33-4, Nos. 156-8) and Cyrenaica (see below). The form occurred as far north as Haltern by the beginning of the era (Loeschke 1909, Taf. XI, No. 31). Other dated contexts in the western Mediterranean include Ostia (Zevi & Pohl 1971, 82, No. 44; in the fourth quarter of the first century B.C.: at Ostia its popularity seems to have diminished by the mid first century A.D. and production ceased by the end of the century; such a chronology was also noted by Vegas 1973, type 63b). With all this chronological evidence from both the eastern and the western Mediterranean it now seems clear that the example published from the fourth century B.C. necropolis at Sciatbi (Breccia 1912, fig. 46) is likely to have been intrusive.

Almagro (1955, 140-1) claimed a typological development of the unguentarium at Ampurias. Here short necks and spherical bodies are typical of the Augustan period while later (i.e. Claudian) examples have longer necks and more piriform bodies. No evidence of this sort could be gleaned from the examples from Berenice.

Many of the piriform unguentaria at Berenice seem to have come from one source but this has not been defined. The shape itself is believed to be related to the development of glass blowing which took place about the time of their first appearance (Vessberg & Westholm 1956, 68). As Alexandria played a prominent role in the production of blown glass

during the early Imperial period, Kahane (1952, 176 ff.) suggested that the related pottery forms may have come from there. This seems unlikely to the present writer as the quality of the Alexandrine clay is very poor (on this point see Zaza 1967). Moreover, piriform unguentaria were not as frequent in the Inventory of the Graeco-Roman museum at Alexandria as might have been expected had they been produced locally.

One cannot necessarily assume that the unguentaria were manufactured in the same area as the unguents. Moreover, one cannot assume that the unguents were actually exported in the unguentaria. There seems to be every economic reason, given the high cost of unguents, that they would have been exported in bulk (this suggestion is also made in Jones 1950, 171). There is a precedent in the fourteenth to thirteenth centuries B.C. of unguents being exported from the Argolid in bulk to the Aegean in large coarse ware vases (Foster 1974; although unguents were also exported in small bottles to the Levant). Moreover, Callender (1965, 40) quotes Plautus (Mil. 823) to illustrate that unguents were also carried in amphoras. If unguents were exported in sealed unguentaria, care would have to be taken that the bottles were of uniform size or weight. In order to test this, 60 complete piriform unguentaria, all of type 'A', were filled with water to just below the brim and the volume of water measured in a pipette calibrated in 1 cc. measures. The results (fig. 56) suggest that there was little standardization of capacity, although 40 per cent had capacities of between 26 cc and 33 cc. In addition, the relationship between the dimensions, the weight of the empty vessels and their capacities was not always in proportion. This makes it unlikely that the contents would have been sold by weight, given the value of the unguents.

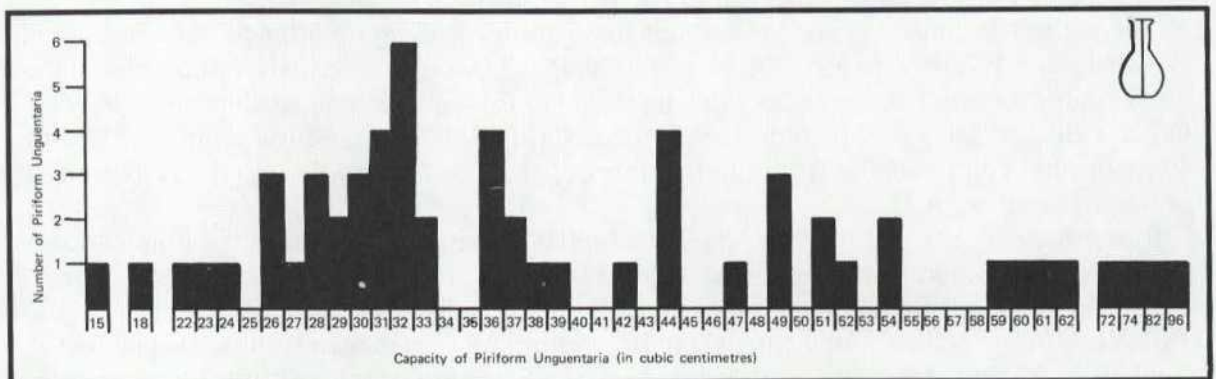


Fig. 56. Histogram to Show Relative Capacities of 59 Piriform Unguentaria from Selmani.

Although not all the unguentaria from Selmani may have been contemporary (this is by no means certain), the results do suggest that if unguents were imported in them, the buyer would have no check on the amount he was buying. The most sensible method of selling unguents seems to be that employed in North Africa in modern times, where the seller ladles them in fixed measures into bottles at the time of purchase. If this were so in antiquity, the bottles would not necessarily come from the same source as the unguents.

At Berenice a base sherd occurred in Deposit 27. This may be intrusive, however, as an isolated rim of ER Plain Ware 2 also occurred in that deposit. Otherwise the form occurs in Augustan to later first century A.D. deposits (Deposits 38, 54, 63, 64, and 69). It is rare after the late first century A.D. and seems therefore to follow the general chronology for the type.

## COARSE POTTERY

---

### PIRIFORM UNGUENTARIUM 'A'

This type is of the standard piriform shape with an everted, plain rim. The rim diameters and base diameters are fairly constant (ranging between 2.2–3.1 cm and 1.5–2.3 cm respectively) (pl. XXXVII).

The fabric is finely levigated, usually pale buff, but ranges from a chocolate buff to a pinkish buff. The clay contains mica and very occasional gold flakes. Most examples have a dull red slip over the neck and inside the rim, although this is occasionally orange red or silvery grey (See Riley in press 2, Nos. 76–8).

### PIRIFORM UNGUENTARIUM 'B'

This has a similar form to type 'A' but is generally made of local fabric 1.

### CATALOGUE

(fig. 113)

**D689.** (SM 73.S.3.43) Selmani tombs.

Complete. D. = 2.7 cm; Ht. = 8.7 cm; D. Base = 2.1 cm.

Type 'A'.

**D690.** (C149, SK J56.4) Deposit 25.

Rim and body fr. of type 'B'. D. = 3.8 cm.

Orange buff local fabric 4.

### BRAZIERS

Braziers were widely used throughout the Mediterranean, especially during the second and first centuries B.C. The general shape consists of a tall, cylindrical, hollow stand with a fire bowl at the top and three raised supports (= lugs) on the top, on which the cooking pots would have been placed. The stand normally has an air vent and the fire bowl is pierced to allow the air to fan the fire. There are usually horizontal handles on the body which is sometimes highly decorated and painted (e.g. No. 699) The supports were often decorated also with appliqué human or animal figures. All the examples from Berenice were of the Benghazi local fabric 1.

Plain braziers were manufactured at Corinth by the second quarter of the second century B.C. (Edwards 1975, 119–20, Nos. 646–7) while the main period of production of braziers in the Aegean was c. 150–50 B.C. (Leonard 1973). There is evidence that braziers from the Aegean were imported into Carthage in the second century B.C. (Gsell 1930, IV, 162). Both Corinth and Athens seem to have ceased importing braziers by the mid first century B.C. (Edwards 1975, 120). Brazier use did not survive the first century A.D. in Athens (Robinson 1959, 35, who attributes this to a possible cheapening in the price of metal ones).

The lugs of those found in the Mediterranean are often decorated with appliqué figures and many of these are clearly from one source. Conze (1890, 140) points out that examples of bearded lugs, all of a similar red, micaceous clay, and stamped with the same name

*Hekataios* have been found at Athens, Rhodes, Delos, Halicarnassos, Mylasa, Naucratis, Tarentum, and Syracuse. Although local examples were manufactured at Corinth (Edwards 1975, 119–20), Egypt (Fraser 1972, 168, note 285) and Tunisia (Gsell 1930, IV, 162, note 5) as well as at Berenice, the origin of the best quality examples has long been the subject of speculation. Candidates for the production centre have been Delos (Conze 1890, 140, Burr 1933, 183–94), Alexandria (LeRoy 1961, 498–9, on the basis of a mould from Canopus; on this see Edwards 1975, 119, note 3, for the view that this was on a local scale and did not represent primary manufacture) and Rhodes (Fraser 1972, 168, note 285). Opinion remains undecided although an Aegean origin now seems likely. Leonard (1973) points out that in modern times Siphnos provides much of the Aegean region with braziers. Further discussion of this problem will only be fruitful when a systematic study of the clays is made.

Practically all of the braziers found in Cyrenaica were manufactured locally in Berenice and are of the Benghazi local fabric 1. A Berenice origin is confirmed both by the clay and by a mould (No. 705). Fragments of braziers in Benghazi local fabric 1 have occurred on most major sites in Cyrenaica, which suggests a measure of local internal commerce. Some of the complete braziers found in funerary contexts appear not to have been intended for use. For example there is no central air hole in the bowl of No. 702 and neither No. 700 nor the example published by Bailey (1972, 7, pl. 2d) have air vents on the body.

Braziers of all types were common in Hellenistic and Early Roman Berenice, where they represented 3–5 per cent of the total coarse pottery RBH. Unlike Athens, braziers continued to be used until the third century A.D. and a new type was introduced in the second century A.D. They are uncommon in the Late Roman period and examples in Late Roman deposits are probably survivals. Most braziers were plain and the proportion of decorated braziers is minute. The braziers were classified according to their lug type, as they mostly occurred in fragmentary form.

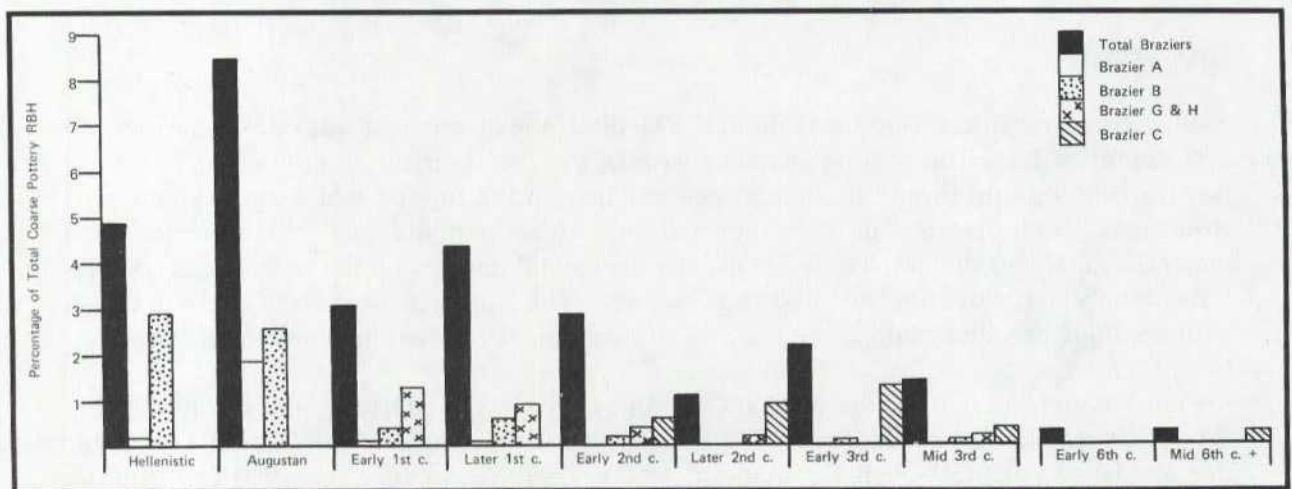


Fig. 57. Histogram to Show Relative Proportions of Braziers at Berenice.

#### Brazier Type 'A'

The lug is square and placed vertically on top of the rim. There is a downward projecting vertical ridge of clay from the lug on the inside of the bowl. The body of the vessel flares and the rim is always square in profile. There is always a ridge on the exterior below the rim (as

## COARSE POTTERY

---

No. **691**). The rim diameter varies between 25–8 cm and all examples are of Benghazi local fabric 1.

The form is a Hellenistic one (it occurs in Deposits 14 and 27) but is never very common. It seems to be better represented in the ? first century B.C. Deposits 33 and 35 (fig. 57).

A similar form (but not the same fabric) occurs in a second or first century B.C. context at Carthage (Ferron & Pinard 1955, pl. 81, No. 138).

### *Brazier Type 'B'*

The lug is semi-circular, and placed vertically on the top of the rim. There is a down-ward projecting vertical ridge of clay from the lug on the inside of the bowl. The rim is slightly thickened and there is always a distinctive, thick, rounded flange just below the rim (as Nos. **692, 694–5**). The fabric is always Benghazi local fabric 1 with the exception of one lug from the Hellenistic levels of the excavations of the Sanctuary of Demeter at Cyrene which is in Cyrene local fabric 1.

As well as the example from Cyrene, an example in Benghazi local fabric 1 occurred in Goodchild's 1965 excavations at Tocra (unpublished, in Tocra store).

This is the most common Hellenistic brazier at Berenice, comprising about 3 per cent of the total coarse pottery RBH. The proportion drops markedly in the first century A.D. when it comprises only *c.* 0.5 per cent (fig. 57).

The form, but not the fabric, also occurs in a second or third century B.C. context at Carthage (Ferron & Pinard 1955, pl. 81, No. 137).

### *Brazier Type 'C'*

The shape of this distinctive type is uncertain as only rim and lug fragments survive (No. **693**; No. **704** is a variant). The rim is thickened and there is a triangular shaped lug on the top of the rim, with a small pinched lug facing outwards behind it. The wall is made in sections and is probably related to the type found in first century A.D. deposits at Athens (Robinson 1959, 34, G123; pl. 38, P14122).

This type is later than the first century A.D. at Berenice, being introduced in the early second century A.D. (when it comprises over one per cent of the total coarse pottery RBH). It is infrequent in the third century A.D. deposits and is surely a survival by the Late Roman period (fig. 57).

### *Brazier Type 'D'*

The lug is triangular in shape and sits vertically on the rim. It has an upward projecting support (itself usually triangular) turned into the bowl (as Nos. **696, 698–702**). The lug is rare in domestic contexts at Berenice but occurs on all the more or less complete braziers. The lugs (and the braziers) are sometimes decorated. This type cannot be closely dated. The earliest stratified example is from Deposit 73.

### *Brazier Type 'E'*

The lug is square with an upward projecting rectangular shaped support facing into the bowl (as No. **697**). The type first occurs in the second half of the second century A.D. (Deposits 58, 61, 69, 72).

*Brazier Type 'F'*

This has a similar square lug to type 'E' but the upward projecting support is triangular in shape. This variant was very rare (not illustrated).

*Brazier Type 'G'*

The form is a thick, horn-shaped lug with rows of gouges on the body and a thick disc with an incised cross applied to the end (as No. 720). One example had a clockwise turning swastika (not illustrated). The tip is often fire blackened. Despite their unwieldy weight and size, these lugs were attached to the rims of braziers (as No. 721-2 below). All are of Benghazi local fabric 1.

Decorated examples have occurred elsewhere in Cyrenaica, also in Benghazi local fabric 1, at Tocra (4 decorated examples from the 1965 excavations by Goodchild, unpublished, at present in the Tocra store; also Boardman & Hayes 1973, 116, No. 2564), Tolmeita (three examples in the store, unpublished) and Apollonia (one unpublished example in the store—Inv. No. 288).

The lug occurs with the undecorated variety 'H' and there is no chronological significance between the two types. Both were introduced in the early first century A.D. The form is already in decline in the second century and very rare (probably a survival) in the third century A.D. (fig. 57).

*Brazier Type 'H'*

The form is similar to type 'G' except there is no decoration. One example occurred in D. White's excavation at Cyrene (to be published by the writer).

*Miscellaneous Braziers*

Many braziers (mainly lugs) were in fragmentary form and did not fit into the above shape categories. These, and the horizontal handles, were grouped together in a miscellaneous category for quantification purposes.

*Decorated Brazier Lugs*

Several of the lugs from Berenice have various appliqué decorations. Although appliqué decorations are generally considered to be common in the eastern Mediterranean, their relative proportion to undecorated brazier lugs has not been stated (the situation is similar to that of the stamped amphora handle proportions, see above p. 113). At Berenice, decorated lugs are very rare, only seven lugs and fifteen appliqué heads occurring from the whole excavation.

The bearded head appliqué decoration, which is so common on brazier lugs from the eastern Mediterranean (for a recent typology and discussion of examples from Alexandria see Martens 1971), does not occur at all in Cyrenaica. The commonest appliqué lug at Berenice has an ox-head facing inwards and a feline head facing outwards. None of the figured decorated lugs were fire blackened (although those of type G and H were). Mayence (1905) also notes this with the braziers from Delos and argues that the decorated braziers



## COARSE POTTERY

---

were used rather as ornaments. The main classes of decorated lugs are limited in variety and are here described.

### OX-HEAD LUGS

The lug is square and has an appliqué ox-head facing inwards, and a feline head facing outwards (as Nos. 706–7). Small holes are pierced through the lugs in several places as a precaution against cracking during firing. All the lugs of this form found in Cyrenaica are of the Benghazi local fabric 1. Further evidence that they were produced in Cyrenaica is the presence of the mould (No. 705) from the excavations.

This combination of motifs is widespread throughout the Mediterranean from Alexandria to Carthage and Sicily, although virtually all are inadequately dated (see Conze 1890, type VI d; Winter 1897, Mayence 1905; Pagenstecher 1913, 154, taf. 11, No. 849 e; Ferron & Pinard 1955, pl. 75, No. 144), but seems to be less common than the ubiquitous bearded head lug.

The lug occurs in two dated contexts in Berenice, one from the ? first century B.C. Deposit 32 and another from a deposit of the second quarter of the first century A.D. (Deposit 44). One example, of the Benghazi local fabric 1, occurred in the Hellenistic levels of the Sanctuary of Demeter at Cyrene (White 1975, 39). There is another example in the Cyrene store room but its context is not recorded. There are also two fragments in the store-room at Apollonia (Inv. Nos. 223 and 312) and there are two fragments in the Tolmeita store.

### BRAZIER APPLIQUÉS

#### *Comis Masks*

These appliqués are in the shape of male masks of comic type of which there is a long tradition in the Greek world (see Robert 1899). Masks of this type were used to decorate the air vents in the sides of braziers (as Weinberg 1947, pl. 17, No. 23). However, they did not always serve a functional purpose as some from Berenice are only partially bored (as Nos. 711–2).

The form is widespread throughout the Mediterranean, occurring for example at Delos (LeRoy 1961, 490, fig. 10; Mayence 1905, 381, fig. 10). Carthage (Ferron & Pinard 1955, pl. 82, 156; *ibid.* 1961, pl. 88, and pp. 505–7 for references), Priene (Wiegand-Schrader 1904, 360–1, Abb. 450), and Alexandria (Pagenstecher 1913, pl. 40, No. 1; pl. 43, No. 1; pl. 49, No. 1, etc.).

The earliest dated example is from Corinth, and is probably just pre 146 B.C. (Weinberg 1949, 152). The Berenice examples are of Hellenistic date, one occurring in the upper levels of Deposit 25, and one from Deposit 33 (No. 710). Only eight examples occurred from the whole of the Berenice excavations and none were noted outside Berenice by the present writer. Two 'small pottery bearded masks' noted at Tocra by Burton-Brown (1948, 152; not illustrated), from a tomb containing pottery attributed to the third century B.C., may be of this type, although the writer could not locate these at Tocra. They had traces of white and blue paint on the beards. It is not clear if they do belong to this type but if they do, they would appear to be the earliest examples noted to date in Cyrenaica.

*Female Heads*

These appliqués are of female heads and probably served a decorative rather than a functional use. There is no firm evidence that they would have been applied to braziers but it seems likely to the present writer on grounds of association. All four examples from Berenice were of local fabric 1.

The form also occurs throughout the eastern Mediterranean in Hellenistic contexts including Alexandria (Pagenstecher 1913, Taf. 52, No. 2), Delos (Mayence 1905, 380, fig. 7) and Carthage (Ferron & Pinard 1955, 155 pl. 82; *ibid.* 1961, 503–4, pl. 88; Pinard 1966, pl. 10, fig. 36, Nos. 53–6).

The form could not be dated at Berenice, but is probably Hellenistic. One example is in Tolmeita store (Inv. No. 86:71) another is in the Apollonia museum; both are of Benghazi local fabric 1.

*Lion Heads*

This form is in the shape of a lion's head and is also in local fabric 1. Only four examples came from Berenice, including one from Deposit 32 (No. 717) which is at least first century B.C. One example is present in the Tolmeita store room and one is in the Apollonia store (Inv. No. 221), again both of Benghazi local fabric 1.

The form occurs elsewhere in the eastern Mediterranean, including Alexandria (Pagenstecher 1913, Taf. 106) and Delos (Mayence 1905, 381 ff. and figs. 12–3).

## BRAZIERS

## CATALOGUE

(figs. 113–6)

- D691.** (C154a, SK B6 Ext. W.6) Miscellaneous deposit; 17 associated fine pottery sherds are all Hellenistic.  
Rim and lug fr. type 'A'. D. = uncertain.  
Local fabric 1.
- D692.** (C172, SK J56.4) Deposit 25.  
Rim and lug fr. type 'B'. D. = c. 24 cm.  
Local fabric 1.
- D693.** (C249, SK P10.6) Deposit 80.  
Rim and lug fr. type 'C'. D. = c. 30 cm  
Local fabric 1. Traces of cream wash exterior.
- D694.** (C839, SK A31.2) Miscellaneous deposit; for associated finds see No. 421.  
Rim and bowl fr, type 'B'. D. = c. 30 cm.  
The bowl has a central hole and four holes at equal intervals around it. Local fabric 1.
- D695.** (C1239, SK K1.15) Deposit 34.  
Rim fr. type 'B'. D. = uncertain.  
Local fabric 1.

## COARSE POTTERY

---

**D696.** (C534, SK L24.9) Deposit 73.

Lug type 'D'. Triangular shaped lug with a diagonal cross gouged in its outer face. The edge of the lug and the projecting lug are notched. Local fabric 1.

**D697.** (C2785, SK J6.58) Deposit 168.2.

Lug type 'E'. Local fabric 1.

**D698.** (C2683, SK G12.14) Miscellaneous deposit.

Rim and lug fr. type 'D'. D. = uncertain.

Fr. of miniature brazier. Local fabric 1.

**D699.** (Mafluga 1913?, Benghazi).

Complete, except for one lug which is missing. (pl. XXXVII).

D. = 18.8 cm; Ht. = 26.1 cm; D. Base = 17.5 cm.

Heavily decorated brazier. Notched decoration on the top of the rim. Stylized ferns gouged on the outer part of the bowl. Bands of gouged, oblique slashes down the whole of the body and on the upper side of the base. There are triangular air vents at mid body. Two horizontal crude handles are attached at mid body. The lugs are decorated with slashes and there are two concentric circles of gouged slashing on the inside floor. There are traces of green and red paint on the exterior. Local fabric 1. The origin of this brazier is not known but it is in the Cyrene museum associated with No. 700 which certainly comes from Benghazi. The actual example remains in Cyrene museum (Inv. No. 959).

**D700.** (Mafluga 1913, Benghazi).

Complete brazier. This was discovered in Cyrene museum, but is certainly the example published by Ghislanzoni 1915, 89, Figure 9, from Benghazi. (Cyrene Museum Inv. No. 132, 936).

D. = 18.7 cm; Total Ht. = 26.2 cm; D. Base = 13 cm.

Complete brazier. Undecorated. Three lugs. Underside of the base is hollow. There are no air vents in the side of the body and in order to function efficiently, this brazier would have had to stand above ground. Local fabric 1.

There is a similar unpublished example on display in the Alexandria Museum (Inv. No. 8247) which has a grey, shelly fabric fired reddish brown at the edges. It was not possible for the writer to handle this piece. It is unpublished, and its height is also about 26 cm.

**D701.** (Sidi Hussein +).

Upper part of brazier. One lug missing. (pl. XXXVII). D. = 15.5 cm. Central hole in bowl. This would probably have had a long, tubular body with a flat base. There are no air vents in the body.

Local fabric 1. There are traces of thick, white paint on the exterior and inside the bowl.

**D702.** (Sidi Hussein +).

Complete brazier. (pl. XXXVII). D. = 20.1 cm. Total Ht. = 28.2 cm; D. Base = 19.7 cm.

There are two triangular air vents in the body. However, there is no central air hole in the bowl of the brazier, which suggests that it was perhaps never intended for use.

Local fabric 1.

- D703.** (C59, SK+) Surface find.  
Body fr. One triangular air vent in the lower part of the body.  
Local fabric 1.
- D704.** (C615, SK L3.4) Miscellaneous deposit.  
Rim and lug fr. of type 'C' variant. Local fabric 1.
- D705.** (C424, SK+) Surface find from Area 'M' (just to the west of the city wall; information Ali Salem Letrik).  
Mould for ox-head brazier appliqué. Complete. (pl. XXXVIII).  
Length = 9.7 cm; Max. Width = 7.2 cm.  
The fabric is an orange brown local fabric 1/2 with a pale cream wash exterior. On the reverse there is a graffito signature ΘΕΥΔΑΙCΙΟΥ. J. Reynolds kindly informs me that this name occurs on an inscription at Ajdabiyah (unpublished). None of the ox head appliqués from Berenice were of the exact size of this mould (allowing for shrinkage during firing).
- D706.** (C425, SK M5S.2) Miscellaneous deposit.  
Brazier lug with bull's head facing inwards and a feline head facing outwards on the reverse (pl. XXXVIII).  
*Bull:* there are six decorated notches between the horns and deep gouges in the eyes, ears and nostrils.  
*Feline Head:* deep gouged eyes and ears. Slight indentation for the nostril. Local fabric 1.
- D707.** (C859, SK V9.5) Miscellaneous deposit: the associated fine pottery is mainly Hellenistic, although there are later Roman sherds.  
Feline lug fr. (pl. XXXVIII). Width of lug = 10.3 cm; Ht. = 9.8 cm.  
Two incised lines border the animal. The ears, eyes, nostrils and the sides of the mouth are deeply bored. There may have been an ox-head appliqué on the other side but it is worn. Local fabric 1. The whole lug has been painted grey and the tongue is painted red; there are traces of red paint on the forehead.
- D708.** (SK W77.4) Miscellaneous deposit.  
Fr. of lug. Feline head. On the reverse are the remains of an ox-head appliqué. The eyes and the ears of the feline head are gouged and there is gouging representing a tress of hair from each ear. (pl. XXXVIII). Width = 6 cm; Ht. = 6 cm. Local fabric 1.
- D709.** (C461, SK L24.5) Deposit 72.  
Fr. of a miscellaneous decorated lug. Ht. = 9.2 cm; Width = 8.0 cm.  
Gouged decoration both on the interior and exterior. Local fabric 1. This was the only such example of a square lug with gouged decoration from Berenice.
- D710.** (C423, SK B23.4) Deposit 33.  
Comic mask appliqué. (pl. XXXIX). Ht. = 9 cm; Width = 7.5 cm.  
Fully pierced eyes and mouth. Local fabric 1. Cream wash over face.

## COARSE POTTERY

---

- D711.** (C423L, SK A19 South) Miscellaneous deposit.  
Comic mask appliqué. Ht. = 11.5 cm; Width = 6.0 cm.  
Crudely made. The right eye is pierced but the left is only partially bored. The mouth and nostrils are partially hollowed. Local fabric 1 (pl. XXXIX).
- D712.** (C423G, SK T3.4) Deposit 69.  
Comic mask appliqué. Ht. = 9.8 cm; Width = 6.0 cm.  
The mask is mounted on a plaque and has a decorated border of partially bored holes around the lower part of the face from eye brow to eye brow. The eyes and the mouth are partially bored. Local fabric 1. Cream wash exterior (pl. XXXIX).
- D713.** (C428, SK A23.2) Miscellaneous deposit; for associated finds see No. 619.  
Woman's head appliqué. Ht. = 11.2 cm; Width = 8.5 cm.  
Mould made. Fairly simple. Partially bored eyes, nostrils and ears (one ear missing). There is a partially bored hole below the lower lip. The whole was applied to the wall of a wheel-made vessel of diameter *c.* 24 cm. Local fabric 1. (pl. XXXIX).
- D714.** (C428b, SK A32.1) Miscellaneous deposit.  
Woman's head appliqué. Ht. = 12.0 cm; Width = 9.7 cm.  
More crudely made than No. 713. The eyes and below the mouth are partially bored. Local fabric 1. (pl. XXXIX).
- D715.** (C731, SK D21.2) Deposit 109.  
Woman's head appliqué. Ht. = 8.0 cm; Width = 7.0 cm.  
Worn condition but the crescent shaped headdress is fairly clear. Local fabric 1. (pl. XXXIX).
- D716.** (SK R18.9) Deposit 122.  
Lion's head appliqué. Ht. = 9.4 cm; Width = 8.4 cm.  
Pierced mouth. A hole has been bored connecting the two ears. The eyes are partially bored. Local fabric 1. (pl. XL).
- D717.** (C426, SK B23.2) Deposit 32.  
Lion's head appliqué. Ht. = 7.2 cm; Width = 5.7 cm.  
One ear is bored through and the eyes are partially bored. Local fabric 1. (pl. XL).
- D718.** (C663, SK A32.1) Miscellaneous deposit.  
Woman's head appliqué attached to brazier fr.  
Int. D. of brazier = 29 cm.  
Gouged holes surround the head, there is a crude diadem on the forehead and the eyes are partially bored. Local fabric 1. (pl. XL).
- D719.** (C872, SK F34.1) Deposit 142.  
Fr. of miscellaneous appliqué. Ht. (extant) = 5.0 cm; Width = 4.5 cm.  
Lower part of bearded head. Local fabric 2. (pl. XL).

**D720.** (C21, SK+) Surface find.

Lug fr. type 'G'. Gouged decoration. Local fabric 1.

**D721.** (SK P 52.3) Deposit 68.

Rim and lug fr. type 'H'. D. = uncertain. Local fabric 1.

**D722.** (C556, SK R14.11) Miscellaneous deposit; with the exception of one late Roman sherd, all the 20 + associated fine pottery sherds indicated a date of the second quarter of the first century A.D.

Rim and lug fr. type 'H'. D. = uncertain.

Local fabric 1.

#### BREAD OR CAKE MOULDS

Bread and cake moulds occur in the Mediterranean but do not appear to be very common. Published examples seem to be of Hellenistic or Early Roman date. They consist of flat clay discs with a design impressed in them. Examples have been published from Carthage (Delattre 1900, 131, Pl. 20, No. 9; where they frequently occur in Punic tombs), Alexandria (Pagenstecher 1913, Taf. 49–51; for a range) and Tarsus (Goldman 1950, 198–9, fig. 159a–g; where they are present in a first or early second century A.D. context). A useful discussion is presented by Deonna (1938), 230–3). Only one example occurred at Berenice and, although from a miscellaneous deposit, is possibly to be dated to the first century B.C. or first century A.D.

#### CATALOGUE

**D723.** (SK CC3.6) Deposit 70.

One third complete. D. = 22.7 cm. (pl. XL)

Local fabric 1.

#### TILES

Tiles are rare in most periods in Berenice (they average about 0.3 per cent of the total coarse pottery RBH), although they are slightly more frequent in the second half of the first century A.D. deposits (*c.* 1.0 per cent), see fig. 58. The proportion of tile is much higher at Carthage in all periods, at Caesarea Maritima in the late Roman period, and at Salona (see Clairmont 1975, 229–30) in Yugoslavia.

Most of the tiles at Berenice were made locally but some were probably imported (as Nos. 728, 734). No tiles from Berenice were stamped, although stamped tiles have been noted at Cyrene (Oliverio 1930, 151, fig. 12, stamped ΑΛΕΞΩ(N?); the date is not clear).

The imported examples at Berenice can be related to a long tradition of commerce in tiles in both the eastern and the western Mediterranean. Such commerce is attested in the Aegean in the fourth and third centuries B.C. (Glötz 1913, 18–9, 25, for the prices; they were sold by the pair), and the results of chemical and petrological analyses of tiles in Hellenistic contexts at

## COARSE POTTERY

Olbia suggest they were imports (Bogdanova-Beryezovskaya *et al.* 1964). Tiles were shipped in 329 B.C. from Lacinae to Corinth via Eleusis (Yeo 1946, 232–3). In the first century A.D. tiles were exported from Italy to Dalmatia (Wilkes 1969, chapter 14 & appendix 15), and to Carthage and Gaul (for a distribution map of known stamps see Hartley 1973, fig. 1). A mid Roman wreck at Pommègues (S. France) had a cargo of tiles (Liou 1975, 581; an associated coin of Severus Alexander of A.D. 231–35 suggests the date). In addition, there is now evidence that tiles were imported into Carthage in the sixth century A.D. (possibly from Cumae, Peacock, personal communication). A cargo of Late Roman tiles has recently been discovered near Syracuse (at Capo Passero; Parker, 1977). The origin of the imported examples at Berenice is, however, unknown.

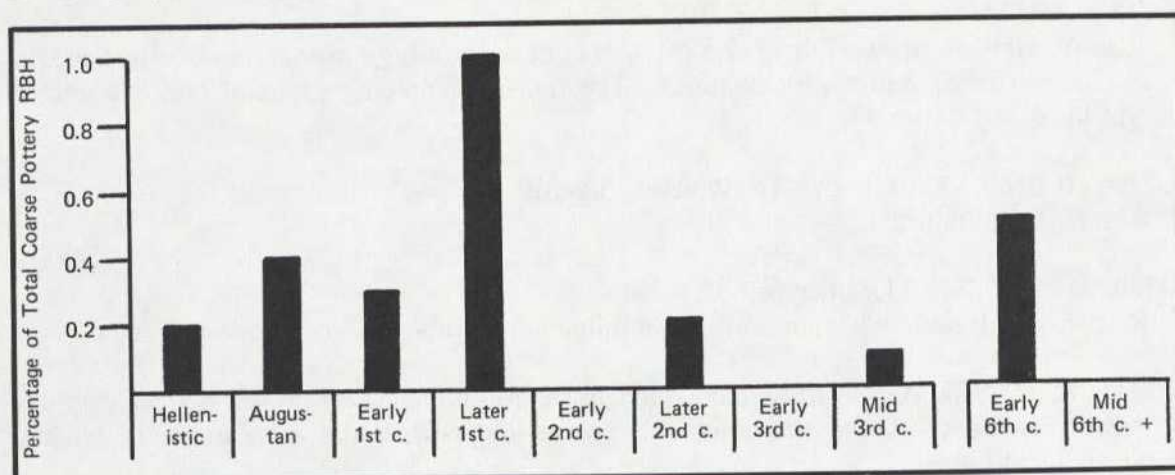


Fig. 58. Histogram to Show Relative Proportions of Tile at Berenice.

The general scarcity of tiles suggests that houses in Berenice did not normally have tiled roofs. The third century A.D. destruction levels of houses which were constructed in the later first century A.D. contain very few tiles (*c.* 0.1–0.4 per cent of the total pottery). The tiles from Berenice were grouped into three basic types on the basis of form.

### TILE TYPE 'A'

(*Tegula*)

These are rectangular tiles with ledges at the ends. No complete examples occurred. The type is rare, comprising a low proportion of the total tiles. The earliest stratified examples were from the Hellenistic Deposits 1, 34, & 168.1.

### CATALOGUE

(figs. 116, 117)

**D724.** (C2750, SK J6.54) Deposit 168.1.

Rim fr. Length extant = 10 cm.

Local fabric 1.

Cream wash exterior.

- D725.** (C2803, SK AA4.3) Deposit 1.  
Rim fr. Grey fabric fired orange brown containing a high proportion of white shelly grits. Probably local.
- D726.** (C1237, SK K1.15) Deposit 34.  
Rim and body fr. Fairly hard local fabric 1.
- D727.** (C1264, SK X48.2) Deposit 58.  
Rim fr. Hard fired local fabric 1.
- D728.** (C1274, SK X56.2) Deposit 59.  
Rim fr. Greyish brown fabric (7.5YR 4/2) containing a high proportion of white specks are large (up to 2 mm<sup>2</sup>) black lumps. The fabric is similar to that of No. 656 above. Not local.
- D729.** (C2580, SK CC1 +) Miscellaneous deposit.  
Rim fr. Local fabric 3.
- D730.** (C2710, SK K2.1) Deposit 55.  
Rim fr. Hard, orange brown fabric containing white and grey grits. Probably local.
- D731.** (C2778, SK A19.7) Miscellaneous deposit; for associated finds see No. 53.  
Rim fr. This is similar to a normal tile but has a long rectangular 'foot' on the underside. Crude local fabric 1.

## TILE TYPE 'B'

*(Imbrex)*

The form is curved but carinated and peaked on the outer edge. The form is the commonest tile shape from Berenice. It is attested in the first century B.C. Deposit 32, and is regular in the first century A.D. deposits, especially in the later first century.

## CATALOGUE

(fig. 117)

- D732.** (C2751, SK A26.7) Deposit 32.  
Rim fr. Length extant = 12 cm.  
Local fabric 1. Cream wash exterior.
- D733.** (C1236, SK K1.15) Deposit 34.  
Rim fr. Buff local fabric 1.
- D734.** (C1292, SK X19.1) Deposit 61.  
Rim fr. Length extant = 45 cm.  
Buff-brown fabric (from 5YR 6/4 to 5YR 5/4) containing white lime and red lumps. Not local.



## COARSE POTTERY

---

**D735.** (C2736, SK M1.1) Deposit 120.

Rim fr. Length extant = 8 cm.

Orange brown local fabric 5.

### BRICK

Brick was rare at Berenice, and, in order to determine how rare, it was quantified together with the coarse pottery. Brick was divided broadly into two categories.

### ROUND BRICKS

(*Pilae*)

These are hypocaust tiles. Only one fragment occurred at Berenice (from Deposit 101). Eight fragments occurred at the kiln site at Tocra, where they were *c.* 5 cm thick with a diameter *c.* 19–21 cm. Several from Cyrene (Oliverio 1930, 150, fig. 10–1; not clearly dated) ranged in size from 25.5 cm in diameter  $\times$  3.5 cm thick and 20 cm in diameter and 5.5 cm thick, and had Greek graffiti, comprising one or two letters.

No examples are illustrated.

### RECTANGULAR BRICKS

Fragments of rectangular bricks occurred at Berenice but were rare. One trapezoidal example occurred in Deposit 82 (No. 736). This type of brick comprised 3.1 per cent of the total pottery (RBHS) of the kiln site at Tocra. No complete examples came to light but the largest was: 16 cm  $\times$  12.5 cm  $\times$  4 cm (weighing 1310 gr.). The fabric was of the local Tocra fabric 1 but included grog (*i.e.* pieces of broken pottery) of local Tocra fabric 2 as temper.

### CATALOGUE

(fig. 117)

**D736.** (C2506, SK H22.2) Deposit 82.

Complete. Dimensions: 17.2 cm  $\times$  16 cm (average)  $\times$  4.5 cm. Trapezoidal shape.

Local fabric 1 containing large (up to 1cm<sup>2</sup>) limestone grits.

### LOOM WEIGHTS

Loomweights were used on vertical looms, to hold the wool taut. They are common in both Hellenic and Hellenistic contexts throughout the eastern Mediterranean but ceased to be used after the first century A.D. when the vertical loom became obsolete (on the history and the working of the loom see Crowfoot 1937). It is not possible to date loomweights closely. In general, three main types are found in the Greek world; pyramidal, conical and discoidal. Only pyramidal and discoidal loomweights occur at Berenice which suggests that conical

ones, if they were used in Benghazi at all, ceased to be used by the mid third century B.C. (for extensive discussions of loomweights see Deonna 1938, Thompson 1934, 474–6, Davidson 1943). Many loomweights from Berenice are not included in the quantification tables as they were separated and recorded as small finds.

#### LOOM WEIGHT 'A'

##### *Pyramidal Loomweight*

This form is pyramid-shaped with a flat top. There is normally a hole bored through the top. The form seems never to have been as common in the Aegean as the discoidal or conical types. In Athens the pyramidal loomweight is thought to have gone out of use by the end of the fourth century B.C. (Davidson, 1943, 73–6). Loomweights, are, however, by their nature longlasting and there is evidence of pyramidal loomweights from much later contexts, for example from Perachora (Tomlinson 1969, 247, fig. 29, second quarter of the first century B.C.), Athens (Robinson 1959, M21; mid first century A.D.) and Herculanium (one example is associated with a small loom which survived the eruption). The examples from Berenice suggest that the form continued at least into the Hellenistic period. Fifteen examples only occurred from the whole excavation and all are of the local fabric 1. No examples at Berenice were stamped but some examples from Euhesperides have intaglio impressions and some which are from uncertain contexts at Apollonia have Greek letters stamped (incuse) on the top (in Apollonia Museum Box No. 1846). The stamping of pyramidal loomweights may be an early feature.

#### CATALOGUE

(fig. 117)

##### **D737.** (SK +) Surface find.

Complete. Ht. = 7.6 cm. Width of Base = 4.4 cm × 4.3 cm.

Local fabric 1. Traces of greenish cream wash on the exterior.

##### **D738.** (SK R31.2) Miscellaneous deposit.

Complete. Ht. = 7.6 cm; Width Base = 2.1 cm × 4.4 cm.

Local fabric 1 with a creamish wash on two sides. This is a unique variant.

#### LOOM WEIGHT 'B'

##### *Discoidal*

The form is that of a disc. The diameter averages 9.5 cm–11 cm and there are two holes bored through near the edge. This type was the commonest loomweight in the Aegean in the Hellenistic period and continued until the first century A.D. The type appeared at Euhesperides and in the earliest dated deposits at Berenice (Deposit 13). Altogether, 121 were found at Berenice. Their occurrence in later levels may be due to survival. Most are of the standard shape (as No. 739) but there is a rare variant with convex body and a central hole (No. 740); these variants are at least of Hellenistic date.

## COARSE POTTERY

---

### CATALOGUE

(fig. 117)

**D739.** (SK B5.11) Deposit 32.

Complete. D. = 9.0 cm; Width = 1.5 cm.

Local fabric 1.

**D740.** (SK K3.7) Deposit 16.

Complete. D. = 9.5 cm. Max. Width = 3.0 cm.

Brown, unfired clay (it dissolves in water).

### SPINDLE WHORLS

These are small balls of clay, about 2.5 cm in diameter, with a central hole. Their purpose is not certain but they are likely to have been used for spinning, (see, for example, Yacoub 1970, 158, fig. 52 for a mosaic of the fourth century A.D. from Tabarka in Tunisia depicting their use). Many examples occurred at Berenice and the earliest stratified appearance is in Deposit 32 (first century B.C.). They are rare in the first century A.D. deposits but are regular in the Mid and Late Roman deposits.

### CATALOGUE

(fig. 117)

**D741.** (SK +) Surface find.

Complete. D. = 2.6 cm. Local fabric 1.

This is the typical shape.

**D742.** (SK J22.4) Deposit 126.

Complete. D. = 6.8 cm; Max. Ht. = 1.9 cm.

Orange brown fabric studded with white grit lumps. Probably local. This is a unique variant but probably had a similar purpose to No. 741.

### CARVED STOPPERS

Several sherds that had been shaped into circular discs occurred at Berenice in all periods. These are probably counters or improvised lids. In general, they are small, with an average diameter from 3–7 cm.

None are illustrated.

### DOLIA

Dolia fragments are regular in all periods. They have thick, everted rims and are always of local fabric 1. No satisfactory typological sequence could be established except that several from the Late Roman period were stamped on the top of the rim.

## EARLY ROMAN DOLIA

## CATALOGUE

(fig. 118)

**D743.** (C2581, SK CC3.7/1) Deposit 70.  
Rim fr. D. = 50 cm +. Local fabric 1.

**D744.** (C1029, SL P49.8) Deposit 79.  
Rim fr. D. = c. 29 cm.  
Local fabric 1.

## MID ROMAN DOLIA

## CATALOGUE

**D745.** (C322, SK H6.3) Deposit 84.  
Rim fr. D. = uncertain.  
Local fabric 1.

**D746.** (C231, SK P5.5) Deposit 81.  
Rim fr. D. = uncertain.  
Local fabric 1.

**D747.** (C2524, SK H22.3) Deposit 82.  
Rim fr. D. = c. 35 cm. Close grooved wavy decoration on the outer face of the rim.  
Local fabric 1.

**D748.** (C665, SK J49.1) Miscellaneous deposit.  
Rim fr. D. = uncertain. Close grooved wavy decoration on the body.  
Local fabric 1.

## LATE ROMAN DOLIA

## CATALOGUE

(fig. 118)

**D749.** (C689 SK G11.1) Deposit 157.  
Rim fr. D. = c. 38 cm.  
Local fabric 1. There are two circular stamps on the rim 25.5 cm apart (pl. XXXI).  
Stamp: Cross with four decorative dots. The motif is carved onto a tomb at Alexandria in a Late Roman (fifth or sixth centuries A.D.) context (Breccia 1909, 281, fig. 41). It also occurs on a Late Roman Unguentarium (fifth-sixth centuries A.D.) at Tolmeita (Hayes 1971b, 247). Two other stamped examples bearing this stamp occurred at Berenice; one from Deposit 158 and the other from a miscellaneous deposit.

## COARSE POTTERY

**D750.** (C2818, SK J28.1) Deposit 138.

Rim fr. D. = c. 33.1 cm.

Local fabric 1. Graffito 'omega' incised into the top of the rim.

**D751.** (C690, SK G11.1) Deposit 157.

Rim fr. D. = c. 44 cm.

Local fabric 1. Two impressed stamps 'phi' 28.5 cm apart.

### LIDS

Complete lids were rare at Berenice. Several lids with varying rim forms had similar knobs with the result that the categories discussed below have, for the most part, been established on the basis of the rim shape. Some of the Hellenistic knobs have a certain elegance of shape (Nos. 755-8) but cannot compare with the well potted and elaborate knobs of the fifth and fourth centuries B.C.

During the first century A.D. two types of lid were imported (Types 7 and 8), both probably from the western Mediterranean. This was the only period when lids were imported on any scale and, although cooking pots were imported in the late Roman period, lids were not.

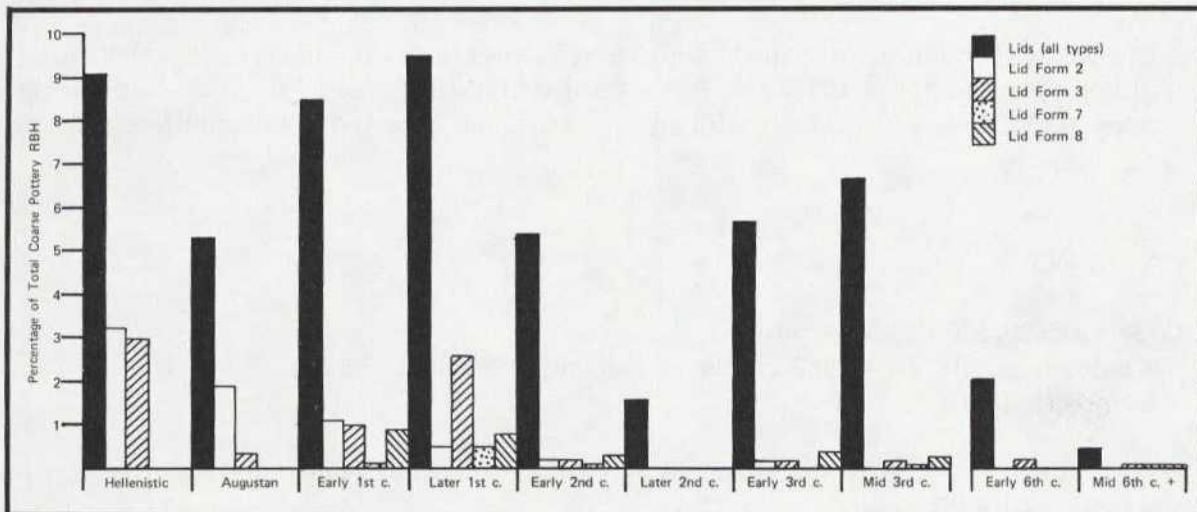


Fig. 59. Histogram to Show Relative Proportions of Lids at Berenice.

### LID TYPE 1

#### *Plain Rims*

Lids with plain rims have a variety of knobs. In general terms, the better made knobs are Hellenistic or Early Roman, while the crude ones are later. This is a trend, however, and cannot be used as primary dating evidence. Lids with this rim have been divided into three categories.

## LID TYPE 1a

The rim is plain but the form has a hollowed, conical base (Plain Base 1) see p. 328). These vessels are often published as plates. There is, however, no reason why they should not also have been used as lids, or have had a dual purpose. The form is mainly Hellenistic (see also discussion of the dating of the Plain Base 1), and is part of the Aegean Hellenistic tradition.

## CATALOGUE

(fig. 118)

**D752.** (C148, SK J56.3) Upper levels of Deposit 25; see No. 14.

Complete profile. D. = 18 cm; Ht. = 4.6 cm; D. Knob = 5.0 cm.

Pinkish local fabric 3.

**D753.** (C626, SK B23.3) Deposit 32.

Complete profile. D. = 12.2 cm; Ht. = 2.1 cm; D. Knob = 3.5 cm.

Mauvish grey local fabric 3.

## LID TYPE 1b

The rim is plain but has a shaped knob. These knobs are elegant and are of the Hellenistic tradition (see Thompson 1934, 324, A58—third century B.C.; *ibid.* 391, D73—mid second century B.C.). Only one example with stroke burnishing occurred at Berenice (see No. 755 for discussion).

## CATALOGUE

**D754.** (C620, SK B23.3) Deposit 32.

Complete profile. D. = 20.2 cm; Ht. = 5.8 cm; D. Knob = 3.6 cm.

Grey local fabric 3.

**D755.** (C624, SK X16.6) Miscellaneous deposit; five associated fine pottery sherds suggest a first century B.C. date.

Complete profile. D. = 17.5 cm; Ht. = 3.5 cm.

Grey local fabric 4. Stroke burnishing in radial strokes on the upper surface. Compare with the Hellenistic Lid II from Corinth (Edwards 1975, 130). Edwards considers that stroke burnishing may be an early feature at Corinth (sixth to fourth centuries B.C.) and uses this as a criterion of an early date. Although No. 755 is an isolated example it suggests that in Cyrenaica the form continues at least after the mid third century B.C., if not later.

**D756.** (C221, SK J56.4) Deposit 25.

Knob fr. Pinkish local fabric 3.

**D757.** (C313, SK B5.20) Miscellaneous deposit.

Knob fr. Grey local fabric 4.

## COARSE POTTERY

---

**D758.** (C318, SK R30.13) Deposit 30.

Complete profile. D. = 23.6 cm; Ht. = 3.7 cm.

Reddish brown fabric containing a quantity of mica and specks of black grit. Not local.

LID TYPE 1c

The rim is plain but the knob is very crude. This was the regular Roman form. There is a range of shapes and a selection is presented below. No. 762 is the most representative of the bulk of the lids of this type. The general type seems to occur in the Aegean, being present at Knossos in early Roman contexts (Hayes 1971, 268, fig. 17, No. 47) and in a mid third century A.D. context at Athens (Robinson 1959, K86, K107).

This type is most frequent in the early and especially mid Roman periods. It represented 7.5 per cent of the total coarse pottery RBH at the kiln site at Tocra (Riley in press 1). At Tocra there was a low ratio of lids to cooking pots (one in five RBH), which could be due to a lower wastage rate of lids there. However, the ratio at Berenice varied from one in three to one in five RBH which may suggest that lids were not normally used with all cooking pot types.

CATALOGUE

(fig. 118, 119)

**D759.** (C2607, SK R18.12) Deposit 4.

Complete profile. D. = 11.1 cm; Ht. = 3.2 cm; D. Knob = 3.1 cm.

Compact buff fabric (7.5YR 6/4) containing a little mica and occasional white grits. Probably not local.

**D760.** (C2761, SK A19.7) Miscellaneous deposit; for associated finds see No. 53.

Complete. D. = 3.5 cm; Ht. = 1.9 cm; D. Knob = 1.3 cm.

Grey local fabric 5.

**D761.** (C1024, SK P10.6a) Deposit 80.

Rim fr. D. = c. 25 cm.

Orange brown local fabric 1.

**D762.** (C100, SK J31.14) Deposit 101.

Complete profile. D. = 14 cm; Ht. = 5.2 cm.

Knob is slightly pinched on top. Red local fabric 4.

**D763.** (C343, SK H1.14) Deposit 85.

Rim fr. D. = c. 12 cm.

Orange red local fabric 4.

**D764.** (C23, SK H1.2) Deposit 84.

Complete profile. D. = 8.0 cm; Ht. = 2.5 cm.

Grey local fabric 4 fired orange red.

**D765.** (C35, SK J5.10) Miscellaneous deposit.

Complete profile. D. = 9.2 cm; Ht. = 2.8 cm.

Slightly pinched knob. Slightly micaceous local fabric 2. Cream wash interior and exterior.

## LID TYPE 2

The rim is gently curved and slightly upturned. The knob is hollowed and conical (as Plain Base 'A'). The type may have developed from, or otherwise have been influenced by, the black glaze 'fish plate' series of the third to second centuries B.C. elsewhere (see Lapp 1961, type 153 on this type). It may also have been used as a plate.

The fabric is local and the lids often have traces of a poor, thin slip on the interior and over the rim. The form is firmly a Hellenistic type and this rim comprises about 3 per cent of the total coarse pottery RBH in Hellenistic deposits (see fig. 59). This dropped to *c.* 1.5 per cent by the early first century A.D. after which it was probably a survival. These figures are conservative as some examples were included in the fine pottery typology.

## CATALOGUE

(fig. 119)

**D766.** (C631, SK A19.7) Miscellaneous deposit; for associated finds see No. 53.

Complete profile. D. = 18.8 cm; Ht. = 4.3 cm; D. Knob = 7.5 cm.

Reddish grey local fabric 3 fired red at the edges. Traces of a dull greyish red thin slip on the interior and over the rim.

**D767.** (C295, SK J56.4) Deposit 25.

Rim fr. D. = *c.* 24 cm.

Compact, slightly micaceous grey fabric, containing occasional specks of white lime. Probably local. Traces of thin grey slip interior.

**D768.** (C305, SK A23.6) Deposit 32.

Rim fr. D. = *c.* 19 cm.

Greyish brown local fabric 4.

**D769.** (C2825, SK T14.4) Miscellaneous deposit; over 20 associated fine pottery sherds are all Hellenistic.

Complete profile. D. = 18.2 cm; Ht. = 3.9 cm; D. Knob = 5.9 cm.

Orange fabric (5YR 6/6) fired greyish buff at the edges containing white grits and occasional red lumps. Thin patchy wine red slip exterior and interior. Some lime ruptures the surface. Possibly local.

**D770.** (C457, SK X53.5) Deposit 45.

Complete profile. D. = 19.7 cm; Ht. = 5.6 cm; D. Knob = 5.6 cm.

Orange brown local fabric 1/2.

**D771.** (C630, SK A31.2) Miscellaneous deposit; 17 associated fine pottery sherds range from Hellenistic to the first century A.D.

Complete profile. D. = 18.4 cm; Ht. = 5.3 cm; D. Base = 5.7 cm.

Pale brown local fabric 4 with dark grey slip interior and over the rim.



LID TYPE 3

The form is similar to Lid 2 except that the rim is hooked. It is regular in the Hellenistic deposits and probably has a similar chronology to Lid 2.

CATALOGUE

(fig. 119)

**D772.** (C333, SK H1.2) Deposit 84.

Rim fr. D. = 20.1 cm. Red local fabric 4. Grey wash exterior.

LID TYPE 4

This lid has a plain rim with a sharp ridge below the lip on the inside. The form is local and begins at least in the Hellenistic period (Deposit 27). The later chronology for the type is not certain but at all times this form was rare.

CATALOGUE

(fig. 119)

**D773.** (C563, SK S15.1) Deposit 145.

Rim fr. D. = c. 44 cm.

Local fabric 3. Cream wash both exterior and interior.

**D774.** (C171a, SK J13.4) Deposit 27.

Rim fr. D. = uncertain.

Grey local fabric 4/5.

LID TYPE 5

The lid is the Tunisian ARS Black Top (as Hayes 1972, Form 196). This is of the hard gritty ARS fabric. The form is not at all frequent but does occur in the first century A.D. levels at Berenice, the earliest example being in the Tiberian Deposit 46. Not illustrated.

LID TYPE 6

This is a low lid with a shallow groove in the underside of the rim. The low lug is pierced through. This is the standard early Roman local Tunisian form (see Hayes 1976, 102, 'Early Roman Buff Ware Lid Type 1'; Fig. 17, Nos. 9–11). The type is also common in the first century A.D. levels at Sabratha (Kenyon, personal communication). The type is rare at Berenice and it is not certain whether or not those that did occur are local.

## CATALOGUE

(fig. 119)

- D775.** (C2762, SK A30.2) Miscellaneous deposit; for associated finds see No. 6.  
Complete profile. D. = 9.8 cm; Ht. = 2.7 cm.  
Reddish fabric, hard, fired grey at the edges. Contains a high proportion of greenish grits. Greenish cream wash interior and exterior. This may be imported.
- D776.** (C284, SK B6W.1) Miscellaneous deposit.  
Complete profile. D. = 10.8 cm; Ht. = 3.2 cm.  
Fairly hard fired grey fabric containing a high proportion of greenish grits. Possibly imported.

## LID TYPE 7

*(Campanian)*

The type has a convex form with a plain, thickened rim and a low, small ring foot around the top. The rim is often fired black or grey at the tip. The fabric is the very distinctive gritty, orange red imported cooking ware 'B' with black grits.

Publications of similar forms from the western Mediterranean have rarely described or discussed the clays adequately, so there is always a danger that this type could have been confused with examples of Lid type 5. However, the form resembles the possible Pompeian Red Ware lid of Loeschke 1909, No. 74 (from Haltern; 11 B.C.–A.D. 9; see also Ritterling 1912, 337, type 100 from Hofheim). A series of similar lids from a first century A.D. wreck at La Tradelière (near Cannes) were associated with Pompeian Red Ware bowls (Fiori & Joncheray 1973). For a possible example from Paphos see Hayes 1977, 107, fig. 6.6 (early Roman).

The earliest fragment from Berenice occurred from Deposit 168.1 (late second to early first centuries B.C.; No. 778). This is an isolated example and the type is slightly more frequent in the first century A.D., reaching 0.4 per cent of the total coarse pottery RBH in the later first century A.D. levels. By the early second century A.D. it may already be a survival.

## CATALOGUE

(fig. 119)

- D777.** (C2512, SK H22.3) Deposit 82.  
Rim fr. D. = c. 34 cm.  
Gritty mauvish fabric containing a high proportion of black grits.  
Campanian. Compare Dyson 1974, fig. 35, PD 95 for the occurrence at Cosa in a level dated 110–30 B.C. The description reads as if it might be Campanian.
- D778.** (C294, SK J6.56) Deposit 168.1.  
Rim fr. D. = uncertain.  
Hard, gritty orange (2.5YR 5/8) containing a high proportion of black grits. Campanian. Pale grey on the underside and over the rim. This example is the earliest from Berenice. The type seems to occur in first century B.C. levels at Cosa (see discussion to No. 777 above).

## COARSE POTTERY

---

**D779.** (C1060, SK D1/4.13) Deposit 53.

Rim fr. D. = uncertain.

Gritty orange fabric (2.5YR 5/8) containing a high proportion of black grits. Campanian.

**D780.** (C635, SK L30.3) Deposit 73.

Complete profile. D. = 26.2 cm; Ht. = 5.9 cm.

Gritty orange fabric containing white and black grits. Blackened around the rim. Campanian.

### LID TYPE 8

*(Brown Micaceous Lid)*

The body is convex with a thickened, slightly upturned rim. The knob is hollowed in the centre. The clay is invariably the distinctive dull brown, micaceous imported cooking ware 3 (see p. 239). A thin section (not illustrated) of No. 783 revealed sanidine feldspar, augite and volcanic debris, suggesting an Italian origin (as Peacock 1977c, 149, fabric 1). However, no augite was noted in No. 785. Further examination of the many samples of this ware collected by the writer is necessary to assign them securely to one or other of Peacock's fabrics for Pompeian Red Ware lids, which this form seems to be. The knob is unusual for the type, however.

This lid seems to have been introduced into Berenice in the early first century A.D. (Deposit 42). It comprised just under 1.0 per cent of the total RBH through the first century A.D. at Berenice (fig. 59), and declined after this. The form does not seem to have been particularly frequent in the Flavian deposits at Ostia, although it seems to occur in third century A.D. contexts there (Ostia i, No. 403, type M, 0.3 per cent of the coarse pottery; an earlier example with a flatter profile is illustrated in Ostia ii, 515). This may be the type described by Dyson (1976, fig. 60, LS 55-7, p. 147, class 26) from Cosa in general first to third century A.D. levels. The type occurs in a Tiberian context at Carthage (Hayes 1976, 60, fig. 5, Deposit X, No. 17; 62, Deposit XI, No. 10). The only example noted possibly of this type from elsewhere in the eastern Mediterranean is from Knossos (Hayes 1971, fig. 17, No. 49; possibly of the first century B.C.). It is unclear whether the continuation into the Mid Roman period represents a survival of the type.

### CATALOGUE

(fig. 119)

**D781.** (C2829, SK H8.2) Deposit 84.

Knob and body fr. D. Knob = 4.6 cm.

Slightly micaceous brown fabric (2.5YR 3/2) containing large lumps (up to 2mm<sup>2</sup>) of grey grit.

**D782.** (C2094, SK L44.3) Deposit 73.

Knob. D. Knob = 3.9 cm.

Micaceous brown fabric (2.5YR 4/6) containing white grits and gold particles.

## RILEY

---

- D783.** (C2600, SK J15.7) Miscellaneous deposit; see No. 247 for associated fine pottery.  
Rim and body fr. D. = 42 cm.  
Micaceous brown fabric (5YR 5/4) containing black grits.
- D784.** (C2715, SK K2.1) Deposit 55.  
Knob. D. Knob = 4.0 cm.  
Micaceous orange fabric (2.5YR 5/6) containing white grits and occasional black grits.  
This fabric is probably Campanian.
- D785.** (C2644, SK L24.9) Deposit 73.  
Knob fr. D. Knob = 4.8 cm. Micaceous brown fabric (pl. XXI*d*).
- D786.** (C2606, SK AA1.15) Miscellaneous deposit; 13 associated fine ware sherds suggest not before *c.* A.D. 60.  
Knob and body fr. D. Knob = 2.8 cm.  
Micaceous brown fabric (2.5YR 4/4) containing white grits and gold particles.
- D787.** (C2735, SK X36.8) Deposit 61.  
Rim fr. D. = *c.* 31 cm.  
Micaceous orange brown fabric (2.5YR 4/6) containing white grits.
- D788.** (C2830, SK T2.10) Miscellaneous deposit; over 20 associated fine pottery sherds suggest an Augustan date.  
Knob fr. D. Knob = 3.5 cm.  
Micaceous brown fabric (2.5YR 4/4) containing white grits.
- D789.** (C332, SK H1.2) Deposit 84.  
Rim fr. D. = *c.* 27 cm.  
Slightly micaceous grey fabric (7.5YR 4/2) containing white and red particles.
- D790.** (C459, SK L24.5) Deposit 72.  
Rim fr. D. = *c.* 27 cm.  
Gritty, bright orange fabric (2.5YR 6/8) containing mica and black grits. Probably Campanian.
- D791.** (C1255, SK L55.4) Deposit 103.  
Rim fr. D. = *c.* 20 cm. Micaceous brown fabric (2.5YR 4/6) containing white grits and gold particles.
- D792.** (C2665, SK V9.4) Deposit 69.  
Knob fr. D. Knob = 3.4 cm. Light grey brown fabric (7.5YR 5/4) containing mica and occasional white grits.

### MISCELLANEOUS LIDS

The following lids, which did not fit the above categories, are all miscellaneous. All are unique or very rare at Berenice.

## COARSE POTTERY

---

### CATALOGUE

(fig. 119)

- D793.** (C2766, SK A19.7) Miscellaneous deposit.  
Knob fr. D. Knob = 1.9 cm.  
Pale, red brown fabric (5YR 5/4) containing white quartz-like lumps and a little mica.  
Whitish grey wash exterior. Not local.
- D794.** (C2782, SK G18.18) Deposit 166.1.  
Rim fr. D. = c. 18 cm.  
Micaceous brown fabric (5YR 3/3) containing white grits and occasional black particles.  
Grey exterior and interior.
- D795.** (C2688, SK R24.3) Deposit 127.  
Knob fr. D. Knob = 4.3 cm.  
Fairly compact reddish brown fabric (2.5YR 5/4-4/4) containing mica and occasional white grits. Not local.
- D796.** (C2756, SK J6.40) Deposit 168.7.  
Knob. D. Knob = 2.2 cm.  
Dull salmon red fabric (10R 5/6) containing a high proportion of mica.
- D797.** (C1009, SK J56.4) Deposit 25.  
Knob D. Knob = 3.5 cm.  
Red brown local fabric 5.
- D798.** (C629, SK A31.2) Miscellaneous deposit; for associated finds see No. 771.  
Complete profile. D. = 10.2 cm.  
Pale greyish red local fabric 4.
- D799.** (C22, SK H2.11) Deposit 84.  
Complete profile. D. = 8.6 cm; Ht. = 2.4 cm.  
Dark grey local fabric 4.
- D800.** (C623, SK R43.1) Deposit 156.  
Complete profile. D. = 9.6 cm; Ht. = 2.1 cm.  
Buff fabric (7.5YR 6/4) containing occasional white grits. Greenish cream wash exterior and interior.

### PLAIN WARE BASES

Many base fragments occurred in the excavations at Berenice that might potentially have belonged to any number of pottery types. These were grouped into broad categories and examined to see whether they fitted into a broad chronological pattern.

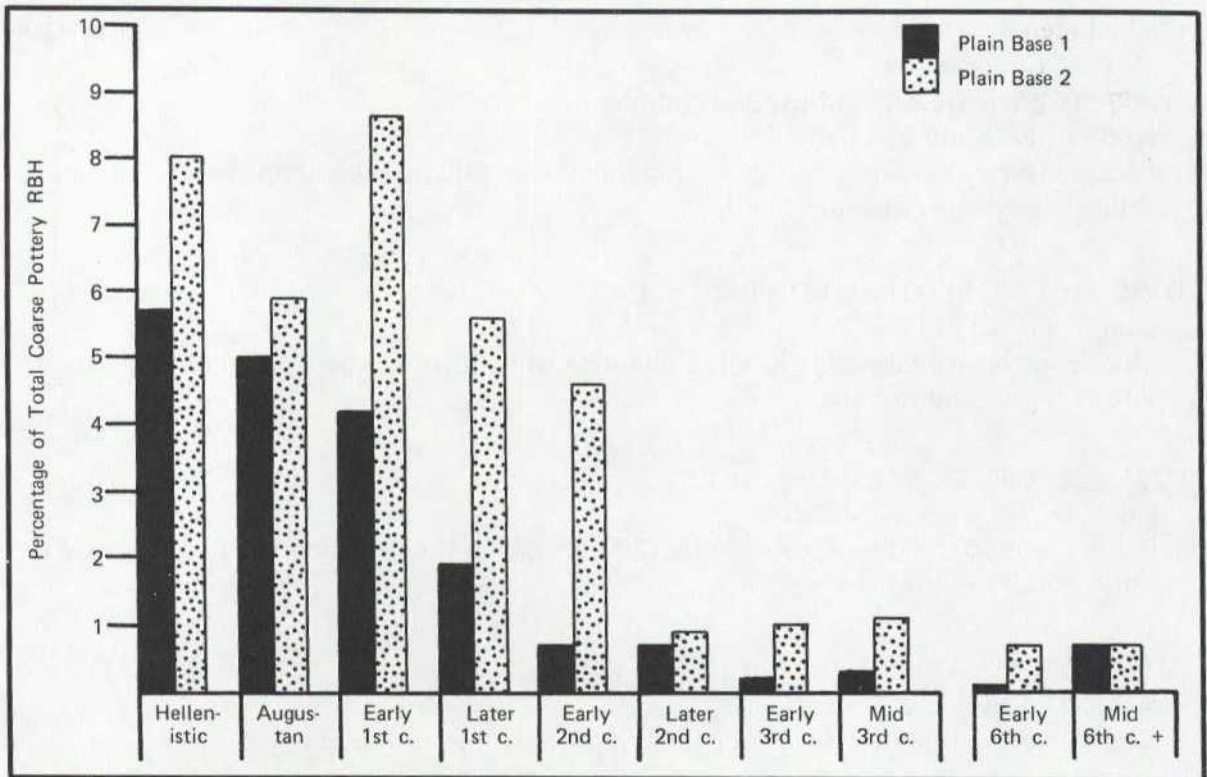


Fig. 60. Histogram to Show Relative Proportions of Plain Base Types 1 & 2 at Berenice.

#### PLAIN BASE TYPE 1

*(Hollowed Conical Base)*

This is the type of base that is associated with the Hellenistic Plain ware types 2, 3, 4, and Lids 1-3. The form is that of a footed base with a conical profile within the foot on the underside. The base is predominantly a Hellenistic form, comprising 5-6 per cent of the total pottery RBH from Berenice until the mid first century A.D. By the second half of the first century A.D. it had dropped to under 2 per cent and declined steadily after that (fig. 60).

There is evidence from Tocra that the type continued to be made in the third century A.D. (two such bases were fused together, see Riley in press 1, No. 67). They are rare at Tocra, however, comprising only 0.1 per cent of the total pottery RBH from the kiln site excavation. In the figures the form has been divided into type 1a which is local and type 1b which is imported. Very few were imported.

#### PLAIN BASE TYPE 2

*(Footed Base)*

The form is a simple footed base such as that of Nos. 609, 630, 1140 etc. It is very difficult to distinguish such bases from jug footed bases. The quantitative distribution of these bases is very high in the Hellenistic period (8 per cent of the total coarse pottery RBH).

## COARSE POTTERY

---

This figure drops from the mid first to the mid second centuries A.D. to 5–6 per cent and thereafter drops rapidly. The form is primarily Hellenistic and Early Roman but continues on a fairly large scale for about a century after Plain Base 1 ceases. As with type 1 the form has been divided into local (= 2a) and imported (= 2b).

### PLAIN BASE TYPE 3

*(High Footed Base)*

This class includes bases with abnormally high feet, and is again divided into 3a (= local) and 3b (= imported). The form occurs in the Hellenistic Deposits 25 and 33. It is uncertain how late the form continues. For the form see No. 651. This base is rare in Berenice and Cyrenaica.

### PLAIN BASE TYPE 4

*(Simple, small flat base)*

This is a simple small flat base with a diameter range of up to about 6–7 cm (e.g. No. 981). The form occurs in the Hellenistic period (present in Deposits 1, 5, 32). The local versions are 4a and the imported 4b. These are easily distinguished from the flat Jug Bases which are usually imported and which have larger diameters.

### PLAIN BASE TYPE 5

*(‘Button’ base)*

This type is flat and hollowed with a button of clay on the underside. (e.g. Nos. 823–4) The earliest example is from the first century B.C. (Deposits 32 and 34) and it continues later, being fairly common in the first century A.D. levels. It is probably related to the thin walled series. Among locally made fine wares, this base is associated with a conical cup imitating a sigillata prototype (P. Kenrick, personal communication).

### PLAIN BASE TYPE 6

This type of base comprises three thick lugs attached to a curved plain base. The type occurred at Tocra (unpublished) where it seems to have been associated with examples of ER Amphora 14. The form occurred in the possible Augustan Deposit 39. Not illustrated.

### EARLY ROMAN PLAIN WARE 1

The form has a flaring body, hunched shoulder and overhanging rim which is usually concave on the outer face. The base is ring footed, often sharp at the tip. The form occasionally

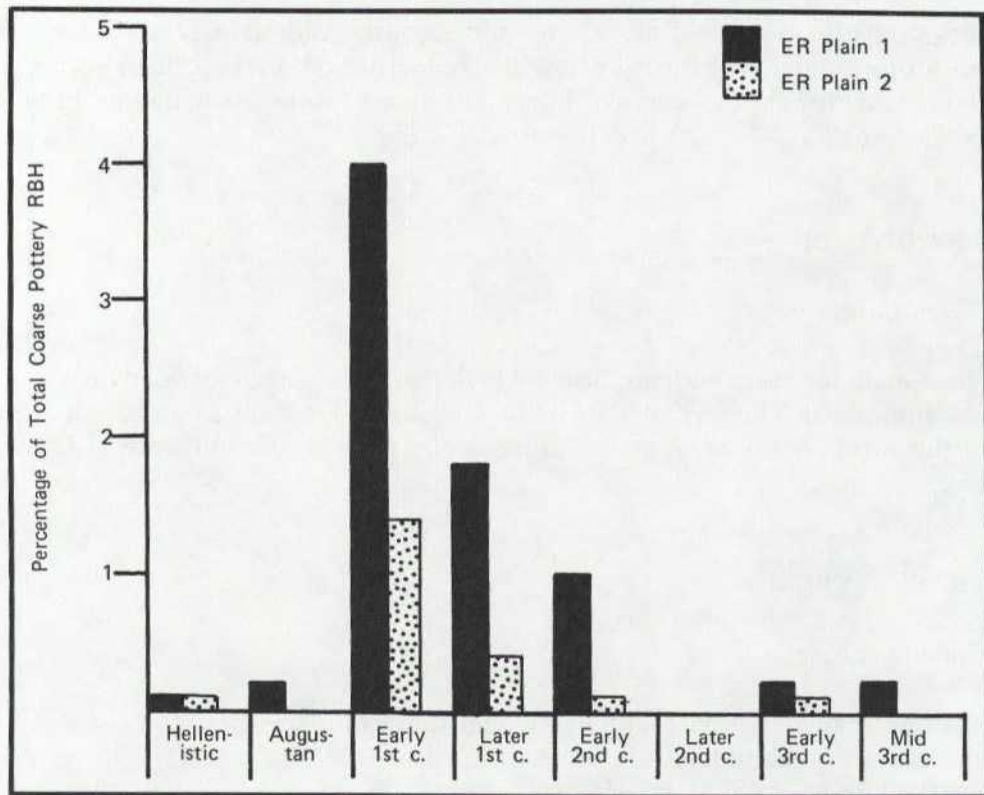


Fig. 61. Histogram to Show Relative Proportions of ER Plain Wares 1 & 2 at Berenice.

had horizontal loop handles below the rim. The fabric is usually local fabric 5, although other local fabrics do occur.

The type is found in the eastern Mediterranean in Hellenistic and Early Roman contexts. One isolated example occurred in a well fill at Corinth which was dated to 146 B.C. (Edwards 1975, 134, No. 705; the description of the level, however (p. 228), suggests a certain lack of confidence in this date; on this point see also Robinson 1969, No. 31, fig. 3). One example with a flat base occurs in a context dated no later than 126/125 B.C. (from Shiqmona in Palestine; Elgavish 1976, 68, fig. 2, No. 3). The form seems to occur most comfortably from the first century B.C. The type is present in Roman colonial levels at Knossos (Hayes 1971, fig. 9, Nos. 20-1) and occurs from c. 50 B.C. - A.D. 68 at least in Palestine (Lapp 1961, 169, type 45). The form is common in western North Africa where it occurs in Sabratha in the first half of the first century B.C., is very common by the mid first century A.D. but is rare by the end of the first century A.D. (Kenyon, personal communication). There are several complete examples in museums in Tripolitania (unpublished) and the form occurs at Carthage in the first century A.D. levels (Hayes 1976, Early Roman Buff Basin 1-4, pp. 100-1), although it is never very common. The basic form also occurs in Cypriot Sigillata (see Hayes 1977, fig. 5, Nos. 41-2 from Paphos).

At Berenice, the form seems to follow a similar pattern to that at Sabratha. There are isolated occurrences of the type in Hellenistic deposits (Deposits 14 and 35). By the early first century A.D. it is common, (comprising about 4 per cent of the total coarse pottery RBH), but declines in the later first and early second centuries A.D. to about 1.5 per cent. By the Mid Roman period, it is already a survival, having been superseded by MR Plain Ware 1. The



## COARSE POTTERY

---

form has been noted elsewhere in Cyrenaica, at Tocra (Wright 1963, 42, fig. 6a, E3), Cyrene (from the Sanctuary of Demeter excavations, and Lamluda and Apollonia (unpublished).

### CATALOGUE

(fig. 120)

**D801.** (C440, SK X48.2) Deposit 58.

Complete (restored). D. = 30 cm; Ht. = 15.7 cm; D. Base = 8.9 cm.

Orange red local fabric 5. Buff wash on upper part of the exterior. There are horizontal scratch marks on the exterior above the base caused by grit in the potting process. This is a common feature with this type.

**D802.** (C410, SK L24.5) Deposit 72.

Rim and body fr. D. = c. 32 cm.;

Greyish buff local fabric 5.

**D803.** (C1232, SK K2.5) Deposit 54.

Rim fr. D. = c. 32 cm.

Orange local fabric 5. Buff wash exterior.

**D804.** (C411, SK L24.5) Deposit 72.

Rim fr. D. = 31 cm;

Buff local fabric 5.

**D805.** (C768, SK D1/4.13) Deposit 53.

Rim fr. D. = uncertain.

Light brown local fabric 5.

**D806.** (C445, SK L24.6) Deposit 72.

Rim fr. D. = c. 28 cm.

Grey local fabric 1.

**D807.** (C123, SK+) Surface find.

Rim, lug and body fr. D. = c. 32 cm.

Orange red local fabric 4. Reduced to dark grey on the outside and on the inside of the rim.

**D808.** (C440a, SK L24.6) Deposit 72.

Rim fr. D. = 32 cm.

Orange red local fabric 4.

**D809.** (C2724, SK J6 +) Surface find.

Rim and lug fr. D. = 28 cm.

Brown to dark grey local fabric 5.

**D810.** (C2722, SK A34.1) Miscellaneous deposit.

Rim and lug fr. D. = c. 44 cm.

Dark grey fabric containing white and brown grits. Possibly local.

#### EARLY ROMAN PLAIN WARE 1a

The form is similar to type 1 but is deeper, being a *situla* or bucket shape. This a clay imitation of metal buckets and has imitation handles made of rolled strips of clay, which are threaded through imitation vertical ring supports and moulded at the end in the shape of a geese head. The most elaborate example from Berenice is No. **813** (see discussion). The rims are sometimes decorated with an ovolo design on the outer face and Nos. **814-7** may belong to the form. The earliest example from Cyrenaica is No. **814** from the Tiberian Deposit 46, and this supports the first century A.D. date for the type proposed by Robinson (1959, G102). The fabric seems to be local in all cases, but this is not certain and needs to be confirmed objectively.

#### CATALOGUE

(figs. 120, 121)

**D811.** (C730, SK T2.1) Miscellaneous deposit.

Rim and lug fr. D. = uncertain.

Fr. of coarse *situla*. There is a vertical loop of clay from the shoulder to the rim through which a horizontal roll of clay is threaded to form a stylized goose head. Orange brown to grey local fabric 5.

**D812.** (C429, SK P+) Surface find.

Rim and lug fr. D. = uncertain (pl. XLI).

Fairly crude goose head entwined through a vertical ?loop stump. Fairly gritty greyish buff fabric (c. 7.5YR 6/6) containing occasional grey grits. Possibly imported.

**D813.** (C848, SK V9.4) Deposit 69.

Upper half of *situla* (restored). D. = 34 cm (pl. XLI).

Everted rim with hunched shoulder. Ovolo decoration incised on the outer face of the rim. The inside edge of the rim is notched. A roll of clay is threaded through a vertical ring and the end fashioned to form a crude goose head. There are two moulded, bearded heads (? of Dionysius) from below the rim to the shoulder, one on each side of the *situla*. The eyes and the nostrils are pierced.

The fabric is a pale pinkish to creamish buff with the occasional speck of mica. The exterior is smoothed. Possibly local. An example from Athens in a deposit dated to the first quarter of the first century A.D. (Robinson 1959, G102) is finer and the head (attributed to Dionysius) has a garland of ivy leaves and berries, a bunch of grapes on either side of his face and a fillet crossing the forehead below the garland. On No. **813** this is more stylized. Other published examples include one from an uncertain source at present in the Royal Ontario Museum in Canada (Hayes 1976b, No. 767) and an example, possibly from Cumae, of uncertain date (Ingen 1933, Vol. I, Pl. 39.3).

## COARSE POTTERY

---

Robinson provided references to metal and porphyry *situlae* of a similar design and concludes that none are necessarily earlier than the first century A.D. (For other references to the type in bronze see Glodariu 1976, 28, Nos. 193–202).

**D814.** (C2740, SK R35.5) Deposit 46.

Rim fr. D. = 32 cm.

Orange brown local fabric 5 fired creamy buff at the edges.

**D815.** (C463, SK M1.2) Miscellaneous deposit.

Rim fr. D. = c. 36 cm.

Buff local fabric 5.

**D816.** (C2838, SK W72.8) Miscellaneous deposit; the associated fine pottery is all Hellenistic with the exception of one first century A.D. fr.

Rim fr. D. = uncertain.

Reddish brown local fabric 5.

**D817.** (C985, SK F29.9) Miscellaneous deposit.

Rim fr. D. = c. 48 cm.

Mauvish local fabric 5.

### EARLY ROMAN PLAIN WARE 2

The form has an everted body and rim. The rim is often folded inwards. There is usually a ledge on the inside wall and the base is a 'button' base as Plain Base 5. One isolated example occurred in the Hellenistic Deposit 27. Apart from this the earliest occurrence was in the first century A.D. (where it comprised 1.5 per cent of the total coarse pottery RBH). Thereafter it follows a similar pattern to Type 1, declining rapidly in the late first century A.D. The type may occur at Knossos (compare Hayes 1971, fig. 9, No. 23; late first century B.C.).

### CATALOGUE

(fig. 122)

**D818.** (C2571, SK R1.5) Miscellaneous deposit; six associated fine pottery sherds suggest the late first or early second centuries A.D.

Rim and body fr. D. = 23 cm.

Orange brown local fabric 3.

**D819.** (C1032, SK H6.9) Deposit 62.

Rim fr. D. = uncertain.

Dark grey local fabric 4.

**D820.** (C1218, SK K2.5) Deposit 54.

Rim fr. D. = c. 17 cm.

Grey local fabric 4.

- D821.** (C1257, SK X +) Surface find.  
Rim fr. D. = c. 26 cm.  
Local fabric 1. Creamish wash interior.
- D822.** (C1033, SK X48.2) Deposit 58.  
Rim fr. D. = 11 cm.  
Orange brown local fabric 4.
- D823.** (C1141, SK W74.5) Miscellaneous deposit.  
Complete profile. D. = 15.1 cm; Ht. = 5.0 cm; D. Base = 4.8 cm.  
Dark grey local fabric 4.
- D824.** (C1038, SK H6.9) Deposit 62.  
Base. D. = 5.0 cm.  
Pale grey local fabric 4.
- D825.** (C253, SK P10.6) Deposit 80.  
Rim fr. D. = 12.8 cm.  
Reddish brown local fabric 4.
- D826.** (C572, SK R31.7) Miscellaneous deposit.  
Complete profile. D. = 16.6 cm; Ht. = 5.8 cm; D. Base = 5.2 cm.  
Local fabric 1.

#### THIN WALLED WARES

In the quantification tables, provision has been made for 'Thin Walled Wares'. This category refers to plain ware with very thin (c. 1–2 mm) walls, probably related to similar wares found in Early Roman contexts in the western Mediterranean (as Moevs 1973, Hayes 1976, 78). Italian thin walled wares have been recognized in Early Roman contexts at Knossos (Hayes 1971, 253, 264, 270) and, as seems to be the case with many Italian ceramic products of this period, may be fairly widespread in the eastern Mediterranean.

The border line between thin walled wares proper and local thinnish walled wares was not easy to define. The fragments which are included in the coarse pottery tables were mainly from Early Roman contexts and generally in very fragmentary condition. In some cases they may represent sherds of thinner plain wares as Nos. 835–6, 839–40, 857. The largest quantity was from Deposit 69 (25 rims weighing 190 grams). The thin wall wares noted in the tables appear in most cases (by eye) to be local but this cannot be certain. As thin walled wares as a class are to be included by P. Kenrick in his forthcoming study of the fine pottery from Berenice (see vol. III), they are not discussed in any detail here. The proportions presented in the coarse pottery tables are conservative as several larger fragments which are the subject of the fine ware report were not recorded by the writer. Thin walled wares were not noted by the writer in store rooms in Cyrenaica, but this is probably due to the extreme fragility of these wares and to the apparent paucity of excavated Early Roman deposits in Cyrenaica.

## COARSE POTTERY

---

### ROUGH CAST WARES

Rough cast wares (for examples see Hayes 1976, 78; fig. 7, Deposit XIII, 15 etc.), with fine sand brushed over the exterior and interior under the slip, occurred at Berenice in Early Roman deposits but were rare. Occasional poor quality examples are noted in the tables below but these again are the subject of a separate study by P. Kenrick and are therefore not discussed in detail here. Again, rough cast wares were not noted elsewhere in Cyrenaica, probably for the reasons given above for the other thin walled wares.

### MISCELLANEOUS EARLY ROMAN PLAIN WARES

Only two coarse ware types occurred in sufficient number to merit a 'type' number. Isolated forms, were, however, fairly abundant and the most complete of these are presented below.

### CATALOGUE

(figs. 122, 123)

**D827.** (C460, SK H6.9) Deposit 62.

Rim and body fr. D. = 13 cm.

Micaceous pale orange fabric with occasional grey grits. Not local. Raised decoration of two bunches of grapes attached to twigs and branches. This may be related to Pergamene Hellenistic relief wares (P. Kenrick, personal communication).

**D828.** (C427, SK K4.5) Miscellaneous deposit; five associated sherds of fine pottery are Hellenistic (pl. XLII).

Spout and body fr. Bowl fr. with lion's head appliqué spout. Hole bored through mouth of lion. Orange brown local fabric 2 with cream wash exterior. Such appliqués occur on fine vessels, (e.g. Oelmann 1914, type 22; one example in African Red Slip Ware occurred from the Michigan excavations at Carthage).

**D829.** (C187, SK P10.6) Deposit 80.

Rim fr. D. = c. 39 cm.

Pale buff fabric (10YR 7/3) containing occasional white grits. Greenish cream wash exterior. This is the earliest example of a 'pie crust' rim from Cyrenaica (see below MR Plain Ware 1c and No. 903).

**D830.** (C447, SK H6.9) Deposit 62.

Rim fr. D. = c. 37 cm.

Orange local fabric 1.

**D831.** (C2833, SK B20.10) Deposit 32.

Body fr.

Incomplete, possibly carinated at the top. Several horizontal rows of bored holes. Orange red local fabric 4. This example is from a Hellenistic context at Berenice. However, this type

- of vessel occurs in early second century A.D. contexts at Paphos (Hayes, personal communication).
- D832.** (C560, SK A34.1) Miscellaneous deposit.  
Rim and lug fr. D. = c. 36 cm.  
Grey local fabric 4. Creamish buff wash exterior.
- D833.** (C2777, SK J6.40) Deposit 168.7.  
Rim and lug fr. D. = 31 cm.  
Orange fabric (2.5YR 5/6) containing quartz-like lumps and white grits. Not local.
- D834.** (C2776, SK A30.2) Miscellaneous deposit; see No. 6 for associated finds. Rim and lug fr. D. = 27 cm.  
Local fabric 1.
- D835.** (C998, SK A23.7) Miscellaneous deposit; see No. 101 for associated finds. Rim and body fr. D. = 14 cm. Pinkish local fabric 3. This may be Hellenistic.
- D836.** (C653, SK X23.1) Miscellaneous deposit.  
Rim and body fr. D. = 12 cm. Pale brown local fabric 3.
- D837.** (C2711, SK A34.1) Miscellaneous deposit.  
Rim and base fr. D. = 27.3 cm; Ht. = 5.9 cm; D. Base = 21 cm.
- D838.** (C2663, SK CC3.4) Deposit 70.  
Rim fr. D. = c. 20 cm.  
Creamy grey local fabric 5. Cream wash interior and exterior.
- D839.** (C2072, SK L44.3) Deposit 73.  
Complete profile. Int. D. = 12.8 cm; Ht. = 4.8 cm.  
Purplish red local fabric 5.
- D840.** (C452, SK H6.9) Deposit 62.  
Rim and body fr. D. = 14 cm.  
Brown local fabric 5.
- D841.** (C2728, SK X55.1) Deposit 61.  
Rim fr. D. = 25 cm.  
Greyish buff fabric (10YR 6/2).  
No visible inclusions. Possibly imported.
- D842.** (C1059, SK D1/4.13) Deposit 53.  
Rim fr. D. = uncertain.  
Local fabric 1.
- D843.** (C1027, SK H6.9) Deposit 62.  
Rim fr. D. = uncertain.  
Local fabric 1.

## COARSE POTTERY

---

- D844.** (C1063, SK D1/4.13) Deposit 53.  
Rim fr. D. = *c.* 20 cm.  
Local fabric 1.
- D845.** (C2090, SK X56.2) Deposit 59.  
Rim fr. D. = *c.* 27 cm.  
Orange to buff local fabric 5.
- D846.** (C1044, SK H6.9) Deposit 62.  
Rim fr. D. = *c.* 17 cm.  
Orange brown to grey local fabric 5.
- D847.** (C1020, SK P49.8) Deposit 79.  
Rim fr. D. = uncertain.  
Local fabric 1.
- D848.** (C1042, SK H6.9) Deposit 62.  
Rim fr. D. = *c.* 28 cm.  
Orange brown local fabric 5.
- D849.** (C2798, SK D1/4.13) Deposit 53.  
Rim fr. D. = 23 cm.  
Greyish buff local fabric 5.
- D850.** (C1026, SK P10.6a) Deposit 80.  
Rim fr. D. = uncertain.  
Local fabric 1.
- D851.** (C2831, SK T13.2) Deposit 69.  
Complete profile. D. = 4.4 cm; Ht. = 5.2 cm; D. Base = 2.4 cm.  
Buff fabric (7.5YR 6/4–6/6) containing occasional white and black grits. Thin, patchy red slip inside rim and over upper part of body. Compare the shape with an example from a third century B.C. context in Spain, although No. **851** is probably not related (Almagro 1953, 396, 17).
- D852.** (C1285, SK X48.2) Deposit 58.  
Base. D. Base = 5.8 cm.  
Fairly hard, grey fabric (7.5 YR 4/0) containing occasional white grits.
- D853.** (C1022, SK X48.2) Deposit 58.  
Rim fr. D. = *c.* 20 cm.  
Local fabric 1.
- D854.** (C2567, SK R24.28) Deposit 48.  
Body and handle fr. Buff to orange local fabric 5.
- D855.** (C648, SK R24.28) Deposit 48.  
Rim, body and base fr. D. = 10.3 cm; Ht. = 4.4 cm; D. Base = 3.8 cm.

- Dark grey fabric containing white grits. Probably local fabric 4.  
Compare Ostia iii, Tav. 44, No. 352 (early second century A.D.). This may be a later variant of H. Plain 3.
- D856.** (C2067, SK K1.5) Miscellaneous deposit; the fine pottery was not studied but 53 associated coarse pottery RBH were not later than Hellenistic with the exception of one ER Plain 1 rim.  
Rim and body fr. D. = 10 cm.  
Similar form and fabric to No. 855. This is probably a general late Hellenistic to Early Roman form.
- D857.** (C2641, SK P8.9) Miscellaneous deposit.  
Rim fr. D. = 12.0 cm.  
Compact grey fabric (2.5Y 5/0) containing occasional white grits. Thin, shiny grey slip on the interior. This is a late Hellenistic to Early Roman form current in the eastern Mediterranean (see for example Robinson 1959, F26) This is the typical Knidian fabric (P. Kenrick, personal communication).
- D858.** (C1051, SK J45.9) Deposit 51.  
Rim fr. D. = uncertain  
Local fabric 1.
- D859.** (C2087, SK X48.2) Deposit 58.  
Rim fr. D. = c. 40 cm.  
Local fabric 5.
- D860.** (C223b, SK P10.6a) Deposit 80.  
Rim fr. D. = uncertain.  
Local fabric 1.
- D861.** (C1055, SK D1/4.13) Deposit 53.  
Base. D. Base = 7.1 cm.  
Orange local fabric 5.
- D862.** (C656, SK X32.7) Deposit 61.  
Rim fr. D. = c. 44 cm.  
Local fabric 1.
- D863.** (C1268, SK X48.2) Deposit 58.  
Base fr. D. = uncertain.  
Local fabric 1.
- D864.** (C412, SK L24.5) Deposit 72.  
Rim fr. D. = c. 40 cm.  
Highly micaceous buff fabric (7.5YR 6/6) containing occasional white grits. Not local.
- D865.** (C2720, SK W64.11) Miscellaneous deposit.  
Rim and lug fr. D. = 31 cm.



## COARSE POTTERY

---

Fairly micaceous dark grey to dark brown fabric containing white lumps and shining grits. Burnt on the outside and burnished on the interior. The fabric is similar to the Pompeian Red Ware. Horizontally applied strip of clay below rim to form lug.

**D866.** (C2752, SK J6.44) Deposit 168.3.

Rim fr. D. = 38 cm.

Gritty reddish brown fabric (2.5YR 4/6) containing mica and white grits. Thin, reddish wash interior. This may be a variety of Pompeian red ware. See Dyson 1976, 69, 'Flat Bottomed Pan' Class 2, which is current in Italy in the first half of the first century B.C.; see also *ibid.* 147 'Flat Bottomed Pan' Class 25 which is probably first century A.D. but which has no internal slip.

**D867.** (C2704, SK R31.11) Deposit 76.

Rim fr. D. = uncertain.

Gritty orange brown fabric (2.5YR 4/6) containing gold specks and white grits. Similar to No. **866**. No internal slip.

**D868.** (C2657, SK R35.8) Miscellaneous deposit.

Rim and body fr. D. = 31 cm.

Orange fabric fired grey at the edges containing mica and white grits. Not local. Compare Dyson 1976, 69, 'Flat Bottomed Pan Class 10' series of the early first century B.C. It is uncertain how late this type continues., but does not seem to occur after the third quarter of the first century B.C. at Cosa. No. **868** may be Hellenistic rather than Early Roman.

**D869.** (C2732, SK F18.10) Miscellaneous deposit.

Rim fr. D. = 30 cm.

Micaceous brown fabric (2.5YR 4/6) containing white and pale grey grits. The fabric is as imported cooking fabric 3.

## MID ROMAN PLAIN WARE 1

### (*Steep Sided Bowl*)

The form is a steep, straight sided bowl with a flat base and everted, generally horizontal rim. Occasionally there are raised relief circles on the underside of the base. There is a wide variety of rim forms but these were not, as far as could be determined, of chronological significance. A similar range occurred at Tocra (Riley in press 1, Nos. 26–34). The average rim diameter is between 35–40 cm.

The type occurs in the Aegean in general mid Roman contexts, and the Cyrenaican examples seem to be of this tradition. An early prototype (possibly connected with H. Plain 1, occurs in a Claudian level at Knossos (Hayes 1971, fig. 16, No. 39). The form proper, however, seems better placed in the second and third centuries A.D., for example at Athens (Robinson 1959, G187—dated by Robinson to the first or early second centuries A.D. but the level is chronologically unreliable: see Lapp 1961, 85 on this point; Robinson 1959, K80 of the mid third century A.D.), Knossos (in second and third century A.D. levels in the Villa of Dionysus excavations; Hayes personal communication), Paphos (in Hadrianic contexts; Hayes, personal communication) and Sabratha (where it ranges from the second

half of the second century A.D. to the second half of the fourth, Kenyon, personal communication). The form occurs throughout Cyrenaica, including Cyrene and Zuwaytinah (unpublished). In addition to the examples from Tocra presented in Riley in press 1, other published examples from that site are to be found in Wright (1963, Fig. 3; with a horizontal handle at mid body—such handles were very uncommon at Berenice on this form) and Burton-Brown (1948, 151, No. 58/47).

Only two examples occurred in later first century A.D. deposits, one from the Flavian Deposit 69 (which may be intrusive), and No. 870 from Deposit 59 which may be imported. Otherwise, the form first occurs in the early second century A.D. deposits (where it comprises about 2.0 per cent of the total coarse pottery RBH). From the mid second to the mid third centuries it is common (over 9 per cent). It seems likely that the form continued into the Late Roman period where it comprised 2 to 5 per cent, but it is never as frequent as in the second and third centuries. Those in the Late Roman contexts tend to be plainer and the variety of rim shapes does not seem to be as wide as in the Mid Roman period. The form is not a good chronological indicator except that it post-dates the first century A.D. At Berenice the fabric is normally the local fabric 5, and at Tocra the local fabric 2.

Imported examples occur but these are very rare. One possible imported piece is No. 870 which occurs in a deposit of the third quarter of the first century A.D.

#### MID ROMAN PLAIN WARE 1a

The form is similar to type 1 but the fabric is the Benghazi local fabric 1 (as Nos. 871–2, 887–8). There is a wide range of rims but the form is not to be confused with MR Plain 2 below with its distinctive rim shape. Type 1a has a different quantitative distribution to type 1. It first occurs in the late first century A.D. deposits (Deposit 61 and 63) but is not frequent until the early second century (when it comprises *c.* 2.5 per cent of the total coarse pottery RBH). It drops to 0.5–0.8 per cent in the later second and the third centuries A.D.

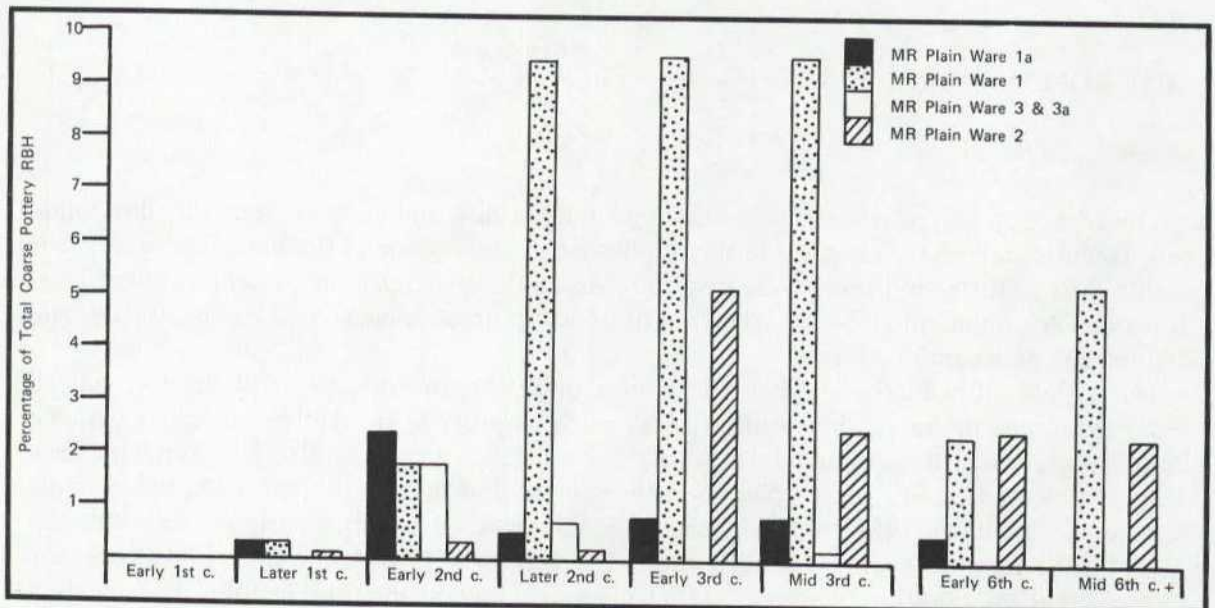


Fig. 62. Histogram to Show Relative Proportions of MR Plain Wares 1, 2, 3, at Berenice.

## COARSE POTTERY

---

### CATALOGUE

(figs. 124, 125)

- D870.** (C1265, SK X56.2) Deposit 59.  
Rim fr. D. = *c.* 35 cm.  
Fairly compact orange brown fabric (5YR 5/6) containing white grits and red specks.  
Probably not local.
- D871.** (C223a, SK P49.8) Deposit 79.  
Rim fr. of type 1a. D. = uncertain.  
Local fabric 1.
- D872.** (C102a, SK P49.8) Deposit 79.  
Rim fr. of type 1a. D. = uncertain.  
Local fabric 1.
- D873.** (C441, SK P49.8) Deposit 79.  
Rim fr. D. = *c.* 40 cm.  
Hard, grey to orange local fabric 5.
- D874.** (C102, SK J31.14) Deposit 101.  
Complete profile. D. = 28.4 cm; Ht. = 9.5 cm; D. Base = 18.4 cm.  
Orange brown local fabric 5 fired greenish cream at the edges.
- D875.** (C1077, SK B4.19) Deposit 105.  
Rim, body and base fr. D. = *c.* 38 cm.  
Greenish grey local fabric 5. Greenish cream wash exterior.
- D876.** (C9, SK H Cistern) Deposit 82.  
Rim, body and base fr. D. = 28.8 cm; Ht. = 9.0 cm; D. Base = 14.4 cm.  
Orange brown local fabric 5. Greenish cream wash exterior.
- D877.** (C268, SK L55.4) Deposit 103.  
Rim fr. D. = *c.* 38 cm.  
Pale orange local fabric 5. Traces of cream wash exterior.
- D878.** (C1096, SK BB5.1) Miscellaneous deposit.  
Complete profile. D. = 31 cm; Ht. = 9.8 cm; D. Base = 18.4 cm.  
Light brown local fabric 5.
- D879.** (C1073, SK B4.20) Deposit 105.  
Rim, body and base fr. D. = *c.* 26 cm; Ht. = 9.1 cm.  
Reddish grey local fabric 5. Greenish cream wash exterior and interior.
- D880.** (C203, SK J31.14) Deposit 101.  
Rim fr. D. = 15 cm.  
Orange brown local fabric 4.

- D881.** (C1068, SK B4.20) Deposit 105.  
Rim fr. D. = *c.* 28 cm.  
Cream local fabric 5.
- D882.** (C1067, SK B4.13e) Deposit 105.  
Rim fr. D. = *c.* 28 cm.  
Local fabric 1/2. Cream wash exterior and over rim.
- D883.** (C1072, SK J31.14) Deposit 101.  
Rim fr. D. = *c.* 30 cm.  
Brown to grey local fabric 5.
- D884.** (C104, SK H2.11) Deposit 84.  
Rim, body and base fr. D. = 53 cm; Ht. = 16.6 cm.  
Pale brown local fabric 5. Pinkish cream wash exterior and interior.
- D885.** (C104d, SK H1.14) Deposit 85.  
Rim fr. D. = 33 cm.  
Pale, brownish red local fabric 5. Thin cream wash exterior.
- D886.** (C326, SK H1.2) Deposit 84.  
Rim and body fr. D. = *c.* 38 cm.  
Grey to cream local fabric 5.
- D887.** (C236, SK P5.5) Deposit 81.  
Rim fr. of type 1a. D. = 28 cm.  
Local fabric 1.
- D888.** (C226, SK P5.4) Deposit 81.  
Rim fr. of type 1a. D. = *c.* 40 cm.  
Local fabric 1.
- D889.** (C1085, SK B4.20) Deposit 105.  
Rim fr. D. = *c.* 38 cm.  
Pinkish cream local fabric 5.  
Creamish wash exterior.
- D890.** (C475, SK H1.14) Deposit 85.  
Rim fr. D. = *c.* 36 cm.  
Pale green fabric (5Y 7/4) with no visible inclusions. Probably local fabric 5.
- D891.** (C474, SK H1.14) Deposit 85.  
Rim fr. D. = 32 cm.  
Pale brown local fabric 5.
- D892.** (C1081, SK B4.20) Deposit 105.  
Rim fr. D. = *c.* 28 cm.

## COARSE POTTERY

---

Light grey local fabric 5.

Creamish wash exterior and interior. This may belong to type 1b.

**D893.** (C1078, SK B4.19) Deposit 105.

Rim fr. D. = *c.* 29 cm.

Pale brown local fabric 5.

**D894.** (C1070, SK J31.14) Deposit 101.

Rim fr. D. = *c.* 25 cm.

Buff-brown local fabric 5, fired creamish green at the edges.

**D895.** (C473, SK B4.20) Deposit 105.

Rim fr. D. = *c.* 28 cm.

Pale orange local fabric 5. This may belong to type 1b.

**D896.** (C1069, SK P5.3) Deposit 81.

Rim fr. D. = *c.* 32 cm.

Dark brown local fabric 5.

**D897.** (C2673, SK B4.7) Miscellaneous deposit.

Complete profile. D. = 23 cm; Ht. = 4.2 cm; D. Base = 15 cm.

Cream local fabric 6.

### MID ROMAN PLAIN WARE 1b

The form is similar to type 1 except that the walls are longer. The rim tends to be everted and straighter than that of type 1. The base is flat and there are sometimes two horizontal, crude handles at mid body. In sherd form it is not always possible to distinguish these buckets from the basin type 1 and in the quantification tables types 1 and 1b are combined. This form was used as a bee hive form at least the fourth century B.C. in the Aegean and such examples have incised, vertical lines on the interior, thought to make the honey combs stick better to the interior (see Jones, Sackett & Graham 1973). No examples with incised lines on the interior occurred at Berenice or elsewhere in Cyrenaica, but this may not necessarily rule out such a use. Similar buckets with this combing occurred in sixth century A.D. contexts at Knossos (Frend & Johnston 1972, 227, fig. 18, No. 81) which suggests that the tradition continued through the Roman period. Similar buckets are used as bee hives in Malta and the Aegean in modern times (see Jones 1976 for discussion).

The form seems to have been widespread throughout the Mediterranean, occurring at Kythera (Coldstream & Huxley 1972, pl. 47, 5; from a third century A.D. context), Tarsus (Jones 1950, pl. 161, No. 784; second to third centuries A.D.), Carthage (one fr. from the Michigan excavations; unpublished), Sabratha (one example on display in the museum; unpublished) and also in Spain (in the third and fourth centuries A.D.; see Vegas 1973, type 12).

The type was noted at Tolmeita (museum, unpublished) and may have been present at Tocra but owing to the fragmentary condition of the sherds this could not be confirmed.

## CATALOGUE

(fig. 125)

**D898.** (C207, SK P5.3) Deposit 81.

Rim fr. D. = c. 26 cm.

Orange-red local fabric 4.

**D899.** (C1084, SK P5.3) Deposit 81.

Rim fr. D. = uncertain.

Grey to red brown local fabric 1.

**D900.** (C97, SK P5.5) Deposit 81.

Rim, body and lug fr. D. = 23.4 cm.

Pale, reddish grey local fabric 5.

**D901.** (SK L55.4) Deposit 103.

Rim, body and base fr. D. = 28.4 cm; Ht. = 26.5 cm; D. Base = 15 cm.

Orange, local fabric 5.

**D902.** (C99, SK P5.3) Deposit 81.

Base and lug fr. D. Base = 13.6 cm.

Red local fabric 4/5.

## MID ROMAN PLAIN WARE 1c

The form is similar to type 1. There is generally a ridge on the inside edge of the rim, which may be notched. There is a groove (often wavy) on the outer face of the rim and the outermost tip of the rim is notched. There is sometimes a wavy groove on the top of the rim.

The earliest example at Berenice is from Deposit 80 (No. **829**) of the first half of the second century A.D. The form is never common and has not been noted elsewhere in Cyrenaica. The form appears in late second to early third century A.D. levels at Knossos (Hayes, personal communication) and occurs at Paphos (*ibid.*).

## CATALOGUE

(fig. 126)

**D903.** (C95, SK B4.20) Deposit 105.

Rim fr. D. = c. 38 cm.

Pale brown local fabric 5. Pale creamish green wash on the exterior and the interior.

## MID ROMAN PLAIN WARE 2

The body form is similar to that of type 1, but the rim is slightly concave on top and invariably has a distinctive bulge on its inner edge. The fabric is always the local fabric 1. The form only occurs at Berenice, in this fabric but one example from Tocra (Riley in press 1, No. 34) is of the Tocra local fabric 2.

## COARSE POTTERY

---

There is a unique rim fr. in the Hellenistic Deposit 4 and one in the later first century A.D. Deposit 58. It is most frequent in the early second century A.D. (1.8 per cent of the total coarse pottery RBH) and declines after the middle of the century. It follows a similar pattern to MR Plain ware type 1a which is also of local fabric 1 (see fig. 62).

### CATALOGUE

(fig. 126)

**D904.** (C650, SK L44.3) Deposit 73.

Rim, body and base fr. D. = 26.4 cm; Ht. = 9.2 cm; D. Base = 15.6 cm.

Local fabric 1.

**D905.** (C225a, SK P10.6a) Deposit 80.

Rim fr. D. = uncertain.

Local fabric 1.

**D906.** (C223, SK P5.5) Deposit 81.

Rim fr. D. = c. 32 cm.

Local fabric 1.

**D907.** (C225, SK P5.5) Deposit 81.

Rim fr. D. = c. 34 cm.

Local fabric 1.

**D908.** (C224, SK P5.5) Deposit 81.

Rim fr. D. = c. 30 cm.

Local fabric 1.

**D909.** (C1066, SK P5.4) Deposit 81.

Rim fr. D. = c. 32 cm.

Local fabric 1.

**D910.** (C129, SK P5.5) Deposit 81.

Rim fr. D. = c. 35.8 cm.

Local fabric 1.

### MID ROMAN PLAIN WARE 3

(*'Hammer-headed' Bowls*)

The form is similar to type 1 except that the rim is 'hammer-headed'. There are several rim types which divide broadly into widely overhanging rims (as Nos. 911–21) and more knobbed rims (as 922–8). There seemed to be no chronological significance for these variations. The type first occurs in the late first century A.D. Deposits 63 and 70 but these are isolated occurrences. It is present throughout the second century A.D. but comprises only about 0.2 per cent of the total coarse pottery RBH. This proportion increases in the early third century

A.D. to over 5 per cent (fig. 62) and drops to *c.* 2.5 per cent by the middle of the century. The type may continue into the Late Roman period (where it comprises 2.5 per cent of the RBH). The form in the Late Roman period has a shorter, sloping rim, which is straight and more angular than those of the Mid Roman period (see Nos. 1025–9). These are general characteristics, however, and the variety of rim forms illustrates a blurring between these broad groups.

While the form is common at Berenice, it is rare at Tocra where it comprised only 0.1 per cent of the pottery RBH from the kiln site excavations (Riley in press 1, 35–7). It has not been noted elsewhere in Cyrenaica and does not appear in published collections of pottery from the eastern Mediterranean. It seems likely therefore, that this form is a local type, created by the pottery industry at Berenice.

#### MID ROMAN PLAIN WARE 3a

The form is as type 3 but of local fabric 1. It was very uncommon.

#### CATALOGUE

(figs. 126, 127)

**D911.** (C126, SK J31.14) Deposit 101.

Rim and body fr. Int. D. = 27.4 cm.

Pale grey local fabric 6 with pale green wash on the exterior.

**D912.** (C1090, SK J31.14) Deposit 101.

Rim fr. D. = uncertain.

Red brown local fabric 5.

**D913.** (C1091, SK J31.14) Deposit 101.

Rim fr. D. = uncertain.

Creamish grey local fabric 5.

**D914.** (C1095, SK B5.7) Deposit 107.

Rim, body, lug and base fr. D. = 39 cm; Ht. = 13 cm.

Buff to brown local fabric 5.

**D915.** (C1083, SK B4.19) Deposit 105.

Rim and lug fr. D. = *c.* 38 cm.

Buff to brown local fabric 5.

**D916.** (C266, SK L55.4) Deposit 103.

Rim and lug fr. D. = *c.* 36 cm.

Cream local fabric 6.

**D917.** (C266a, SK H1.14) Deposit 85.

Rim fr. D. = uncertain.

Pale brown local fabric 5.



## COARSE POTTERY

---

- D918.** (C1071, SK B4.13e) Deposit 105.  
Rim fr. Int. D. = 27 cm.  
Red brown local fabric 5. Creamish wash over the rim.
- D919.** (C126e, SK J11.2) Miscellaneous deposit; for associated finds see No. 627.  
Rim fr. D. = uncertain.  
Pale brown local fabric 5.
- D920.** (C876, SK F27.1) Deposit 142.  
Rim fr. D. = 32.6 cm.  
Greyish buff local fabric 5. Creamish wash exterior and interior.
- D921.** (C920, SK G17.12) Deposit 143.  
Rim fr. D. = c. 38 cm.  
Local fabric 2.
- D922.** (C327, SK H2.11) Deposit 84.  
Rim fr. D. = c. 38 cm.  
Local fabric 1.
- D923.** (C336, SK H1.2) Deposit 84.  
Rim fr. D. = c. 42 cm.  
Pale brown local fabric 5.
- D924.** (C2687, SK R31.11) Deposit 76.  
Rim fr. D. = c. 35 cm.  
Local fabric 1.
- D925.** (C242, SK P5.5) Deposit 81.  
Rim fr. D. = c. 40 cm.  
Local fabric 1.
- D926.** (C1286, SK R113.2) Deposit 89.  
Rim fr. D. = c. 35 cm.  
Local fabric 3.
- D927.** (C343, SK H1.14) Deposit 85.  
Rim fr. D. = c. 26 cm.  
Orange red local fabric 4. Creamish wash exterior.
- D928.** (C2509, SK H22.2) Deposit 82.  
Rim and body fr. D. = c. 37 cm.  
Local fabric 1. Creamish wash interior and exterior.

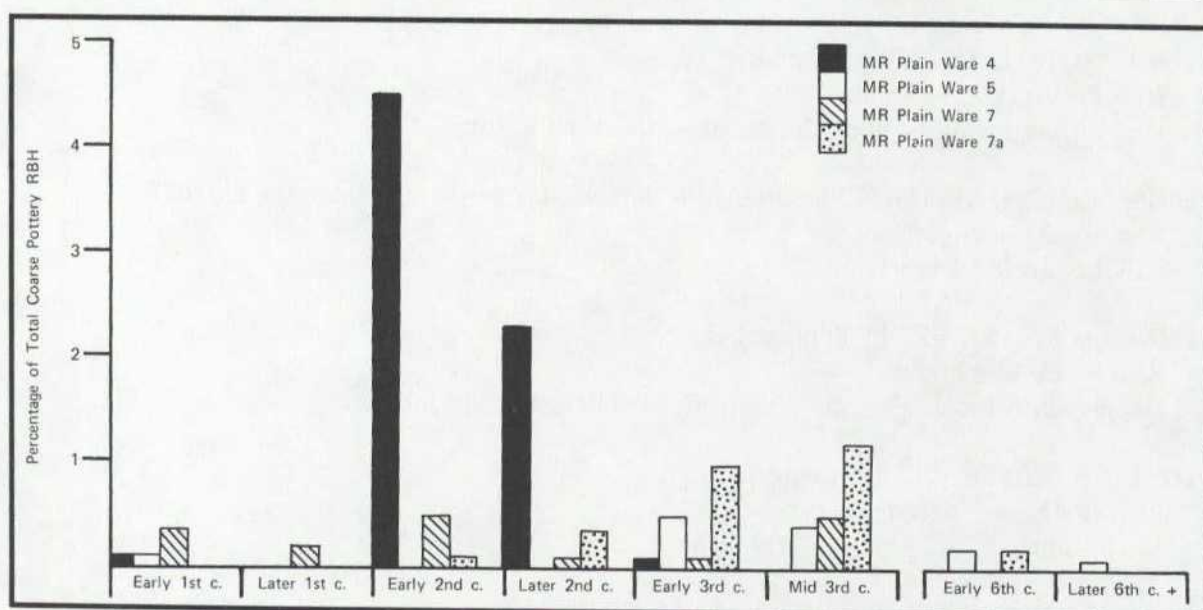


Fig. 63. Histogram to Show Relative Proportions of MR Plain Wares 4, 5, 7 at Berenice.

#### MID ROMAN PLAIN WARE 4

The form has a curved body, thickened rim with a deep groove on the top. The clay is invariably of Benghazi local fabric 1 and has only been noted at Berenice. One isolated example occurred from the first century A.D. Deposit 44 and one from the contaminated Deposit 69. Apart from these two possible intrusive pieces, the earliest occurrence of the type is in the early second century A.D. levels where it comprises 4.5 per cent of the total coarse pottery RBH. The proportion drops to just over 2 per cent by the late second century A.D. and is negligible in the third century A.D. The form seems to belong predominantly in the second century A.D. No parallels for the form have been noted elsewhere.

#### CATALOGUE

(fig. 127)

**D929.** (C234a, SK H6.9) Deposit 62.

Rim fr. D. = c. 28 cm.

Local fabric 1.

**D930.** (C227, SK P5.5) Deposit 81.

Rim fr. D. = c. 28 cm.

Local fabric 1.

**D931.** (C234, SK P5.5) Deposit 81.

Rim fr. D. = c. 25 cm.

Local fabric 1.

## COARSE POTTERY

---

- D932.** (C1065, SK P5.3) Deposit 81.  
Rim fr. D. = *c.* 25 cm.  
Local fabric 1.
- D933.** (C2089, SK L30.3) Deposit 73.  
Rim fr. D. = *c.* 16 cm.  
Local fabric 1.
- D934.** (C657, SK L32.9) Miscellaneous deposit.  
Rim fr. D. = 24 cm.  
Local fabric 1.
- D935.** (C2680, SK L50.4) Miscellaneous deposit.  
Rim and body fr. D. = *c.* 31 cm.  
Local fabric 1.
- D936.** (C660, SK R24.6) Miscellaneous deposit.  
Rim and body fr. D. = *c.* 26 cm.  
Local fabric 1.

### MID ROMAN PLAIN WARE 5

The form has a curved, hunched body with a thickened rolled rim and it first appears in Deposit 55 (mid first century A.D.). With this exception the form is only found after the first century A.D. It occurs in the second and third century A.D. deposits but is never frequent (comprising *c.* 0.5 per cent of the total coarse pottery RBH) (fig. 63). There are survivals to the sixth century A.D. There is a possible related rim from the Tocra kiln site (Riley in press 1, Nos. 50–1). The shape occurs at Carthage in the first century A.D. (although not the same fabric; see Hayes 1976, 100, Early Roman Buff Bowl type 1).

### CATALOGUE

(fig. 127)

- D937.** (C2519, SK H22.2/3) Deposit 82.  
Rim and body fr. D. = *c.* 26 cm.  
Hard fired local fabric 1 fired a dirty cream colour at the edges.
- D938.** (C469, SK L55.4) Deposit 103.  
Rim fr. D. = 20 cm.  
Reddish brown local fabric 5. Cream wash exterior and interior.
- D939.** (C2804, SK R39.7) Deposit 125.  
Rim and body fr. Int. D. = 19 cm.  
Buff local fabric 5 fired orange-red at the edges. Creamish wash interior and exterior.
- D940.** (C1253, SK L55.4) Deposit 103.  
Rim fr. D. = *c.* 24 cm.  
Orange brown local fabric 5. Creamish wash exterior and interior.

## MID ROMAN PLAIN WARE 6

The form has a curved body. The rim is thickened and rounded with a distinctive concave depression on the inside. The fabric is either local fabric 4 or 5. The type was rare at Berenice but seems to be of general second or third century A.D. date (one example occurred in Deposits 73, 81 and 85). No parallels were noted from the eastern Mediterranean and, although the form at Berenice is local, the influence seems to be firmly western. The earliest parallel is from the Flavian deposits at Ostia where one example occurred. It was well attested by the first half of the second century (Ostia iii, No. 415). The form was common at Sabratha where it is of the early second to the second half of the fourth centuries A.D. (Kenyon, personal communication). It also occurred at Ventimiglia in the second century A.D. (Lamboglia 1950, fig. 8, No. 34). It was not present in the Michigan excavations at Carthage although a related form does occur in ARS ware in Tunisia (Hayes 1972, Form 183-4; with a suggested date of second to third centuries A.D.). The type was not noted elsewhere in Cyrenaica.

## CATALOGUE

(fig. 127)

- D941.** (C220, SK P5.5) Deposit 81.  
Rim and body fr. D. = 24 cm.  
Red-orange local fabric 4.
- D942.** (C2667, SK L32.2) Deposit 73.  
Rim and body fr. D. = 26.5 cm.  
Grey to rust local fabric 5.

## MID ROMAN PLAIN WARE 7

This category comprises flat based dishes which are of the hard, gritty, imported cooking ware 1. There is a thin, pale red slip on the interior which is lighter than that of Pompeian Red Ware. The fabric appears similar to Pompeian Red Ware by eye but thin sectioning suggests that it may not necessarily be so. Thin sectioning of one sample (Inv. No. C241; similar form to No. 948 but not illustrated) revealed sanidine feldspar and volcanic rock, but no augite. In this respect it was similar to the clay of the frying pan with a Greek raised relief signature on the underside (No. 477, see above). Augite regularly occurs in Pompeian Red Ware (Peacock, 1977c, 149, fabric 1). Possible further evidence that there may be no direct connection between type 7 and Pompeian Red Ware is that Pompeian Red Ware becomes thinner, more elegant and of a better quality fabric by the early second century A.D. (see Hayes 1973, 458-9), whereas type 7 dishes are fairly crude and heavy and are predominantly of the second and third centuries A.D. Two possible related examples from Cyprus with raised Greek signatures on the underside (Calvet 1972, pl. VI, Nos. 174-5; these may not have the red slip, however: this and the context are not specified) may support an eastern rather than a western origin.

The type was subdivided on the basis of the rim shape into MR Plain Ware 7a (Nos. 943, 947, 948) and MR Plain Ware 7b (Nos. 944-6). Other miscellaneous shapes which occurred in the same fabric were grouped in the general category MR Plain ware 7 (Nos. 949-53). The form first appears in the early first century A.D. Deposit 53 (these were four bases and they

## COARSE POTTERY

---

may have been confused with Pompeian Red Ware). It occurs in the later first century A.D. deposits. The commonest period for miscellaneous rims of MR Plain 7 is the early second century A.D. when the proportion (fig. 63) is higher than that of MR Plain 7a. By the middle of the second century A.D. the position is reversed and MR Plain Ware 7a is commoner than 7. Dishes of this fabric were not particularly regular in the Cyrenaican store rooms.

### MID ROMAN PLAIN WARE 7a

The rim form is wide and everted, often, but not always, with a ridge on the inside edge (as No. 943). The walls are straight and short and the base is flat. The form first occurs in the second half of the first century A.D. Deposit 69 and is present in the early second century A.D. Deposit 73. It becomes more regular after the mid second century A.D. when it comprises 0.7 per cent of the total coarse pottery RBH in Deposit 81, and in the third century A.D. deposits increases to over 1 per cent. The fragments in the second and third century A.D. deposits were large and several complete profiles (e.g. 15 fr weighing 2670 gr from Deposit 105) attest their contemporaneity with those deposits.

The form has a wide distribution, occurring in a third century A.D. context at Ostia (Ostia i, Tav. 19, No. 400; type H; it does not seem to have been at all common as there were only 6 rims from 10958 sherds), and may be the type referred to by Ritterling (1912, 337) in third century A.D. contexts in the Rhineland. The form occurs at Athens in second to third century A.D. contexts (Robinson 1959, K89, J22. The latter has a strip of clay attached to the top of the rim with a frilly decoration similar to that on No. 473 below).

### MID ROMAN PLAIN WARE 7b

This has a similar form to MR Plain Ware 7a except that the rim is shorter (as Nos. 944-6). It is rare at all periods. The form first occurs in the later first century A.D. (Deposit 61; one rim) and then in the later second and third century A.D. The date range is therefore similar to that of type 7a. For a possible related example with raised relief Greek signatures see Calvet 1972, pl. VI, Nos. 174-5.

### CATALOGUE

(figs. 127, 128)

#### D943. (C125, SK B4.20) Deposit 105.

Rim, body and base fr. of type 7a. D. = 40 cm; Ht. = 7.6 cm; D. Base = 26.8 cm.

Imported fabric 'A' with a thin red slip on the interior.

#### D944. (C296, SK B6W.3) Miscellaneous deposit; 17 sherds of associated fine pottery range from Hellenistic to Late Roman in date.

Rim and body fr. of type 7b. D. = 27 cm.

Imported fabric 'A' with an orangey-red thin slip on the interior.

#### D945. (C103, SK P5.3) Deposit 81.

Complete profile of type 7b. D. = 24 cm; Ht. = 4.2 cm.

Imported fabric 'A' with thin dull red slip on the interior.

- D946.** (C240, SK P5.4) Deposit 81.  
Rim and body fr. of type 7b. D. = 28 cm; Ht. = 4.6 cm.  
Imported fabric 'A' with thin red slip on the interior.
- D947.** (C92, SK B4.13e) Deposit 105.  
Complete profile. of type 7a. D. = 27 cm; Ht. = 5.9 cm.  
Imported fabric 'A' with a dull orange red slip on the interior.
- D948.** (C93, SK B4.13e) Deposit 105.  
Complete profile of type 7a. D. = 31 cm; Ht. = 6.8 cm.  
Imported fabric 'A'. Thin orangey-red slip interior.

## MISCELLANEOUS MID ROMAN PLAIN WARE 7

(fig. 128)

- D949.** (C2086, SK B4.13a) Deposit 105.  
Rim fr. D. = c. 36 cm.  
Imported fabric 'A'. Traces of thin, dull red slip on the interior. 'Stepped' top of rim.
- D950.** (C476, SK B4.20) Deposit 105.  
Rim fr. D. = c. 36 cm.  
Imported fabric 'A'. 'Stepped' top of rim.
- D951.** (C2738, SK J46.1) Miscellaneous deposit.  
Rim, lug and body fr. D. = 26 cm; Ht. = 5.6 cm.  
Grey imported fabric 'A'. Horizontal lug attached to the outside of the rim with four indentations where it has been pressed into the rim.
- D952.** (C2076, SK L29.2) Deposit 73.  
Rim fr. D. = uncertain.  
Imported fabric 'A'.
- D953.** (C2656, SK X2.1) Miscellaneous deposit.  
Rim and body fr. D. = c. 30 cm.  
Light brown imported fabric 'A'. Thin, flakey, red slip interior.
- D954.** (C2639, SK L29.3) Deposit 73.  
Rim, body and base fr. D. = 25 cm; Ht. = 4.8 cm.  
Coarse imported fabric 'A'.

## MID ROMAN PLAIN WARE 8

The form has a fairly vertical rim, short, horizontal shoulders and a more or less vertical body. Both narrow and wide diameters are represented. The form is not common but has occurred in the second to third century A.D. Deposit 73, the mid third century A.D. Deposit 108, and the early sixth century A.D. Deposit 142. The fabric is local.

## CATALOGUE

(fig. 128)

**D995.** (C568, SK B1.2) Deposit 108.

Rim and body fr. D. = 8.3 cm.

Pale brown local fabric 5. Cream wash exterior and interior.

**D956.** (C644, SK L34.3) Deposit 73.

Rim fr. D. = 10 cm.

Local fabric 1.

**D957.** (C903, SK F30.1) Deposit 142.

Rim fr. D. = uncertain.

Buff local fabric 5.

**D958.** (C900, SK F30.1) Deposit 142.

Rim fr. D. = uncertain.

Buff local fabric 5.

## MID ROMAN PLAIN WARE 9

*(Pot Stands)*

The form is of cotton reel shape, mainly with a graffiti signature on the inside rim and is of local manufacture. There is a tradition of earlier pot stands (see H. Plain Ware 11) and a similar form appears in Early Roman contexts at Crete (Hayes 1971, 262, fig. 11, No. 53—dated Claudian or Augustan; also p. 271, RT No. 24 with graffiti), and Palestine (Lapp 1961, type 63; pre A.D. 70). M.R. Plain Ware 9 may have occurred in the Hellenistic period at Berenice (Nos. 959–60) but otherwise it is not attested in Cyrenaica earlier than the second century A.D.

There are clear associations of the form with kiln sites throughout the Mediterranean, which strongly suggests that they were used as kiln furniture. In the Hellenistic period, the general form was used at Athens as a support for Megarian bowls while in the kiln (Edwards 1956, 88–9, especially fig. 3 which illustrates their use). Apart from an example from an early Roman kiln site at Albinia in Italy (Peacock in press), other associations of the general shape with kiln sites include Jericho (Brown 1971, of the 'Roman' period; one example had vitrified clay on the side), Boutovo in Bulgaria (Sultov, personal communication, from a second to third century A.D. kiln complex) and Tocra (where it comprised c. 0.5 per cent of the total pottery). None of the Tocra nor Berenice examples showed signs of over-firing, burning, or other independent indication of use in pottery manufacture.

The form was used as far east as Dura Europos (Dyson 1968; before A.D. 256) and Ain Sinu (Oates & Oates 1959, 235, pl. 59, No. 104; in third century A.D. levels).

The type is never frequent at Berenice but several have graffiti signatures or initials on the rims. Such signatures occurred at Tocra (see Wright 1963, 31, fig. 3, far left, third from top; see also Riley in press 1. No. 40). Three undecorated fragments occurred in the pottery dump at Apollonia.

## CATALOGUE

(fig. 128)

- D959.** (C2642, SK R30.8) Miscellaneous deposit; 12 associated fine pottery sherds are all of Hellenistic date.  
Rim and body fr. D. = 12.5 cm; Ht. = 4.4 cm; D. Base = 10.6 cm.  
Local fabric 1. This example and No. 960 below which are both of Local fabric 1 may be early variants of the Mid Roman type which was invariably of local fabric 5.
- D960.** (C2645, SK R30.8) Miscellaneous deposit; see No. 959 for associated finds. Complete profile.  
D. = 12.6 cm; Ht. = 4.9 cm; D. Base = 11.0 cm.  
Local fabric 1.
- D961.** (C43, SK B1.4) Deposit 106.  
Rim fr. D. = uncertain.  
Orange brown local fabric 5.  
Graffito: [Z]ΩCIM[ : J. Reynolds suggests that this and No. 962 may be the name *Zosimos* or a compound such as *Zosimetros*.
- D962.** (C46, SK B4.23) Miscellaneous deposit.  
Rim fr. D. = 6.5 cm.  
Orange red local fabric 5. Graffito: ]EPNA[ (pl. XXXI).
- D963.** (C89, SK B4.20) Deposit 105.  
Complete profile. D. = 14 cm. Ht. = 5.1 cm; D. Base = 8.0 cm.  
Grey local fabric 5. Greenish cream wash exterior and interior. Graffito: ZΩCI[
- D964.** (C94, SK L55.4) Deposit 103.  
Complete profile. D. = 11.2 cm; Ht. = 3.5 cm; D. Base = 8 cm.  
Grey local fabric 6. Pale creamish green wash on the exterior.
- D965.** (C736, SK D12.1) Deposit 109.  
Complete profile. D. = 15.8 cm; Ht. = 5.2 cm. D. Base = 12.6 cm.  
Fairly firm, buff fabric (10YR 7/3) with occasional greyish particles. This may not be local.

## MID ROMAN PLAIN WARE 10

The form is a small, shallow, fairly delicate mortarium with a fairly wide, over-hanging rim. The rim is pinched to form a quasi-spout with three shallow grooves cut across it. This may have been decorative rather than functional. On the opposite side of the rim to this 'spout' are bored two small holes, probably for enabling the vessel to be suspended. No bases occurred at Berenice, but on the basis of parallels in Tunisia from the El Djem region (noted by the present writer in a souvenir shop near the amphitheatre in 1977) and Ain el Garci (there are three complete examples in the museum at Enfida), the base has a low foot. There are no grits on the interior. The rim occasionally has a painted decoration on top com-



## COARSE POTTERY

---

prising triangles made up of six spots of paint (as Nos. 967–8). One of the examples from Ain el Garci had a similar decoration. The clay is a distinctive softish cream to grey with a pale greenish wash on the interior and the exterior, and it is probably not local.

The form is rare at Benenice where it has occurred only in third century A.D. contexts. No other parallels were noted in Cyrenaica. Apart from the Tunisian examples, which are undated, the form occurs at Ostia in the third century A.D. levels (Ostia i, Taf. 20, 418a–b, Mortarium type B<sup>2</sup>; 37 fragments are *c.* 0.3 per cent of the total coarse pottery from the third century A.D. contexts). It is possible that the form may have originated in the western Mediterranean. Until more complete distribution maps can be compiled for the type, the origin remains uncertain.

### CATALOGUE

**D966.** (C128, SK L55.4) Deposit 103.

Rim and body fr. D. = 20.2 cm.

Soft fired grey to cream fabric with a pale green wash. This may not be local, but this has not been confirmed.

**D967.** (C128a, SK C1.4) Miscellaneous deposit.

Rim fr. D. = *c.* 21 cm.

Soft fired grey to cream fabric with creamish green wash exterior and interior.

Triangles made up of six spots of paint on the rim. The triangles are alternately green and red. The triangle motif occurred on one of the examples from Ain el Garci in Tunisia in brown paint.

**D968.** (C128b, SK D6.9) Miscellaneous deposit.

Rim fr. D. = *c.* 19 cm.

Pale pinkish, orange fabric fired green at the edges. Greenish cream slip exterior and interior. Decoration with a double row of a motif consisting of a spot of red paint surrounded by a circle of six dots.

### MID ROMAN PLAIN WARE 11

The form is a small bowl with an inturned, simple rim and very crude solid base. The form was rare at Berenice but occurred at Tocra, although in small quantities (*c.* 0.8 per cent of the total pottery from the kiln site). For the form see Riley in press 1, No. 41.

### MID ROMAN PLAIN WARE 12

This is a very heavy, low, flat dish. One fragment only occurred at Berenice (from Deposit 105), but it was present at Tocra where it comprised 0.1 per cent of the total pottery. The general form occurs in second century A.D. contexts in the Fezzan (Daniels 1968, 120 'platters'; these examples, are, however, hand-made, whereas those from Cyrenaica are wheel-made). For the form see Riley in press 1, No. 38.

## MISCELLANEOUS MID ROMAN PLAIN WARE.

## CATALOGUE

(figs. 129, 130)

- D969.** (C2790, SK B1.1) Deposit 108.  
Rim fr. D. = c. 49–50 cm.  
Diagonal gouged slashes interior and exterior. Crude local fabric 1.
- D970.** (C466, SK H2.11) Deposit 84.  
Body fr. Sherd with knobs of clay studded over it. The whole sherd has been attached to another sherd before firing. Buff local fabric 5. Creamish wash exterior.
- D971.** (C464, SK L42.8) Miscellaneous deposit.  
Rim fr. D. = c. 36 cm.  
Buff local fabric 5. Cream wash exterior.
- D972.** (C528, SK J41.14) Deposit 102.  
Body fr. Hollowed band on body above carination. This is filled by a chevron design in clay and bored holes. Below the carination are two of probably four holes placed equidistantly around the body. The top of the rim is curved and smoothed. The function of this vessel is not known. Brownish red local fabric 5.
- D973.** (C2535, SK H22.3) Deposit 82.  
Rim fr. D. = c. 45 cm. +  
Incised, wavy combing on the top of the rim. The decoration on the body consists of two rows of patches of horizontal grooves which are above a wavy band of combing. Coarse, flakey, local fabric 1.
- D974.** (C529, SK J46.3) Miscellaneous deposit.  
Base fr. D. = uncertain.  
Series of holes bored through the wall of the vessel. Buff to grey local fabric 5.
- D975.** (C2523, SK H22.2) Deposit 82.  
Rim fr. D. = c. 43 cm.  
Orange fabric with occasional red smudges. Not local. Decorated lug attached to the outside of the rim. There is a button of clay on the top of the lug.
- D976.** (C465, SK L55.4) Deposit 103.  
Rim fr. D. = uncertain.  
Pale, reddish brown local fabric 5. Cream wash exterior and interior. A grooved strip of clay tied into a knot is attached to the rim.
- D977.** (C981, SK V9.5) Miscellaneous deposit; most of the 20 + associated sherds of fine pottery are Hellenistic but they spread to the seventh century A.D.  
Two sherds of a broken vessel riveted together with lead (pl. XLII). Local fabric 4. The practice of repairing pottery with lead was ancient. Cato (*De Agri. C ult.* 29) recommends

## COARSE POTTERY

---

repairing dolia in this fashion. Most examples of riveting in the Mediterranean seem to be of the Hellenistic or Early Roman period. For such repairs see Thompson 1934, Figures 106, 107 E140 (from Athens), Jones 1950, Nos. 199 and 200 (from Tarsus, Zezi & Pohl 1970, 81, Figure 53, No. 44 (from Ostia), Dothan 1971, Figure 15, No. 10 (from Ashdod).

- D978.** (SK +) Surface find.  
Rim fr. of bowl with riveting in lead (pl. XLII).  
Orange brown local fabric 5. See No. 977 above for discussion.
- D979.** (C2614, SK AA1.13) Miscellaneous deposit; 13 associated fine ware sherds suggest a Flavian or later date (pl. XXXI).  
Base. D. Base = 9.3 cm.  
Buff fabric (5YR 7/6) containing white grits and a little mica. Stamp on side of the foot.  
Stamp: COV. It is possible that this could be a base of MR Ampora 1.
- D980.** (C24, SK H1.32) Miscellaneous deposit; associated fine pottery spreads thinly to the early third century A.D.  
Complete. D. = 4.5 cm; Ht. = 6.1 cm. D. Base = 3.8 cm.  
Cylindrical clay object of uncertain function. Several were found together in this deposit.  
Orange-red local fabric 4.
- D981.** (C116, SK B4.20) Deposit 105.  
Complete profile. D. = 9.2 cm; Ht. = 7.0 cm; D. Base = 3.9 cm.  
Reddish brown local fabric 4.
- D982.** (C1087, SK V17.2) Deposit 119.  
Complete profile. D. = 9.4 cm; Ht. = 5.9 cm; D. Base = 3.4 cm.  
Red brown fabric 4. This was inside a complete MR Cooking Ware 3a.
- D983.** (C2500, SK H22.2) Deposit 82.  
Complete profile. D. = 10.7 cm; Ht. = 4.0 cm; D. Base = 4.8 cm.  
Local fabric 2. The base is wider at the foot than the normal Plain Base 1.
- D984.** (C2501, SK H22.3) Deposit 82.  
Complete profile. D. = 11 cm; Ht. = 4.1 cm; D. Base = 4.3 cm.  
Red local fabric 5. Surface reduced grey over rim.
- D985.** (C2791, SK H1.9) Deposit 83.  
Rim fr. D. = c. 36.5 cm.  
Orange brown local fabric 5.
- D986.** (C2787, SK H1.3) Miscellaneous deposit; the associated fine ware was not studied but with the exception of one fr. of LR Plain Ware 1, all the 61 associated coarse pottery RBH were not necessarily later than the third century A.D.  
Rim fr. D. (Int.) = 18 cm.  
Hard, grey local fabric 4.

- D987.** (C472, SK P5.3) Deposit 81.  
Rim fr. D. = 18 cm.  
Local fabric 6. Greenish wash exterior and interior.
- D988.** (C2074, SK B5.7) Deposit 107.  
Rim fr. D. = c. 14 cm.  
Dark grey local fabric 4.
- D989.** (C285, SK B6W.3) Miscellaneous deposit; see No. **944** for associated finds.  
Rim fr. D. = c. 42 cm.  
Orange red local fabric 4. Frilled strip of clay applied to part of rim. This is part of the Hellenistic tradition of mortaria. See Dyson 1976 Figure 1, CF 4 for a similar example from a mid third to mid second century B.C. deposit. No. **989** may be a survival.
- D990.** (C329, SK H6.2) Deposit 84.  
Rim fr. Int. D. = 28 cm.  
Hard, local fabric 3. Creamish wash exterior and interior.
- D991.** (C217, SK P5.5) Deposit 81.  
Rim fr. D. = uncertain.  
Local fabric 1. Graffito on body: ]EIO[
- D992.** (C845, SK V5.4) Deposit 119.  
Rim fr. Int. D. = 26.4 cm.  
Buff local fabric 5. Cream wash exterior and interior.
- D993.** (C283, SK S5.12) Miscellaneous deposit; there is an associated coin of first to second century A.D. date and the two associated fine ware sherds range from Hellenistic to the third century A.D.  
Rim fr. Int. D. = 16 cm.  
Dark grey local fabric 4. Five deep grooves on the top of the rim and a spout under the rim. Compare the rim and the spout with that on a unique footed bowl from a third quarter of the first century A.D. context at the kiln site at Sutri, in Italy (Duncan 1964, Form 19). This may be evidence of Italian influence on the Berenice pottery industry. Such influence was, however, only on a minor scale and never generally adopted.
- D994.** (C340, SK H1.2) Deposit 84.  
Rim fr. D. = c. 30 cm.  
Local fabric 1. Horizontal strip of clay applied to body below the rim form as a lug.
- D995.** (C346, SK H1.14) Deposit 85.  
Rim fr. D. = 27 cm.  
Local fabric 1.
- D996.** (C348, SK H1.14) Deposit 85.  
Rim fr. D. = 32 cm.  
Pale brown local fabric 5. Cream wash exterior and interior.

## COARSE POTTERY

---

- D997.** (C316, SK H2.11) Deposit 84.  
Rim fr. D. = c. 24 cm.  
Local fabric 1.
- D998.** (C124, SK L55.4) Deposit 103.  
Rim fr. D. = 25 cm.  
Pale brown local fabric 5.
- D999.** (C812, SK B4.13a) Deposit 105.  
Rim and body fr. D. = 15 cm.  
Red-brown local fabric 5. Traces of cream wash exterior.
- D1000.** (C477, SK L55.4) Deposit 103.  
Rim fr. D. = 38 cm.  
Hard, orange local fabric 2.
- D1001.** (C96, SK B4.20) Deposit 105.  
Rim fr. D. = 30 cm.  
Pale red local fabric 5. Pale greenish wash exterior.
- D1002.** (C2093, SK B5.7) Deposit 107.  
Rim fr. D. = c. 31 cm.  
Pale red local fabric 5.
- D1003.** (C610, SK L50.5) Miscellaneous deposit.  
Body and base fr.  
Local fabric 6. The form probably belongs to an amphora stopper. These were first associated with amphoras in the first century B.C. in the west but are fairly common there until the Flavian period (Vegas 1973, Type 61). See also Pélichet 1946, Figure 13d. They are of second century A.D. date in Britain (Hull 1958, fig. 123, 389) and occur in the early third century A.D. shipwreck off Malta (Frost 1969, 14, fig. 5, No. 10).
- D1004.** (C637, SK L24.2) Deposit 73.  
Fr. D. = 3.8 cm.  
Local fabric 1. This is possibly part of a candlestick.
- D1005.** (C636, SK X13.1) Miscellaneous deposit; associated fine pottery spreads evenly to the mid third century A.D.  
Base fr. D. Base = 7.4 cm.  
Local fabric 1.
- D1006.** (C830, SK H1.2) Deposit 84.  
Sherd fr.  
Grey to orange brown local fabric 5. Cream wash exterior.
- D1007.** (C2796, SK A33.1) Miscellaneous deposit; see No. 203 for associated finds.  
Rim fr. D. = c. 21.5 cm.  
Crude local fabric 1.

- D1008.** (C2832a, SK H7.3) Deposit 85.  
Rim fr. D. = 18 cm.  
Rose-pink core fired cream at the edges. Occasional white lump rupturing the surface, which has a large quantity of mica. Not local. This may be an amphora rim.
- D1009.** (C844, SK V5.4) Deposit 119.  
Rim and base fr. D. = 16.4 cm; Ht. = 2.7 cm.  
Local fabric 1.
- D1010.** (C1079, SK J31.14) Deposit 101.  
Rim fr. D. = c. 17 cm.  
Orange brown local fabric 5.
- D1011.** (C320, SK H5.2) Deposit 84.  
Rim fr. D. = c. 18 cm.  
Local fabric 1.
- D1012.** (C2809, SK BB1.2) Miscellaneous deposit.  
Rim fr. D. = c. 45 cm.  
Local fabric 1.

## LATE ROMAN PLAIN WARE 1

Only the rim of this form survives. It is incurved and thickened and concave on top. The body is probably globular, and, given the absence of footed bases in Late Roman contexts (see fig. 60), the base was probably shallowly rounded. The fabric is always local fabric 1. Although it is wheel made, it may be an early proto-type of LR Cooking Ware 1. There is occasionally a horizontal lug handle under the rim (as No. **1013**). The first appearance of the form is in the late second century A.D. Deposit 81. One example occurs in a third century A.D. deposit (Deposit 103). Otherwise it seems to occur mainly in the fourth or fifth centuries A.D. (Deposits 122, 127, 128), and occasionally in the sixth century (Deposit 137), but it was never frequent. The type is limited to Berenice.

## CATALOGUE

(fig. 131)

- D1013.** (C2626, SK J11.1) Miscellaneous deposit; the fine pottery was not studied, but of 30 associated coarse pottery RBH, eight were classified late Roman types.  
Rim and lug fr. Int. D. = 21 cm.  
Local fabric 1.
- D1014.** (C370a, SK J11.1) Miscellaneous deposit; for associated finds see No. **1013**.  
Rim fr. D. = 26 cm.  
Local fabric 1.

## COARSE POTTERY

---

**D1015.** (C2562, SK R25.2) Deposit 128.

Rim fr. D. = c. 23 cm.

Local fabric 1.

**D1016.** (C2786, SK H1.3) Miscellaneous deposit; see No. 986 for associated finds.

Rim fr. Int. D. = 15 cm.

Local fabric 1. Creamish green wash exterior.

**D1017.** (C2564, SK R25.3) Deposit 128.

Rim fr. D. = 19.2 cm.

Local fabric 1.

### LATE ROMAN PLAIN WARE 2

Vacant. Nos. **1018–9** are vacant.

### LATE ROMAN PLAIN WARE 3

The rim is more or less triangular and the top is flattened. There is an incut ledge on the exterior below the rim. The fabric is Benghazi local fabric 5. The form is rare and has only occurred in Late Roman levels at Berenice. A not dissimilar shape occurs in first century A.D. levels at Ostia (Ostia ii, Type III, No. 314; although it is rare). The form was not noted elsewhere in Cyrenaica.

### CATALOGUE

(fig. 131)

**D1020.** (C744, SK G7.12) Miscellaneous deposit.

Rim fr. D. = 17.1 cm.

Pale brown local fabric 5.

**D1021.** (C763, SK G10.5) Deposit 158.

Rim fr. D. = 24 cm.

Reddish brown local fabric 5.

### LATE ROMAN PLAIN WARE 4

#### *(Flanged Bowls)*

The form has a flange and is of a buff or a red fabric. The shape is common at Carthage from the late fourth century A.D. until the late sixth century A.D. (for the type see Hayes 1976, 88–9; Hayes 1977b). It is not certain whether the fabrics of Nos. **1022–3** are local or imported. The form is very rare at Berenice, the examples illustrated being the sum total from the whole excavation. None were noted elsewhere in Cyrenaica.

## CATALOGUE

(fig. 131)

- D1022.** (C2605, SK J41.3) Miscellaneous deposit; 16 fine pottery sherds suggest a sixth century A.D. date.  
Rim fr. D. = 29 cm.  
Buff local fabric 5.
- D1023.** (C652, SK P36.9) Miscellaneous deposit.  
Rim fr. D. = 17 cm.  
Pale red fabric (2.5YR 6/6) containing occasional white grits. Probably local fabric 5, although this is not certain. Apart from Hayes 1976, 88–9, compare Dyson 1976, Figure 68, FC 34 for such flanges from Cosa in late fourth to early fifth century A.D. levels.
- D1024.** (C2553, SK R10.8) Deposit 63.  
Rim fr. D. = 16 cm.  
Gritty orange fabric containing occasional white grits and a little mica. Similar to ARS fabric.

## LATE ROMAN PLAIN WARE 5

*(Steep Sided Bowls)*

The form has a straight, steep sided body with a flat base. The rim is inturned, angular and straight on top. On the exterior below the rim there is a heavy, horizontal ring handle. The form is probably a development of MR Plain Ware 3. The form is rare at Berenice but was attested in a good early sixth century A.D. deposit (Deposit 142, No. 1026). The form was more frequent in a pottery dump at Apollonia where it represented 4.6 per cent of a sample of 948 RBH. The form occurs at Tocra in a late sixth to early seventh century A.D. deposit (Boardman & Hayes 1973, fig. 52, No. 2559; and a possibly related example with frilling on the rim *ibid.* No. 2560). The form did not occur at Carthage but a reminiscent shape has been noted in late fourth to early fifth century A.D. contexts at Cosa (Dyson 1976, fig. 64, FC 8). The date of this shape cannot be closer than simply 'Late Roman'.

## CATALOGUE

(fig. 131)

- D1025.** (C843, SK F22.13) Deposit 158.  
Rim and body fr. Int. D. = 20.4 cm.  
Fairly firm buff local fabric 5.
- D1026.** (C899, SK F27.4) Deposit 142.  
Rim fr. D. = uncertain.  
Orange brown local fabric 5.
- D1027.** (C343a, SK P Vat 23.2) Deposit 152.  
Rim fr. D. = uncertain.  
Local fabric 2.



## COARSE POTTERY

---

**D1028.** (C1121, SK P40.2) Miscellaneous deposit; associated fine pottery includes a high proportion of seventh century A.D. forms and a fragment of Islamic (?) lamp. Rim and lug fr. D. = uncertain. Orange to buff local fabric 5.

**D1029.** (C738, SK G1+) Surface deposit. Rim and body fr. D. = uncertain. Reddish brown local fabric 5.

### LATE ROMAN UNGUENTARIA

The form is a short, narrow bottle, about 20 cm high, generally with a rough pointed base. The base is sometimes flat (as an example from Tocra: Boardman & Hayes 1973, 114). It is normally slipped on the upper part and sometimes has a monogram stamp on the base.

The fabric is a very distinctive, hard, pinkish red (2.5YR 5/6) through to mauvish pink and bluish grey. It is very fine grained and has a smooth break.

The type belongs mainly to the sixth century A.D. (c. A.D. 500/20–600) and has a very wide circulation (see Hayes 1971, for a detailed discussion together with a distribution map and references). Hayes suggests (*ibid.* p. 245) that the stamped versions are of the sixth century A.D. while those of the seventh were not stamped, although the absence of a stamp does not necessarily mean that the vessel is late. It was not possible to throw any more light on this point from the Berenice excavations. A source in S. Palestine was suggested on the basis of the fabric (*ibid.* 246) and an ecclesiastical use proposed.

Its distribution is mainly in the eastern Mediterranean, although a few examples occur at Carthage and in the western Mediterranean. The proportion of this type from the Michigan excavations at Carthage was very low, only 4 fragments occurring from three years excavation of sixth and seventh century A.D. levels. It is now possible to add the following references to those presented in Hayes 1971. For Alexandria see Pagenstecher 1913, 165, Abb. 168; for Thasos see Bon & Bon 1957, No. 2255.

The type was common in the late sixth and early seventh century A.D. levels at Tocra (c. 40 fr. from the 1963/5 excavations; Hayes 1971, 247). The form was never frequent at Berenice, however, with only nine unstamped bases and three stamped fragments from the whole excavation. The high occurrence of the form at Tocra may suggest that the form was most frequent after the middle of the sixth century A.D. This might partly explain its low frequency at Berenice (where good late deposits are few).

The form occurs throughout Cyrenaica. As well as those discussed by Hayes 1971, three bases were noted in an Apollonia pottery dump, and two monogram stamps are present in the Cyrene store-rooms. One unstamped base was collected from the surface at Hadriano-polis by G. D. B. Jones. A complete example (unstamped) is present in Tolmeita museum (No. 1030). At Berenice, two types were noted, the classic form and fabric (Nos. 1030–3, 1035) and a coarser version (No. 1034) which also may not be local.

### LATE ROMAN UNGUENTARIA 'A'

This category includes those examples of similar form to the Late Roman Unguentaria but which are not of the classic clay. (as No. 1034).

## CATALOGUE

(fig. 131)

- D1030.** (Tolmeita+) From the Tolmeita store-room.  
Complete. D. = 2.5 cm; Ht. = 19.9 cm.  
Very hard compact grey fabric. Dark wine red slip over upper part.
- D1031.** (C278, SK J9+) Surface deposit.  
Stamped base fr. Smooth hard grey fabric (pl. XXXII).  
Stamp: Combination of a bird, scorpion, ?crab and ?crocodile, surrounded by a Greek inscription (retrograde). Exact parallels have been found at Kythera (Coldstream & Huxley 1972, pl. 49, 12) and Istanbul (Hayes 1971, 244, pl. 37a). All three are likely to be from the same die. The inscription cannot be translated.
- D1032.** (C645, SK J23.4) Deposit 100.  
Stamped base fr. Hard, smooth mauvish pink fabric.  
Stamp: monogram (pl. XXXII).
- D1033.** (C646, SK P21.4) Miscellaneous deposit; associated fine pottery ranges from the first to the seventh centuries A.D.  
Stamped base fr. Hard, smooth, bluish grey fabric.  
Stamp: monogram (pl. XXXII).
- D1034.** (C671, SK J21.1) Deposit 144.  
Body and base fr. Compact fine cream fabric containing occasional minute black inclusions. Probably not local.  
This is not of the normal fabric, being much softer and is an example of Late Roman Unguentarium 'A'.
- D1035.** (C403, SK J13.1) Miscellaneous deposit; four associated fine ware sherds range to the seventh century A.D.  
Base fr. Hard, compact, salmon pink fabric., with traces of red slip on the upper part of the body.

## ST. MENAS FLASKS

The shrine of St. Menas, an Egyptian soldier martyred in A.D. 295/6 at Abu Mina in the Western desert, was a popular place of pilgrimage from the fourth to the mid seventh centuries A.D. St. Menas flasks are small, disc shaped bottles which often depict St. Menas in relief. These flasks were common especially in Egypt and are found throughout the Mediterranean (see Kaufmann 1910; Hayes 1971, note 8; Hayes 1976b, 52-3, for references). For references to their occurrence in Sardinia and the west see Serra 1972, and for an isolated example discovered in England see O'Ferrall 1951).

Kiss (1969, 1971) discusses the development of the flasks on the basis of stratified excavations at Alexandria. Production did not begin until the second half of the fourth century A.D. There was a possible expansion in the early fifth century due to the building of a large basilica at Abu Mina by Arcadius. The type continued until the mid seventh century A.D.

## COARSE POTTERY

---

when the basilica was destroyed. Kiss considers that from the late fourth to the mid sixth centuries A.D. there is a wide variety of flasks with a variety of legends. However, by the time of Justinian, only two types occur, one with St. Menas in military uniform, flanked by two camels and two crosses with a stippled border, and one with a eulogy in a border of laurel leaves.

St. Menas flasks are rare in Cyrenaica, only two being noted from the excavation at Berenice. There are two complete examples on display in the Museum at Apollonia with St. Menas flanked by two camels (Nos. 90 and 104), and one in the store room at Apollonia (Inv. No. 244; possibly from Ras el Hilal) which has in relief a cross, surrounded by a series of dots. There is also a dot in each segment of the cross.

The fabrics of examples in the Graeco-Roman museum at Alexandria seem to vary. They range from creamy buff with rose grits to a granular flesh coloured fabric with grey grits to a cream and greyish cream with white grits (personal observation).

### CATALOGUE

(fig. 131)

**D1036.** (C2007, SK P70.4) Deposit 153.

Rim and two handles fr. D. = 1.8 cm.

Fairly compact buff fabric (10YR 6/4) containing a little mica and white grits.

**D1037.** (C973, SK R24.3) Deposit 127.

Body fr. D. = 11 cm.

Buff fabric (7.5YR 6/4) containing very occasional white and black grits.

### MISCELLANEOUS LATE ROMAN PLAIN WARES

With the exception of No. **1049**, which is from a disturbed Flavian deposit (Lloyd 1978), the following pottery is from stratified Late Roman deposits.

### CATALOGUE

(figs. 132, 133)

**D1038.** (C2589, SK P48.7) Miscellaneous deposit; 12 associated fine ware sherds spread to at least fifth century A.D. (Late Roman 'C' ware).

Rim and lug fr. D. = 21 cm.

Red local fabric 5.

**D1039.** (C68, SK S10.2) Deposit 145.

Complete profile. D. = 16.2 cm; Ht. = 5.2 cm; D. Base = 6.3 cm.

Graffiti arrow on body. Orange to buff local fabric 5.

**D1040.** (C2668, SK W21.4) Miscellaneous deposit; 18 associated fine pottery sherds range to the late fifth century A.D.

Rim fr. D. = 23.5 cm.

Orange brown local fabric 5. Gouged decoration on the body.

- D1041.** (C854, SK G17.9) Deposit 143.  
Handle fr. Brownish grey local fabric 5. Knot decoration at the base of the handle.
- D1042.** (C2739, SK W66.2) Deposit 167.7.  
Rim fr. D. = c. 19 cm.  
Orange red local fabric 4. Shallow diagonal grooved decoration on the interior. For this type of decoration in a Late Roman context at Knossos see Frend & Johnston 1962, 220, Figure 13, No. 15.
- D1043.** (C755, SK G1.2) Deposit 158.  
Rim fr. D. = uncertain.  
Reddish brown local fabric 5. Greenish wash (5Y 8/2-8/3) exterior and interior.
- D1044.** (C2701, SK R24.11) Deposit 123.  
Rim and body fr. D. = 14.5 cm.  
Local fabric 2.
- D1045.** (C1245, SK G7.27) Deposit 129.  
Rim and body fr. D. = c. 24 cm.  
Fairly clean, creamy buff fabric (2.5Y 7/2) containing mica. Not local.
- D1046.** (C1210, SK W72.2) Deposit 131.  
Rim and body fr. D. = c. 26 cm.  
Pale, greyish brown local fabric 5.
- D1047.** (C883, SK W35.1) Deposit 142.  
Rim fr. D. = 29.6 cm.  
Reddish brown local fabric 5.
- D1048.** (C883a, SK G17.9) Deposit 143.  
Rim fr. D. = 16 cm.  
Red brown local fabric 5.
- D1049.** (C2551, SK R10.8) Deposit 63.  
Rim fr. D. = 21 cm.  
Local fabric 1. This is from a predominantly Flavian context but could be a later intrusion.
- D1050.** (C984, SK F22.13) Deposit 158.  
Complete profile. D. = 4.8 cm; Ht. = 2.0 cm.  
Buff local fabric 5.
- D1051.** (C891, SK F27.1) Deposit 142.  
Rim and body fr. D. = 13 cm.  
Gritty pink fabric (10R 5/6) containing white grits and large voids.
- D1052.** (C750, SK G1.2) Deposit 158.  
Rim fr. D. = uncertain.  
Local fabric 1.

## COARSE POTTERY

---

- D1053.** (C2635, SK W66.2) Deposit 167.7.  
Rim fr. D. = uncertain.  
Gritty dark brown fabric (7.5YR 3/2) containing mica and occasional white grits.
- D1054.** (C926, SK G17.10) Deposit 143.  
Rim fr. D. = c. 26 cm.  
Brownish red local fabric 5.
- D1055.** (C886a, SK F27.4) Deposit 142.  
Rim fr. D. = uncertain.  
Reddish brown local fabric 5.
- D1056.** (C614, SK P10.1) Miscellaneous deposit; see No. 271 for associated finds.  
Complete. Dimensions: 5.3 cm × 3.9 cm × 1 cm.  
Compact, fairly smooth bluish grey fabric containing a little lime. Not local. Rectangular piece of fired clay: purpose unknown.
- D1057.** (C2755, SK J6.2) Deposit 168.11.  
Base fr. D. Base = 11 cm.  
Fairly micaceous greyish brown fabric (7.5YR 4/2) containing large volcanic-like grits.  
Not local.
- D1058.** (C917, SK F30.2) Deposit 142.  
Base fr. D. = 3.9 cm.  
Grey local fabric 4.
- D1059.** (C883a, SK W35.1) Deposit 142.  
Base fr. D. = 16 cm.  
Reddish brown fabric containing a little mica and white grits. Probably local fabric 5.
- D1060.** (C909, SK F27.4) Deposit 142.  
Base fr. D. = 12.2 cm.  
Sandy buff fabric with very few impurities. Probably not local.
- D1061.** (C919, SK F30.2) Deposit 142.  
Base. D. = 3.8 cm.  
Compact, pale orange fabric (2.5YR 6/6) containing black grits and a little mica. Not local.
- D1062.** (C882a, SK F27.1) Deposit 142.  
Base fr. D. Base = 12 cm.  
Orange brown local fabric 5.
- D1063.** (C2038, SK W91+) Miscellaneous deposit; see No. 340 for associated finds.  
Base. D. Base = 6.0 cm.  
Orange brown local fabric 5.

- D1064.** (C924, SK G17.9) Deposit 143.  
Base. D. Base = 7.8 cm.  
Orange brown local fabric 2.
- D1065.** (SK G11.10) Deposit 157.  
Rim fr. D. = 30.5 cm.  
Grey to orange local fabric 1.
- D1066.** (SK G11.10) Deposit 157.  
Rim fr. D. = *c.* 36 cm.  
Orange local fabric 5. Creamish buff wash exterior.
- D1067.** (C720, SK G11.9) Deposit 157.  
Rim fr. D. = uncertain.  
Orange brown local fabric 1.
- D1068.** (SK G11.9) Deposit 157.  
Rim fr. D. = uncertain.  
Hard, reddish buff local fabric 1.
- D1069.** (C718, SK G11.9) Deposit 157.  
Rim fr. D. = uncertain.  
Dark grey, local fabric 1, fired dull orange brown at the edges.
- D1070.** (SK G11.4) Deposit 157.  
Rim fr. D. = uncertain.  
Orange local fabric 5.
- D1071.** (SK G11.10) Deposit 157.  
Base. D. = 5.0 cm.  
Pale orange local fabric 5, with a buff wash exterior and interior.
- D1072.** (C773, SK G3.1) Deposit 158.  
Rim fr. D. = *c.* 20 cm.  
Red local fabric 4.

## MISCELLANEOUS PLAIN WARES

The following plain wares are all from miscellaneous or surface deposits. They are, however, of interest and are presented in the catalogue.

## CATALOGUE

(fig. 133)

- D1073.** (C798, SK F1.3) Miscellaneous deposit.  
Rim fr. D. = *c.* 44 cm.  
Local fabric 2.

## COARSE POTTERY

---

- D1074.** (C986, SK W43.3) Miscellaneous deposit.  
Rim and body fr. D. = 14.1 cm.  
Frisled decoration on the top of the rim. Buff local fabric 5. Traces of a thin black slip on the interior and over part of the rim.
- D1075.** (SK+) Surface find.  
Base fr. D. = 6.2 cm.  
Crude local fabric 1. Heavily decorated moulded base. The decoration is gouged. This is possibly the base of a stand or candlestick.
- D1076.** (C530, SK J40.14) Miscellaneous deposit.  
Body fr. including the lower part of the rim. Orange red fabric containing lime and a little mica. Possibly local.  
Horizontal row of gouged oval depressions below two horizontal grooves on the shoulder. Two horizontal grooves lower down on body.
- D1077.** (C2817, SK+) Surface find.  
Rim and body fr. D. = 16 cm.  
Local fabric 1. The body has holes bored through it in more or less horizontal rows. There are also several horizontal grooves on the body.
- D1078.** (C2741, SK R25.21) Miscellaneous deposit.  
Rim fr. Crude local fabric 1. Upper part of closed vessel with a large number of pierced holes. The upper part is gathered together and pinched, probably in a trefoil form. This may alternatively possibly be the lower part of a colander.
- D1079.** (C363, SK J8+) Miscellaneous deposit.  
Rim, body and base fr. D. = c. 20 cm.  
Grey/brown local fabric 5.
- D1080.** (C537, SK R31.2) Miscellaneous surface deposit.  
Complete profile. D. = 7.8 cm; Ht. = 6.3 cm; D. Base = 3.4 cm.  
Grey local fabric 5.
- D1081.** (C37, SK+) Surface find.  
Rim and body fr. D. = 16 cm.  
Fairly compact bluish grey fabric (2.5YR 4/0) fired orange brown (2.5YR 5/6) containing white shelly grits. Cream wash exterior. Probably local.  
Stamp: Two square monogram stamps of similar series to Nos. **1182** and **1185** below (pl. XXXII).
- D1082.** (C2819, SK BB3.3) Miscellaneous deposit; the fine pottery was not studied, but associated coarse pottery (32 RBH) is no later than the second or third centuries A.D.  
Body and lug fr. Curved body with additional wall from body. Below this is a horizontal lug. The complete form and the function are uncertain. Grey local fabric 2.

**D1083.** (C971, SK G15.2) Miscellaneous deposit.

Base fr. D. = 5.0 cm.

Orange brown local fabric 4/5, Graffito: indistinct Roman lettering.

**D1084.** (C782, SK F12.2) Miscellaneous deposit.

Rim and lug fr. D. = *c.* 38 cm.

Local fabric 1.

**D1085.** (C860, SK F22.1) Miscellaneous deposit; See No. **576** for associated finds.

Complete. D. = 2.4 cm; Ht. = 1.9 cm.

Small, hollowed cone of clay. Uncertain function, but it could be a spindle whorl. Pale buff to brown local fabric 5 with traces of white paint interior and exterior.



ISLAMIC WARES

The Islamic deposits at Berenice contained only a limited quantity of pottery, and, with the exception of the examples illustrated below, the coarse pottery was not clearly identifiable. The Islamic painted ware is unlike that elsewhere in North Africa. The paint, in combinations of brown, green, black and yellow, is over a white slip (?tin) base. No parallels could be suggested by G. Fehérvári or D. Whitehouse for the ware and the distinctive decoration. The painted ware is unlike that from twelfth century A.D. contexts at Ajdabiyah. The Berenice Islamic levels do not seem to post date coins of the later tenth century A.D., and it seems likely to the writer that the pottery may be of a similar or earlier date. A thin section of a miscellaneous sherd with this glaze from Berenice (pl. XXIe) indicates that the fabric is of different composition to those of the Roman period.

Some of the coarse wares (Nos. 1091 and 1092) resemble forms which were current in the twelfth century A.D. contexts at Ajdabiyah, but these are not specific parallels, only very broad and general similarities of form.

CATALOGUE

(fig. 134)

**D1086.** (SK G7.21) Deposit 158.

Rim and body fr. D. = 28 cm.

Cream fabric. Thin, white glaze on the exterior and interior.

**D1087.** (SK G5+/G6.8) Miscellaneous deposit.

Rim, body and base fr. D. = 30 cm; Ht. = 9.5 cm; D. Base = 11.5 cm. (pl. XLII).

Pale buff fabric (5YR 6/4) fired cream (2.5Y 8/2) at the edges. Contains occasional greyish red grits. Painted decoration in black, yellow and brown over a flakey green glaze on the interior. Traces of part of a similar but more simplified decoration on the exterior.

**D1088.** (SK G4.2) Miscellaneous deposit.

Rim and body fr. D. = 23 cm. (pl. XLII).

Slightly granular cream (2.5Y 8/4) to orange (5YR 7/4) fabric with several very small voids. Flakey white ground glaze, with pale brown decoration on the interior.

**D1089.** (SK G1.2) Deposit 158.

Rim fr. D. = uncertain.

Cream fabric. Flakey, thin white glaze on the interior and the exterior covered with a pale sea green glaze.

**D1090.** (SK G7+) Miscellaneous deposit.

Base fr. D. = 10 cm.

Cream fabric. Flakey, thin white glaze on the exterior and the interior. This is covered with a thin, pale green glaze on the exterior.

**D1091.** (C693, SK G7.21) Deposit 158.

Complete profile. D. = 20.7 cm; Ht. = 10 cm; D. Base = 9.0 cm.

Fairly compact, buff fabric (between 7.5YR 8/6-7/6) containing occasional black grits. One other similar bowl occurred from the same deposit (See Riley 1973, 19, fig. 8 for a previous note on this type). The form is reminiscent of a common plain ware form at Ajdabiyah (Riley in press 3, Plain Ware Type 1, Nos. 60-4). The earliest occurrence of the shape at Ajdabiyah is from a level pre A.D. 912. The Ajdabiyah examples are more slender and thinner. The fabric is unlike any of the local Roman wares.

**D1092.** (C694, SK G7.21) Deposit 158.

Complete profile. D. = 15.1 cm; Ht. = 15 cm.

Buff fabric (7.5YR 7/4) containing occasional white shelly grits and occasional voids. This could be local. See Riley 1973, 19, Figure 7 for a previous note on this example. The form is reminiscent of a type frequent in post eleventh century A.D. contexts at Ajdabiyah (Riley in press 3, Plain Ware type 3, Nos. 68-71).

**D1093.** (C695, SK G7.21) Deposit 158.

Body and base fr. D. Base = 9.0 cm.

Fairly hard, red fabric (2.5YR 6/6) containing occasional white grits. Creamish wash exterior and interior. No parallels have been noted for this example.

### JUGS

Jugs represent about 15 per cent of the total coarse pottery throughout the period, except for the mid third century A.D. and the first half of the sixth century A.D. when their proportion is higher. This might be interpreted as a natural result of the composition of cistern pottery, but the cisterns in earlier deposits did not have a particularly high proportion of jugs. It is more likely that this reflects changing functions of the areas sampled.

In many cases, the typology has been based only on a general characteristic such as the handle treatment or rim shape. This is because each type encompasses a wide range of specific characteristics.

Two handled flagons have also been included in this general category, as they seem to have served a similar function (i.e. the pouring of liquids). Imported jugs are rare in all periods except for the Late Roman period when practically all the jugs were imported, probably from the Aegean.

#### HELLENISTIC JUGS

The classified forms are mainly general, grouping for example those jugs with bell like rims or with handles merging with the rim. The majority of the jugs are, however, handle fragments or small rim sherds and for this reason the classified shapes comprise only a small proportion of the total Hellenistic jugs.

Lagynoi were infrequent in domestic contexts, and seem to have occurred mainly in funerary contexts in Berenice and Cyrenaica. Most lagynoi are locally made and undecorated. Many of the bases were footed and are likely to have been included with the Plain Base 2 figures. It was rarely possible to distinguish a footed jug base from a footed plain ware base.

#### EARLY ROMAN JUGS

Although there is a fairly wide range of shapes, few were recurrent and only one was sufficiently distinctive to merit a type number. A selection of the more complete jugs from the Early Roman deposits is presented in the 'Miscellaneous' category, but until further excavation of Early Roman deposits takes place in Cyrenaica, perhaps providing firmer information about the frequencies of Early Roman jugs, it seems premature to attempt to classify them.

As at Ostia (Ostia iii, 662), the jugs of the Early Roman period do not seem to have lasted to the third century A.D.

#### MID ROMAN JUGS

Corrugated jugs (MR Jug 1 and 2) increase in frequency from the mid second to the mid third centuries A.D., and it seems likely that they were most frequent in the third century

A.D. This trend relates to that of the corrugated cooking wares (MR Cooking Ware 3). At Tocra, MR Jugs 1 and 2 comprise *c.* 8 per cent of the total pottery, which attests their frequency there. Certain bases recurred during this period and were classified separately. The results suggest that Jug Base B is predominant in the second and early third century A.D. deposits while Jug Base D increases in frequency mainly during the course of the third century A.D. Trefoil jugs were rare before the Mid Roman period and is this period imported jugs are very uncommon.

### LATE ROMAN JUGS

Although the Late Roman jugs comprise a wide range of rim and body shapes (with the exception of LR Jug 1, which is more consistent in form and which has a footed base), they invariably have flat bases. A local origin of many of the LR jugs cannot be confirmed without thin sectioning. It is clear that some flat based varieties are imported and that some are locally made but it is difficult to gauge precise proportions of each by eye. Jugs of Benghazi local fabric 1 are very rare in this period.

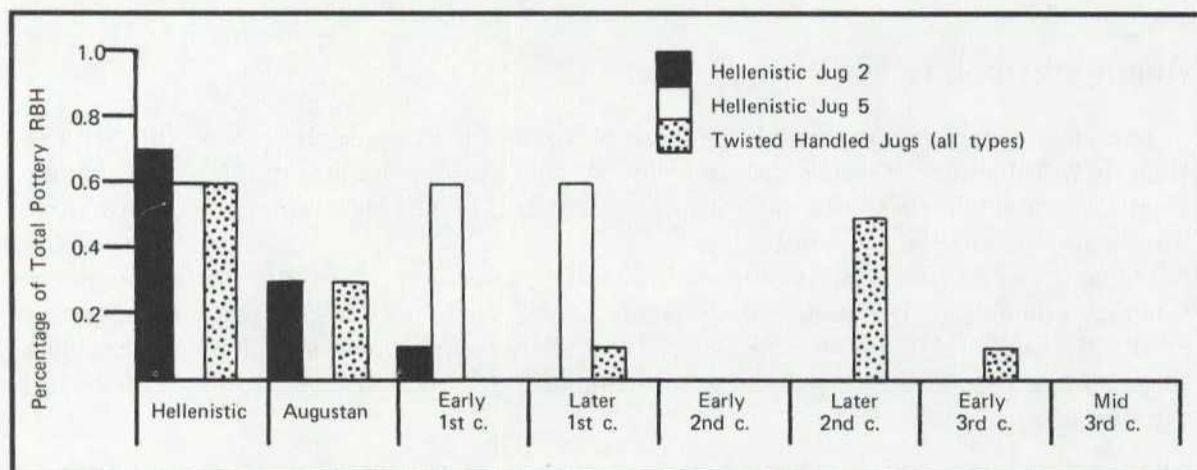


Fig. 64. Histogram to Show Relative Proportions of H. Jugs at Berenice.

### HELLENISTIC JUG 1

#### *(Bell Mouthed Jug)*

The rim is bell shaped and usually everted. There is one handle under the rim to the shoulder. The rim is curved rather than angular and is not to be confused with Early and Mid Roman shapes such as Nos. 1146, 1160-1, 1164, 1167, 1174 etc.). Where profiles occurred, the base was footed. A variety of shapes and fabrics were associated with this general rim form, but all seem to be of general Hellenistic date. The type is never very common at Berenice. It occurs in the Selmani tombs (Riley in press 2, Nos. 28 and 103), at Cyrene (unpublished from the Sanctuary of Demeter), and Tocra (for a complete example from a possible fourth century B.C. context see Burton-Brown 1948, fig. 1, No. 48/47).

## COARSE POTTERY

---

### CATALOGUE

(fig. 135)

**D1094.** (C155, SK J56.3). For this deposit see No. 14.

Rim, handle and body fr. D. = 7.8 cm.

Pale brown, local fabric 5, fired buff at the edges. Patchy, thin, dark grey slip on the exterior and inside the rim.

**D1095.** (C28, SK A20.2) Deposit 32.

Complete profile (restored). D. = 4.9 cm; Ht. = 15.4 cm; D. Base = 7.4 cm.

Orange red local fabric 4. Reddish brown wash exterior.

**D1096.** (C942, SK Z7.4) Miscellaneous deposit.

Neck, body, base and handle fr. D. Base = 6.3 cm; Ht. (extant) = 13.6 cm.

Pale brown local fabric 5.

**D1097.** (C952, SK F27.1) Deposit 142.

Rim fr. D. = 6.9 cm.

Fairly hard, compact orange fabric (2.5YR 5/6). Possibly not local.

### HELLENISTIC JUG 2

The distinctive feature of this general type is that the handle merges with the rim. The rim is generally everted and the base is normally footed. These jugs occur in a range of local fabrics, sizes and shapes but the handle treatment is a Hellenistic characteristic at Berenice. The form comprises about 0.6 per cent of the total coarse pottery RBH in the Hellenistic period, dropping to 0.3 per cent in the Augustan period and to 0.1 per cent by the first century A.D. It rarely occurs in later contexts (fig. 64). The handle treatment occurs on the pottery from the Şelmani tombs (Riley in press 2, No. 37) and occurs in Hellenistic contexts in the eastern Mediterranean (see, for example, Lapp 1961, Type 21 and references).

### CATALOGUE

(fig. 135)

**D1098.** (C27, SK A23.10) Miscellaneous deposit; 6 associated fine pottery sherds are all Hellenistic.

Complete profile. D. = 5.8 cm; Ht. = 13.4 cm; D. Base = 4.7 cm.

Pale brown local fabric 2. Pale creamish wash exterior.

**D1099.** (C483, SK A31.2) Miscellaneous deposit.

Complete profile. D. = 7.2 cm; Ht. = 23 cm; D. Base = 9.0 cm.

Local fabric 3 (pl. XLIII).

### HELLENISTIC JUG 3

(*Coarse Hydria*)

The form is a local version of the standard hydria. It has a rounded body, ring foot, wide neck and an everted rim. There is one vertical handle from below the rim to the shoulder and

two horizontal handles on the shoulder. To date, all the known examples from Cyrenaica have come from funerary contexts at Selmani in Benghazi (Ghislanzoni 1915, 93, fig. 11; Riley in press 2, Nos. 33–5).

## CATALOGUE

(fig. 135)

**D1100.** (SM 73, C2) Selmani tombs.

Complete. D. = 8.6 cm; Ht. = 21.4 cm; D. Base = 6.4 cm.

Pale, pinkish brown local fabric 3.

## HELLENISTIC JUG 4

The form has a triangular rim with horizontal grooves on the outer face. There is a vertical, twisted handle from the rim. The body and base shape is not known. The form was rare but one example occurred in the Hellenistic Deposit 25. The type is local.

## CATALOGUE

(fig. 135)

**D1101.** (C2587, SK J56.4) Deposit 25.

Rim and handle fr. D. = *c.* 9 cm.

Brown to grey local fabric 1. Cream wash interior and exterior.

**D1102.** (C592, SK A35.1) Miscellaneous deposit.

Rim and handle fr. D. = uncertain.

Orange brown local fabric 5.

## MISCELLANEOUS TWISTED HANDLES

Several twisted handles occurred from the excavations at Berenice, and these were divided into two categories, 'A' and 'B'. Twisted handles occur as early as the third century B.C. on lagynoi in the Aegean (McFadden 1946, 473). At Berenice, twisted handles occur in both Hellenistic and Roman deposits (see fig. 144). This agrees with evidence from Sabratha that twisted handles are current from the first to the fourth centuries A.D. there (Kenyon, personal communication).

## TWISTED HANDLE 'A'

This is a single twisted handle, and belongs to a variety of jugs (as, for example, H. Jug 4 and also No. 1103). The handle occurs in the Aegean on lagynoi throughout the Hellenistic period.

## CATALOGUE

(fig. 135)

- D1103.** (C396, SK+) Surface find.  
Rim and handle fr. D. = uncertain.  
Orange to grey local fabric 4.

## TWISTED HANDLE 'B'

This is a double twisted handle. When such handles occur, they tend to be in Hellenistic contexts (as Ferron & Pinard 1961, pl. 31, No. 477 from Carthage—?late second to early first centuries B.C.; Sokolski 1976, fig. 53, No. 10, from second to first century B.C. contexts at Tamanski in South Russia).

## CATALOGUE

(fig. 135)

- D1104.** (C829, SK G14+) Surface deposit. (pl. XLIII).  
Decorated handle fr. with bearded head appliqué at the base of a double twisted handle. Orange brown to grey local fabric 5. See Thompson (1973, 41–3) on similar masks on faience oinochai. There were two types of masks: the satyr at the top of the handle and the Silene, representing 'benevolence and repletion' at the base. The tradition seems to date from the early third century B.C. Similar pottery handles and appliqués occurred at Knossos (Homann-Wedeking 1050, 189, pl. 15D, from a Hellenistic cistern) and Kelibia in Tunisia (Cintas 1950, pl. 11, No. 147, for a possible example from a pre mid third century B.C. context). The idea spread as far as Tamanski in South Russia (Sokolski 1976, fig. 71; in late Hellenistic contexts, although not on a twisted handle). The technique of having Silenes at the base of bronze jug handles seems to continue until the early first century A.D. (for example an example in Nimwegen Museum—Rijksmuseum Nimwegen 1967, No. 80; there is also an example at Pompeii—Museum No. 439.14).

## HELLENISTIC JUG 5

*(Bag Shaped Flagon)*

The body is bag shaped. The rim is collar-like in appearance and swells slightly on the inside below the lip. There are two elegantly curved, vertical handles from below the rim to the shoulder. The base is moulded. There are at least two sizes, of five litres (No. 1108) and twelve litres (illustrated in Riley in press 2, No. 38). The fabric is invariably a hard, red local fabric 4.

The form first appears in the Hellenistic period, occurring in Deposit 25. It represents about 0.3 per cent of the total coarse pottery RBH in the Hellenistic and Augustan deposits at Berenice, rising to 0.6 per cent in the first century A.D. after which it is rare (fig. 64). A large complete example came from the Selmani tombs in Benghazi (Riley in press 2, No. 38). Rims occur at Cyrene (D. White's excavation, in Hellenistic contexts); a base fragment of similar fabric from Ajdabiyah may be of this form. The general rim shape occurs in a late second century B.C. context at Dramont in southern France (Taylor 1965, 96, fig. 37.6).

## CATALOGUE

(fig. 136)

**D1105.** (C166, SK J56.3) For this deposit see No. 14.

Rim and handle fr. D. = 12.2 cm.

Dark grey to reddish brown local fabric 4. Reddish brown wash exterior and inside rim.

**D1106.** (C168, SK J56.4) Deposit 25.

Base. D. Base = 10 cm.

Orange to grey local fabric 4.

**D1107.** (C384a, SK X48.2) Deposit 58.

Rim and handle fr. D. = 8.4 cm.

Orange local fabric 4.

**D1108.** (C384, SK X48.2) Deposit 58.

Complete except for chipped rim. D. = 9.9 cm; Ht. = 34.6 cm. D. Base = 11.3 cm.

Capacity (to base of neck) = 5100 cc of water. Weight = 2640 gr.

Orange red local fabric 4. Traces of dark brown wash on the exterior.

## HELLENISTIC JUG 6

*(Cylindrical Jug)*

The form is a cylindrical jug with a short shoulder, short neck and rim. There is one vertical ring handle from the shoulder to the base of the neck. The base is flat (see Riley 1978, fig. 171, No. 2). One example occurred in Berenice (Deposit 32; not illustrated). The type occurred in Hellenistic contexts at the excavations of the Sanctuary of Demeter at Cyrene (unpublished). There are three complete examples (Ht. = c. 19 cm) in the Apollonia store room (Box No. 1905). None are illustrated.

## LAGYNOI

The lagynos is a jug with a tall neck and low, wide body. It was used for pouring liquids. The lagynoi of Cyrenaica have been sub-divided into three types; imported, local decorated, and local plain.

## LAGYNOS 'A'

*(Imported Lagynos)*

Imported lagynoi are either undecorated or decorated with red paint, or more elaborately, and have a thick white slip on the exterior over which is painted a series of motifs, usually consisting of wreaths but also dolphins, musical instruments, amphoras and even a lagynos.

Lagynoi are common on most Hellenistic sites in the eastern Mediterranean and many seem to have a fairly uniform buff to orange fine grained fabric with mica (see Leroux 1913;



## COARSE POTTERY

---

Thompson 1934, 450–1 and Cook 1972, 206–7 and bibliography; for references). Leroux (1913, 83) considered that the form may have originated in Cyprus in the late fourth or early third centuries B.C. It seems likely that there were several eventual areas of production, as Leroux (*ibid.* 87 ff.) noted at least five fabrics. Despite Leroux's observations, a common origin for the majority has been sought by various scholars. Pottier and Reinach (1887, 236) considered that the origin of those at Myrina was Cyrenaica (on no real grounds; it is clear from the fabric that decorated lagynoi are not local to Cyrenaica). Edwards (1965) suggested the Pergamon or Priene region as a source. Cook (1972) confirms that Athens and Corinth were not major manufacturing centres on account of the clay. Grace, (1961, fig. 50) provides firm evidence from a stamped example of a Chian origin for at least that type and discusses elsewhere (1952, 517) 31 lagynos stamps from Delos. In order to test the hypothesis that there were several areas of production (a conclusion also reached by McFadden 1946, 473), some form of objective scientific analysis is required to examine the clays of those, especially the variety with a thick white slip, which seem uniform by eye. Any possible schemes for the development of form (such as that proposed by Bucovala 1967, for Tomis) may have local significance but until the fabrics are given greater attention such schemes cannot have general application.

Several fine, white ground lagynoi have been discovered in Cyrenaica. Several examples from Cyrenaica which are in various European museums have been published by Leroux (1913, Nos. 61–9 which are in the Louvre; Nos. 70–2, which are in the British Museum; Nos. 73–4 and 99, which are in the Museum of Candie; No. 75, which is in Alexandria Museum). The examples from Cyrenaica which are in the British Museum were excavated by Dennis in the last century (Catalogue Nos. BM 67-5-12-52; BM 66-4-15-47; BM 66-4-15-48). For examples from the Selmani tombs in Benghazi see Riley in press 2, Nos. 23–4. The type was very rare in the stratified deposits at Berenice.

### COARSE LAGYNOS

Coarse lagynoi are plentiful on most Hellenistic sites in the Mediterranean. Many areas produced their own crude versions and this was also the case in Cyrenaica. These fall into two categories: decorated and plain.

#### LAGYNOS 'B'

##### *(Local Decorated Lagynos)*

These are covered with a white paint, as an imitation white ground, over which festoons and bows are painted in red, green and sometimes yellow (see Riley in press 2, Nos. 25–7, for examples from Selmani).

#### LAGYNOS 'C'

##### *(Local Plain Lagynos)*

This is an undecorated version. Similar examples from the Selmani tombs (Riley in press 2, Nos. 29–32) could not be placed into any typological sequence owing to disturbances in the

tombs in antiquity. This may well be complicated for 35 lagynoi from the Antikythera shipwreck (second quarter of the first century B.C.), which one would assume to be more or less contemporary, display a considerable variation in shape (Edwards 1965).

The type probably occurs throughout Cyrenaica. The only published example is from Tocra (Wright 1963, fig. 15, F; not clearly dated). It seems to carry on into the first century A.D. (see Nos. 1132-4, 1137, 1143-4). The form appears to have been regular in tombs at Tripoli of the late Hellenistic to Early Roman period (Aurigemma 1958, *passim*), and seems to continue well into the first century A.D. at Ostia (Ostia ii, fig. 373).

## CATALOGUE

(fig. 136)

**D1109.** (C550, SK B20.4) Miscellaneous deposit; see No. 110 for associated finds. Rim and handle fr. of lagynos 'C'. D. = 4.5 cm.

Pale, buff-brown local fabric 5. Buff wash exterior.

**D1110.** (C484, SK +) Surface find.

Rim and handle fr. D. = 4.8 cm.

Compact, fairly smooth pale red fabric. Thick cream paint/slip on the exterior.

Lagynos 'A'.

## MISCELLANEOUS HELLENISTIC JUGS

## CATALOGUE

(figs. 136, 137)

**D1111.** (C157, SK J56.4) Deposit 25.

Rim fr. D. = 12.1 cm.

Grey to orange local fabric 4.

**D1112.** (C256, SK J56.4) Deposit 25.

Base. D. Base = 4.4 cm.

Pale brown local fabric 5. Creamish wash exterior and interior.

**D1113.** (C1006, SK J56.3) Upper levels of Deposit 25; see No. 14.

Handle fr. Pale brown local fabric 5.

This handle is referred to in the quantification tables as Jug Handle 'D'. It is most frequent in the Hellenistic and early first century A.D. levels, but occurs in the other Roman levels. It is oval with two vertical ridges.

**D1114.** (C135, SK J56.3) Upper levels of Deposit 25. See No. 14.

Rim, handle and body fr. D. = 7.9 cm.

Dark grey local fabric 4.

**D1115.** (C1097, SK A23.6) Deposit 32.

Body and handle fr.

Red to grey local fabric 4. There are the stumps of a horizontal handle on the body.

## COARSE POTTERY

---

**D1116.** (C1110, SK R12.9) Miscellaneous deposit; two associated fine ware sherds are both Hellenistic.

Rim fr. D. = 12 cm.

Reddish brown local fabric 5.

**D1117.** (C488, SK J56.3) Upper levels of Deposit 25. See No. 14.

Rim and handle fr. D. = 15.7 cm.

Pale brown local fabric 5.

**D1118.** (C1007, SK J56.4) Deposit 25.

Rim fr. D. = 12.1 cm.

Pale brown local fabric 5.

### HELLENISTIC JUG 7

This is a small juglet with an everted rim and one vertical handle from below the rim to the body. There are often traces of red slip over the neck, shoulder and rim. The form first occurs in the Hellenistic Deposit 25. Two examples occurred in the Selmani tombs at Benghazi (see Riley in press 2, Nos. 61, 102). Eighteen examples came from one small, stratified deposit (SK P42.4). The form may have continued into the first century A.D. There is a nearly complete large example from a later first century A.D. cistern (No. 1121). The form has not been noted elsewhere in Cyrenaica or the eastern Mediterranean.

### CATALOGUE

(fig. 137)

**D1119.** (C603, SK B20.9) Deposit 32.

Rim and handle fr. of strainer. D. = 7.5 cm.

Light grey local fabric 4.

**D1120.** (C50, SK P42.4) Miscellaneous deposit; associated finds include one coin (dated 221-140 B.C.) and five fine ware sherds of Hellenistic and first century B.C. to first century A.D. date. Complete except for chipped rim. D. = 4.2 cm; Ht. = 7.0 cm.

Red local fabric 4. Thin reddish brown slip on upper part of body.

**D1121.** (C48, SK P42.4) See No. 1119 above for associated finds.

Complete. D. = 4.5 cm; Ht. = 5.8 cm.

Reddish grey local fabric 4.

**D1122.** (SK X56.6) Deposit 59.

Body, handle and base fr. D. Base = 3.5 cm.

Orange red local fabric 4. Thin, dull red slip on upper body.

**D1123.** (C49, SK P42.4) See No. 1119 above for associated finds.

Complete. D. = 3.9 cm; Ht. = 6.5 cm.

Brown local fabric 4. Reddish brown thin slip over upper part of the rim.

**D1124.** (C54, SK P42.2) See No. **1119** for associated finds.

Complete profile. D. = 3.9 cm; Ht. = 6.2 cm.

Pale grey local fabric 4.

#### EARLY ROMAN JUG 1

The form is a flagon with two handles which have a roll of clay on the top. One example (No. **1125**) also has a roll of clay where the handle meets the shoulder. The rim is everted and the base is footed. The type is local and occurred in later first century A.D. contexts. It is rare, however, and only the two examples presented below were noted.

#### CATALOGUE

**D1125.** (C382, SK X48.2/X56.4/X56.6) Deposits 58 and 59.

Complete profile. D. = 10.5 cm; Ht. = 17.8 cm. D. Base = 8.6 cm.

Capacity to rim = 1270 cc. of water. Grey to orange red local fabric 4. Grey wash exterior. For the decorative knobs of clay occurring on the handles of jugs in second to first century B.C. contexts at Tamanski in South Russia see Sokolski (1976, fig. 51).

**D1126.** (C861, SK V4.7) Miscellaneous deposit.

Complete profile. D. = 12.8 cm; Ht. = 25.9 cm; D. Base = 9.5 cm.

Notched rim. Horizontal band of vertical gouged grooves on the body. Pinched knobs of clay on the top and at the base of the handle. Cream local fabric 6.

#### MISCELLANEOUS EARLY ROMAN JUGS

The following jugs are mainly from well stratified Early Roman contexts at Berenice. Those from level X + (Nos. **1137**, **1141**) are surface levels in an area producing mainly Early Roman pottery, but are not necessarily this early.

#### CATALOGUE

(figs. 137, 138)

**D1127.** (C456, SK X48.2) Deposit 58.

Rim and handle fr. D. = uncertain.

Grey local fabric 4. Grey wash exterior. Knob of clay on top of handle.

**D1128.** (C416, SK X48.2) Deposit 58.

Body and base fr. D. Base = 7.6 cm; Ht. (extant) = 27 cm. Capacity to base of neck = 2700 cc of water.

Fairly smooth grey fabric. Orange wash exterior.

**D1129.** (C1267, SK X56.2) Deposit 59.

Rim and handle fr. D. = 6.6 cm.

Hard, red brown local fabric 1.

## COARSE POTTERY

---

- D1130.** (C385, SK X48.2) Deposit 58.  
Rim and handle fr. D. = 10.3 cm.  
Pale brown to buff local fabric 4. Patchy, darker brown wash exterior and interior.
- D1131.** (C607, SK X10.3) Deposit 61.  
Part of spout. Buff local fabric 5.
- D1132.** (C639, SK K4.2) Deposit 55.  
Rim and handle fr. D. = 4.0 cm.  
Pale brown to grey local fabric 5.
- D1133.** (SK X24.1) Miscellaneous deposit.  
Rim fr. D. = 5.0 cm.  
Buff local fabric 5.  
This general rim form occurs in later first to second century A.D. contexts at Ostia (Ostia iii, No. 651).
- D1134.** (C545, SK J6/E2) Miscellaneous deposit.  
Rim and handle fr. D. = 3.4 cm.  
Grey to orange brown local fabric 4. Cream wash exterior. This is a later version of lagynos 'C'.
- D1135.** (C638, SK A32.1) Miscellaneous deposit.  
Rim and handle fr. D. = 5.6 cm.  
Light grey local fabric 4. Creamish wash exterior and inside neck. This is probably a later version of lagynos 'C'.
- D1136.** (C498, SK X24.3) Miscellaneous deposit.  
Rim and handle fr. D. = 6.2 cm.  
Orange red local fabric 4. This may be a prototype of MR Jug 2. The context is not well dated.
- D1137.** (C1283, SK X+) Surface deposit.  
Rim and handle fr. D. = 9.7 cm.  
Buff local fabric 2. Burnished on the exterior. This may be a late local development of lagynos 'A' but the context from which it comes cannot be dated.
- D1138.** (C499, SK X32.14) Miscellaneous deposit.  
Rim fr. D. = 4.4 cm.  
Orange red local fabric 4. This 'candlestick neck' is typical of the jugs of Ostia in the second half of the first century to early second century A.D. (Ostia ii, 389-390; Ostia iii, 415, 460, 570.) The form also occurs at the kiln site at Sutri in Italy of the third quarter of the first century A.D. (Duncan 1964, form 37, where it is rare).
- D1139.** (C252, SK P10.6) Deposit 80.  
Rim and handle fr. D. = 3.5 cm.  
Orange red local fabric 4.

**D1140.** (C1263, SK X48.2) Deposit 58.

Base fr. and separate body fr. (the two do not join but clearly belong to the same vessel).  
D. Base = 11.6 cm. Coarse local fabric 1.

**D1141.** (C1260, SK X+) Surface deposit.

Nearly complete except for top of handle and part of rim. D. = 5.5 cm; Ht. = 14.3 cm;  
D. Base = 4 cm.  
Orange brown local fabric 1. There is a crude spout at 90 degrees to the handle.

**D1142.** (C1262, SK X56.4) Deposit 59.

Base and body fr. D. Base = 4.8 cm.  
Orange brown local fabric 5.

**D1143.** (C1275, SK X48.2) Deposit 58.

Base and body fr. D. Base = 6.0 cm.  
Buff to grey local fabric 5.

**D1144.** (C251, SK P10.6) Deposit 80.

Base and body fr. D. Base = 5.6 cm.  
Grey, local fabric 4.

## MID ROMAN JUG 1

*(Trefoil Jug)*

The form has a conical, corrugated shoulder. The neck bulges and the rim is pinched at the sides to form a trefoil mouth. There is one handle from beneath the rim to the shoulder. The form of the base is uncertain but may have been rounded. The fabric is always Benghazi local fabric 4 and at Berenice, few bases occurred in this fabric which were not rounded.

The type occurs before the mid second century A.D. in Deposits 69 and 73, but both of these deposits contain later contamination. Otherwise the form first occurs in the later second century A.D. Deposit 81 and increases through the third century A.D. from 1.1 per cent of the total coarse pottery RBH in the early third century to 2.1 per cent by the middle of the century (fig. 65).

Although trefoil jugs start in the late first century A.D. in Italy (see for example Ostia iii, 429-31), in the eastern Mediterranean they seem to belong more comfortably to the second and third centuries A.D. as at Athens (Robinson 1959, M101; early third century A.D.) and Halae (Goldman 1940, fig. 217, second century A.D.). Trefoil jugs continue to occur in the third century at Ostia (Ostia iii, figs. 297-9; and Ostia, fig. 300 is the closest to the Cyrenaican examples).

The form is widespread throughout Cyrenaica, comprising 3.8 per cent of the total pottery RBH from the kiln site excavations at Tocra (Riley in press 1, No. 57). Other Cyrenaican findspots include Tolmeita (two rims are in the museum), Cyrene (unpublished, from the surface levels of the Sanctuary of Demeter excavations) and Hadrianopolis (surface find). There are many similarly shaped bronze jugs in the Cyrene store rooms.

## COARSE POTTERY

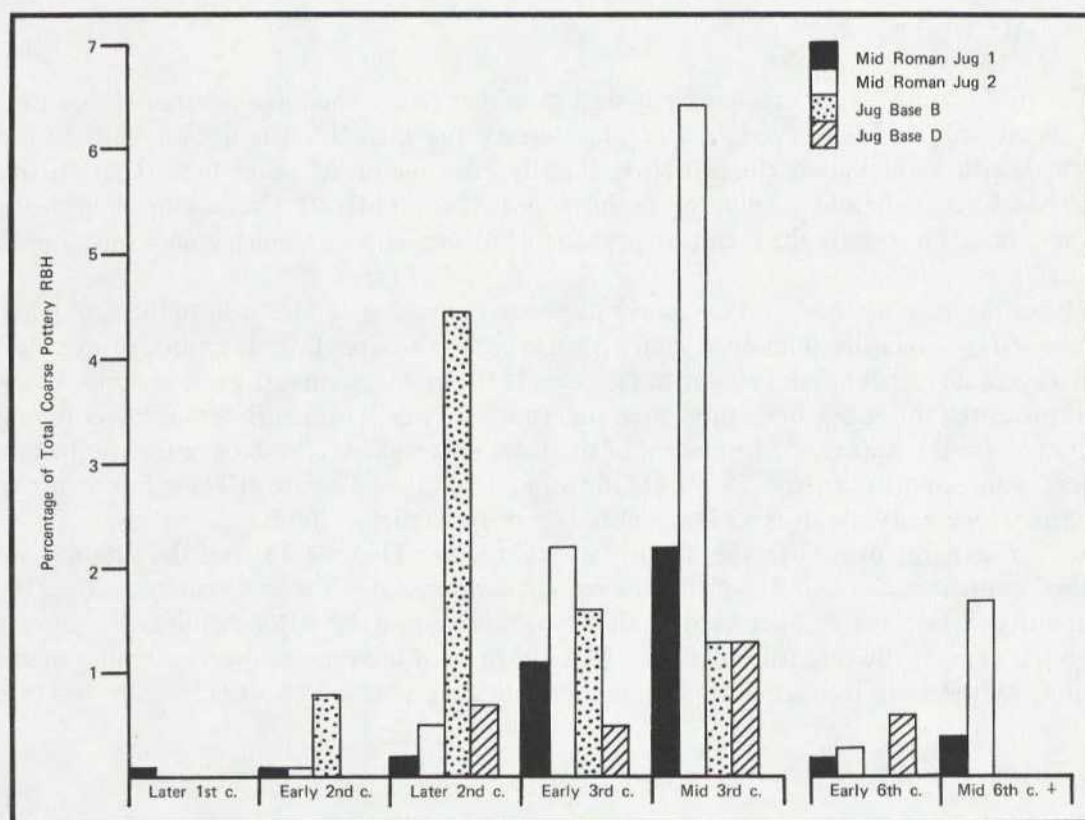


Fig. 65. Histogram to Show Relative Proportions of MR Jugs at Berenice.

### CATALOGUE

(fig. 138)

**D1145.** (C261, SK L55.4) Deposit 103.  
Rim and body fr. Greyish brown local fabric 4.

### MISCELLANEOUS TREFOIL JUGS

Most trefoil jugs which are not of local fabric 4 but which have the bulging rim described for type 1 above are imported and belong to the Late Roman period (see Late Roman Jug 2). Occasionally, however, trefoil jugs in local fabric 5 occur with 'candle-stick'-like rims. These are very rare.

### CATALOGUE

(fig. 138)

**D1146.** (C567, SK L44.3) Deposit 73.  
Rim and handle fr.  
Buff local fabric 5. Creamish wash exterior.

## MID ROMAN JUG 2

The basic form has a corrugated body and moulded base. The base is either as Jug Base 'B' or, as attested at Tocra (Wright 1963, fig. 6a, d), Jug Base 'E'. The neck is more or less cylindrical with a thickened rim which is slightly concave on its outer face. There is one vertical handle from below the rim to the shoulder (as Nos. 1147-9). There is no spout on the rim. The fabric is normally the creamish grey local fabric 6 with a greenish cream wash on the exterior.

The type has been divided into two sub categories (2 and 2a), on the basis of the rim shape. *Mid Roman Jug 2* has the thickened rim with the concave outer face described above; *Mid Roman Jug 2a* has a rounded, rolled rim (as Nos. 1150-2), but a similar general form. In the histograms both types have been presented together. Type 2a is rare at Berenice but common at Tocra (where it comprises 4.1 per cent of the total pottery from the excavations at the kiln site there; Riley in press 1, Nos. 58-9). On the other hand, type 2 is rare at Tocra but common at Berenice. One example of type 2 was noted from Jaol (surface find).

Type 2 in general occurs in the slightly contaminated Deposit 73, and the first uncontaminated context is Deposit 81, of the late second century A.D. It seems to increase over the third century A.D. from 2.2 per cent of the total coarse pottery RBH in the early third to nearly 6 per cent by the mid third century. The duration of the type is uncertain but it seems likely that by the Late Roman period represented at Berenice, it was already a survival (fig. 65).

## CATALOGUE

(figs. 138, 139)

**D1147.** (C108, SK J31.14) Deposit 101.

Rim and handle fr. D. = 6.2 cm.

Local fabric 6.

**D1148.** (C5, SK J31.14) Deposit 101.

Complete. D. = 8.8 cm; Ht. = 31.2 cm; D. Base = 6.4 cm.

Weight = 1260 gr.; Capacity (to base of neck) = 3500 cc.

Local fabric 6.

**D1149.** (C196, SK J31.14) Deposit 101.

Rim and handle fr. D. = 9.0 cm.

Local fabric 6.

**D1150.** (C107, SK P5.5) Deposit 81.

Rim and handle fr. D. = 5.3 cm.

Pale brown local fabric 4. Cream wash exterior.

**D1151.** (C110, SK P5.5) Deposit 81.

Rim and handle fr. D. = 6.1 cm.

Local fabric 6.



## COARSE POTTERY

---

**D1152.** (C2521, SK H22.2) Deposit 82.

Complete profile. D. = 7.9 cm; Ht. = 14.8 cm; D. Base = 5.4 cm.

Brownish red local fabric 4. Patches of greenish cream wash exterior.

### MID ROMAN JUG 3

The form has a curved, corrugated rim with a flange where the base of the rim meets the conical shoulder. There is one handle from the rim to the shoulder and this is placed at or towards the top of the rim. The form occurs both at Tocra (Riley in press 1, Nos. 60-1) and Berenice but is very infrequent at both sites. It comprised 0.1 per cent of the total pottery at Tocra. It is only attested in third century A.D. deposits at Berenice. The fabric is the local fabric 6 with a creamish wash on the exterior. No parallels were noted elsewhere for the form.

### CATALOGUE

(fig. 139)

**D1153.** (C2527, SK H22.2) Deposit 82.

Rim and handle fr. Int. D. = 4.8 cm.

Cream local fabric 6.

**D1154.** (C580, SK L36.6) Miscellaneous deposit.

Rim and handle fr. Int. D. = 6.4 cm.

Local fabric 6.

### MID ROMAN JUG 4

The form is a two handled flagon, with a corrugated upper body and a moulded base. The neck is fairly wide and there is a fairly high, thickened, vertical rim. The fabric is normally local fabric 6 with a creamish green wash on the exterior. The form is not very common but occurs in the third century A.D. deposits. It has not been noted elsewhere in Cyrenaica.

### CATALOGUE

(figs. 139, 140)

**D1155.** (C194, SK J31.14) Deposit 101.

Rim fr. D. = 9.5 cm.

Greyish local fabric 6.

**D1156.** (C119, SK B4.20) Deposit 105.

Rim and two handles fr. D. = 9.2 cm.

Pale, orange brown local fabric 2. Creamish wash exterior.

**D1157.** (C2518, SK H22.2/3) Deposit 82.

Rim, two handles and body fr. D. = 9 cm.

Local fabric 6.

**D1158.** (C106, SK P5.5) Deposit 81.  
Rim and two handles. D. = 9.8 cm.  
Local fabric 6.

**D1159.** (C2534, SK H22.2/3) Deposit 82.  
Complete profile except for part of neck. D. = 12.4 cm; Ht. = 39.6 cm. D. Base = 10.9 cm.  
Pale grey local fabric 6.

#### MID ROMAN JUG 5

The form is a two handled flagon with a bi-conical rim. The form was rare, and only one fragment (No. **1160**) had a shoulder extant and this had no corrugations.

#### CATALOGUE

(fig. 140)

**D1160.** (C109, SK J31.14) Deposit 101.  
Rim and two handles fr. D. = 6.0 cm.  
Reddish brown local fabric 4. Pinkish cream wash exterior and inside rim.

**D1161.** (C210, SK J31.14) Deposit 101.  
Rim and two handles fr. D. = 5.5 cm.  
Brownish red local fabric 4. Traces of greenish cream wash on the exterior.

#### MISCELLANEOUS MID ROMAN JUGS

There is a wide range of miscellaneous jugs which occur only once. Most are in fabric 6 and most have a greenish cream wash on the exterior.

#### CATALOGUE

(figs. 140, 141)

**D1162.** (C205, SK P5.4) Deposit 81.  
Rim and two handles. D. = 7.0 cm.  
Reddish brown local fabric 4.

**D1163.** (C201, SK P5.5) Deposit 81.  
Rim and handle fr. D. = 6.1 cm.  
Reddish brown local fabric 4. Buff wash exterior.

**D1164.** (C121, SL L55.4) Deposit 103.  
Rim and handle fr. D. = 6.5 cm.  
Orange brown local fabric 4. Pale, greenish cream wash exterior and interior.

## COARSE POTTERY

---

- D1165.** (C11, SK L4.2) Deposit 87.  
Complete. D. = 7.4 cm; Ht. = 21.8 cm; D. Base = 8.0 cm.  
Local fabric 6.
- D1166.** (C105, SK J31.14) Deposit 101.  
Rim, handle and body fr. D. = 8.5 cm.  
Creamish grey local fabric 6. This is a variant of MR Jug 2.
- D1167.** (C189, SK J31.14) Deposit 101.  
Rim and handle fr. D. = 4.6 cm.  
Greyish cream local fabric 6. Pinched spout opposite handle. See comments to No. 1138 below, on 'candle-stick' type rims. It certainly seems to continue into the mid third century A.D. (See also No. 1174).
- D1168.** (C212, SK P5.5) Deposit 81.  
Rim and handle fr. D. = 4.2 cm.  
Orange red local fabric 4. Buff wash exterior.
- D1169.** (C213, SK P5.5) Deposit 81.  
Rim fr. D. = 3.9 cm.  
Pale red local fabric 4. Traces of pale cream wash exterior.
- D1170.** (C502, SK L55.4) Deposit 103.  
Rim and two handles fr. D. = 3.6 cm.  
Pale red to orange local fabric 5. Greenish cream wash exterior.
- D1171.** (C2525, SK H22.2) Deposit 82.  
Rim fr. D. = 6.0–5.5 cm (rim oval in shape).  
Local fabric 5.
- D1172.** (C2526, SK H22.2) Deposit 82.  
Rim and two handles. D. = 7.0 cm.  
Pale grey local fabric 4.
- D1173.** (C356, SK H+) Surface deposit.  
Rim and handle fr. D. = 8.1 cm.  
Orange brown local fabric 4. Greenish cream wash exterior.
- D1174.** (C586, SK L55.2) Miscellaneous deposit; part of mid third century A.D. destruction level.  
Rim fr. D. = 9.0 cm.  
Grey to orange local fabric 1.
- D1175.** (C47, SK B4.20) Deposit 105.  
Complete crude unguentarium. D. = 3.1 cm; Ht. = 14.4 cm. D. Base = 3.2 cm.  
Reddish brown local fabric 4. Pale greenish cream wash exterior. No parallels could be found for this type.

- D1176.** (C1252, SK L55.4) Deposit 103.  
Base and body fr. D. Base = 3.4 cm.  
Greyish buff local fabric 5. Creamish green wash exterior.
- D1177.** (C200, SK P5.5) Deposit 81.  
Base and body fr. D. Base = 4.2 cm.  
Pale brown local fabric 4/5.
- D1178.** (C134, SK J31.14) Deposit 101.  
Base fr. D. Base = 2.1 cm.  
Orange red local fabric 4. Dark grey wash on upper part of sherd.
- D1179.** (C255, SK P5.5) Deposit 81.  
Base fr. D. Base = 4.1 cm.  
Orange brown local fabric 1.
- D1180.** (C831, SK P11.7) Miscellaneous deposit; 15 associated fine pottery sherds date to the mid third century A.D.; one is Late Roman.  
Spout fr. D. Spout = 3.6 cm.  
Local fabric 1.
- D1181.** (C2795, SK H1.14) Deposit 85.  
Handle fr. with knot decoration.  
Orange brown local fabric 5. This was the only example noted in Cyrenaica. For the type in a Hellenistic context at Alexandria see Pagenstecher 1913, 139.

## MISCELLANEOUS JUGS

The following jugs are from miscellaneous deposits or fourth to fifth century A.D. deposits. No stamped jugs occurred in the third century A.D. deposits and it is possible that they were introduced after the mid third century.

## CATALOGUE

(fig. 141)

- D1182.** (C965, SK BB5.1) Miscellaneous deposit.  
Stamped shoulder fr. Local fabric 5. Cream wash exterior.  
Stamp: two monogram stamps within square on lower part of neck (pl. XXXII).
- D1183.** (C2538, SK R25.2) Deposit 128.  
Sherd with stamp. Orange brown local fabric 5. Cream wash exterior.  
Stamp: monogram (broken across stamp) (pl. XXXII).
- D1184.** (C869, SK Z +) Surface deposit.  
Stamped sherd. Greyish brown local fabric 5. Creamish wash exterior.  
Stamp: circular stamp with monogram. Traces of graffiti on body.

## COARSE POTTERY

---

- D1185.** (C692, SK D4.9) Miscellaneous deposit.  
Stamped sherd fr. Creamish grey local fabric 6.  
Stamp at base of handle: two monograms within squares (pl. XXXII).
- D1186.** (C2719, SK R24.11) Deposit 123.  
Base. D. Base = 3.8 cm.  
Creamy buff local fabric 5. Thin, creamish wash exterior.
- D1187.** (C380, SK L67.4) Miscellaneous deposit.  
Base, body and two handles fr. Fairly compact orange fabric (5YR 5/6) containing a little lime. Probably local.

### JUG BASES

As the pottery from Berenice was largely fragmentary, a large number of bases occurred which could not easily be related to a particular rim form. The bases which occur with Plain wares have been described and discussed elsewhere (p. 328) and those which seem best to belong to jug types have been grouped into five categories for purposes of quantification.

#### JUG BASE 'A'

*(Moulded Base in Local Fabric 1)*

The shape is the type of moulded base that is associated with No. **1106, 1108, 1148, 1152, 1159** etc. The fabric of Jug Base 'A' is always local fabric 1. It first occurs in the mid first century A.D. (Deposit 55) and occurs in the Mid Roman period. The shape is considered to start in the late first century A.D. at Raqqada in Tunisia (Salamonson 1968, 127) and it occurs at Paphos in late first and early second century A.D. deposits there, although it is very rare (Hayes, personal communication).

#### JUG BASE 'B'

*(Moulded Base in Local Fabric 6)*

The base is similar in form to Base 'A' except that at Berenice it is of local fabric 6. At Tocra the fabric is local fabric 2 but with a greenish cream wash. The form probably belongs to MR Jug 2. At Berenice the average diameter ranges between 5.2–6.0 cm. At Tocra, where the base is frequent (comprising 1.3 per cent of the total pottery), the average diameter is a little larger (6.5–7.5 cm.). At Berenice the type first occurs in the later first century A.D. (Deposit 61) but is not common until the later second century A.D. (when it comprises 4.4 per cent of the total coarse pottery RBH), and declines to 1.5 to 1.2 per cent over the first half of the third century A.D. The form may have been less popular in the mid third century as a result of the increased frequency of Jug Base 'D'. By the sixth century A.D. it was a survival. Apart from Tocra (Riley in press 1, Nos. 62–3), and Cyrene Cone example from D. White's excavation), the base has not been noted elsewhere in Cyrenaica.

## JUG BASE 'C'

The base is hollowed on the underside (as No. 1165). The fabric is local fabric 1. This base is rare in this fabric and was not noted in the dated deposits.

## JUG BASE 'D'

The form is as type 'C' but of local fabric 6 at Berenice, and of local fabric 2 with a creamish wash at Tocra. The earliest occurrence is in the later first century A.D. (Deposit 58). This is isolated and apart from this one example it occurs only from the later second century A.D. It reaches a peak of 1.3 per cent of the total coarse pottery RBH at Berenice in the mid third century (fig. 65).

The form is common at Tocra where it comprises 3.1 per cent of the total pottery from the kiln site. At Tocra the diameters grouped into two basic sizes; a larger between 9–10 cm; and a smaller between 4.5–5.5 cm. It seems likely that the larger examples at Tocra may belong to the local examples of MR Amphora 9 and 10 (see Wright 1963, fig. 6, Tomb A, Nos. 4 and 5). This type of base also occurs in the second and third centuries A.D. in Tunisia at Raqqada (Salamonson 1968, 127) and Tuburbo Majus (Soren, personal communication). In the absence of good published profiles of third century A.D. pottery from the Aegean or Egypt it is not possible to discuss the spread or the direction of shape influences.

## JUG BASE 'E'

The base is rounded with a small hollowed depression on the underside (as Wright 1963, fig. 6a, D1). The form is rare at both Tocra and Berenice. At Berenice it does not occur before the early third century A.D.

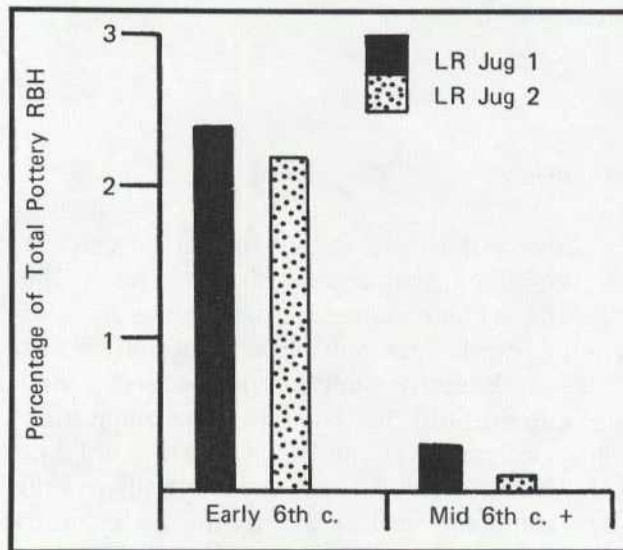


Fig. 66. Histogram to Show Relative Proportions of LR Jugs at Berenice.

## COARSE POTTERY

---

### LATE ROMAN JUG 1

#### *(Gouged Jug)*

The form has an ovoid body with a ring foot. It has a short, cylindrical neck with a rounded, rolled lip which is indented at the front to form a spout. The pot is crudely shaped and often off-centre. There are some horizontal corrugations and distinctive broad, diagonal slashed gouges on the body. There is a thin, dull red slip over the top of the jug and inside the neck. The clay is orangey buff with white grits. Hayes (personal communication) considers that the fabric of the Berenice examples might be Athenian. A thin section of one example (pl. XXI*f*), supports a non local origin for the type.

The only site in Cyrenaica where the type occurred was Berenice. The form occurs at Athens from the mid fourth century A.D. (Hayes, personal communication) and seems to continue until about the mid sixth century A.D. there and at Corinth. At Corinth, twelve complete examples were associated with 179 complete, and hundreds of incomplete, lamps of the late fourth to early fifth centuries A.D. (Wiseman 1969, 78, pl. 24b; from a fountain: the latest associated coin was of Theodosius I—A.D. 375–95). The form occurs in fifth century A.D. contexts at Athens (Robinson 1959, M320). It is possible that the type does not continue much later than the middle of the sixth century A.D., as footed bases seem to have become progressively more unfashionable by then. Robinson (1959, M358–61) published some examples which he assigns to the late sixth century A.D. However, this dating is based on the ARS ware M349–50 from level 13; these pieces, and therefore the whole level, should now be dated early sixth century A.D. (Hayes, personal communication, on the basis of a re-evaluation of the Athenian wares). The form occurs in the probably early sixth century A.D. Deposit 142 (where several examples occurred) and in the early sixth century A.D. levels as a whole it comprises 2.4 per cent of the total coarse pottery RBH. The type was not noted elsewhere in Cyrenaica.

### CATALOGUE

(fig. 142)

#### **D1188.** (C698, SK G11.10) Deposit 157.

Complete. D. = 6.2 cm; Ht. = 18.3 cm; D. Base = 6.2 cm.

Capacity (to brim) = 730 cc. of water.

Pale, orange brown fabric (5YR 6/6–5/6) containing occasional white grit specks. Thin, dull red slip over the upper part of the body and inside the neck. Criss-crossed gouged decoration on the body.

#### **D1189.** (C697, SK G11.7) Deposit 157.

Complete. D. = 5.7 cm; Ht. = 17.2 cm; D. Base = 5.8 cm.

Capacity (to brim) = 680 cc. of water.

Fabric as No. 1188. Diagonal gouges on the body. See pl. XLIII.

### LATE ROMAN JUG 2

#### *(Late Trefoil Jug)*

The late trefoil jugs are generally imported. There is a variety of shapes and they are very different from the trefoil MR Jug 1. There is a possibility of confusion with Mid Roman trefoil

jugs of local fabric 5 (as No. **1146**), but these are very rare in earlier contexts. The bases of type 2 are probably flat. The form comprises 2.2 per cent of the total coarse pottery RBH in the early sixth century A.D. levels (fig. 66).

## CATALOGUE

(fig. 142)

**D1190.** (C700, SK G11.7) Deposit 157.

Rim, handle and body fr. Fairly smooth, greyish brown fabric with occasional specks of mica and lime. Probably not local.

**D1191.** (C422, SK PVat 21.2) Deposit 150.

Rim and handle fr. Orange brown, fairly gritty fabric containing shelly white grit specks. This may be local, but this is not certain. Indistinct graffiti on body.

## LATE ROMAN JUG 3

The rim is plain and generally everted. The distinctive feature is a knob of clay on the rim where the handle joins the rim. An earlier version (No. **1126**) from a later first century A.D. deposit has the knob of clay on the handle; on LR Jug 3 it is over the rim. The style occurs at Istanbul in seventh century A.D. contexts (Hayes 1968, 207, No. 26). The knob of clay is a regular feature on Islamic jugs throughout North Africa and the Levant and occurs in post eleventh century A.D. contexts at Ajdabiyah. The origins are firmly Late Roman, although it is not possible to determine when they were introduced. They occur in the early sixth century.

## CATALOGUE

(fig. 142)

**D1192.** (C938, SK F30.2) Deposit 142.

Rim and handle fr. D. = uncertain.  
Orange brown local fabric 5.

**D1193.** (C945, SK F30.2) Deposit 142.

Rim and handle fr. D. = uncertain  
Orange (5YR 6/6) local fabric 5.

## MISCELLANEOUS LATE ROMAN JUGS

Several Late Roman jugs are clearly imported, containing high proportions of mica. It cannot always be certain that others are not local and further analysis is required on individual examples to confirm this. These jugs generally have flat bases and are usually not decorated. There is a wide range of variation in body and rim shape, mainly non-recurrent. It is only possible to comment on very general aspects and most of the more complete examples or good rim profiles from the Late Roman deposits are presented below.



## COARSE POTTERY

---

### LATE ROMAN DECORATED JUGS

Decorated jugs were very rare at Berenice (only 8 fragments out of 11777 RBHS from the early sixth century A.D. deposits, of which the best preserved is No. 1194). The decoration is normally crude.

### CATALOGUE

(fig. 142)

#### **D1194.** (C2789, SK G11.14) Deposit 157.

Rim, body and handle fr. D. = 7.4 cm.

The rim may have been trefoil. There are two horizontal bands of narrow grooving on the shoulder: above this is a chevron design of partially gouged holes, at the extremities of which there is a stamped circle. Greyish buff fabric (10YR 6/4) containing white lime.

### MISCELLANEOUS FLAT BASED JUGS

There was a high proportion of flat jug bases recognisable by their small diameters (c. 7–11 cm) in the Late Roman deposits. They comprised 26.7 per cent of the total pottery in the early to mid sixth century A.D. deposits. Such flat based jugs are common at Athens in fifth to early seventh century A.D. contexts (see Robinson 1959, Pl. 35, Group N, Pl. 33, M362–6; Pl. 31, M321–2). There is a wide range of rim forms and it is not practicable to attempt a typology at this stage, or to match the forms with other published parallels from the Aegean without a first hand comparison of the fabrics. A few flat bases of a similar diameter occurred in local fabric 1 but were very rare. No figures are available from Tocra for the Late Roman period but flat based jugs were common at Apollonia, where the bases comprised 8.3 per cent of a sample of 948 RBH from a pottery dump there. The fabrics of those at Apollonia were of a similar range to those of Berenice. This type of jug only seems to occur in quantity in the eastern Mediterranean. The form was not noted in the sixth or seventh century A.D. levels at Carthage.

### CATALOGUE

(figs. 142, 143)

#### **D1195.** (C702, SK G11.7) Deposit 157.

Complete profile. D. = 9.6 cm; Ht. = 16.9 cm; D. Base = 9.4 cm.

Capacity (to base of neck) = 795 cc.

Greyish brown fabric (10YR 4/3) containing white lime.

#### **D1196.** (C706, SK G11.8) Deposit 157.

Body and base fr. D. Base = 11.2 cm.

Capacity (to base of neck) = 950 cc.

Orange fabric (5YR 4/6) containing a little white lime.

- D1197.** (C701, SK G11.7) Deposit 157.  
Neck, handle, body and base fr. D. Base = 11.6 cm; Ht. (extant) = 24 cm. Capacity (to base of neck) = 1910 cc.  
Buff fabric (7.5YR 6/6) containing a high proportion of white grits. There is a band of close horizontal grooving on the shoulder.
- D1198.** (C703, SK G11.3) Deposit 157.  
Rim and handle fr. D. = 8.2 cm.  
Mouth of rim missing. Pale, reddish brown fabric (5YR 5/4) containing a quantity of white specks.
- D1199.** (C715, SK G11.12) Deposit 157.  
Body and base fr. D. Base = 13 cm.  
Drab, dull brown fabric (10YR 5/3-4/3) containing occasional white specks.
- D1200.** (C708, SK G11.3) Deposit 157.  
Body and base fr. D. Base = 10 cm. Greyish brown local fabric 1.
- D1201.** (C705, SK G11.7) Deposit 157.  
Body, base and handle fr. D. Base = 7.8 cm.  
Capacity (to base of neck) = 890 cc. Orange brown local fabric 1.
- D1202.** (C707, SK G11.3) Deposit 157.  
Body and base fr. D. Base = 10.9 cm.  
Orange fabric (7.5YR 7/6-6/6) containing occasional large (up to 2 mm<sup>2</sup>) grey grits.

## MISCELLANEOUS LATE ROMAN JUGS

(fig. 143)

- D1203.** (C951, SK F30.2) Deposit 142.  
Neck and two handles fr. Red-orange fabric (2.5YR 5/6-5/8) containing white lime flecks. Compare Robinson 1959, M216 (early fourth century A.D.) which has a similar flange.
- D1204.** (C16, SK J5.6) Deposit 137.  
Complete profile except for part of base.  
D. = 4.4 cm; Ht. = 26.5 cm; D. Base = 9.1 cm.  
Orange red fabric containing occasional lime flecks.
- D1205.** (C2047, SK V13.1) Miscellaneous deposit.  
Rim and two handles fr. D. = 5.0 cm.  
Grey and cream mottled fabric containing a little white lime.
- D1206.** (C576, SK P63.2) Deposit 155.  
Rim and two handle fr. D. = 7.0 cm.  
Orange brown local fabric 5.

## COARSE POTTERY

---

**D1207.** (C2805, SK J14.1) Miscellaneous deposit; 13 associated fine ware sherds spread to the sixth century A.D.

Rim fr. D. = 8.5 cm.

Reddish grey fabric (7.5YR 6/2) containing a quantity of greenish lime and occasional black grits. Greyish cream wash exterior.

**D1208.** (SK G11.3) Deposit 157.

Spout. Pale orange fabric containing a little mica and occasional grey specks. Spouts are regular in the Mediterranean in late Roman deposits; for example at Istanbul (Hayes, 1968 207, Nos. 26 and 28: in the seventh century A.D.), and they occur in Cyprus and Palestine in the sixth century A.D. They are uncommon at Berenice. One possibly earlier example with a footed base occurred at Tolmeita (Tolmeita store; uncertain origin).

**D1209.** (SK G11.3) Deposit 157.

Base fr. as Jug Base 'D'. D. = 10.2 cm. Orange local fabric 5.

The base continues into the Late Roman period, although it is never common.

**D1210.** (C858, SK F22.1) Miscellaneous deposit; see No. 576 for associated finds. Shoulder fr. with graffito. Pale red local fabric 5. Graffiti: JKM

**D1211.** (C961, SK F29.7) Deposit 132.

Rim and handle fr. D. = uncertain.

Local fabric 2.

**D1212.** (C817, SK F24.3) Deposit 161.

Handle, base and body fr. D. Base = 5.8 cm.

Grey-buff fabric (10YR 6/3) containing occasional white grits. Fired pale cream on the exterior (5Y 7/1).

**D1213.** (C2619, SK G1.2) Deposit 158.

Rim and neck fr. D. = c. 13 cm.

Granular, creamish green fabric (5Y 7/3) containing occasional white grits.

## LATE ROMAN FLAGONS

A few large, double handled flagons with both flat and hollowed bases occurred from late deposits. The form is difficult to detect in sherd form.

## CATALOGUE

(fig. 144)

**D1214.** (C2005, SK P70.2) Deposit 153.

Complete profile. D. = 9.9 cm; Ht. = 35.2 cm; D. Base = 11.5 cm.

Compact brown fabric (7.5YR 4/4) fired lighter brown (7.5YR 5/4) at the edges. There are very occasional white specks.

RILEY

---

**D1215.** (C2004, SK P70.2) Deposit 153.

Complete profile. D. = 10 cm; Ht. = 36.5 cm.

Orange brown fabric (2.5YR 4/6) fired pale grey with white grits.

**D1216.** (C723, SK G11.11) Deposit 157.

Complete profile except for part of base. D. = 14.5 cm; Ht. = 36.6 cm. D. Base = 6.3 cm.

Fairly compact reddish brown fabric with white grits.

**D1217.** (C724, SK G7.21) Deposit 158.

Body and two handles. Pale cream fabric (10YR 7/3) containing occasional lime lumps.

Dull cream wash exterior and inside neck.

## V. Technical Changes During the Hellenistic and Roman Periods

In the Hellenistic period five fabrics (Benghazi local fabrics 1–5) are represented in the range of coarse wares, with fabric 1 predominating and fabric 4 being comparatively rare. This contrasts with the latest levels at Euhesperides where fabric 1 scarcely occurs and the standard of potting was high (see Riley 1978, 105 ff.). In comparison with the coarse pottery of Euhesperides, the Hellenistic pottery industry of Berenice was in relative decline, manifested by 'degenerate' forms and the poorer local fabric 1. The reason for this change is not known, but it is possible that the measure of skill or expense demanded for the successful manufacture of better quality coarse pots by the Hellenistic potters was considered too great to be worthwhile.

Paradoxically, however, the later Hellenistic period seems to have been the very time that the Benghazi pottery industry had its widest influence within Cyrenaica, as the study of internal trade in locally produced braziers indicates especially (see below p. 401). The manufacture of these braziers demanded a certain artistic skill, especially for the more elaborately decorated versions, but no attempt seems to have been made to use a better quality clay for their manufacture. The Hellenistic period has a limited variety of standard forms and even within these forms there is a degree of variation. This variation suggests a fairly relaxed general measure of control over the industry, especially when compared with the more rigorous standardization of the Roman period.

The local industry in the first century A.D. seems to have continued in the Hellenistic tradition, although there was a tendency for some forms to develop and new ones to be introduced. The general dominance of the poor local fabric 1 from the third century B.C. until the early second century A.D. may be connected with a general decrease in prosperity over the whole period. However, an equation of the state of the local pottery industry with the general health of the economy cannot automatically be assumed. The first century A.D. in Cyrenaica was a time of increasing prosperity, yet the local pottery industry continued to produce poor quality products in general. It seems unlikely that the imports of good quality coarse pottery from Italy and elsewhere in the first century A.D. would have been responsible for suppressing local initiative.

When change came in the second century A.D. it was sweeping. The number of local fabrics dropped from five to four with fabrics 2 and 3 now being rare and fabrics 3 and 6 common. It is hard to see the decline of local fabrics 2 and 3 except as the result of either a change of clay source, which is not supported by the petrological evidence or as a change of technique or fashion. Fashion may partly have been the cause of the appearance of local fabric 6. The pale greenish cream wash may have been designed to imitate glass, although it must be remarked that the forms do not. The widespread use of local fabric 4 at this time should be seen in terms of technique, as both fabric 4 and 5 seem to be similar on the basis of the results of both thin sectioning and neutron activation analysis. Some sort of rational reorganisation of the pottery industry about this time is also evident from a study of the pottery shapes. Imports of coarse ware other than amphoras seem to have dropped and the degree of stan-

standardisation not only within Cyrenaica but also between the coarse wares of Cyrenaica and Crete is impressive. The cooking ware is of a consistently higher quality compared with that of earlier periods and there was a wider selection of local plain wares. Footed bases decline dramatically and scarcely occur in the later second and third century A.D. levels (fig. 60).

In the Late Roman period there seems to have been little demand for good quality locally produced pottery. Cooking wares were again imported, probably from the Aegean (LR Cooking Wares 2-4), and jugs were imported on a fairly large scale. By the late fifth and sixth centuries A.D., the number of local fabrics had dropped to three with the disappearance of local fabric 6 at Berenice.

The locally produced cooking ware clearly belonging to this period is mainly of the crude local fabric 1, and much of this is the crude hand made LR Cooking Ware 1. MR Cooking Ware 1 and MR Plain Ware 3 seem to continue into this period and these are wheel made, which seems to indicate that the technique did not die out. No satisfactory answer can be suggested for this seeming collapse of the local pottery industry. It may be connected with the process of de-urbanisation which seems to have been taking place in the Late Roman period (references, p. 416). However, until this process has been satisfactorily studied through extensive field work, such an interpretation must remain speculative.

It seems that the basic structure of the local pottery industry changed little with the Arab invasion. The locally made Islamic cooking wares of the Fatimid period at Ajdabiyah clearly developed from the Late Roman Cooking Ware 1 and are also hand made. The coarse Islamic plain wares of the eleventh to twelfth centuries A.D. at Ajdabiyah are wheel thrown.

Although the above survey of the pottery industry above mainly discusses Berenice, where it can be tested, the general pattern seems representative of that on all Cyrenaican urban sites. Similar forms and techniques occur on each site in each period and to a large extent the type series of pottery for Benghazi is basically a type series for the whole of Cyrenaica.

## VI. The Marketing and Distribution of the Coarse Pottery of Berenice

There is little evidence that any of the coarse wares of Berenice were exported and practically all the pottery produced seems to have been for local use. The only product for which there is evidence of export is H. Amphora 1 in the Hellenistic period. Amphoras were not produced for export in Cyrenaica in other periods, and only limited numbers of amphoras were made at all, even in the second and third centuries A.D. when efforts seem to have been made to make Cyrenaica self sufficient in pottery production. The local clay was suitable for making amphoras, as H. Amphora 1 shows, so it is probably to economic reasons that one must look in an attempt to explain the lack of local amphoras. It could be that farmers found it more profitable to grow wheat (which was always in demand) than to involve themselves in the more risky wine or oil trade (which Greece and the Aegean had well established in the later Hellenistic period, and which Italy developed in the early Roman period and which Tripolitania and southern and central Tunisia continued).

With the exception of local fabric 1, the Berenice fabrics are similar in appearance to those of other Cyrenaican sites. There is also a general standardisation of pottery forms within Cyrenaica. It is therefore very difficult to plot the marketing of the products of various local potteries. However, while such a study is fraught with difficulty, it is possible. It has been possible to distinguish the wares of three areas of Cyrenaica (Berenice, Tocra and Cyrene) by their different chemical composition through neutron activation analysis (Krywonos 1976, Riley 1978), where this is not possible by subjective methods. This is of importance as the marketing patterns of coarse pottery when known could provide important information about supply routes, especially military supply routes in various periods by relating the wares found in 'frontier' forts to their production centres. Such work is impracticable at present as it would require analysis of a large sample of pottery from a wide range of sites.

An indication that coarse wares from Berenice were distributed to other Cyrenaican towns by sea is supplied by the distribution of braziers in the distinctive local fabric 1. Locally made braziers which date in the later Hellenistic and Early Roman periods, have been found at Tocra, Tolmeita, Apollonia and Cyrene. These have mainly been unstratified but the examples from Cyrene are from contexts probably datable to the first century B.C. (White 1975, *passim*). The fragile nature of the braziers (see Nos. 691-722) strongly suggests that they would have been transported by sea rather than by land. Sherds in the same fabric were noted from D. Whitehouse's excavation at Ajdabiyah by the writer, although in negligible quantities. It seems unlikely that coastal traders would have limited their wares to braziers and it is highly possible that a greater range of local products was traded, for which no clear evidence at present survives.

In the light of the difficulty of identifying the local wares of different parts of Cyrenaica, the lack of pottery from inland sites for comparison and the inability to date many of the sites which have been discovered, it seems premature to attempt to construct hypothetical models for the marketing of the local wares of Berenice.

## VII. The Contribution of the Study of the Hellenistic and Roman Coarse Pottery of Berenice to the Economic History of the City

An attempt to relate the study of the coarse wares of Berenice to the known economic and social history of the town has certain limitations and difficulties. The pottery is from a limited area of Berenice and may not be representative of the city as a whole. Moreover, as there are no comparative stratified sequences of coarse pottery from other Cyrenaican sites, it is not possible to consider the evidence from Berenice as applicable to Cyrenaica as a whole. However, it does seem to offer possible suggestions for general economic and social trends.

The economic information provided by the coarse pottery of Berenice is somewhat unbalanced. The scarcity of locally produced amphoras in general, and the nearly complete absence of Berenicean or Cyrenaican coarse pottery from other eastern Mediterranean sites, results in a clearer picture of Berenice's imports than its exports.

The imported coarse pottery falls into two broad categories. These are containers for imported products, which reflect the trade in those products, and functional coarse wares, which are imported for their own sake. The importance of these two categories to the total economy is not easy to gauge, but an attempt can be made in the light of quantitative techniques.

The goods imported in amphoras (mainly wine and oil) were probably of some significance to the inhabitants of Berenice, especially in the Roman period. This is suggested by the rarity of locally produced amphoras during this period, possibly due to under-exploitation of oil or wine production potential in the Berenice region (because of possible emphasis on grain production?).

Duncan-Jones (1974, 1), would play down the importance of goods such as coarse pottery imported for their own sake, considering that 'the staples of long distance trade were luxury goods and government supplies rather than low priced goods intended for sale to a mass market'. However, it is clear that fine pottery was widely traded throughout the Mediterranean in large quantities in the Roman period, as were coarse functional wares such as cooking pots, frying pans, mortaria, etc. By comparing the relative proportions of functional coarse wares and imported amphoras, it is possible to gauge their relative importance to each other. After the Augustan period, for every five or six imported amphora RBH, there is one coarse vessel RBH imported for its own sake (fig. 67). This suggests that coarse pottery may have played a not insignificant role in overall trade, although the true proportion can never be known as many goods were traded for which there is no archaeological record.

It cannot be assumed that internal crises necessarily have an adverse effect on maritime commerce. For example, the East-West trade of Alexandria was developed in the second half of the second century B.C., a period of social unrest (Fraser 1972, 150 ff.). The effects of political and social unrest are difficult to determine from a study of coarse pottery alone, especially in the Hellenistic period at Berenice, where the shapes are long lived. On the other hand, in certain circumstances the state of the local pottery industry may be related to internal conditions. Lapp (1961, 230-1) sees the general insecurity of the



## COARSE POTTERY

| Period:                       | Hellenistic | Augustan | early<br>1st c. | late<br>1st c. | early<br>2nd c. | late<br>2nd c. | early<br>3rd c. | mid<br>3rd c. | early<br>6th c. |
|-------------------------------|-------------|----------|-----------------|----------------|-----------------|----------------|-----------------|---------------|-----------------|
| Total<br>RBH                  | 958         | 579      | 697             | 2270           | 2039            | 432            | 3795            | 3248          | 1472            |
| Total<br>Imported<br>Amphoras | 12.9%       | 13.6%    | 21.5%           | 21.9%          | 26.6%           | 33.7%          | 15.7%           | 18.0%         | 34.5%           |
| Other<br>Imported<br>Coarse   | —           | 0.7%     | 4.2%            | 3.4%           | 4.0%            | 3.0%           | 3.3%            | 4.1%          | 10.3%           |

*Fig. 67. Relative Proportions of Imported Amphoras to Other Imported Coarse Wares at Berenice.*

Hellenistic period in Palestine reflected in progressively poorer quality pottery throughout the period. This may also apply to some extent in Berenice and Cyrenaica in general. General difficulties in the Hellenistic period may have been responsible for the overall decline in quality of locally produced pottery at Berenice, compared with that of the fourth century B.C. at Euesperides (see Riley 1978, 105 ff.). Such an equation, however, cannot automatically be assumed. For example, although the first century A.D. was a period of increasing prosperity in Berenice (with a total re-development of the excavated quarter of Berenice, see Lloyd 1978), this is not reflected in the quality of the coarse pottery. The range of forms and the predominance of the poor quality local fabric 1 at Berenice in the first century A.D. are more characteristic of the Hellenistic than the Roman period and represent a continuation of the Hellenistic tradition. The state of the local pottery industry would not, therefore, seem always to serve as an effective economic barometer.

A coarse pottery study can only complement similar studies of other artifacts, including fine pottery and lamps, but in the case of Berenice, it indicates a complex pattern of ceramic exchange. Broadly, a close ceramic contact with the Aegean in all periods is illustrated by actual imports from that region as well as Aegean influence on the shapes of the local Berenice pottery. There were some commercial ties with Italy and the western Mediterranean in the Hellenistic period; these grew, especially in the first century A.D., and continued at least until the mid third century A.D. Although contact with the western Mediterranean continued through fine pottery (ARS), coarse pottery contact was negligible by the fifth century A.D. There was little coarse pottery trade with Egypt or the Levant until the Late Roman period, but even then, in the sixth and seventh centuries A.D., it was very limited.

The value of a study of coarse pottery is that it enables that part of the economic life which it reflects (the trade or supply of liquids and other goods) to be quantified. Economic historians have often lamented the lack of reliable figures from the ancient world in order to quantify trade patterns (as Finley 1973, especially p. 33; Coster 1968, 123). Pottery, the most common ancient artifact, lends itself admirably to such quantification, but has until recently been much neglected from this point of view. The aim of this study has been to illustrate how coarse wares can be identified, dated and provenanced and then quantified to provide additional economic information. Although much work remains to be carried out, and despite the limitations of such work, it is felt that the results complement and add to the general economic history of Cyrenaica in a way that a traditional (non-quantified) study of the pottery could not.

## THE MAJOR PRODUCTS OF HELLENISTIC AND ROMAN CYRENAICA

Cyrenaica is capable of producing most Mediterranean crops. Only two, however, are known to have been produced regularly for export: silphium and grain (for references see below). Silphium, which was gathered from the arid steppe region of Cyrenaica, played an important part in the economy until the mid first century B.C. or thereabouts, after which it became progressively rarer. Grain was at all times an important export and source of wealth. It is true that Cyrenaica also produced grapes and olives, but there is a consistent absence of clear reference to Cyrenaican oil and wine production in the literary sources. Although these products were certainly produced locally, they may not have been exported on any scale. This is suggested by an absence of locally produced amphoras after the Hellenistic period. The reason for this in the Roman period is likely to have been the high quality products and well organised competition from the Aegean and elsewhere. Grain, on the other hand, was a safe crop commercially, as it always had a ready market owing to the unsuitability of the Aegean region for large scale grain production.

## CYRENAICA FROM THE SEVENTH TO THE FOURTH CENTURIES B.C.

This general period was one of growing importance for Cyrenaica, and by the late fifth to early fourth centuries B.C., Cyrene had reached the height of her prosperity (for the history and architecture of this period see Goodchild 1971, Stucchi 1975). This prosperity was probably largely due to the extension of cultivation onto the land previously used for grazing by the Libyan nomads (for a discussion of the effect of the Greek immigrants on the traditional way of life of the indigenous Libyans see Johnson 1973, 101–2). The result was a surplus of grain in favourable years and an extension of silphium collection.

The suitability of Cyrenaica for grain production is attested by Herodotus (b. 484 B.C.), (IV, 198–9), and Theophrastus (c. 370–285 B.C.) alludes to the export of grain from Cyrenaica (*Hist. Pl.*, VIII, 4). Between 330–326 B.C. Cyrene supplied 43 Greek cities during a famine (*SEG*, IX, 2). Chamoux (1953, 219 ff.) places more emphasis on the importance of grain production at this time than does Jones (1971, 354) who stresses silphium and horses as the principal exports. Although the true extent of grain production is not known, Cyrenaica was certainly capable of producing grain for export and may have exploited this potential to different degrees in various periods. Johnson (1973, 51 ff.) discusses the modern production of wheat and barley in Cyrenaica.

Silphium, which was prized especially for its medicinal properties (see Gemmill 1966), was exported to Athens from the early sixth century B.C. (Chamoux 1953, 241 ff.), and was sufficiently important to have become the emblem on local Cyrenaican coins from the sixth century B.C. Silphium continued to be exported until its decline at some stage in the first century B.C. It was already rare in the first decades A.D. (Oost 1963, 13 and references).

Other products which were exported at this time included leather (Hermippos, *Athenaeus*, I, 27e), horses (Chamoux 1953, 234) and dates from Augila (Herodotus, IV, 173). There is no unequivocal evidence for the export of oil or wine, although Theophrastus praised the olives of Cyrene (*Hist. Pl.*, IV, 3).

Cyrenaica's closest ties in this period were with the Aegean. From the point of view of architecture, Stucchi (1968a, 211) considers Cyrenaica 'among the Hellenized regions ... the one closest to the Greek motherland'. The coarse cooking wares imported from the

## COARSE POTTERY

---

Aegean from at least the early sixth century B.C. (Boardman & Hayes 1966, 135) and the evidence of the fine pottery (*ibid.*; Boardman & Hayes 1973), further attest these ties, although the impression gained from the range of fine pottery at Tocra was that Cyrenaica may have been 'at the end of the trading circuit' (Boardman 1968, 91). Continuation of such contact with the Aegean is evident from the fine and coarse wares of Euhesperides (Riley 1978, 105 ff.). Archaeological evidence of commercial ties between Egypt and Cyrenaica is lacking for this period.

Although Egypt had contacts with the western Mediterranean (including Carthage) at this time (Vercoutter 1945), it is uncertain to what extent Cyrenaica was involved in these. Chamoux (1953, 241) argues that sixth century B.C. Cyrene, through its port at Apollonia, was not a staging post for this commerce. Pagano (1976) argues a fourth century B.C. major sea route Egypt-Cyrenaica-Crete-Peloponnese. The progressive lack of detail concerning the ports between Apollonia and Euhesperides, and especially so after Euhesperides, in the fourth century B.C. seamen's guide *Periplus* suggests that there may have been little contact with Tripolitania via the Gulf of Sirte.

### CYRENAICA IN THE THIRD AND SECOND CENTURIES B.C.

In the early third century B.C. the Greeks and Levantines controlled trade in the eastern Mediterranean. Over the course the later third and early second centuries B.C., Italians began to appear in limited areas of the northern Aegean (see Wilson 1966, part II, on the rise of Italian commercial influence in the eastern Mediterranean). Rhodes was an important centre of commerce during this period until the proclamation of Delos as a free port in 167 B.C. This, combined with the destruction of Carthage and Corinth in 146 B.C., brought about a re-orientation of eastern Mediterranean trade, with Delos as the pivot of commerce. The favourable political situation encouraged increased numbers of Italians to settle in the eastern Mediterranean. They are first attested at Alexandria by the third quarter of the second century B.C. (Fraser 1972, 159; who considers that Alexandrine trade with the West was centred on the route Alexandria-Delos-Puteoli from this time). There is no evidence of Italian merchants in Cyrenaica until the early first century B.C. (see below).

The evidence for the economy of Cyrenaica in this period is scanty (for recent summaries with references see Fraser 1972, 151 ff.; Johnson 1973, 105 ff.). With the exception of the introduction of Jewish military settlers at some time towards the end of this period (Josephus, *V. Apion*, 2.44), there seems to have been little population movement, and, although there is no evidence that Cyrene regained the brilliance of the fourth century, the third and second centuries seem to have been a period of general economic stability (see Johnson 1973, 107 ff. for references). The close political contact of Cyrenaica with Egypt under the Ptolemies during this period is not reflected in the archaeological finds.

The pottery from the Hellenistic deposits at Berenice provides some information which may relate to a decline compared with the fourth and early third centuries B.C. The local pottery is cruder and of a poorer fabric than that of the earlier period (at Euhesperides) and the proportion of imported pottery is lower in the Hellenistic and Augustan periods than at any time before the Arab conquest (c. 14 per cent of the total RBH). Such evidence should be used with caution, however, as the state of the local pottery industry does not necessarily reflect general economic conditions (see above). In the Hellenistic and Augustan periods, the proportion of H. Amphora 1 (over 20 per cent of the total amphora RBH, although 3.4 per

cent of the total pottery RBH), which was the only local amphora to have been produced in any quantity in any period, suggests a measure of liquid production in Cyrenaica which was not equalled in later periods. In addition, the imported amphoras suggest a certain broadening of commercial contacts, especially towards the western Mediterranean.

#### COMMERCE BETWEEN CYRENAICA AND THE WESTERN MEDITERRANEAN IN THE THIRD AND SECOND CENTURIES B.C.

Trade continued between Alexandria and Carthage in the third century B.C. (Fraser 1972, 152–3). In addition, the trade between Alexandria and Italy via Delos was developed, especially in the second half of the second century B.C. (Fraser 1972, 150 ff.). It is likely that in the second and early first centuries B.C., southern Italians and Italiote Greeks were connected with the export of wine and oil from Italy to the east via Delos (Wilson 1966). This trade is illustrated archaeologically by the quantity of Apulian amphoras (both H. Amphora 8 from Brindisi and the Lamboglia II amphoras) at Delos (Will 1970) and at Alexandria (Grace 1955, 325; Will 1970).

It is difficult to determine the extent to which Cyrenaica was involved in this trade, and which routes were used. The literary and archaeological evidence for trade between Cyrenaica and the western Mediterranean is scrappy, but when collected together, points to a small scale but fairly broad contact.

Coster (1968, 116) draws attention to Plautus' (254–184 B.C.) assumption that a Roman audience of his time would be familiar with the shipping of silphium from Cyrenaica to Capua. Strabo (64/3 B.C.–post A.D. 21), obviously referring to a date before the middle second century B.C. and perhaps much earlier, provides evidence of contact via the Syrtic route; '... Charax, which the Carthaginians used as an emporium taking wine thither and in exchange receiving loads of silphium juice and silphium from merchants who brought them clandestinely from Cyrene' (17.3.20).

The coarse pottery from Berenice includes three rims of H. Amphora 10 which are of the local Carthage fabric, judged by eye. In addition, several sherds of the Graeco-Italic H. Amphora 7, which may come from the Sicily region, occurred in the Hellenistic contexts at Berenice (3.8 per cent of the total amphora RBH, comprising six fragments). These may belong to this period but could belong to the first century B.C.. The possible Sicilian origin for the type is discussed above (p. 131); it may have been the container for the Sicilian wine attested in Egypt in the third century B.C. (Zenon Papyrus, PCZ 59.007). The quality of Carthaginian wine does not appear to have been particularly outstanding (Haywood 1938, 23) and it is possible that Sicilian wine, which was certainly imported by Carthage (e.g. Diodorus Siculus, XIII, 81, 45, referring to the fourth century B.C.), might have been re-exported to Cyrenaica via the coastal route. Further research should cast more light on this problem. There is other, albeit slight, evidence of contact with Carthage at this time. Three out of eight residual Greek coins from early Roman levels at Carthage were Cyrenaican Ptolemaic issues of 140–96 B.C. (Buttrey 1976, 158). One Carthaginian coin of the third to second centuries B.C. occurred at Berenice (Reece in Lloyd 1978). There is also the claim that Tanagra style figurines found in Carthage were made in Cyrene (Gsell 1930, IV, 188; the writer has not been able to examine the fabric of these examples to confirm this).

The precise routes which western imports took to reach Cyrenaica cannot at present be determined although it is possible that they came via Sicily and the Aegean. Possible evidence

for this is that in addition to the western imports noted above, from the third or second centuries B.C. Gnathian ware, probably from Tarentum, occurs in the Hellenistic deposits at Berenice (it also occurs at Alexandria, Fraser 1972, 139). From the second century B.C., a fairly high proportion of Campana 'A' black glaze fine pottery from southern Italy was imported into Berenice (Kenrick, personal communication). Campana 'A' were has also been recognized in limited quantities in Hellenistic contexts at Paphos in Cyprus (Hayes, personal communication: it was not exported from Italy before c. 200 B.C., Morel, personal communication). Despite the import of western fine wares into Berenice, Apulian amphoras of the later second and early first centuries B.C., which, on the basis of proportions of stamped examples (for the limitations of such evidence see p. 124, seem to have been frequent at Delos and Alexandria, are rare. Only one stamped handle of H. Amphora 8 (No. 46) and no unequivocal Lamboglia 2 amphoras (see p. 152) were noted in Cyrenaica. In addition, there do not seem to be any rims of the late second to early first century B.C. H. Amphora 9a (Dressel 1a), although they occur at Alexandria (unpublished, Graeco-Roman Museum Nos. 11687 and 22991). Although caution must be exercised when arguing from absence of evidence, this, as well as the absence of Aegean braziers, might suggest that Berenice and probably also Cyrenaica may in some respects have been in a commercial backwater, only partly sharing in east-west trade.

Lack of familiarity with the western Mediterranean coarse pottery of all periods by pottery specialists working in the eastern Mediterranean has hindered appreciation of the scale of its occurrence in the eastern Mediterranean. Careful re-study of the coarse pottery from Hellenistic contexts on eastern Mediterranean sites may provide more complete evidence of commercial contact with the western Mediterranean. Apart from the stamped Apulian amphoras noted above, other examples of ceramic contact with the western Mediterranean include H. Amphora 7 (Graeco-Italic) from the 146 B.C. destruction level at Corinth (Grace 1961, fig. 31) and a sub Punic amphora (probably from Tunisia?) from a late second century B.C. group at Athens (Grace 1961, fig. 38). As well as H. Amphora 9a (Dressel 1a), H. Amphora 7 was also noted by the writer in the store-rooms of the Graeco-Roman museum at Alexandria.

Ceramic evidence for the general contact between the eastern and the western Mediterranean has been better documented through the occurrence of eastern Mediterranean amphoras, especially Rhodian and Knidian amphoras, in the west. Numerous examples at Carthage are attested in *CIL*, VIII, 22639, and Gsell (1930, IV, 26-7) notes an increase in Rhodian amphoras in the early second century B.C. there, as well as in Aegean braziers (*ibid.* IV, 162, note 5). Several unpublished Rhodian and Knidian amphoras were noted by the present writer in the Tripoli museum store room, from Hellenistic tombs at Gargaresh in the suburbs of modern Tripoli. Both types occur at Marseilles (Benoit 1954).

#### CONTACT BETWEEN CYRENAICA AND THE AEGEAN IN THE THIRD AND SECOND CENTURIES B.C.

As during the preceding centuries, the bulk of cultural and commercial influence may have come from the Aegean in the third and the second centuries B.C.. The coarse pottery shapes reflect this, as well as the fine wares, which include black glazed ware and Megarian bowls. Evidence provided by the coarse wares suggests that the impact of known Aegean imports may have been comparatively small. The classified amphoras, which include Rhodian,

Knidian and a very few Chian amphoras (H. Amphoras 3, 4, and 6) represent only one per cent of the total coarse pottery RBH or 6 per cent of the total amphora RBH (a much lower figure than suggested by a study of amphora stamps alone). Many of the amphoras in the miscellaneous amphoras category may belong to the Aegean or Eastern Mediterranean but this remains to be confirmed. Over 60 per cent of the amphora RBH (over 10 per cent of the total pottery RBH) are in this category and all are imported, which suggests that the lesser known products of the Aegean area may have had more importance in Cyrenaica than hitherto suspected. An added complication to a determination of the products imported into Cyrenaica at this time, apart from the problems of classifying and identifying the amphoras, is that the source of an amphora may not always be related to its contents (as in the case of Rhodian amphoras, some of which at least may have contained Laodicean wine – see above and Fraser 1972, 166 ff. on this point).

Literary sources referring to commercial contacts are rare in this period. Relations between Cyrenaica and Crete existed on a private as well as an official and administrative basis before 96 B.C., as Cyrenaican citizens are attested by inscriptions from Gortyn, Phaistos and Olunte (Stucchi 1975, 195, note 13 for references). No pottery necessarily from Crete was noted in the Hellenistic deposits at Berenice or elsewhere in Cyrenaica, but Cretan coarse wares of this period have not been adequately published and may not have been recognized by the writer. At least one Cyrenaican craftsman, Polianthes of Cyrene, a bronze artist, worked in the first half of the second century B.C. (Marcadé 1952, 134). There is clear evidence of contact between Cyrenaica and Arcadia and Delphi in the Hellenistic period (Carratelli 1962, 273, No. 103). and a community of Cyrenaicans is attested in Egyptian papyri in Egypt (Alim 1968; I am grateful to J. Reynolds for these references). The Egyptian papyri provide information about the range of produce imported into Egypt from the Aegean, presumably intended mainly for the consumption of the Greek population. This included Chian wine and cheese, Carian, Attic and Rhodian honey and Pontic nuts (Fraser 1972, 150: although these goods may have been shipped to Alexandria via Syria; for other Aegean products see Casson 1954, 1954, 170–1). Although Egypt is always liable to have been a special case, it seems likely that there would have been a steady demand for similar produce from the Aegean from the Greek population in Cyrenaica.

#### RELATIONS BETWEEN CYRENAICA AND EGYPT DURING THE THIRD AND THE SECOND CENTURIES B.C.

Although there were close political links with Egypt at this time, there is little evidence of any close economic or cultural associations. Stucchi (1969a, 221 ff.) and Buttle (1956, 41) discuss the dearth of Egyptian influence on Cyrenaican architecture. Moreover, there is a scarcity of Egyptian works of art. A few Egyptian objects have come to light (Rowe 1948 for two statues; Rostovtzeff 1941, 368, pl. xli (2), for a royal Ptolemaic oenochoe), but more Egyptian or Egyptianized objects have occurred at Carthage, and more consistently than in Cyrenaica (see Vercoutter 1945, for a catalogue and review of these).

There is slight evidence of contact in the other direction. Fraser (1972, II, 292, note 317, iv) remarks that there are five stamped amphora handles bearing the name *Karnedas* in lettering of the third to second centuries B.C. in a specifically Cyrenaican spelling which have been found in the Alexandria region. Two stamps bearing this name have been noted at Berenice on the local H. Amphora 1 (see No. 12). In addition the stamps *Philiskon* and *Philis* (Nos. 7 and 8)

## COARSE POTTERY

---

are paralleled in Alexandria. The significance of these stamps at Alexandria is lessened in terms of trading contacts as they are the only examples from an unstratified sample of over 90,000 other stamped handles in the Benachi collection at Alexandria (unpublished). On the other hand, the proportion of H. Amphora I handles with stamps at Berenice was very low. Future study of all the pottery, both stamped and unstamped, from stratified Hellenistic deposits in Alexandria may cast more light on whether this presence is the result of casual contact or more systematic trade.

The contents of H. Amphora I are uncertain. The high import duties on imported wine and oil in Egypt at this time, together with the presence of a local wine industry in Alexandria (on these points see Fraser 1972, 150) suggest that they may not have been wine or oil, although, on the other hand, these products were imported into Egypt.

No clear ties with the Levant could be traced in this period from the study of the coarse pottery.

### CYRENAICA IN THE FIRST CENTURY B.C.

In the early first century B.C. Delos was the nodal point of trade between Alexandria and Puteoli (Fraser 1972, 159). The Mithridatic wars were a hard blow to Aegean trade (Baldacci 1972) and Delos suffered in 88 B.C. when it was sacked; although it recovered, it was destroyed in 69 B.C. Piracy was another problem until Pompey's campaign against pirates in 67 B.C. (on piracy in the eastern Mediterranean at this time see Ormerod 1924).

The period after the death of Ptolemy Apion in 96 B.C., when Cyrenaica was bequeathed to the Romans, until about 62 B.C., was one of political chaos and perhaps of economic decline. This seems to have been due to the absence of a strong authority in Cyrenaica, resulting from the reluctance of the Roman senate to involve itself too closely in the administration of Cyrenaica.

The unsettled conditions in Cyrenaica in the first half of the first century B.C. are well recorded. In Cyrene there was unrest in the 90s B.C. (Plutarch, *Mor.* 256a), and Josephus (*Ant.* XIV, 114) refers to a Jewish rising in 87/6 B.C. An important stele dating 62/61 B.C. from Berenice shows a series of crises in the late 90s and an attack and devastation of Berenice by pirates in the 80s and/or 70s B.C. (Reynolds 1974; for pirates off the coast of Cyrenaica see Florus, 1, 41). A similar and contemporary stele has also been found at Tocra (Reynolds 1974, 622 ff.). The effect of these chaotic conditions on trade is difficult to determine. Periods of internal trouble do not necessarily cause economic decline (for example, the economy of Alexandria expanded in the second century B.C., at a time of political unrest within the city: Fraser 1972, 150 ff.), and Italian businessmen are attested in Cyrenaica from at least 67 B.C. (Reynolds 1962, 97 ff.). Coster (1968, 130) considers (on slight evidence) that the pirates would have closed the Cyrenaican-Aegean route during this period, but not the route Cyrenaica-Alexandria. The pottery evidence does not provide firm evidence either way, as pottery and amphoras of the early first century B.C. can rarely be distinguished from those of later or earlier periods, and no Egyptian contact can be proven. The total quantity of well stratified pottery of this date in Cyrenaica is very small and not conclusively dated. However, some Rhodian (Nos. 110-2) and Knidian amphoras (Nos. 34, 37) are of this date, and it is possible that the fine Eastern Sigillata 'A' wares from Syria first appeared about this time.

There is scanty literary evidence for the economy of Cyrenaica in the second half of the first century B.C. The general period seems to have been one of increased Italian immigration,

especially after Cyrenaica formally became a Roman province in 74 B.C. However, to judge from the edicts of Augustus (7-6 B.C.), these immigrants were not wealthy (Rostovtzeff 1971, 308). Although silphium became scarce in this period, grain continued to be a sufficiently important product for Pompey to have considered stores of it from Cyrenaica in the mid first century B.C. for his war against Caesar (Caesar, *Bell. Civ.*, 3, 5, 1). The relative importance of the different crops cannot be gauged, but it is perhaps significant that the local H. Amphora 1 continued to comprise over 20 per cent of the total amphoras in the Augustan deposits, which suggests a continuity in the production of certain liquid products. The proportion of imported pottery is low in the Augustan period (14.8 per cent of the total coarse pottery RBH) compared with later periods, but is slightly (although perhaps not significantly) higher than in the Hellenistic period. Notwithstanding, however, the coarse pottery evidence indicates for the latter part of the first century B.C. a growth and diversity of trade with the western Mediterranean, a continuation of close links with the Aegean and evidence of trading links between the various towns within Cyrenaica. This supports Reynolds (1959, 25) who states 'although the archaeological evidence does suggest a decline under the late Republic, there are traces of renewed vigour from the Augustan period onwards', rather than the scenario suggested by Coster (1968) who asserts that after its annexation by Rome, Cyrenaica suffered a serious economic decline. There is, however, insufficient evidence to claim a 'brillante renaissance' for this period as does Laronde (1974).

#### CONTACT BETWEEN CYRENAICA AND THE WESTERN MEDITERRANEAN IN THE FIRST CENTURY B.C.

Italian businessmen are first attested in Cyrenaica in 67 B.C. (Reynolds 1962, 97 ff.), and throughout the late Republic and the early Augustan periods funerary inscriptions show Roman citizens in Cyrenaica. They had *nomina* such as *Stlaccius*, *Orbius* and *Erucius* which are particularly associated with Campania and Delos (Reynolds 1968, 188). 'They were on the whole men of modesty incomes but they must have played a part of some importance in the integration of Cyrenaica into the Roman world' (*ibid.*). Some of the Roman citations may be of freedmen of Italian families (Reynolds, personal communication; on immigrants see Gasperini 1971, 15, No. B2). The Italian involvement in the wine or oil trade to the eastern Mediterranean is illustrated by the name *Stlac(c)i* stamped on an amphora in an Early Roman context at Knossos (Hayes 1971, 271, No. 22). It seems likely that the family connection in the organization of Mediterranean trade was as important in this period as in the eleventh century A.D. (vividly illustrated in Goitein 1973).

Italy had exported wine and oil from the later second century B.C. and this trade is reflected in Cyrenaica by the occurrence of several examples of H. Amphora 9b (= Dressel 1b) of Campanian fabric (c. 70 B.C.—late first century B.C.). As has been noted above, only one H. Amphora 8 (= Brindisi amphora) handle of the later second to mid first century B.C. occurred at Berenice. It is not clear by which route the Italian imports reached Cyrenaica, but it may have been via the Aegean.

A comparison of the *Stadiasmus* itinerary (which may now be dated to the late first century B.C. rather than to the late second century A.D.—see di Vita 1974, accepted by Pagano 1976) with the fourth century B.C. *Periplus* provides a more complete description of the Syrtic ports. This is interpreted by Pagano (1976, 308) as indicating an increase in commercial



activity in the Syrtic region over this period. The Syrtic route may have been used between Cyrenaica and Tunisia but to what extent cannot clearly be determined. At some time in the first century B.C., possible later rather than earlier, amphoras from Tripolitania or Tunisia (H. Amphora 11, 12, 13 and ER Amphora 11) seem to have reached Cyrenaica. Oil was the probable African product. Leptis Magna, for example, had to pay a tribute of over a million litres of oil per year to Rome from 46 B.C. (on this and on the African oil trade in general see Carandini 1970, 99). In general, while commercial links with the western Mediterranean seem to have expanded in the first century B.C., it should be noted that the proportion of Western amphoras in Berenice, although significant, remained small (5–7 per cent of the total amphora RBH).

While Italy was exporting wine to the eastern Mediterranean (as attested for example by the Dressel 1b (H. Amphora 9b) amphora, which also occurs at Alexandria: unpublished), eastern Mediterranean wines, especially those of Chios and Kos were exported to Italy (Varro, *de Re Rustica*, II, 1, 3; Pliny *NH*, 96–7).

#### COMMERCIAL RELATIONS BETWEEN CYRENAICA AND THE AEGEAN IN THE FIRST CENTURY B.C.

Links with the Aegean remained strong in the first century B.C. This is illustrated by the unification of Cyrenaica with Crete to form a joint province soon after Cyrenaica's annexation by Rome in 74 B.C.. The pottery provides no evidence of contact with Crete until the late first century A.D. (MR Amphora 2).

Koan and Chian wine was imported (H. Amphora 5 and above p. 129), but neither seems to have been particularly popular in the Hellenistic period. Double-barrelled amphora handles (which are usually associated with Koan amphoras in B.C. contexts in the eastern Mediterranean) are rare in the Hellenistic deposits at Berenice. The fragmentary nature of the Hellenistic amphoras at Berenice did not enable much of significance to be added to our inadequate knowledge of eastern Mediterranean, and especially Aegean amphoras of this period.

Locally manufactured coarse ware shapes continue, during this period, to show Aegean influences and are related to those of the preceding two centuries. Links with the Aegean are attested by such imports as lagynoi, mortaria and fusiform unguentaria (for their respective origins see above.). From the later second century B.C., decorated braziers circulated widely throughout the eastern Mediterranean and as far west as Carthage at least (p. 303). However, while there is a high proportion of braziers at this time in Berenice (nearly 5 per cent of the total coarse pottery RBH), none were imported. No imported braziers have been noted on any site in Cyrenaica. While some of the appliqué brazier lugs seem to be influenced by those current in the Mediterranean (for example the ox-head motif), the ubiquitous lug with an appliqué bearded head and pointed cap does not occur at all in Cyrenaica. The reason for this is unclear but could again suggest that Cyrenaica was not in the mainstream of Mediterranean trade during this period.

The evidence for internal trade within Cyrenaica has been discussed above (p. 401), and although it can best be illustrated by braziers of Benghazi local fabric 1 on Cyrenaican sites in the first centuries B.C. and A.D., it is quite possible that there was trade in other periods, for which no clear archaeological record survives.

## COMMERCE BETWEEN CYRENAICA AND THE LEVANT AND EGYPT IN THE FIRST CENTURY B.C.

In Alexandria, Laodicean wine had taken the place of Chian by the second and first centuries B.C. (Fraser 1972, 167). Unless this wine was imported in Rhodian amphoras (as seems likely at Alexandria), it is unrecorded in Cyrenaica.

Although some products from the Levant and Anatolia were exported to Berenice and elsewhere in Cyrenaica in the first century B.C. (such as Eastern Sigillata 'A' Ware from Syria and Knidian lamps: the subjects of study by P. Kenrick and D. Bailey), there is no clear evidence for the import of coarse wares or amphoras or even for influences from this area. Likewise, there is no evidence from the coarse pottery of contact with Egypt during this century.

## CYRENAICA DURING THE FIRST CENTURY A.D.

In the Augustan period, many public buildings were restored or built in Cyrene, and the frontier region to the south-west of Berenice was fortified (see Stucchi 1975; on the fortifications see Goodchild 1976, 195, 206; Vickers & Reynolds 1972). Foreign troops were based in Cyrenaica (there was a unit of Syrian troops at Ajdabiyah: *SEG*, IX, 773-95; three inscriptions refer to a *cohors Hispanorum* and one to a *cohors Lusitanorum* probably before the middle of the first century A.D.: Goodchild & Reynolds 1962, Reynolds, personal communication). The presence of Spanish troops is not necessarily in any way connected with the import of Spanish amphoras into Berenice and other parts of Cyrenaica in the first century A.D.

Apart from the probably localized revolt of A.D. 73-4 (Josephus 7, 439), Cyrenaica seems to have been fairly peaceful throughout the first century A.D. and until the Jewish Revolt of A.D. 115-6. The classical authors refer fleetingly to the economy of Cyrenaica in the first century A.D. Reynolds (1959, 24) considers that the main item of trade during this period was grain. This is supported by a study of the coarse pottery. Liquids do not seem to have been exported from Cyrenaica in any quantity, at least not in locally produced containers. Local amphoras comprise a very low proportion of the total amphoras in stratified Early Roman deposits at Berenice.

There are occasional references to maritime routes of this period. Josephus (*Vita*, 15-6) was rescued by a ship sailing from Cyrene to Puteoli. Strabo (18, 836-7) refers to the good ports at Berenice and Apollonia. If this is a contemporary description, it perhaps emphasizes Berenice's significance as an international port and one of the main ports of Cyrenaica. Contact between Cyrenaica and Crete was perhaps frequent as the two countries formed a joint province. It seems possible that some of the commerce with Tripolitania may have come via the Syrtic route. Early Roman coarse wares occur on coastal sites around the Syrtic Gulf (Riley 1978). There is little evidence of commercial contact with Egypt or the Levant in the first century A.D.

## CONTACT BETWEEN CYRENAICA AND THE WESTERN MEDITERRANEAN IN THE FIRST CENTURY A.D.

The composition of the pottery found in Cyrenaica, especially in Berenice, reflects the connection between southern Italy and Cyrenaica. This connection was noted in the Hellenistic

period (see above pp. 406 ff.) but during the late first century B.C. and the early first century A.D. the proportion and range of pottery imported from the western Mediterranean increased rapidly. In the deposits of the first half of the first century A.D. at Berenice, Italian imports alone account for over 5 per cent of the total coarse pottery RBH (see figs. 5 and 6). It is not only the quantity of western imports that is noteworthy but also the range. As well as amphoras, the coarse pottery comprised cooking pots, lids, mortaria and some decorated plain wares. The gritty Campanian clay is of much better quality than that of the local cooking wares and the western imports may be due to the Campanian connection in Cyrenaica. The local pottery industry on the whole did not adopt these western shapes. There is evidence of slight experimentation in this direction but in general the arrival of Italian immigrants made little impression on the local potters of Berenice. The scale of the trade in coarse wares is difficult to determine, but it seems to have been more than mere casual contact. The southern Italian pottery producers seem to have taken advantage of empty ships returning to the eastern Mediterranean to transport their pottery during the first century A.D.

Western coarse pottery is increasingly being recognized in the eastern Mediterranean, and the full significance of its distribution is only beginning to be recorded (as Hayes 1977, discussing such wares from Paphos in Cyprus). Coarse pottery was also exported from Italy to Dalmatia in the first century A.D. (Wilkes 1969, 410 ff.; this was replaced by local pottery by the second century A.D., although luxury items like lamps and bronze lasted into the second and third centuries A.D.). The role of coarse pottery in general Mediterranean commerce may have been far greater than has generally be recognized.

The presence of Campanian amphoras (ER Amphora 4) is not surprising as Campania was a flourishing centre of wine production (Rostovtzeff 1971, 67, and 70) and its amphoras have been noted throughout the Mediterranean (see above p. 149). At Berenice they comprise nearly six per cent of the total amphora RBH in the early first century A.D. deposits. It is not certain that wine was always the content of this amphora, as Campania also exported oil (see above p. 150).

In addition to the Campanian amphoras, the Istrian ER Amphora 5 comprised over five per cent of the total amphora RBH in the same period. These may have contained oil or wine. Spanish amphoras do not occur in the early first century A.D. deposits but comprise over one per cent of the total amphora RBH in the later first century A.D. deposits. These probably carried mainly *garum*, although the hypothesis has been advanced that wine was a possible content (Tchernia 1971, 69, note 76). Tripolitanian amphoras, which probably contained oil, were imported throughout the first century A.D. but their frequency was low (c. two per cent of the total amphora RBH). Gaulish liquid products (mainly wine) seem not to have been imported into Cyrenaica until the second or third centuries A.D.

The early first century A.D. was the period when imported Western pottery seems to have been most frequent in Cyrenaica (c. 6.3 per cent of the total pottery RBH). This figure declines over the course of the first century A.D. and by the mid second century A.D. it is low, with most of the imports coming from Tunisia or Tripolitania (see fig. 6).

#### CONTACT BETWEEN CYRENAICA AND THE EASTERN MEDITERRANEAN (INCLUDING THE AEGEAN) IN THE FIRST CENTURY A.D.

While a variety of coarse wares was imported from the western Mediterranean, a steady contact seems to have been maintained with the East. The fine pottery illustrates this with

the presence of ESA, ESB and Cypriot Sigillata. The range of classified eastern Mediterranean amphoras of this date is fairly limited and the specific origin of most types is uncertain. Classification is difficult, as there is a tendency for amphoras from different areas to adopt similar characteristics such as horn handles or double handles. The majority of the miscellaneous amphoras also probably come from the eastern Mediterranean. MR Amphora 2, which is a Cretan as well as possibly an Aegean form, seems to have been introduced during the late first century A.D. The present stage of knowledge allows little discussion of the relation of Aegean and eastern Mediterranean imports to the economy of Cyrenaica. There is no evidence of coarse pottery contact between Cyrenaica and either Egypt or the Levant.

There are two local amphora types which occur in the first century A.D. levels (ER Amphora 12 and 13). The former may be a crude imitation of a Koan amphora (see p. 169). However, both types are very rare and have not been noted outside Cyrenaica. The internal trade in braziers seems to have continued into the first century A.D., on the evidence of several brazier lugs of Type G at Tocra and one such lug at Apollonia. As in the Hellenistic period, this may point to a possibly greater internal commerce than can at present be demonstrated archaeologically.

#### CYRENAICA FROM THE SECOND TO THE FOURTH CENTURIES A.D.

The sources for this period are scattered and incomplete and an understanding of the history relies heavily on archaeological excavation, fieldwork and inscriptions. The Roman influence in architecture is apparent through the first century A.D. and displayed itself fully under Trajan (A.D. 98–117) (see Stucchi 1968b, 224 ff.; Buttle 1957, 19). This probably reflects increasing prosperity during this period. An indication of this prosperity is that in the early second century A.D. a man from Cyrene assumed the position of *praetor* (Reynolds, 1959b, 96).

The outstanding event of the second century A.D. was the Jewish Revolt of A.D. 115–6, the cause of which was probably political and not economic (on this point see Reynolds 1959a, 26). The damage caused at Cyrene was extensive and the casualties high (for a list of the damage see Applebaum 1951, 185 ff.; for the wider context of the Revolt see Smallwood 1976, chapter 15). The destruction was sufficient to necessitate the introduction of veteran colonies and the founding of the city of Hadrianopolis. The long term effect upon the subsequent history of both Cyrene and Cyrenaica tends now to be played down (see Laronde 1974). The widespread adoption of Aegean coarse pottery shapes after the early second century A.D. by the potters of Berenice and most other Cyrenaican sites may suggest that large numbers of settlers came from that region.

Restoration was well underway by the second half of the second century A.D. and the architectural fortunes of Cyrene appear to have been re-established under Commodus (A.D. 185–92) (see Goodchild 1976, 225), even if the standard of craftsmanship was not as high as in earlier buildings (Reynolds 1959, 26 ff.). It may be significant in this context that most surviving sculpture from Cyrenaica dates from the Antonine and Severan periods (Laronde 1974). An inscription from Cyrene (Reynolds, personal communication) shows that Berenice was among the towns which challenged the supremacy of Cyrene under the reign of Antoninus Pius (A.D. 138–61) and sought privileges equal to Cyrene: This request was refused but it illustrates Berenice's relative prosperity in the second century A.D. The

evidence of the coarse pottery for continued prosperity is equivocal. On the one hand, the quality of the coarse cooking wares is consistently better than at any time since the fourth century B.C., while on the other, the proportion of imported coarse pottery (including amphoras) in the third century A.D. deposits drops from about 30 per cent to about 20 per cent of the total coarse pottery RBH (see fig. 6).

There are few references to Cyrenaican products of this period. There is a reference to a case of the second century A.D. in the *Digest* to the export of 3000 measures of oil and 6000 bales of corn from Cyrene to Aquilea (*Digest*, 19, 2, 61). If the oil was locally produced and not being re-exported, the only local amphora which would have carried it would have been MR Amphora 8, which is not very common (comprising 2 to 3 per cent of the total amphoras in the third century), and which does not seem to have occurred in second century A.D. levels at Berenice. Goodchild (1976, 167) mentions the strong possibility that sulphur may have been exported to the Cyrenaican Jebel region from the Syrtic Gulf. Tripolitanian amphoras, which comprise about 4 per cent of the total amphoras in this period, may have reached Berenice and Cyrenaica by the Syrtic route, although this is uncertain. In the second century A.D. Cyrene was a stop on a route Alexandria-Rome (Youtie & Winter 1951, No. 490). Imports from Gaul and Algeria may have been shipped via Rome (as MR Amphora 11 and 12). Contact with Crete is recorded (Philostratus, *Life of Apollinus of Tyana*, 4, 34).

The archaeological, but not the literary, evidence suggests a measure of disruption in the middle of the third century A.D. in Cyrenaica. There was a catastrophe in Cyrene (Goodchild 1971, 44) followed by its supersession as the leading city of Cyrenaica by Ptolemais c. A.D. 297 (Goodchild 1976, 225 ff.). Other evidence for disturbance at this time includes the hasty construction of a city wall at Berenice, as well as the major horizon there of the mid third century A.D. (Lloyd 1978). This horizon is also suggested by the pottery of several sites in Cyrenaica (Riley 1978). Order had been restored under Diocletian (A.D. 284–305) (Goodchild 1976, 159–61).

#### CYRENAICA AND THE WESTERN MEDITERRANEAN IN THE SECOND AND THIRD CENTURIES A.D.

During the second and third centuries A.D., commercial contact between the western Mediterranean and Cyrenaica, as evidenced by the coarse pottery, continued but there was a change of emphasis. Pottery imports from Italy and Spain declined. Very occasional fragments of the long lived ER Amphora 10 (Dressel 20) may be of this period but are very rare. Gaulish amphoras, while more frequent than other western (excluding North African) amphoras, are also rare.

There was an increased proportion of amphoras from Tunisia and Tripolitania (MR Amphoras 14–16). These amphoras would probably have contained oil, although the quality of the oil was not outstanding (see for example Juvenal, *Sat.* 5, 90–1; Gsell 1924). Algerian amphoras (MR Amphora 13) occur but are rare. Tripolitanian amphoras have a wide distribution in the eastern Mediterranean (see fig. 22) which suggests that their export may have been systematic rather than casual.

Although east-west trade was strong in the second and third centuries A.D. (Rougé 1966, Coarelli 1963) this is not reflected in the evidence of the coarse pottery of Berenice. During this period the influence of Italian merchants declined in the eastern Mediterranean generally,

and, especially during the third and fourth centuries A.D., Levantines became increasingly important in the western Mediterranean (Levine 1975, 54). A similar process was noted for Dalmatia (Wilkes 1969, 286, 315 ff., 335 ff.)

#### CYRENAICA AND THE EASTERN MEDITERRANEAN (INCLUDING THE AEGEAN) DURING THE SECOND AND THIRD CENTURIES A.D.

There was continued contact with the eastern Mediterranean during this period. Several amphoras seem to be of Aegean origin (including MR Amphoras 2, 3, 4, 5, 12, 18). The precise origin and therefore also the contents are generally not known. Until this information is forthcoming, the results of the relative proportions of the Mid Roman amphoras cannot be applied to economic trends during this period.

Coarse wares (MR Plain 7) continued to be imported probably from the Aegean and the local pottery industry seems to have been influenced by the cooking wares current in the Aegean from the late first and early second centuries A.D. and which were imported into Cyrenaica (as MR Cooking Ware 1c).

As with the preceding periods, there seems to have been virtually no ceramic exchange with Egypt. Eleven sherds of LR Amphora 6 in Deposit 82 may belong to this period and need not necessarily be intrusive. There also seems to have been little contact with the Levant. Syrian Mortaria, which are common throughout the eastern Mediterranean in the third and the fourth centuries A.D. are very rare in Cyrenaica.

From the mid second century A.D. the whole character of the local pottery changes with the introduction of standardized, good quality cooking wares. The consistent quality and standardization of the wares on all Cyrenaican sites, as well as in Crete, suggest a fairly stable, organized community, which may better fit a background of relative prosperity rather than of decline.

#### CYRENAICA FROM DIOCLETIAN TO THE ARAB CONQUEST

Diocletian (A.D. 284–305) dissolved Cyrenaica's formal political link with Crete. Rougé (1966, 92) claims that under Diocletian trade with Crete dropped off and contact with Egypt became more regular. In fact, the coarse pottery evidence indicates only occasional contact with Egypt from the fourth or fifth centuries A.D. but continued strong links with the Aegean, to the extent that many of the coarse cooking vessels of the Late Roman period are imported from the Aegean.

With the exception of the lifetime of Synesius (A.D. 370/5-c. 413), our knowledge of Cyrenaica in the fourth and fifth centuries A.D. is very sketchy. There was at least one major earthquake (in A.D. 365) and several phases of nomadic invasions. This is generally thought to be the period when the fortified farms developed, with a possible shift in settlement patterns (Goodchild 1976, 184, Reynolds 1960, Johnson 1973, 155 ff.). The numerous olive presses in Cyrenaica (mainly unpublished, e.g. Goodchild 1976, 183), may belong to this period. Indeed, Synesius suggests that oil and wine were exported from Cyrenaica and he scarcely mentions grain production. (Ep. 148, 134). However, Synesius suggests (Ep. 148) that there were no facilities for quality control acceptable to foreigners, and that the oil was used for burning rather than consumption. As the oil of Cyrenaica was not considered to be of good quality by

foreigners (*ibid.*), it seems likely that any export of oil was on a small scale. Cyrenaican wine could probably not have competed successfully with the Palestinian and other wines which were widely acclaimed and in any case no suitable container for either commodity was manufactured locally. The writer would place more reliance on the mid fourth century A.D. *Expositio Totius Mundi* (Rougé 1966b) which mentions grain and horses (in that order) as the principal products of Cyrenaica 'Pentapolitana pauca sed fructibus et iumentis dives' (LXII).

There is possible evidence that wine was imported from Egypt. Wine was sold by a monastery at Hermapolis in Egypt to a Libyan Bishop in the fifth or sixth centuries A.D. (Maspero 1916, 67168; for a discussion of wine in Late Roman Egypt see Hardy 1931). This may, however, refer to Libya Inferior rather than to Libya Superior (i.e. Cyrenaica), but it illustrates that wine was travelling westwards from Egypt at this time. The rarity of Egyptian amphoras of the distinctive Nile clay in Cyrenaica might be evidence that this was a personal transaction and of no relevance to trade.

Synesius makes no mention of Rome or the western Mediterranean, although Sulpicius Severus (c. A.D. 363–420) travelled from Narbonne to Carthage and then to Alexandria via Cyrenaica (*Dialog.* I, iii). Synesius constantly refers to contact with Alexandria. However, Coster's statement that this implies considerable trade (1968b, 225) needs serious qualification owing to the paucity of the evidence and the danger of inferring too much from Synesius' correspondence. The evidence of the coarse pottery seems to suggest little contact with Egypt or the western Mediterranean at this time. Synesius does refer to (probably luxury) commodities which would have been transported in amphoras, such as a jar of pickled fish from Egypt (Ep. 148; in a LR Amphora 3?), and honey from Athens (Ep. 138, 148), as well as ships from Carpathos (Ep. 41). The period to Anastasius and Justinian seems to have been fairly turbulent but urban life was revived especially under Justinian (A.D. 527–65). The history of Cyrenaica after this period until the Arab conquest is not clear and the coarse pottery sheds little light on this.

#### CYRENAICA AND THE WESTERN MEDITERRANEAN IN THE LATE ROMAN PERIOD

Contact with the western Mediterranean is attested at all times in the Late Roman period by Tunisian ARS and the TRS wares. Imports of coarse pottery from the west during this period are, however, negligible. The *Expositio Totius Mundi* (Rougé 1966b) of the mid fourth century A.D. refers to both Africa (LXI) and Spain (LIX) exporting oil throughout the Mediterranean. Absence of good groups of pottery from well stratified fourth century A.D. contexts in Cyrenaica does not permit the validity of these statements to be gauged for Cyrenaica. LR Amphora 8b, which may have held African oil, is very rare at Berenice.

While there is little evidence of ceramic contact with the western Mediterranean, there is increasing evidence of ceramic contact with the west from the eastern Mediterranean. For example, eastern Mediterranean amphoras occur in large quantities at Carthage from the late fourth through to the seventh centuries A.D. (Hayes 1976, 114 ff.).

This has yet to be related to the literary sources collected by economic historians such as Pirenne (1968, 79–117), for economic contact between the east and the west after the Vandal invasions.

---

## CONTACT BETWEEN CYRENAICA AND THE EASTERN MEDITERRANEAN (INCLUDING THE AEGEAN) DURING THE LATE ROMAN PERIOD

Imported coarse cooking pots, jugs and amphoras attest a steady commerce with the Aegean throughout the Late Roman period. The precise origin of these wares is not certain but should be more closely defined by future systematic petrological analyses of Aegean clays. About 40 per cent of the total coarse pottery of this period is imported (fig. 6). The origin of the most common amphora (LR Amphora 1), which comprises over 13 per cent of the total coarse pottery, is uncertain, but could well come from the north-east Mediterranean (see above pp. 212 ff.).

There is limited evidence of contact with Egypt through LR Amphora 6, Coptic fine ware and St. Menas flasks, but this seems to have been on a small scale. Similarly, contact with the Levant seems to have been limited to occasional examples of Palestinian and Gaza amphoras and to Late Roman Unguentaria (which seem commoner from the mid sixth century). In general, however, there is a higher proportion of Palestinian amphoras in contemporary deposits at Carthage than at Berenice (see Hayes 1976).

## ISLAMIC PERIOD

The site of Sidi Khrebish seems finally to have been abandoned in the late tenth century A.D. There is only one small group of Islamic pottery: the rest comprises scattered finds. There seems to have been a certain measure of continuity of coarse cooking wares. Where Islamic wares have been found (as at Ajdabiyah etc.), the cooking pot seems to be related in shape and technique to LR Cooking Ware 1. The main difference is the burnishing and the slightly upturned rim (see Riley in press 3). From the eleventh or twelfth centuries Islamic fine ware was imported from the Maghreb, probably the Sahel region of Tunisia.

There is literary evidence for the transport of oil from Tripoli to Benghazi *c.* A.D. 1050–65 (Goitein 1973, No. 72, 319–22). The scale as well as the organisation of Mediterranean trade in the eleventh and twelfth centuries A.D. are well attested by the Cairo Geniza documents (Goitein 1955, 1973) and further research on models for the organisation and structure of trade in the Hellenistic and Roman periods would usefully employ these as a starting point.

## CONCLUSION

The typology and conclusions reached in this report represent a summary of the ceramic information from part of only one Cyrenaican excavation. Future systematic excavations of other sites will undoubtedly add considerably to this. This study draws attention to the need; when examining coarse pottery from any site, for familiarity with the results of similar research throughout the Mediterranean region. We must never forget that the Romans regarded the Mediterranean as *mare nostrum*.



COARSE POTTERY

Appendix I: Quantified Lists of RBH from  
Amalgamated Deposits at Berenice

(For the detailed lists of the contents of each deposit see Riley 1978).

*Fig. 1. Hellenistic Deposits RBH (Combination of Deposits 4, 5, 14, 17, 18, 23, 25, 27, 32, 168.1).*

| <i>Type</i>          | No. of<br>Rims | No. of<br>Bases | No. of<br>Handles | Per cent<br>RBH | Wt. of<br>RBH | Per cent<br>Wt. RBH |
|----------------------|----------------|-----------------|-------------------|-----------------|---------------|---------------------|
| Misc. Amphoras       | 29             | 13              | 65                | 10.5            | 8565          | 19.0                |
| Double Handles       | 0              | 0               | 2                 | 0.2             | 135           | 0.3                 |
| Misc. Local Amphoras | 1              | 0               | 0                 | 0.1             | 140           | 0.3                 |
| Fabric 1 Amphoras    | 0              | 0               | 2                 | 0.2             | 195           | 0.4                 |
| H. Amphora 1         | 11             | 7               | 15                | 3.4             | 2835          | 6.3                 |
| H. Amphora 3         | 2              | 2               | 4                 | 0.8             | 645           | 1.4                 |
| H. Amphora 3b        | 1              | 0               | 0                 | 0.1             | 180           | 0.4                 |
| H. Amphora 4         | 0              | 1               | 0                 | 0.1             | 280           | 0.6                 |
| H. Amphora 7         | 5              | 0               | 1                 | 0.6             | 270           | 0.6                 |
| Misc. Min. Amphoras  | 0              | 1               | 1                 | 0.2             | 20            | 0.0                 |
| Misc. Trip. Amphoras | 0              | 1               | 0                 | 0.1             | 30            | 0.1                 |
| LR Amphora 1         | 0              | 0               | 1                 | 0.1             | 100           | 0.2                 |
| Misc. Cookware       | 13             | 4               | 5                 | 2.3             | 440           | 1.0                 |
| H. Cookware 1        | 36             | 0               | 4                 | 4.2             | 1100          | 2.4                 |
| H. Cookware 2        | 23             | 1               | 2                 | 2.7             | 635           | 1.4                 |
| H. Cookware 3        | 26             | 0               | 1                 | 2.8             | 840           | 1.9                 |
| H. Cookware 4        | 12             | 0               | 0                 | 1.3             | 185           | 0.4                 |
| H. Cookware 5        | 2              | 0               | 0                 | 0.2             | 40            | 0.1                 |
| Misc. Fry Pan        | 1              | 0               | 0                 | 0.1             | 50            | 0.1                 |
| ER Cookware 2        | 1              | 0               | 0                 | 0.1             | 20            | 0.0                 |
| Misc. Plain          | 61             | 43              | 3                 | 11.2            | 4105          | 9.1                 |
| Painted Plain        | 1              | 0               | 0                 | 0.1             | 10            | 0.0                 |
| Misc. Dec. Plain     | 1              | 0               | 0                 | 0.1             | 30            | 0.1                 |
| Misc. Fabric 1       | 17             | 0               | 2                 | 2.0             | 430           | 1.0                 |
| H. Plain 1           | 6              | 0               | 0                 | 0.6             | 760           | 1.7                 |
| H. Plain 1b          | 2              | 0               | 0                 | 0.2             | 105           | 0.2                 |
| H. Plain 1d          | 4              | 0               | 0                 | 0.4             | 380           | 0.8                 |
| H. Plain 2           | 12             | 0               | 1                 | 1.4             | 150           | 0.3                 |
| H. Plain 4           | 39             | 0               | 0                 | 4.1             | 555           | 1.2                 |
| H. Plain 4a          | 1              | 0               | 0                 | 0.1             | 45            | 0.1                 |
| H. Plain 5           | 5              | 0               | 0                 | 0.5             | 45            | 0.1                 |
| H. Plain 6           | 1              | 0               | 0                 | 0.1             | 40            | 0.1                 |
| H. Plain 7           | 1              | 0               | 0                 | 0.1             | 5             | 0.0                 |
| H. Plain 9           | 4              | 0               | 0                 | 0.4             | 170           | 0.4                 |
| H. Plain 10          | 22             | 0               | 0                 | 2.3             | 1230          | 2.7                 |
| H. Plain 11          | 1              | 0               | 0                 | 0.1             | 60            | 0.1                 |
| ER Plain 1           | 1              | 0               | 0                 | 0.1             | 100           | 0.2                 |
| ER Plain 2           | 1              | 0               | 0                 | 0.1             | 20            | 0.0                 |

RILEY

Fig. 1. *Hellenistic Deposits RBH (contd.)*

| <i>Type</i>          | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|----------------------|-------------|--------------|----------------|--------------|------------|------------------|
| MR Plain 1a          | 1           | 0            | 0              | 0.1          | 35         | 0.1              |
| MR Plain 2           | 1           | 0            | 0              | 0.1          | 30         | 0.1              |
| H. Mortarium         | 4           | 4            | 1              | 0.9          | 1475       | 3.3              |
| Tile B               | 2           | 0            | 0              | 0.2          | 590        | 1.3              |
| Misc. Tile           | 1           | 0            | 0              | 0.1          | 120        | 0.3              |
| Fusiform Unguentaria | 0           | 2            | 0              | 0.2          | 30         | 0.1              |
| Piriform Unguentaria | 0           | 1            | 0              | 0.1          | 20         | 0.0              |
| Misc. Unguentaria    | 1           | 1            | 0              | 0.2          | 40         | 0.1              |
| Brazier A            | 0           | 0            | 2              | 0.2          | 370        | 0.8              |
| Brazier B            | 14          | 0            | 14             | 2.9          | 2275       | 5.0              |
| Misc. Braziers       | 0           | 1            | 11             | 1.3          | 685        | 1.5              |
| Horiz. Braz. Lugs    | 0           | 0            | 5              | 0.5          | 185        | 0.4              |
| Plain Base 1a        | 0           | 55           | 0              | 5.7          | 2385       | 5.3              |
| Plain Base 2a        | 0           | 77           | 0              | 8.0          | 4690       | 10.4             |
| Plain Base 2b        | 0           | 1            | 0              | 0.1          | 80         | 0.2              |
| Plain Base 3a        | 0           | 6            | 0              | 0.6          | 235        | 0.5              |
| Plain Base 4a        | 1           | 1            | 0              | 0.2          | 45         | 0.1              |
| Plain Base 5         | 0           | 1            | 0              | 0.1          | 15         | 0.0              |
| Lid 1                | 23          | 0            | 0              | 2.4          | 610        | 1.4              |
| Lid 1a               | 1           | 0            | 0              | 0.1          | 20         | 0.0              |
| Lid 2                | 31          | 0            | 0              | 3.2          | 840        | 1.9              |
| Lid 3                | 19          | 0            | 0              | 2.0          | 510        | 1.1              |
| Lid 4                | 1           | 0            | 0              | 0.1          | 30         | 0.1              |
| Lid 5                | 1           | 0            | 0              | 0.1          | 25         | 0.1              |
| Misc. Lids           | 4           | 0            | 4              | 0.8          | 475        | 1.1              |
| Fabric 1 Lids        | 3           | 0            | 0              | 0.3          | 105        | 0.2              |
| Imported Lids        | 1           | 0            | 0              | 0.1          | 10         | 0.0              |
| Misc. Jugs           | 47          | 2            | 53             | 10.7         | 2190       | 4.7              |
| H. Jug 2             | 7           | 0            | 0              | 0.7          | 290        | 0.6              |
| H. Jug 4             | 1           | 0            | 0              | 0.1          | 50         | 0.1              |
| H. Jug 5             | 3           | 0            | 0              | 0.3          | 180        | 0.4              |
| H. Jug 6             | 1           | 1            | 0              | 0.2          | 30         | 0.1              |
| H. Jug 7             | 1           | 1            | 0              | 0.2          | 80         | 0.2              |
| Lagynos C            | 1           | 0            | 0              | 0.1          | 60         | 0.1              |
| Twisted Handle A     | 0           | 0            | 3              | 0.3          | 250        | 0.6              |
| Twisted Handle B     | 0           | 0            | 2              | 0.2          | 160        | 0.4              |
| Jug Handle D         | 0           | 0            | 14             | 1.5          | 465        | 1.0              |
| Jug Base A           | 0           | 1            | 0              | 0.1          | 20         | 0.0              |
| Jug Base D           | 0           | 1            | 0              | 0.1          | 220        | 0.5              |
| Totals               | 511         | 229          | 218            | 100.0        | 45125      | 100.0            |
| Total RBH            |             | 958          |                |              |            |                  |

## COARSE POTTERY

Fig. 2. Augustan Deposits RBH. (Combination of Deposits 33, 35, 38, 39).

| Type                  | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|-----------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Misc. Amphoras        | 9           | 10           | 22             | 7.1          | 3180       | 10.9             |
| Double Handles        | 1           | 0            | 8              | 1.6          | 1090       | 3.7              |
| Fabric 1 Amphoras     | 0           | 1            | 1              | 0.3          | 215        | 0.7              |
| Misc. Local Amphoras  | 0           | 1            | 3              | 0.7          | 500        | 1.7              |
| H. Amphora 1          | 7           | 5            | 12             | 4.1          | 1665       | 5.7              |
| H. Amphora 3          | 1           | 0            | 2              | 0.5          | 250        | 0.9              |
| H. Amphora 7          | 1           | 0            | 0              | 0.2          | 120        | 0.4              |
| H. Amphora 9          | 1           | 0            | 0              | 0.2          | 170        | 0.6              |
| H. Amphora 12a        | 1           | 0            | 0              | 0.2          | 100        | 0.3              |
| ER Amphora 4          | 1           | 1            | 2              | 0.7          | 255        | 0.9              |
| ER Amphora 11a        | 1           | 0            | 0              | 0.2          | 140        | 0.5              |
| ER Amphora 12         | 1           | 0            | 0              | 0.2          | 70         | 0.2              |
| Misc. Horned Amphoras | 0           | 0            | 5              | 0.9          | 450        | 1.5              |
| Misc. Sub Punic       | 0           | 0            | 2              | 0.3          | 670        | 2.3              |
| Misc. Trip. Amphoras  | 1           | 0            | 0              | 0.2          | 60         | 0.2              |
| MR Amphora 2          | 0           | 0            | 1              | 0.2          | 80         | 0.3              |
| Misc. Cookware        | 1           | 0            | 1              | 0.3          | 30         | 0.1              |
| Fabric 1 Cook.        | 1           | 0            | 0              | 0.2          | 25         | 0.1              |
| H. Cookware 1         | 26          | 0            | 4              | 5.2          | 540        | 1.9              |
| H. Cookware 2         | 14          | 1            | 0              | 2.6          | 545        | 1.9              |
| H. Cookware 3         | 14          | 0            | 2              | 2.8          | 585        | 2.0              |
| H. Cookware 4         | 3           | 0            | 0              | 0.5          | 30         | 0.1              |
| ER Cookware 1         | 5           | 0            | 0              | 0.9          | 180        | 0.6              |
| ER Cookware 3         | 1           | 0            | 0              | 0.2          | 10         | 0.0              |
| ER Cookware 4         | 1           | 0            | 0              | 0.2          | 20         | 0.1              |
| ER Cookware 6         | 1           | 0            | 0              | 0.2          | 80         | 0.3              |
| Misc. Import Plain    | 1           | 0            | 0              | 0.2          | 100        | 0.3              |
| Misc. Plain           | 43          | 30           | 3              | 13.1         | 2275       | 7.8              |
| Thin Walled Wares     | 9           | 0            | 1              | 1.7          | 16         | 0.1              |
| Misc. Fabric 1        | 6           | 4            | 1              | 1.9          | 290        | 1.0              |
| Misc. Dec. Plain      | 3           | 1            | 2              | 1.0          | 100        | 0.3              |
| H. Plain 1            | 3           | 0            | 0              | 0.5          | 180        | 0.6              |
| H. Plain 1b           | 1           | 0            | 0              | 0.2          | 40         | 0.1              |
| H. Plain 1c           | 1           | 0            | 0              | 0.2          | 40         | 0.1              |
| H. Plain 1d           | 6           | 0            | 0              | 1.0          | 330        | 1.1              |
| H. Plain 2            | 12          | 0            | 2              | 2.4          | 125        | 0.4              |
| H. Plain 4            | 36          | 0            | 0              | 6.2          | 280        | 1.0              |
| H. Plain 5            | 1           | 0            | 0              | 0.2          | 10         | 0.0              |
| H. Plain 6            | 4           | 0            | 0              | 0.7          | 450        | 1.5              |
| H. Plain 9            | 2           | 0            | 0              | 0.3          | 180        | 0.6              |
| H. Plain 10           | 1           | 0            | 0              | 0.2          | 120        | 0.4              |
| ER Plain 1            | 1           | 0            | 0              | 0.2          | 70         | 0.2              |
| Brazier A             | 8           | 0            | 3              | 1.9          | 1180       | 4.1              |
| Brazier B             | 4           | 0            | 11             | 2.6          | 1100       | 3.8              |
| Horiz. Braziers Lug   | 0           | 0            | 12             | 2.1          | 650        | 2.2              |
| Misc. Braziers        | 0           | 4            | 7              | 1.9          | 840        | 2.9              |
| H. Mortaria           | 0           | 0            | 1              | 0.2          | 55         | 0.2              |
| Plain Base 1a         | 0           | 27           | 0              | 4.7          | 1070       | 3.7              |
| Plain Base 1b         | 0           | 2            | 0              | 0.3          | 70         | 0.2              |
| Plain Base 2a         | 0           | 34           | 0              | 5.9          | 2560       | 8.8              |
| Plain Base 3a         | 0           | 3            | 0              | 0.5          | 220        | 0.8              |
| Plain Base 4a         | 0           | 3            | 0              | 0.5          | 15         | 0.1              |

RILEY

Fig. 2. Augustan Deposits RBH. (contd.).

| Type              | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|-------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Plain Base 6      | 0           | 1            | 0              | 0.2          | 35         | 0.1              |
| Misc. Unguentaria | 0           | 0            | 1              | 0.2          | 25         | 0.1              |
| Piriform Ung. A   | 2           | 4            | 0              | 1.0          | 110        | 0.4              |
| Fusiform Ung. A   | 1           | 1            | 0              | 0.3          | 25         | 0.1              |
| Lid 1             | 6           | 0            | 0              | 1.0          | 95         | 0.3              |
| Lid 2             | 11          | 0            | 0              | 1.9          | 230        | 0.8              |
| Lid 3             | 2           | 0            | 0              | 0.3          | 40         | 0.1              |
| Fabric 1 Lids     | 4           | 0            | 0              | 0.7          | 115        | 0.4              |
| Import Lids       | 1           | 0            | 0              | 0.2          | 80         | 0.3              |
| Misc. Lids        | 5           | 0            | 2              | 1.2          | 95         | 0.3              |
| Dolium            | 5           | 0            | 0              | 0.9          | 2870       | 9.9              |
| Tile B            | 1           | 0            | 0              | 0.2          | 100        | 0.3              |
| Misc. Tile        | 1           | 0            | 0              | 0.2          | 240        | 0.8              |
| Misc. Jugs        | 16          | 0            | 32             | 8.3          | 1140       | 3.9              |
| H. Jug 1          | 1           | 0            | 0              | 0.2          | 20         | 0.1              |
| H. Jug 2          | 2           | 0            | 0              | 0.3          | 80         | 0.3              |
| H. Jug 5          | 2           | 0            | 0              | 0.3          | 35         | 0.1              |
| H. Jug 6          | 0           | 2            | 0              | 0.3          | 70         | 0.2              |
| Lagynos C         | 1           | 0            | 0              | 0.2          | 80         | 0.3              |
| Jug Handle D      | 0           | 0            | 6              | 1.0          | 165        | 0.6              |
| Totals            | 295         | 135          | 149            | 100.0        | 29076      | 100.0            |
| Total RBH         |             | 579          |                |              |            |                  |

## COARSE POTTERY

Fig. 3. Early to Mid First Century A.D. Deposits RBH. (Combination of Deposits 42, 44, 46, 51, 53, 54, 55, 168.3).

| Type                   | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. Of RBH | Per cent Wt. RBH |
|------------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Misc. Amphoras         | 32          | 8            | 53             | 13.3         | 6150       | 16.6             |
| Misc. West Amphoras    | 0           | 0            | 4              | 0.6          | 690        | 1.9              |
| Misc. Local Amphoras   | 0           | 0            | 1              | 0.1          | 80         | 0.2              |
| Fabric 1 Amphoras      | 1           | 0            | 4              | 0.7          | 430        | 1.2              |
| Double Handles         | 1           | 0            | 10             | 1.6          | 1145       | 3.1              |
| Misc. Horned Amphoras  | 0           | 0            | 1              | 0.1          | 140        | 0.4              |
| H. Amphora 1           | 1           | 0            | 0              | 0.1          | 20         | 0.1              |
| H. Amphora 3           | 0           | 0            | 3              | 0.4          | 270        | 0.7              |
| H. Amphora 9           | 1           | 0            | 0              | 0.1          | 90         | 0.2              |
| ER Amphora 1           | 3           | 1            | 10             | 2.0          | 1230       | 3.3              |
| ER Amphora 4           | 1           | 2            | 6              | 1.3          | 2785       | 7.5              |
| ER Amphora 5           | 0           | 0            | 4              | 0.6          | 1970       | 5.3              |
| ER Amphora 11b         | 1           | 0            | 0              | 0.1          | 15         | 0.0              |
| ER Amphora 12          | 1           | 0            | 0              | 0.1          | 20         | 0.1              |
| ER Amphora 14          | 3           | 0            | 0              | 0.4          | 410        | 1.1              |
| Misc. Spanish Amphoras | 1           | 0            | 0              | 0.1          | 80         | 0.2              |
| MR Amphora 2           | 0           | 0            | 1              | 0.1          | 110        | 0.3              |
| Misc. Cookware         | 16          | 1            | 1              | 2.6          | 375        | 1.0              |
| Import. Cookware       | 0           | 1            | 0              | 0.1          | 50         | 0.1              |
| H. Cookware 1          | 13          | 0            | 7              | 2.9          | 780        | 2.1              |
| H. Cookware 2          | 1           | 0            | 0              | 0.1          | 20         | 0.1              |
| H. Cookware 3          | 21          | 0            | 2              | 3.3          | 860        | 2.3              |
| H. Cookware 5          | 1           | 0            | 0              | 0.1          | 30         | 0.1              |
| ER Cookware 1          | 11          | 0            | 1              | 1.7          | 390        | 1.1              |
| ER Cookware 3          | 6           | 0            | 0              | 0.9          | 130        | 0.4              |
| ER Cookware 3a         | 5           | 1            | 0              | 0.9          | 90         | 0.2              |
| ER Cookware 4          | 5           | 0            | 0              | 0.7          | 185        | 0.5              |
| ER Cookware 6          | 3           | 0            | 0              | 0.4          | 310        | 0.8              |
| Fabric 1 Fry Pans      | 1           | 0            | 0              | 0.1          | 30         | 0.1              |
| Misc. Plain            | 31          | 36           | 3              | 10.0         | 1930       | 5.2              |
| Imported Plain         | 1           | 1            | 0              | 0.1          | 30         | 0.1              |
| Misc. Fabric 1         | 22          | 0            | 4              | 3.7          | 825        | 2.2              |
| H. Plain 2             | 1           | 0            | 0              | 0.1          | 10         | 0.0              |
| H. Plain 4             | 1           | 0            | 0              | 0.1          | 20         | 0.1              |
| H. Plain 9             | 7           | 0            | 0              | 1.0          | 665        | 1.8              |
| H. Plain 10            | 3           | 0            | 0              | 0.4          | 95         | 0.3              |
| Misc. Unguentoria      | 0           | 1            | 0              | 0.1          | 10         | 0.0              |
| Piriform Unguentaria A | 0           | 1            | 0              | 0.1          | 15         | 0.0              |
| Brazier A              | 1           | 0            | 0              | 0.1          | 30         | 0.1              |
| Brazier B              | 2           | 0            | 1              | 0.4          | 205        | 0.6              |
| Brazier G              | 0           | 0            | 4              | 0.6          | 1380       | 3.7              |
| Brazier H              | 0           | 0            | 5              | 0.7          | 1270       | 3.4              |
| Horiz. Brazier Lugs    | 0           | 0            | 3              | 0.4          | 90         | 0.2              |
| Misc. Braziers         | 6           | 0            | 0              | 0.9          | 205        | 0.6              |
| Thin Walled Wares      | 0           | 2            | 0              | 0.3          | 30         | 0.1              |
| Plain Base 1a          | 0           | 29           | 0              | 4.2          | 1140       | 3.1              |
| Plain Base 2a          | 0           | 60           | 0              | 8.6          | 2135       | 5.8              |
| Plain Base 2b          | 0           | 8            | 0              | 1.1          | 130        | 0.4              |
| Plain Base 3a          | 0           | 6            | 0              | 0.9          | 370        | 1.0              |
| Plain Base 4a          | 0           | 3            | 0              | 0.4          | 80         | 0.2              |
| Plain Base 5           | 0           | 4            | 0              | 0.6          | 135        | 0.4              |
| Lid 1                  | 3           | 0            | 0              | 0.4          | 60         | 0.2              |

RILEY

Fig. 3. Early to Mid First Century A.D. Deposits RBH. (contd.).

| Type               | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|--------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Lid 2              | 8           | 0            | 0              | 1.1          | 195        | 0.5              |
| Lid 3              | 7           | 0            | 0              | 1.0          | 135        | 0.4              |
| Lid 4              | 1           | 0            | 0              | 0.1          | 20         | 0.1              |
| Lid 5              | 3           | 0            | 0              | 0.4          | 70         | 0.2              |
| Lid 7              | 1           | 0            | 0              | 0.1          | 15         | 0.0              |
| Lid 8              | 6           | 0            | 0              | 0.9          | 145        | 0.4              |
| Misc. Import. Lids | 4           | 0            | 2              | 0.9          | 175        | 0.5              |
| Fabric 1 Lids      | 9           | 0            | 0              | 1.3          | 200        | 0.5              |
| Misc. Lids         | 13          | 0            | 3              | 2.3          | 350        | 0.9              |
| ER Plain 1         | 19          | 9            | 0              | 4.0          | 2120       | 5.7              |
| ER Plain 1a        | 1           | 0            | 0              | 0.1          | 50         | 0.1              |
| ER Plain 2         | 6           | 0            | 0              | 0.9          | 115        | 0.3              |
| MR Plain 4         | 1           | 0            | 0              | 0.1          | 45         | 0.1              |
| MR Plain 5         | 1           | 0            | 0              | 0.1          | 20         | 0.1              |
| MR Plain 7         | 1           | 4            | 0              | 0.7          | 230        | 0.6              |
| Loomweight B       | 1           | 0            | 0              | 0.1          | 100        | 0.3              |
| Dolium             | 0           | 1            | 0              | 0.1          | 170        | 0.5              |
| Misc. Tile         | 2           | 0            | 0              | 0.3          | 520        | 1.4              |
| Misc. Jugs         | 23          | 1            | 49             | 10.5         | 1850       | 5.0              |
| Fabric 1 Jugs      | 0           | 0            | 1              | 0.1          | 25         | 0.1              |
| H. Jug 1           | 1           | 0            | 0              | 0.1          | 25         | 0.1              |
| H. Jug 2           | 1           | 0            | 0              | 0.1          | 50         | 0.1              |
| H. Jug 5           | 1           | 2            | 1              | 0.6          | 180        | 0.5              |
| ER Juglet 1        | 0           | 1            | 0              | 0.1          | 40         | 0.1              |
| Misc. Lagynos      | 1           | 4            | 1              | 0.9          | 195        | 0.5              |
| Lagynos A          | 0           | 1            | 0              | 0.1          | 40         | 0.1              |
| Lagynos C          | 1           | 0            | 0              | 0.1          | 20         | 0.1              |
| Jug Base A         | 0           | 1            | 0              | 0.1          | 60         | 0.2              |
| Jug Handle D       | 0           | 0            | 3              | 0.4          | 85         | 0.2              |
| Misc. Body Spout   | 0           | 0            | 2              | 0.3          | 40         | 0.1              |
| Totals             | 318         | 189          | 190            | 100.0        | 37030      | 100.0            |
| Total RBH          |             | 697          |                |              |            |                  |

## COARSE POTTERY

Fig. 4. Mid to Late First Century A.D. Deposits RBH. (Combination of Deposits 58, 59, 61, 62, 64, 67, 69, 70).

| <i>Type</i>            | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|------------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Misc. Amphoras         | 89          | 31           | 173            | 13.5         | 26750      | 19.3             |
| Misc. West. Amphoras   | 2           | 0            | 5              | 0.3          | 1270       | 0.9              |
| Double Handles         | 0           | 0            | 16             | 0.7          | 1560       | 1.1              |
| Fabric 1 Amphoras      | 0           | 0            | 23             | 1.1          | 1490       | 1.1              |
| Misc. Local Amphoras   | 1           | 0            | 2              | 0.1          | 215        | 0.2              |
| H. Amphora 1           | 0           | 1            | 5              | 0.3          | 505        | 0.4              |
| H. Amphora 3           | 0           | 0            | 1              | 0.0          | 160        | 0.1              |
| H. Amphora 3b          | 0           | 0            | 1              | 0.0          | 180        | 0.1              |
| H. Amphora 4           | 0           | 1            | 0              | 0.0          | 350        | 0.3              |
| H. Amphora 9           | 2           | 0            | 0              | 0.1          | 300        | 0.2              |
| ER Amphora 1           | 12          | 6            | 18             | 1.7          | 11335      | 8.2              |
| ER Amphora 4           | 4           | 4            | 8              | 0.7          | 2310       | 1.7              |
| ER Amphora 5           | 3           | 0            | 2              | 0.2          | 1840       | 1.3              |
| ER Amphora 6           | 3           | 0            | 0              | 0.1          | 290        | 0.2              |
| ER Amphora 9           | 0           | 0            | 3              | 0.1          | 1040       | 0.8              |
| ER Amphora 11a         | 1           | 0            | 0              | 0.0          | 65         | 0.0              |
| ER Amphora 11b         | 2           | 0            | 0              | 0.1          | 530        | 0.4              |
| ER Amphora 12          | 13          | 0            | 0              | 0.6          | 1650       | 1.2              |
| ER Amphora 13          | 1           | 0            | 0              | 0.0          | 85         | 0.1              |
| ER Amphora 14          | 6           | 0            | 0              | 0.3          | 770        | 0.6              |
| Horned Amphoras        | 4           | 0            | 15             | 0.9          | 3075       | 2.2              |
| Misc. Spanish Amphoras | 2           | 1            | 1              | 0.2          | 3475       | 2.5              |
| Misc. Sub Punic        | 1           | 0            | 0              | 0.0          | 50         | 0.0              |
| Misc. Trip. Amph.      | 2           | 0            | 3              | 0.2          | 600        | 0.4              |
| MR Amphora 1a          | 1           | 0            | 2              | 0.1          | 480        | 0.3              |
| MR Amphora 2           | 0           | 0            | 3              | 0.1          | 200        | 0.1              |
| MR Amphora 7           | 0           | 0            | 1              | 0.0          | 160        | 0.1              |
| LR Amphora 1           | 2           | 0            | 4              | 0.3          | 555        | 0.4              |
| Misc. Cookware         | 8           | 1            | 5              | 0.6          | 505        | 0.4              |
| Fabric 1 Cookware      | 5           | 0            | 0              | 0.2          | 190        | 0.1              |
| Import. Cookware       | 3           | 0            | 0              | 0.1          | 60         | 0.0              |
| H. Cookware 1          | 21          | 0            | 25             | 2.1          | 1525       | 1.1              |
| H. Cookware 2          | 9           | 0            | 2              | 0.5          | 145        | 0.1              |
| H. Cookware 3          | 120         | 0            | 2              | 5.6          | 2825       | 2.0              |
| H. Cookware 4          | 5           | 0            | 0              | 0.2          | 60         | 0.0              |
| ER Cookware 1          | 66          | 0            | 15             | 3.7          | 2130       | 1.5              |
| ER Cookware 3          | 10          | 2            | 0              | 0.6          | 690        | 0.5              |
| ER Cookware 3a         | 9           | 3            | 0              | 0.6          | 445        | 0.3              |
| ER Cookware 4          | 8           | 0            | 0              | 0.4          | 230        | 0.2              |
| ER Cookware 5          | 1           | 0            | 1              | 0.1          | 30         | 0.0              |
| ER Cookware 6          | 4           | 2            | 0              | 0.3          | 380        | 0.3              |
| MR Cookware 1          | 6           | 0            | 0              | 0.3          | 100        | 0.1              |
| MR Cookware 1c         | 5           | 0            | 0              | 0.2          | 50         | 0.0              |
| MR Cookware 3          | 1           | 0            | 0              | 0.0          | 20         | 0.0              |
| MR Cookware 3a         | 1           | 0            | 0              | 0.0          | 15         | 0.0              |
| LR Cookware 1          | 2           | 0            | 0              | 0.1          | 110        | 0.1              |
| LR Cookware 1b         | 1           | 0            | 0              | 0.0          | 80         | 0.1              |
| LR Cookware 3          | 1           | 0            | 0              | 0.0          | 50         | 0.0              |
| Misc. Fry Pans         | 0           | 3            | 0              | 0.1          | 170        | 0.1              |
| Fabric 1 Fry Pans      | 5           | 0            | 0              | 0.2          | 130        | 0.1              |
| Misc. Plain            | 119         | 80           | 9              | 9.6          | 4845       | 3.5              |
| Painted Plain          | 1           | 0            | 0              | 0.0          | 20         | 0.0              |

RILEY

Fig. 4. Mid to Late First Century A.D. Deposits RBH. (contd.).

| Type                | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|---------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Misc. Fabric 1      | 101         | 14           | 4              | 5.5          | 2900       | 2.1              |
| H. Plain 1          | 1           | 0            | 0              | 0.0          | 190        | 0.1              |
| H. Plain 1a         | 1           | 0            | 0              | 0.0          | 260        | 0.2              |
| H. Plain 1d         | 7           | 0            | 0              | 0.3          | 455        | 0.3              |
| H. Plain 2          | 26          | 0            | 0              | 1.2          | 155        | 0.1              |
| H. Plain 4          | 26          | 0            | 0              | 1.2          | 150        | 0.1              |
| H. Plain 5          | 4           | 0            | 0              | 0.2          | 30         | 0.0              |
| H. Plain 6          | 2           | 0            | 0              | 0.1          | 140        | 0.1              |
| H. Plain 6a         | 2           | 0            | 0              | 0.1          | 350        | 0.3              |
| H. Plain 9          | 4           | 0            | 0              | 0.2          | 70         | 0.1              |
| H. Plain 10         | 4           | 0            | 0              | 0.2          | 195        | 0.1              |
| H. Mortarium        | 0           | 1            | 0              | 0.0          | 190        | 0.1              |
| Mortarium A         | 2           | 0            | 0              | 0.1          | 730        | 0.5              |
| Mortarium B         | 2           | 0            | 0              | 0.1          | 470        | 0.3              |
| Misc. Unguentaria   | 1           | 1            | 0              | 0.1          | 40         | 0.0              |
| Fusiform Ung. A     | 0           | 3            | 0              | 0.1          | 100        | 0.1              |
| Piriform Ung. A     | 0           | 2            | 0              | 0.1          | 15         | 0.0              |
| Brazier A           | 1           | 0            | 1              | 0.1          | 620        | 0.4              |
| Brazier B           | 5           | 0            | 9              | 0.6          | 1455       | 1.1              |
| Brazier C           | 1           | 0            | 1              | 0.1          | 185        | 0.1              |
| Brazier E           | 0           | 0            | 7              | 0.3          | 1750       | 1.3              |
| Brazier H           | 0           | 0            | 19             | 0.9          | 4395       | 3.2              |
| Horiz. Brazier Lugs | 0           | 0            | 4              | 0.2          | 225        | 0.2              |
| Dec. Braziers       | 1           | 0            | 0              | 0.0          | 50         | 0.0              |
| Misc. Braziers      | 28          | 7            | 14             | 2.2          | 3505       | 2.5              |
| Thin Walled Wares   | 27          | 11           | 0              | 1.7          | 376        | 0.3              |
| Rough Cast Wares    | 2           | 2            | 0              | 0.2          | 30         | 0.0              |
| Plain Base 1a       | 0           | 41           | 0              | 1.9          | 1235       | 0.9              |
| Plain Base 2a       | 0           | 123          | 0              | 5.6          | 4850       | 3.5              |
| Plain Base 2b       | 0           | 1            | 0              | 0.0          | 50         | 0.0              |
| Plain Base 3a       | 0           | 1            | 0              | 0.0          | 40         | 0.0              |
| Plain Base 4a       | 0           | 7            | 0              | 0.3          | 85         | 0.1              |
| Plain Base 5        | 0           | 21           | 0              | 1.0          | 585        | 0.4              |
| Plain Base 6        | 0           | 4            | 0              | 0.2          | 530        | 0.4              |
| Lid Form 1          | 32          | 2            | 0              | 1.6          | 375        | 0.3              |
| Lid Form 2          | 10          | 0            | 0              | 0.5          | 230        | 0.2              |
| Lid Form 3          | 56          | 0            | 0              | 2.6          | 740        | 0.5              |
| Lid Form 4          | 1           | 0            | 0              | 0.0          | 25         | 0.0              |
| Lid Form 5          | 3           | 0            | 1              | 0.2          | 135        | 0.1              |
| Lid Form 7          | 9           | 0            | 1              | 0.5          | 340        | 0.2              |
| Lid Form 8          | 16          | 0            | 0              | 0.8          | 830        | 0.6              |
| Fabric 1 Lids       | 16          | 0            | 0              | 0.8          | 305        | 0.2              |
| Misc. Import Lids   | 16          | 0            | 0              | 0.8          | 685        | 0.5              |
| Misc. Lids          | 27          | 0            | 11             | 1.7          | 780        | 0.6              |
| ER Plain 1          | 31          | 6            | 0              | 1.7          | 2225       | 1.6              |
| ER Plain 1a         | 2           | 0            | 0              | 0.1          | 2110       | 1.5              |
| ER Plain 2          | 9           | 0            | 0              | 0.4          | 120        | 0.1              |
| MR Plain Ware 1     | 2           | 4            | 0              | 0.3          | 450        | 0.3              |
| MR Plain Ware 1a    | 2           | 4            | 0              | 0.3          | 500        | 0.4              |
| MR Plain Ware 2     | 1           | 0            | 0              | 0.0          | 40         | 0.0              |
| MR Plain 3          | 2           | 0            | 0              | 0.1          | 65         | 0.0              |
| MR Plain 4a         | 1           | 0            | 0              | 0.0          | 20         | 0.0              |



## COARSE POTTERY

Fig. 4. *Mid to Late First Century A.D. Deposits RBH. (contd.).*

| <i>Type</i>       | No. of<br>Rims | No. of<br>Bases | No. of<br>Handles | Per cent<br>RBH | Wt. of<br>RBH | Per cent<br>Wt. RBH |
|-------------------|----------------|-----------------|-------------------|-----------------|---------------|---------------------|
| MR Plain 7        | 1              | 3               | 0                 | 0.2             | 225           | 0.2                 |
| MR Plain 7a       | 1              | 0               | 0                 | 0.0             | 50            | 0.0                 |
| MR Plain 7b       | 1              | 0               | 0                 | 0.0             | 70            | 0.1                 |
| LR Plain 5        | 0              | 0               | 1                 | 0.0             | 325           | 0.2                 |
| Misc. Loomweights | 1              | 0               | 0                 | 0.0             | 50            | 0.0                 |
| Loomweight B      | 2              | 0               | 0                 | 0.1             | 330           | 0.2                 |
| Misc. Tile        | 19             | 0               | 0                 | 0.9             | 4430          | 3.2                 |
| Tile A            | 1              | 0               | 0                 | 0.0             | 660           | 0.5                 |
| Tile B            | 3              | 0               | 0                 | 0.1             | 460           | 0.3                 |
| Dolium            | 5              | 2               | 0                 | 0.3             | 3240          | 2.3                 |
| Misc. Jugs        | 75             | 18              | 151               | 11.2            | 10160         | 7.3                 |
| Fabric 1 Jugs     | 2              | 0               | 1                 | 0.1             | 740           | 0.5                 |
| Misc. Juglets     | 4              | 1               | 1                 | 0.3             | 65            | 0.0                 |
| H. Jug 1          | 1              | 0               | 0                 | 0.0             | 110           | 0.1                 |
| H. Jug 5          | 7              | 3               | 3                 | 0.6             | 3920          | 2.8                 |
| H. Jug 6          | 0              | 2               | 0                 | 0.1             | 40            | 0.0                 |
| H. Jug 7          | 0              | 1               | 0                 | 0.0             | 110           | 0.1                 |
| Twisted Handle A  | 0              | 0               | 2                 | 0.1             | 155           | 0.1                 |
| Jug Handle D      | 0              | 0               | 3                 | 0.1             | 105           | 0.1                 |
| MR Jug 1          | 2              | 0               | 0                 | 0.1             | 35            | 0.0                 |
| LR Jug 3          | 1              | 0               | 0                 | 0.0             | 50            | 0.0                 |
| Jug Base A        | 0              | 1               | 0                 | 0.0             | 20            | 0.0                 |
| Jug Base B        | 0              | 1               | 0                 | 0.0             | 10            | 0.0                 |
| Jug Base D        | 0              | 2               | 0                 | 0.1             | 480           | 0.3                 |
| Totals            | 1172           | 424             | 582               | 100.0           | 138246        | 100.0               |
| Total RBH         |                | 2178            |                   |                 |               |                     |

RILEY

Fig. 5. Early to Mid Second Century A.D. Deposits RBH. (Combination of Deposits 72, 73, 76, 77, 78, 79, 80).

| Type                   | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|------------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Misc. Amphoras         | 60          | 26           | 201            | 14.1         | 21240      | 19.1             |
| Double Handles         | 0           | 0            | 9              | 0.4          | 1190       | 1.1              |
| Misc. Western Amphoras | 1           | 0            | 1              | 0.1          | 390        | 0.4              |
| Fabric 1 Amphoras      | 14          | 1            | 31             | 2.3          | 2070       | 1.9              |
| Misc. Import Amphoras  | 0           | 1            | 1              | 0.1          | 1200       | 1.1              |
| Misc. Local Amphoras   | 2           | 0            | 4              | 0.3          | 430        | 0.4              |
| H. Amphora 1           | 1           | 1            | 0              | 0.1          | 80         | 0.1              |
| H. Amphora 3           | 0           | 0            | 1              | 0.0          | 45         | 0.0              |
| ER Amphora 1           | 6           | 0            | 16             | 1.1          | 1495       | 1.3              |
| ER Amphora 2           | 1           | 0            | 2              | 0.1          | 580        | 0.5              |
| ER Amphora 3           | 0           | 0            | 1              | 0.0          | 100        | 0.1              |
| ER Amphora 4           | 2           | 1            | 6              | 0.4          | 1170       | 1.1              |
| ER Amphora 5           | 0           | 0            | 1              | 0.0          | 60         | 0.1              |
| ER Amphora 6           | 2           | 0            | 1              | 0.1          | 370        | 0.3              |
| ER Amphora 7           | 1           | 0            | 0              | 0.0          | 90         | 0.1              |
| ER Amphora 12          | 3           | 0            | 0              | 0.1          | 50         | 0.1              |
| ER Amphora 14          | 12          | 2            | 0              | 0.6          | 675        | 0.6              |
| Misc. Horned Amphoras  | 0           | 0            | 4              | 0.2          | 660        | 0.6              |
| Misc. Spanish Amphoras | 5           | 0            | 2              | 0.3          | 1295       | 1.2              |
| Misc. Trip. Amphoras   | 2           | 2            | 11             | 0.7          | 1660       | 1.5              |
| MR Amphora 1a          | 1           | 0            | 1              | 0.1          | 240        | 0.2              |
| MR Amphora 1b          | 1           | 0            | 0              | 0.0          | 40         | 0.0              |
| MR Amphora 2           | 27          | 1            | 76             | 5.1          | 5985       | 5.4              |
| MR Amphora 3           | 0           | 1            | 0              | 0.0          | 60         | 0.1              |
| MR Amphora 4           | 0           | 0            | 1              | 0.0          | 65         | 0.1              |
| MR Amphora 7           | 0           | 0            | 2              | 0.1          | 290        | 0.3              |
| MR Amphora 14          | 2           | 0            | 0              | 0.1          | 360        | 0.3              |
| LR Amphora 1           | 1           | 1            | 3              | 0.2          | 390        | 0.4              |
| Misc. Cookware         | 19          | 1            | 1              | 1.0          | 715        | 0.6              |
| Corrugated Cookware    | 0           | 0            | 1              | 0.0          | 15         | 0.0              |
| Fabric 1 Cookware      | 5           | 0            | 0              | 0.2          | 90         | 0.1              |
| H. Cookware 1          | 4           | 0            | 3              | 0.3          | 275        | 0.2              |
| H. Cookware 2          | 1           | 2            | 0              | 0.1          | 90         | 0.1              |
| H. Cookware 3          | 7           | 0            | 0              | 0.3          | 215        | 0.2              |
| H. Cookware 4          | 1           | 0            | 0              | 0.0          | 20         | 0.0              |
| ER Cookware 1          | 83          | 0            | 23             | 5.2          | 3360       | 3.0              |
| ER Cookware 3          | 7           | 0            | 0              | 0.3          | 195        | 0.2              |
| ER Cookware 3a         | 6           | 3            | 0              | 0.4          | 255        | 0.2              |
| ER Cookware 4          | 5           | 0            | 0              | 0.2          | 390        | 0.4              |
| ER Cookware 5          | 12          | 0            | 0              | 0.6          | 705        | 0.6              |
| ER Cookware 6          | 35          | 3            | 2              | 2.0          | 3085       | 2.8              |
| Fabric 1 Fry Pans      | 4           | 0            | 0              | 0.2          | 390        | 0.4              |
| Import. Cook Ware      | 3           | 0            | 3              | 0.1          | 190        | 0.2              |
| Misc. Fry Pans         | 1           | 0            | 0              | 0.0          | 10         | 0.0              |
| MR Cookware 1          | 15          | 0            | 1              | 0.8          | 450        | 0.4              |
| MR Cookware 1a         | 3           | 0            | 0              | 0.1          | 90         | 0.1              |
| MR Cookware 1c         | 20          | 0            | 1              | 1.0          | 360        | 0.4              |
| MR Cookware 3          | 4           | 0            | 0              | 0.2          | 65         | 0.1              |
| MR Cookware 3a         | 1           | 0            | 0              | 0.0          | 50         | 0.1              |
| LR Cookware 1          | 2           | 0            | 0              | 0.1          | 135        | 0.1              |
| Misc. Plain            | 117         | 62           | 14             | 9.5          | 4345       | 3.9              |
| Painted Plain          | 1           | 0            | 0              | 0.0          | 10         | 0.0              |

## COARSE POTTERY

Fig. 5. Early to Mid Second Century A.D. Deposits RBH. (contd.).

| Type              | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|-------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Imported Plain    | 2           | 0            | 0              | 0.1          | 70         | 0.1              |
| Misc. Fabric 1    | 102         | 12           | 37             | 7.4          | 5515       | 5.0              |
| Misc. Dec. Plain  | 1           | 1            | 0              | 0.1          | 120        | 0.1              |
| H. Plain 2        | 17          | 0            | 0              | 0.8          | 250        | 0.2              |
| H. Plain 4        | 7           | 0            | 0              | 0.3          | 95         | 0.1              |
| H. Plain 9        | 2           | 0            | 0              | 0.1          | 70         | 0.1              |
| H. Plain 10       | 3           | 0            | 0              | 0.1          | 100        | 0.1              |
| Mortarium B       | 1           | 0            | 0              | 0.0          | 170        | 0.2              |
| Fusiform Ung. A   | 0           | 1            | 0              | 0.0          | 40         | 0.0              |
| Brazier B         | 4           | 0            | 0              | 0.2          | 310        | 0.3              |
| Brazier C         | 13          | 0            | 0              | 0.6          | 1410       | 1.3              |
| Brazier D         | 0           | 0            | 8              | 0.4          | 545        | 0.5              |
| Brazier E         | 0           | 0            | 1              | 0.0          | 210        | 0.2              |
| Brazier F         | 1           | 0            | 1              | 0.1          | 710        | 0.6              |
| Brazier G         | 0           | 0            | 5              | 0.2          | 1410       | 1.3              |
| Brazier H         | 0           | 0            | 4              | 0.2          | 1250       | 1.1              |
| Dec. Brazier      | 0           | 1            | 1              | 0.1          | 230        | 0.2              |
| Misc. Braziers    | 10          | 2            | 10             | 1.1          | 1920       | 1.7              |
| Thin Walled Wares | 12          | 1            | 1              | 0.7          | 66         | 0.1              |
| Plain Base 1a     | 0           | 15           | 0              | 0.7          | 565        | 0.5              |
| Plain Base 1b     | 0           | 1            | 0              | 0.0          | 20         | 0.0              |
| Plain Base 2a     | 0           | 91           | 0              | 4.5          | 3705       | 3.3              |
| Plain Base 2b     | 0           | 3            | 0              | 0.1          | 270        | 0.2              |
| Plain Base 3a     | 0           | 1            | 0              | 0.0          | 60         | 0.1              |
| Plain Base 4a     | 0           | 19           | 0              | 0.9          | 550        | 0.5              |
| Plain Base 5      | 0           | 25           | 0              | 1.2          | 825        | 0.7              |
| Plain Base 6      | 0           | 1            | 0              | 0.0          | 40         | 0.0              |
| Lid 1             | 10          | 0            | 2              | 0.6          | 150        | 0.1              |
| Lid 2             | 2           | 0            | 0              | 0.1          | 35         | 0.0              |
| Lid 3             | 4           | 0            | 0              | 0.2          | 35         | 0.0              |
| Lid 4             | 1           | 0            | 0              | 0.0          | 30         | 0.0              |
| Lid 5             | 9           | 0            | 0              | 0.4          | 1180       | 1.1              |
| Lid 7             | 2           | 0            | 0              | 0.1          | 60         | 0.1              |
| Lid 8             | 5           | 0            | 1              | 0.3          | 310        | 0.3              |
| Fabric 1 Lids     | 13          | 0            | 5              | 0.9          | 630        | 0.6              |
| Misc. Lids        | 11          | 0            | 7              | 0.9          | 613        | 0.6              |
| Misc. Import Lids | 32          | 0            | 1              | 1.6          | 1095       | 1.0              |
| ER Plain 1        | 13          | 6            | 1              | 1.0          | 1680       | 1.5              |
| ER Plain 1a       | 1           | 0            | 0              | 0.0          | 60         | 0.1              |
| ER Plain 2        | 2           | 0            | 0              | 0.1          | 30         | 0.0              |
| ER Plain 8        | 6           | 0            | 0              | 0.3          | 315        | 0.3              |
| MR Plain 1        | 18          | 17           | 1              | 1.8          | 2770       | 2.5              |
| MR Plain 1a       | 34          | 16           | 0              | 2.4          | 2535       | 2.3              |
| MR plain 1b       | 1           | 0            | 0              | 0.0          | 250        | 0.2              |
| MR Plain 2        | 32          | 5            | 0              | 1.8          | 2485       | 2.2              |
| MR Plain 3        | 6           | 0            | 0              | 0.3          | 670        | 0.6              |
| MR Plain 4        | 91          | 0            | 0              | 4.5          | 3915       | 3.5              |
| MR Plain 5a       | 8           | 0            | 0              | 0.4          | 235        | 0.2              |
| MR Plain 6        | 6           | 0            | 0              | 0.3          | 190        | 0.2              |
| MR Plain 7        | 5           | 5            | 0              | 0.5          | 365        | 0.3              |
| MR Plain 7a       | 3           | 0            | 0              | 0.1          | 155        | 0.1              |
| Misc. Tile        | 1           | 0            | 0              | 0.0          | 720        | 0.6              |

RILEY

Fig. 5. Early to Mid Second Century A.D. Deposits RBH. (contd.).

| Type             | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Tile A           | 1           | 0            | 0              | 0.0          | 120        | 0.1              |
| Loomweight B     | 1           | 0            | 0              | 0.0          | 100        | 0.1              |
| Loomweight C     | 1           | 0            | 0              | 0.0          | 15         | 0.0              |
| Dolium           | 16          | 6            | 0              | 1.1          | 7860       | 7.1              |
| Misc. Lamp Stand | 0           | 1            | 0              | 0.0          | 50         | 0.1              |
| Misc. Jugs       | 57          | 1            | 86             | 7.0          | 2695       | 2.4              |
| Fabric 1 Jugs    | 1           | 0            | 4              | 0.2          | 150        | 0.1              |
| H. Jug 1         | 1           | 0            | 0              | 0.0          | 20         | 0.0              |
| H. Jug 5         | 0           | 1            | 0              | 0.0          | 30         | 0.0              |
| Twisted Handle A | 0           | 0            | 1              | 0.0          | 95         | 0.1              |
| MR Jug 1         | 3           | 0            | 0              | 0.1          | 50         | 0.1              |
| MR Jug 2         | 1           | 0            | 1              | 0.1          | 55         | 0.1              |
| Jug Base A       | 0           | 3            | 0              | 0.1          | 340        | 0.3              |
| Jug Base B       | 0           | 16           | 0              | 0.8          | 335        | 0.3              |
| Jug Handle D     | 0           | 0            | 4              | 0.2          | 205        | 0.2              |
| LR Jug 2         | 1           | 0            | 0              | 0.0          | 105        | 0.1              |
| Totals           | 1074        | 359          | 606            | 100.0        | 111049     | 100.0            |
| Total RBH        |             | 2039         |                |              |            |                  |

## COARSE POTTERY

Fig. 6. *Later Second Century A.D. Deposit RBH. (Deposit 81).*

| Type                  | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|-----------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Misc. Amphoras        | 17          | 5            | 63             | 19.7         | 6220       | 18.7             |
| Double Handles        | 1           | 0            | 2              | 0.7          | 550        | 1.7              |
| Fabric 1 Amphoras     | 3           | 3            | 1              | 1.6          | 1210       | 3.6              |
| Misc. Import Amphoras | 0           | 0            | 1              | 0.2          | 160        | 0.5              |
| Misc. Horned Amphoras | 0           | 0            | 1              | 0.2          | 30         | 0.1              |
| Misc. Span. Amphoras  | 0           | 0            | 1              | 0.2          | 400        | 1.2              |
| Misc. Trip. Amphoras  | 1           | 2            | 0              | 0.7          | 480        | 1.4              |
| ER Amphora 2          | 0           | 0            | 4              | 0.9          | 850        | 2.6              |
| ER Amphora 4          | 1           | 0            | 0              | 0.2          | 170        | 0.5              |
| ER Amphora 6          | 1           | 0            | 0              | 0.2          | 440        | 1.3              |
| ER Amphora 11a        | 2           | 0            | 0              | 0.5          | 430        | 1.3              |
| ER Amphora 12         | 1           | 0            | 0              | 0.2          | 35         | 0.1              |
| ER Amphora 13         | 1           | 0            | 0              | 0.2          | 30         | 0.1              |
| MR Amphora 1a         | 0           | 1            | 3              | 0.9          | 660        | 2.0              |
| MR Amphora 2          | 9           | 0            | 19             | 6.5          | 1990       | 6.0              |
| MR Amphora 2a         | 1           | 0            | 0              | 0.2          | 240        | 0.7              |
| MR Amphora 4          | 0           | 0            | 1              | 0.2          | 100        | 0.3              |
| ER Amphora 14         | 2           | 0            | 0              | 0.5          | 250        | 0.8              |
| LR Amphora 1          | 1           | 0            | 0              | 0.2          | 70         | 0.2              |
| Misc. Cookware        | 2           | 0            | 0              | 0.5          | 70         | 0.2              |
| Fabric 1 Cookware     | 1           | 0            | 0              | 0.2          | 35         | 0.1              |
| ER Cookware 1         | 8           | 0            | 0              | 1.9          | 280        | 0.8              |
| ER Cookware 5         | 1           | 0            | 1              | 0.5          | 130        | 0.4              |
| ER Cookware 6         | 7           | 0            | 0              | 1.6          | 500        | 1.5              |
| Misc. Fry Pans        | 2           | 0            | 0              | 0.5          | 80         | 0.2              |
| MR Cookware 1         | 8           | 0            | 0              | 1.9          | 190        | 0.6              |
| MR Cookware 3         | 46          | 0            | 3              | 11.3         | 1905       | 5.7              |
| MR Cookware 3a        | 14          | 0            | 0              | 3.2          | 430        | 1.3              |
| Imported Plain        | 0           | 1            | 0              | 0.2          | 120        | 0.4              |
| Misc. Scraps          | 9           | 0            | 1              | 2.3          | 100        | 0.3              |
| Misc. Plain           | 3           | 11           | 1              | 3.5          | 590        | 1.8              |
| Misc. Fabric 1        | 5           | 1            | 2              | 1.9          | 320        | 1.0              |
| H. Plainware 3        | 1           | 0            | 0              | 0.2          | 10         | 0.0              |
| Misc. Mortaria        | 0           | 1            | 0              | 0.2          | 100        | 0.3              |
| Brazier C             | 2           | 0            | 2              | 0.9          | 450        | 1.4              |
| Brazier G             | 0           | 0            | 1              | 0.2          | 470        | 1.4              |
| Plain Base 1a         | 0           | 3            | 0              | 0.7          | 210        | 0.6              |
| Plain Base 2a         | 0           | 3            | 0              | 0.7          | 160        | 0.5              |
| Plain Base 2b         | 0           | 1            | 0              | 0.2          | 90         | 0.3              |
| Plain Base 5          | 0           | 6            | 0              | 1.4          | 360        | 1.1              |
| Lid Form 1            | 1           | 0            | 0              | 0.2          | 50         | 0.2              |
| Misc. Lids            | 3           | 0            | 3              | 1.4          | 330        | 1.0              |
| H. Cookware 5         | 1           | 0            | 0              | 0.2          | 50         | 0.2              |
| MR Plain 1            | 23          | 12           | 2              | 8.6          | 4665       | 14.1             |
| MR Plain 1a           | 2           | 0            | 0              | 0.5          | 60         | 0.2              |
| MR Plain 1b           | 3           | 1            | 0              | 0.9          | 1950       | 5.9              |
| MR Plain 2            | 3           | 0            | 0              | 0.7          | 310        | 0.9              |
| MR Plain 3            | 1           | 0            | 0              | 0.2          | 50         | 0.2              |
| MR Plain 4            | 10          | 0            | 0              | 2.3          | 310        | 0.9              |
| MR Plain 6            | 3           | 0            | 0              | 0.7          | 80         | 0.2              |
| MR Plain 7            | 0           | 1            | 0              | 0.2          | 30         | 0.1              |
| MR Plain 7a           | 3           | 0            | 0              | 0.7          | 365        | 1.2              |

RILEY

Fig. 6. Later Second Century A.D. Deposit RBH. (contd.).

| <i>Type</i>      | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|------------------|-------------|--------------|----------------|--------------|------------|------------------|
| MR Plain 7b      | 2           | 0            | 0              | 0.5          | 240        | 0.7              |
| LR Plain 1       | 1           | 0            | 0              | 0.2          | 50         | 0.2              |
| Tile Form B      | 1           | 0            | 0              | 0.2          | 70         | 0.2              |
| Dolium           | 3           | 3            | 0              | 1.4          | 1630       | 4.9              |
| Misc. Jugs       | 7           | 0            | 13             | 4.7          | 530        | 1.6              |
| Fabric 1 Jugs    | 0           | 0            | 6              | 1.4          | 160        | 0.5              |
| Misc. Corr. Jugs | 1           | 1            | 2              | 0.9          | 200        | 0.6              |
| Twist. Handle A  | 1           | 0            | 1              | 0.5          | 100        | 0.3              |
| MR Jug 1         | 1           | 0            | 0              | 0.2          | 20         | 0.1              |
| Jug Base B       | 0           | 19           | 0              | 4.4          | 970        | 2.9              |
| Jug Base D       | 0           | 3            | 0              | 0.7          | 40         | 0.1              |
| Totals           | 220         | 78           | 134            | 100.0        | 33175      | 100.0            |
| Total RBH        |             | 432          |                |              | 33175      |                  |

## COARSE POTTERY

Fig. 7. Early Third Century A.D. Deposits RBH. (Combination of Deposits 82, 84, 85, 88, 89, 90).

| Type                      | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|---------------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Misc. Amphoras            | 55          | 17           | 169            | 6.5          | 23115      | 9.8              |
| Double Handles            | 1           | 0            | 10             | 0.3          | 990        | 0.4              |
| Fabric 1 Amphoras         | 0           | 1            | 3              | 0.1          | 520        | 0.2              |
| Misc. Import. Amphoras    | 1           | 0            | 0              | 0.0          | 100        | 0.0              |
| Local Corr. Amphoras      | 0           | 0            | 1              | 0.0          | 30         | 0.0              |
| Misc. Local Amphoras      | 1           | 0            | 4              | 0.1          | 430        | 0.2              |
| H. Amphora 1              | 0           | 1            | 0              | 0.0          | 90         | 0.0              |
| H. Amphora 3              | 0           | 0            | 1              | 0.0          | 60         | 0.0              |
| H. Amphora 3c             | 0           | 0            | 1              | 0.0          | 40         | 0.0              |
| H. Amphora 4              | 0           | 1            | 0              | 0.0          | 210        | 0.1              |
| H. Amphora 9              | 1           | 0            | 0              | 0.0          | 60         | 0.0              |
| ER Amphora 1              | 1           | 0            | 2              | 0.1          | 600        | 0.3              |
| ER Amphora 4              | 1           | 0            | 2              | 0.1          | 210        | 0.1              |
| ER Amphora 5              | 0           | 1            | 2              | 0.1          | 850        | 0.4              |
| ER Amphora 8              | 0           | 0            | 1              | 0.0          | 490        | 0.2              |
| ER Amphora 9              | 1           | 0            | 0              | 0.0          | 970        | 0.4              |
| ER Amphora 11a            | 1           | 0            | 0              | 0.0          | 60         | 0.0              |
| ER Amphora 11b            | 1           | 0            | 0              | 0.0          | 460        | 0.2              |
| ER Amphora 12             | 1           | 0            | 0              | 0.0          | 20         | 0.0              |
| ER Amphora 14             | 4           | 0            | 0              | 0.1          | 260        | 0.1              |
| Horned Amphora            | 0           | 0            | 3              | 0.1          | 305        | 0.1              |
| Misc. Trip. Amphoras      | 1           | 3            | 6              | 0.3          | 1920       | 0.8              |
| Misc. N. African Amphoras | 1           | 0            | 0              | 0.0          | 105        | 0.0              |
| MR Amphora 1a             | 6           | 3            | 9              | 0.5          | 3240       | 1.4              |
| MR Amphora 1b             | 3           | 0            | 0              | 0.1          | 60         | 0.0              |
| MR Amphora 2              | 53          | 7            | 113            | 4.6          | 13340      | 5.6              |
| MR Amphora 2a             | 11          | 0            | 2              | 0.3          | 2700       | 1.1              |
| MR Amphora 3              | 1           | 1            | 3              | 0.1          | 115        | 0.1              |
| MR Amphora 4              | 2           | 0            | 2              | 0.1          | 355        | 0.1              |
| MR Amphora 7              | 10          | 5            | 43             | 1.6          | 18495      | 7.8              |
| MR Amphora 8              | 8           | 0            | 5              | 0.3          | 1360       | 0.6              |
| MR Amphora 9              | 0           | 0            | 1              | 0.0          | 90         | 0.0              |
| MR Amphora 11             | 1           | 1            | 1              | 0.1          | 10700      | 4.5              |
| MR Amphora 12             | 0           | 0            | 1              | 0.0          | 50         | 0.0              |
| MR Amphora 13             | 0           | 1            | 1              | 0.1          | 1340       | 0.6              |
| MR Amphora 14             | 4           | 1            | 0              | 0.1          | 505        | 0.2              |
| MR Amphora 16             | 4           | 1            | 6              | 0.3          | 2110       | 0.9              |
| MR Amphora 16a            | 1           | 0            | 0              | 0.0          | 160        | 0.1              |
| LR Amphora 1              | 1           | 0            | 1              | 0.1          | 170        | 0.1              |
| LR Amphora 6              | 2           | 0            | 0              | 0.1          | 320        | 0.1              |
| Misc. Cookware            | 52          | 1            | 20             | 2.0          | 1110       | 0.5              |
| Import. Cookware          | 2           | 0            | 0              | 0.1          | 65         | 0.0              |
| Misc. Corr. Cookware      | 0           | 41           | 64             | 2.8          | 1340       | 0.6              |
| H. Cookware 1             | 9           | 0            | 1              | 0.3          | 260        | 0.1              |
| H. Cookware 3             | 9           | 0            | 0              | 0.3          | 245        | 0.1              |
| H. Cookware 5             | 2           | 0            | 3              | 0.1          | 320        | 0.1              |
| ER Cookware 1             | 19          | 0            | 1              | 0.5          | 610        | 0.3              |
| ER Cookware 3             | 1           | 0            | 0              | 0.0          | 30         | 0.0              |
| ER Cookware 4             | 1           | 0            | 0              | 0.0          | 20         | 0.0              |
| ER Cookware 5             | 31          | 0            | 1              | 0.9          | 1125       | 0.5              |
| ER Cookware 6             | 42          | 6            | 2              | 1.3          | 5110       | 2.2              |
| MR Cookware 1             | 258         | 1            | 0              | 7.0          | 8895       | 3.8              |

RILEY

Fig. 7. Early Third Century A.D. Deposits RBH. (contd.).

| Type                 | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|----------------------|-------------|--------------|----------------|--------------|------------|------------------|
| MR Cookware 1a       | 22          | 0            | 0              | 0.6          | 500        | 0.2              |
| MR Cookware 1b       | 1           | 0            | 0              | 0.0          | 20         | 0.0              |
| MR Cookware 1c       | 9           | 0            | 0              | 0.2          | 590        | 0.2              |
| MR Cookware 2        | 42          | 0            | 0              | 1.1          | 1215       | 0.5              |
| MR Cookware 2a       | 7           | 0            | 0              | 0.2          | 280        | 0.1              |
| MR Cookware 3        | 385         | 0            | 1              | 10.4         | 13735      | 5.8              |
| MR Cookware 3a       | 168         | 0            | 0              | 4.5          | 5410       | 2.3              |
| MR Cookware 3b       | 1           | 0            | 0              | 0.0          | 15         | 0.0              |
| MR Cookware 4        | 2           | 0            | 0              | 0.1          | 25         | 0.0              |
| LR Cookware 1        | 3           | 0            | 0              | 0.1          | 220        | 0.1              |
| LR Cookware 2        | 1           | 0            | 0              | 0.0          | 15         | 0.0              |
| Misc. Plain          | 132         | 48           | 5              | 5.0          | 5135       | 2.2              |
| Imported Plain       | 0           | 1            | 0              | 0.0          | 70         | 0.0              |
| Misc. Fabric 1       | 83          | 7            | 9              | 2.7          | 3885       | 1.6              |
| Misc. Dec. Plain     | 1           | 0            | 0              | 0.0          | 60         | 0.0              |
| Misc. Hell. Slip     | 0           | 1            | 0              | 0.0          | 20         | 0.0              |
| H. Plain 2           | 1           | 0            | 0              | 0.0          | 5          | 0.0              |
| H. Plain 4           | 3           | 0            | 0              | 0.1          | 185        | 0.1              |
| H. Plain 5           | 0           | 0            | 1              | 0.0          | 5          | 0.0              |
| H. Plain 6           | 1           | 0            | 0              | 0.0          | 60         | 0.0              |
| H. Plain 9           | 3           | 0            | 0              | 0.1          | 410        | 0.2              |
| Mortarium A          | 1           | 0            | 0              | 0.0          | 150        | 0.1              |
| Mortarium B          | 4           | 0            | 0              | 0.1          | 960        | 0.4              |
| Misc. Unguent.       | 0           | 1            | 0              | 0.0          | 10         | 0.0              |
| Fusiform Unguent. A  | 0           | 1            | 1              | 0.1          | 110        | 0.0              |
| Brazier A            | 2           | 0            | 0              | 0.1          | 120        | 0.1              |
| Brazier B            | 2           | 0            | 1              | 0.1          | 95         | 0.0              |
| Brazier C            | 35          | 0            | 13             | 1.3          | 3470       | 1.5              |
| Brazier G            | 0           | 0            | 2              | 0.1          | 475        | 0.2              |
| Horiz. Brazier Luggs | 0           | 0            | 4              | 0.1          | 290        | 0.1              |
| Misc. Braziers       | 3           | 13           | 4              | 0.5          | 915        | 0.4              |
| Thin Walled Wares    | 8           | 1            | 0              | 0.2          | 36         | 0.0              |
| Rough Cast Ware      | 1           | 0            | 0              | 0.0          | 20         | 0.0              |
| Plain Base 1a        | 1           | 9            | 0              | 0.2          | 250        | 0.1              |
| Plain Base 2a        | 0           | 0            | 0              | 0.0          | 1480       | 0.6              |
| Plain Base 2b        | 0           | 37           | 0              | 1.0          | 15         | 0.0              |
| Plain Base 3a        | 0           | 3            | 0              | 0.1          | 75         | 0.0              |
| Plain Base 4a        | 0           | 9            | 0              | 0.2          | 260        | 0.1              |
| Plain Base 5         | 0           | 2            | 0              | 0.1          | 30         | 0.0              |
| Plain Base 5         | 0           | 2            | 0              | 0.1          | 1280       | 0.5              |
| Lid Form 1           | 78          | 0            | 0              | 2.1          | 30         | 0.0              |
| Lid Form 1a          | 1           | 0            | 0              | 0.0          | 30         | 0.0              |
| Lid Form 2           | 3           | 0            | 0              | 0.1          | 50         | 0.0              |
| Lid Form 3           | 8           | 0            | 0              | 0.2          | 145        | 0.1              |
| Lid Form 5           | 6           | 0            | 0              | 0.2          | 135        | 0.1              |
| Lid Form 7           | 1           | 0            | 0              | 0.0          | 10         | 0.0              |
| Lid Form 8           | 15          | 0            | 0              | 0.4          | 610        | 0.3              |
| Fabric 1 Lids        | 9           | 0            | 1              | 0.3          | 350        | 0.1              |
| Misc. Import. Lids   | 7           | 0            | 1              | 0.2          | 180        | 0.1              |
| Misc. Lids           | 31          | 0            | 52             | 2.2          | 3875       | 1.6              |
| ER Plain 1           | 6           | 0            | 0              | 0.2          | 115        | 0.0              |
| ER Plain 1a          | 2           | 0            | 0              | 0.1          | 100        | 0.0              |
| ER Plain 2           | 4           | 0            | 0              | 0.1          | 55         | 0.0              |



## COARSE POTTERY

Fig. 7. Early Third Century A.D. Deposits RBH. (contd.).

| Type              | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|-------------------|-------------|--------------|----------------|--------------|------------|------------------|
| ER Plain 8        | 2           | 0            | 0              | 0.1          | 40         | 0.0              |
| MR Plain 1        | 204         | 142          | 11             | 9.6          | 29025      | 12.2             |
| MR Plain 1a       | 29          | 1            | 1              | 0.8          | 2400       | 1.0              |
| MR Plain 1b       | 0           | 0            | 1              | 0.0          | 120        | 0.1              |
| MR Plain 1c       | 2           | 0            | 0              | 0.1          | 250        | 0.1              |
| MR Plain 3        | 192         | 0            | 0              | 5.2          | 19770      | 8.3              |
| MR Plain 3a       | 2           | 0            | 0              | 0.1          | 135        | 0.1              |
| MR Plain 4        | 2           | 0            | 0              | 0.1          | 100        | 0.0              |
| MR Plain 5        | 19          | 0            | 0              | 0.5          | 660        | 0.3              |
| MR Plain 6        | 1           | 0            | 0              | 0.0          | 20         | 0.0              |
| MR Plain 7        | 4           | 0            | 0              | 0.1          | 80         | 0.0              |
| MR Plain 7a       | 36          | 0            | 0              | 1.0          | 2180       | 0.9              |
| MR Plain 9        | 0           | 1            | 0              | 0.0          | 20         | 0.0              |
| Loomweight B      | 3           | 0            | 0              | 0.1          | 410        | 0.2              |
| Loomweight C      | 1           | 0            | 0              | 0.0          | 5          | 0.0              |
| Carved Stoppers   | 1           | 0            | 0              | 0.0          | 20         | 0.0              |
| Decorated Dolia   | 3           | 0            | 0              | 0.1          | 320        | 0.1              |
| Dolia             | 19          | 22           | 0              | 1.1          | 10380      | 4.4              |
| Misc. Tile        | 1           | 0            | 0              | 0.0          | 150        | 0.1              |
| Tile B            | 1           | 0            | 0              | 0.0          | 80         | 0.0              |
| Misc. Brick       | 1           | 0            | 0              | 0.0          | 150        | 0.1              |
| Misc. Corr. Jugs  | 1           | 2            | 9              | 0.3          | 285        | 0.1              |
| Misc. Jugs        | 56          | 6            | 168            | 6.1          | 8525       | 3.6              |
| Spouted Jugs      | 3           | 0            | 0              | 0.1          | 125        | 0.1              |
| Fabric 1 Jugs     | 2           | 0            | 2              | 0.1          | 105        | 0.0              |
| Twisted Handle A  | 0           | 0            | 1              | 0.0          | 80         | 0.0              |
| H. Jug 5          | 1           | 0            | 1              | 0.1          | 120        | 0.1              |
| Misc. Juglets     | 1           | 0            | 0              | 0.0          | 10         | 0.0              |
| ER Juglet 3       | 2           | 0            | 0              | 0.1          | 10         | 0.0              |
| Misc. Body Spouts | 0           | 0            | 2              | 0.1          | 80         | 0.0              |
| Jug Base A        | 0           | 4            | 0              | 0.1          | 110        | 0.0              |
| Jug Base B        | 0           | 58           | 0              | 1.6          | 1265       | 0.5              |
| Jug Base D        | 0           | 18           | 0              | 0.5          | 610        | 0.3              |
| Jug Base E        | 0           | 4            | 0              | 0.1          | 340        | 0.1              |
| Misc. Lagynoi     | 0           | 1            | 0              | 0.0          | 50         | 0.0              |
| Jug Handle C      | 0           | 0            | 1              | 0.0          | 40         | 0.0              |
| Jug Handle D      | 0           | 0            | 7              | 0.2          | 190        | 0.1              |
| MR Jug 1          | 32          | 0            | 8              | 1.1          | 730        | 0.3              |
| MR Jug 2          | 75          | 0            | 6              | 2.2          | 2010       | 0.8              |
| MR Jug 3          | 5           | 0            | 0              | 0.1          | 185        | 0.1              |
| MR Jug 4          | 38          | 0            | 0              | 1.0          | 2080       | 0.9              |
| LR Jug 2          | 3           | 0            | 0              | 0.1          | 35         | 0.0              |
| Totals            | 2438        | 486          | 798            | 100.0        | 236991     | 100.0            |
| Total RBH         |             | 3722         |                |              |            |                  |

RILEY

Fig. 8. *Mid Third Century A.D. Deposits. (Combination of Deposits 91-6, 101-3, 105, 111-7, 118-20, 168.10).*

| Type                   | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|------------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Misc. Amphoras         | 82          | 32           | 188            | 9.6          | 29365      | 14.3             |
| Horned Amphoras        | 0           | 0            | 2              | 0.1          | 120        | 0.1              |
| Misc. Spanish Amphoras | 0           | 0            | 1              | 0.0          | 310        | 0.2              |
| Double Handles         | 0           | 0            | 11             | 0.3          | 1260       | 0.6              |
| Misc. Trip. Amphoras   | 4           | 1            | 13             | 0.6          | 4200       | 2.0              |
| Misc. Import. Amphoras | 1           | 0            | 0              | 0.0          | 130        | 0.1              |
| Fabric 1 Amphoras      | 9           | 0            | 4              | 0.4          | 1100       | 0.5              |
| H. Amphora 1           | 0           | 0            | 1              | 0.0          | 170        | 0.1              |
| ER Amphora 1           | 0           | 0            | 3              | 0.1          | 235        | 0.1              |
| H. Amphora 7           | 1           | 0            | 0              | 0.0          | 100        | 0.0              |
| ER Amphora 4           | 1           | 0            | 0              | 0.0          | 80         | 0.0              |
| ER Amphora 6           | 1           | 0            | 0              | 0.0          | 180        | 0.1              |
| ER Amphora 9           | 0           | 0            | 1              | 0.0          | 210        | 0.1              |
| ER Amphora 11a         | 2           | 0            | 0              | 0.1          | 220        | 0.1              |
| ER Amphora 12          | 2           | 0            | 0              | 0.1          | 250        | 0.1              |
| ER Amphora 14          | 5           | 0            | 0              | 0.2          | 260        | 0.1              |
| MR Amphora 1a          | 8           | 10           | 34             | 1.7          | 9710       | 4.7              |
| MR Amphora 2           | 24          | 0            | 44             | 2.2          | 5020       | 2.4              |
| MR Amphora 3           | 0           | 3            | 1              | 0.1          | 185        | 0.1              |
| MR Amphora 3a          | 0           | 1            | 0              | 0.0          | 30         | 0.0              |
| MR Amphora 4           | 2           | 0            | 3              | 0.2          | 380        | 0.2              |
| MR Amphora 7           | 8           | 10           | 72             | 2.9          | 15290      | 7.4              |
| MR Amphora 8           | 20          | 0            | 2              | 0.7          | 2805       | 1.4              |
| MR Amphora 9           | 1           | 0            | 0              | 0.0          | 40         | 0.0              |
| MR Amphora 11          | 0           | 0            | 1              | 0.0          | 150        | 0.1              |
| MR Amphora 12          | 0           | 1            | 0              | 0.0          | 1940       | 0.9              |
| MR Amphora 14          | 1           | 0            | 0              | 0.0          | 55         | 0.0              |
| MR Amphora 16          | 0           | 1            | 1              | 0.1          | 650        | 0.3              |
| Misc. Cookware         | 89          | 4            | 1              | 3.0          | 2180       | 1.1              |
| Fabric 1 Cookware      | 3           | 1            | 2              | 0.2          | 135        | 0.1              |
| Import. Cookware       | 1           | 0            | 0              | 0.0          | 100        | 0.0              |
| H. Cookware 1          | 6           | 0            | 4              | 0.3          | 330        | 0.2              |
| H. Cookware 3          | 14          | 0            | 0              | 0.4          | 335        | 0.2              |
| ER Cookware 1          | 25          | 0            | 4              | 0.9          | 835        | 0.4              |
| ER Cookware 3          | 2           | 0            | 0              | 0.1          | 40         | 0.0              |
| ER Cookware 3a         | 1           | 0            | 0              | 0.0          | 45         | 0.0              |
| ER Cookware 4          | 3           | 0            | 0              | 0.1          | 80         | 0.0              |
| ER Cookware 5          | 69          | 0            | 28             | 3.1          | 3815       | 1.9              |
| ER Cookware 6          | 12          | 5            | 3              | 0.6          | 2230       | 1.1              |
| Misc. Corr. Cookware   | 0           | 0            | 3              | 0.1          | 60         | 0.0              |
| Dec. Fry Pans          | 1           | 0            | 0              | 0.0          | 50         | 0.0              |
| MR Cookware 1          | 139         | 0            | 3              | 4.5          | 4880       | 2.4              |
| MR Cookware 1a         | 1           | 0            | 0              | 0.0          | 45         | 0.0              |
| MR Cookware 1b         | 3           | 0            | 0              | 0.1          | 90         | 0.0              |
| MR Cookware 1c         | 9           | 0            | 0              | 0.3          | 400        | 0.2              |
| MR Cookware 2          | 8           | 0            | 0              | 0.3          | 875        | 0.4              |
| MR Cookware 2a         | 1           | 0            | 0              | 0.0          | 60         | 0.0              |
| MR Cookware 3          | 68          | 18           | 5              | 2.9          | 4230       | 2.1              |
| MR Cookware 3a         | 48          | 0            | 1              | 1.6          | 2490       | 1.2              |
| MR Cookware 3b         | 3           | 0            | 0              | 0.1          | 165        | 0.1              |
| Misc. Plain            | 158         | 74           | 25             | 8.2          | 6955       | 3.4              |
| Misc. Scraps           | 5           | 14           | 4              | 0.7          | 675        | 0.3              |

## COARSE POTTERY

Fig. 8. *Mid Third Century A.D. Deposits.* (contd.).

| Type                | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|---------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Import. Plain       | 2           | 0            | 0              | 0.1          | 135        | 0.1              |
| Misc. Fabric 1      | 97          | 8            | 9              | 3.6          | 3926       | 1.9              |
| Misc. Dec. Plain    | 3           | 0            | 0              | 0.1          | 280        | 0.1              |
| H. Plain 1          | 1           | 0            | 0              | 0.0          | 45         | 0.0              |
| H. Plain 2          | 1           | 0            | 0              | 0.0          | 10         | 0.0              |
| H. Plain 4          | 5           | 0            | 0              | 0.2          | 40         | 0.0              |
| H. Plain 5          | 1           | 0            | 0              | 0.0          | 15         | 0.0              |
| H. Plain 7          | 1           | 0            | 0              | 0.0          | 5          | 0.0              |
| Mortarium A         | 1           | 0            | 0              | 0.0          | 40         | 0.0              |
| Mortarium B         | 3           | 0            | 0              | 0.1          | 5350       | 2.6              |
| Misc. Mortarium     | 2           | 1            | 0              | 0.1          | 740        | 0.4              |
| Misc. Unguentaria   | 1           | 1            | 2              | 0.1          | 140        | 0.1              |
| Piriform Unguent. A | 0           | 2            | 0              | 0.1          | 30         | 0.0              |
| Misc. Braziers      | 3           | 1            | 7              | 0.3          | 1335       | 0.7              |
| Dec. Braziers       | 0           | 1            | 0              | 0.0          | 50         | 0.0              |
| Brazier A           | 2           | 0            | 0              | 0.1          | 90         | 0.0              |
| Brazier B           | 1           | 0            | 1              | 0.1          | 115        | 0.1              |
| Brazier C           | 6           | 0            | 6              | 0.4          | 1100       | 0.5              |
| Brazier D           | 1           | 0            | 1              | 0.1          | 190        | 0.1              |
| Brazier F           | 0           | 0            | 2              | 0.1          | 510        | 0.2              |
| Brazier G           | 1           | 0            | 0              | 0.0          | 320        | 0.2              |
| Brazier H           | 1           | 0            | 6              | 0.2          | 2405       | 1.2              |
| Horiz. Brazier Lugs | 0           | 0            | 3              | 0.1          | 125        | 0.1              |
| Plain Base 1a       | 0           | 10           | 0              | 0.3          | 280        | 0.1              |
| Plain Base 2a       | 0           | 36           | 0              | 1.1          | 2095       | 1.0              |
| Plain Base 3a       | 0           | 2            | 0              | 0.1          | 50         | 0.0              |
| Plain Base 4a       | 0           | 17           | 0              | 0.5          | 435        | 0.2              |
| Plain Base 5        | 0           | 8            | 0              | 0.3          | 140        | 0.1              |
| Thin Walled Ware    | 2           | 0            | 0              | 0.1          | 15         | 0.0              |
| Lid 1               | 71          | 0            | 40             | 3.5          | 3715       | 1.8              |
| Lid 1a              | 1           | 0            | 0              | 0.0          | 20         | 0.0              |
| Lid 3               | 6           | 0            | 0              | 0.2          | 65         | 0.0              |
| Lid 5               | 3           | 0            | 1              | 0.1          | 50         | 0.0              |
| Lid 6               | 1           | 0            | 0              | 0.0          | 15         | 0.0              |
| Lid 7               | 2           | 0            | 0              | 0.1          | 50         | 0.0              |
| Lid 8               | 10          | 0            | 0              | 0.3          | 300        | 0.1              |
| Fabric 1 Lids       | 8           | 0            | 0              | 0.3          | 70         | 0.0              |
| Misc. Import. Lids  | 3           | 0            | 0              | 0.1          | 60         | 0.0              |
| Misc. Lids          | 28          | 0            | 39             | 2.1          | 2660       | 1.3              |
| ER Plain 1          | 7           | 2            | 0              | 0.3          | 1020       | 0.5              |
| ER Plain 1a         | 1           | 0            | 0              | 0.0          | 150        | 0.1              |
| ER Plain 2          | 3           | 0            | 0              | 0.1          | 20         | 0.0              |
| MR Plain 1          | 175         | 120          | 7              | 9.6          | 21070      | 10.3             |
| MR Plain 1a         | 21          | 3            | 0              | 0.8          | 1065       | 0.5              |
| MR Plain 1b         | 1           | 0            | 0              | 0.0          | 1800       | 0.9              |
| MR Plain 1c         | 1           | 0            | 0              | 0.0          | 90         | 0.0              |
| MR Plain 2          | 3           | 0            | 0              | 0.1          | 145        | 0.1              |
| MR Plain 3          | 79          | 0            | 0              | 2.5          | 6600       | 3.2              |
| MR Plain 4          | 4           | 0            | 0              | 0.1          | 85         | 0.0              |
| MR Plain 5          | 13          | 0            | 0              | 0.4          | 380        | 0.2              |
| MR Plain 7          | 8           | 7            | 0              | 0.5          | 625        | 0.3              |
| MR Plain 7a         | 32          | 5            | 0              | 1.2          | 4420       | 2.2              |

RILEY

Fig. 8. *Mid Third Century A.D. Deposits.* (contd.).

| Type             | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|------------------|-------------|--------------|----------------|--------------|------------|------------------|
| MR Plain 7b      | 2           | 0            | 0              | 0.1          | 35         | 0.0              |
| MR Plain 9       | 2           | 0            | 0              | 0.1          | 325        | 0.2              |
| MR Plain 10      | 1           | 0            | 0              | 0.0          | 70         | 0.0              |
| MR Plain 12      | 2           | 0            | 0              | 0.1          | 40         | 0.0              |
| LR Plain 1       | 1           | 0            | 0              | 0.0          | 50         | 0.0              |
| Misc. Tile       | 2           | 0            | 0              | 0.1          | 205        | 0.1              |
| Tile B           | 1           | 0            | 0              | 0.0          | 120        | 0.1              |
| Round Brick      | 2           | 0            | 0              | 0.1          | 600        | 0.3              |
| Carved Stoppers  | 8           | 0            | 0              | 0.3          | 320        | 0.2              |
| Dolium           | 33          | 9            | 0              | 1.3          | 9235       | 4.5              |
| Misc. Lamp Stand | 0           | 1            | 0              | 0.0          | 55         | 0.0              |
| Misc. Jugs       | 77          | 37           | 130            | 7.8          | 8325       | 4.1              |
| Fabric 1 Jugs    | 0           | 0            | 5              | 0.2          | 330        | 0.2              |
| Spouted Jugs     | 7           | 0            | 0              | 0.2          | 375        | 0.2              |
| Misc. Corr. Jugs | 0           | 2            | 3              | 0.2          | 90         | 0.0              |
| Misc. Juglets    | 9           | 0            | 0              | 0.3          | 370        | 0.2              |
| H. Jug 5         | 1           | 0            | 0              | 0.0          | 15         | 0.0              |
| MR Jug 1         | 42          | 0            | 27             | 2.2          | 2145       | 1.0              |
| MR Jug 2         | 91          | 0            | 69             | 5.1          | 6355       | 3.1              |
| MR Jug 3         | 3           | 0            | 0              | 0.1          | 50         | 0.0              |
| MR Jug 4         | 1           | 0            | 0              | 0.0          | 80         | 0.0              |
| MR Jug 5         | 3           | 0            | 0              | 0.1          | 80         | 0.0              |
| LR Jug 3         | 1           | 0            | 0              | 0.0          | 25         | 0.0              |
| Misc. Lagynos    | 1           | 0            | 0              | 0.0          | 55         | 0.0              |
| Lagynos C        | 1           | 0            | 0              | 0.0          | 50         | 0.0              |
| Jug Base A       | 0           | 2            | 0              | 0.1          | 65         | 0.0              |
| Jug Base B       | 0           | 82           | 0              | 2.6          | 4055       | 2.0              |
| Jug Base D       | 0           | 42           | 0              | 1.3          | 1560       | 0.8              |
| Jug Handle D     | 0           | 0            | 3              | 0.1          | 140        | 0.1              |
| Totals           | 1748        | 574          | 826            | 100.0        | 205251     | 100.0            |
| Total RBH        |             | 3148         |                |              |            |                  |

## COARSE POTTERY

*Fig. 9. Early to Mid Sixth Century A.D. Deposits RBH. (Combination of Deposits 131, 136, 137, 142, 143, 157).*

| <i>Type</i>            | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|------------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Misc. Amphoras         | 29          | 13           | 101            | 10.6         | 15880      | 12.1             |
| Import. Corr. Amphoras | 0           | 1            | 0              | 0.1          | 250        | 0.2              |
| Double Handles         | 0           | 0            | 3              | 0.2          | 255        | 0.2              |
| Misc. Local Amphoras   | 0           | 0            | 2              | 0.1          | 140        | 0.1              |
| Fabric 1 Amphoras      | 1           | 0            | 0              | 0.1          | 4400       | 3.4              |
| Misc. Import. Amphoras | 0           | 2            | 0              | 0.1          | 25         | 0.0              |
| ER Amphora 1           | 0           | 0            | 1              | 0.1          | 100        | 0.1              |
| ER Amphora 4           | 0           | 1            | 1              | 0.1          | 310        | 0.2              |
| ER Amphora 8           | 0           | 0            | 1              | 0.1          | 230        | 0.2              |
| ER Amphora 12          | 1           | 0            | 0              | 0.1          | 140        | 0.1              |
| MR Amphora 1a          | 0           | 1            | 0              | 0.1          | 50         | 0.0              |
| MR Amphora 2           | 0           | 0            | 3              | 0.2          | 240        | 0.2              |
| MR Amphora 3           | 1           | 0            | 0              | 0.1          | 5          | 0.0              |
| MR Amphora 7           | 0           | 1            | 11             | 0.9          | 1315       | 1.0              |
| MR Amphora 11          | 0           | 0            | 1              | 0.1          | 140        | 0.1              |
| MR Amphora 13          | 0           | 1            | 0              | 0.1          | 790        | 0.6              |
| MR Amphora 14          | 1           | 0            | 0              | 0.1          | 100        | 0.1              |
| MR Amphora 17          | 1           | 0            | 0              | 0.1          | 880        | 0.7              |
| Misc. Trip. Amphoras   | 1           | 0            | 3              | 0.3          | 600        | 0.4              |
| LR Amphora 1           | 60          | 33           | 96             | 14.0         | 37940      | 28.9             |
| LR Amphora 1b          | 8           | 0            | 5              | 1.0          | 1140       | 0.9              |
| LR Amphora 2           | 5           | 1            | 15             | 1.6          | 5930       | 4.5              |
| LR Amphora 3           | 5           | 3            | 3              | 0.8          | 680        | 0.5              |
| LR Amphora 5           | 1           | 0            | 0              | 0.1          | 20         | 0.0              |
| LR Amphora 6           | 0           | 3            | 3              | 0.4          | 785        | 0.6              |
| LR Amphora 7           | 2           | 0            | 0              | 0.1          | 100        | 0.1              |
| LR Amphora 8a          | 1           | 0            | 0              | 0.1          | 50         | 0.0              |
| LR Amphora 8b          | 2           | 0            | 0              | 0.1          | 145        | 0.1              |
| LR Amphora 13          | 1           | 2            | 2              | 0.4          | 980        | 0.7              |
| Misc. Cookware         | 25          | 1            | 4              | 2.2          | 280        | 0.2              |
| Import. Cookware       | 2           | 0            | 0              | 0.1          | 30         | 0.0              |
| LR Import. Cookware    | 0           | 1            | 3              | 0.3          | 95         | 0.1              |
| Misc. Fry Pans         | 2           | 0            | 0              | 0.1          | 170        | 0.1              |
| H. Cookware 3          | 1           | 0            | 0              | 0.1          | 15         | 0.0              |
| ER Cookware 5          | 3           | 0            | 0              | 0.2          | 70         | 0.1              |
| ER Cookware 6          | 9           | 2            | 0              | 0.8          | 475        | 0.4              |
| MR Cookware 1          | 6           | 0            | 0              | 0.4          | 100        | 0.1              |
| MR Cookware 2          | 1           | 0            | 0              | 0.1          | 30         | 0.0              |
| MR Cookware 3          | 19          | 0            | 0              | 1.4          | 195        | 0.1              |
| LR Cookware 1          | 28          | 0            | 0              | 2.1          | 1210       | 0.9              |
| LR Cookware 1b         | 10          | 0            | 0              | 0.7          | 590        | 0.4              |
| LR Cookware 2          | 4           | 0            | 0              | 0.3          | 45         | 0.0              |
| LR Cookware 3          | 31          | 0            | 6              | 2.7          | 640        | 0.5              |
| LR Cookware 4          | 4           | 0            | 0              | 0.3          | 110        | 0.1              |
| LR Cookware 2b         | 1           | 0            | 0              | 0.1          | 25         | 0.0              |
| Misc. Plain            | 51          | 41           | 1              | 6.9          | 2580       | 2.0              |
| Misc. Fabric 1         | 9           | 2            | 2              | 1.0          | 425        | 0.3              |
| Misc. Dec. Plain       | 1           | 0            | 0              | 0.1          | 40         | 0.0              |
| Thin Walled Ware       | 1           | 0            | 0              | 0.1          | 5          | 0.0              |
| H. Plain 2             | 0           | 0            | 1              | 0.1          | 5          | 0.0              |
| H. Plain 4             | 2           | 0            | 0              | 0.1          | 15         | 0.0              |
| H. Plain 5             | 0           | 0            | 2              | 0.1          | 10         | 0.0              |

RILEY

Fig. 9. Early to Mid Sixth Century A.D. Deposits RBH. (contd.).

| Type                     | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|--------------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Mortarium B              | 2           | 0            | 0              | 0.1          | 290        | 0.2              |
| Horiz. Brazier Lugs      | 0           | 0            | 3              | 0.2          | 325        | 0.2              |
| Misc. Brazier            | 1           | 0            | 1              | 0.1          | 60         | 0.0              |
| Plain Base 1a            | 0           | 1            | 0              | 0.1          | 10         | 0.0              |
| Plain Base 2a            | 0           | 9            | 0              | 0.7          | 310        | 0.2              |
| Plain Base 2b            | 0           | 1            | 0              | 0.1          | 30         | 0.0              |
| Plain Base 5             | 0           | 2            | 0              | 0.1          | 75         | 0.1              |
| Lid 1                    | 7           | 0            | 0              | 0.5          | 50         | 0.0              |
| Lid 2                    | 1           | 0            | 0              | 0.1          | 15         | 0.0              |
| Lid 3                    | 3           | 0            | 0              | 0.2          | 25         | 0.0              |
| Lid 8                    | 2           | 0            | 0              | 0.1          | 35         | 0.0              |
| Fabric 1 Lids            | 2           | 0            | 0              | 0.1          | 25         | 0.0              |
| Misc. Lids               | 6           | 0            | 7              | 1.0          | 320        | 0.2              |
| Misc. Import. Lids       | 2           | 0            | 0              | 0.1          | 120        | 0.1              |
| ER Plain 1a              | 1           | 0            | 0              | 0.1          | 30         | 0.0              |
| ER Plain 2               | 1           | 0            | 0              | 0.1          | 5          | 0.0              |
| MR Plain 1               | 20          | 15           | 0              | 2.6          | 1675       | 1.3              |
| MR Plain 1a              | 6           | 0            | 0              | 0.4          | 295        | 0.2              |
| MR Plain 3               | 37          | 0            | 0              | 2.7          | 1920       | 1.4              |
| MR Plain 5a              | 3           | 0            | 0              | 0.2          | 70         | 0.1              |
| MR Plain 7a              | 3           | 0            | 0              | 0.2          | 40         | 0.0              |
| Misc. Tile               | 7           | 0            | 0              | 0.5          | 1900       | 1.4              |
| Carved Stoppers          | 1           | 0            | 0              | 0.1          | 10         | 0.0              |
| Loom Weight C            | 2           | 0            | 0              | 0.1          | 20         | 0.0              |
| Loom Weight D            | 1           | 0            | 0              | 0.1          | 100        | 0.1              |
| Dolium                   | 3           | 1            | 0              | 0.3          | 3900       | 3.0              |
| LR Plain 1               | 2           | 0            | 0              | 0.1          | 75         | 0.0              |
| Misc. Jugs               | 71          | 29           | 112            | 15.7         | 8315       | 6.3              |
| Fabric 1 Jugs            | 1           | 2            | 4              | 0.5          | 1045       | 0.8              |
| Misc. Import. Jugs       | 1           | 5            | 1              | 0.5          | 410        | 0.3              |
| H. Jug 5                 | 1           | 0            | 0              | 0.1          | 25         | 0.0              |
| H. Jug 6                 | 0           | 1            | 0              | 0.1          | 15         | 0.0              |
| Twisted Handle A         | 0           | 0            | 1              | 0.1          | 20         | 0.0              |
| Jug Handle D             | 0           | 0            | 2              | 0.1          | 60         | 0.0              |
| MR Jug 1                 | 3           | 0            | 0              | 0.2          | 50         | 0.0              |
| MR Jug 2                 | 4           | 0            | 0              | 0.3          | 145        | 0.1              |
| MR Jug 4                 | 1           | 0            | 0              | 0.1          | 25         | 0.0              |
| Jug Base D               | 0           | 4            | 0              | 0.3          | 420        | 0.3              |
| Jug Base E               | 0           | 1            | 0              | 0.1          | 80         | 0.1              |
| Flat Base Jugs           | 2           | 154          | 16             | 12.7         | 16395      | 12.5             |
| Fabric 1 Flat Based Jugs | 0           | 1            | 0              | 0.1          | 920        | 0.7              |
| LR Jug 1                 | 17          | 11           | 6              | 2.5          | 5805       | 4.4              |
| LR Jug 2                 | 32          | 0            | 0              | 2.4          | 1765       | 1.3              |
| LR Jug 3                 | 2           | 0            | 1              | 0.2          | 180        | 0.1              |
| LR Flagon                | 1           | 0            | 0              | 0.1          | 2370       | 1.8              |
| Misc. Body Spouts        | 0           | 0            | 1              | 0.1          | 15         | 0.0              |
| Misc. Dec. Jugs          | 1           | 0            | 0              | 0.1          | 710        | 0.5              |
| Totals                   | 580         | 346          | 428            | 100.0        | 131255     | 100.0            |
| Total RBH                |             | 1354         |                |              |            |                  |

## COARSE POTTERY

*Fig. 10. Post Mid Sixth Century A.D. Deposits RBH. (Combination of Deposits 147-52, 158, 167.7).*

| Type                 | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|----------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Misc. Amphoras       | 25          | 19           | 68             | 16.1         | 10755      | 22.0             |
| Fabric 1 Amphoras    | 1           | 0            | 9              | 1.3          | 500        | 1.0              |
| ER Amphora 1         | 0           | 0            | 1              | 0.1          | 55         | 0.1              |
| ER Amphora 4         | 0           | 0            | 1              | 0.1          | 70         | 0.1              |
| Misc. Trip. Amphoras | 1           | 1            | 3              | 0.7          | 1480       | 3.0              |
| MR Amphora 1a        | 0           | 1            | 0              | 0.1          | 50         | 0.1              |
| MR Amphora 2         | 1           | 0            | 10             | 1.6          | 685        | 1.4              |
| MR Amphora 3         | 0           | 2            | 0              | 0.3          | 140        | 0.3              |
| MR Amphora 3a        | 0           | 1            | 0              | 0.1          | 70         | 0.1              |
| MR Amphora 6         | 0           | 1            | 0              | 0.1          | 280        | 0.6              |
| MR Amphora 7         | 0           | 1            | 10             | 1.6          | 1525       | 3.1              |
| MR Amphora 8         | 1           | 0            | 0              | 0.1          | 150        | 0.3              |
| MR Amphora 11        | 1           | 0            | 0              | 0.1          | 260        | 0.5              |
| MR Amphora 14        | 0           | 2            | 1              | 0.4          | 850        | 1.7              |
| LR Amphora 1         | 34          | 0            | 49             | 12.0         | 12965      | 26.6             |
| LR Amphora 1b        | 1           | 0            | 3              | 0.6          | 920        | 1.9              |
| LR Amphora 2         | 6           | 0            | 5              | 1.6          | 785        | 1.6              |
| LR Amphora 3         | 1           | 1            | 0              | 0.3          | 105        | 0.2              |
| LR Amphora 4         | 0           | 0            | 1              | 0.1          | 120        | 0.2              |
| LR Amphora 7         | 1           | 0            | 0              | 0.1          | 165        | 0.3              |
| LR Amphora 8a        | 1           | 0            | 0              | 0.1          | 250        | 0.5              |
| LR Amphora 8b        | 2           | 0            | 0              | 0.3          | 200        | 0.4              |
| LR Amphora 13        | 0           | 0            | 1              | 0.1          | 230        | 0.5              |
| Misc. Cookware       | 10          | 0            | 0              | 1.4          | 295        | 0.6              |
| Import. Cookware     | 3           | 0            | 1              | 0.6          | 75         | 0.2              |
| H. Cookware 1        | 1           | 0            | 0              | 0.1          | 20         | 0.0              |
| ER Cookware 1        | 2           | 0            | 0              | 0.3          | 55         | 0.1              |
| ER Cookware 6        | 9           | 0            | 2              | 1.6          | 570        | 1.2              |
| Misc. Fry Pans       | 0           | 0            | 2              | 0.3          | 150        | 0.3              |
| MR Cookware 1        | 19          | 0            | 0              | 2.7          | 670        | 1.4              |
| MR Cookware 1a       | 2           | 0            | 0              | 0.3          | 10         | 0.0              |
| MR Cookware 1b       | 1           | 0            | 0              | 0.1          | 130        | 0.3              |
| MR Cookware 1d       | 1           | 0            | 0              | 0.1          | 10         | 0.0              |
| ER Cookware 5        | 2           | 0            | 2              | 0.6          | 110        | 0.2              |
| MR Cookware 2        | 3           | 0            | 0              | 0.4          | 125        | 0.3              |
| MR Cookware 2a       | 1           | 0            | 0              | 0.1          | 70         | 0.1              |
| MR Cookware 3        | 8           | 0            | 0              | 1.2          | 170        | 0.3              |
| MR Cookware 3a       | 2           | 0            | 0              | 0.3          | 80         | 0.2              |
| MR Cookware 5        | 0           | 0            | 1              | 0.1          | 100        | 0.2              |
| LR Cookware 1        | 16          | 0            | 0              | 2.3          | 735        | 1.5              |
| LR Cookware 1a       | 1           | 0            | 0              | 0.1          | 20         | 0.0              |
| LR Cookware 1b       | 3           | 0            | 1              | 0.6          | 230        | 0.5              |
| LR Cookware 2        | 1           | 0            | 0              | 0.1          | 20         | 0.0              |
| LR Cookware 3        | 8           | 0            | 1              | 1.3          | 120        | 0.2              |
| Misc. Plain          | 46          | 35           | 6              | 12.5         | 2010       | 4.1              |
| Misc. Fabric 1       | 17          | 2            | 3              | 3.2          | 910        | 1.9              |
| Imported Plain       | 0           | 1            | 0              | 0.1          | 20         | 0.0              |
| Misc. Dec. Plain     | 1           | 0            | 0              | 0.1          | 30         | 0.1              |
| Brazier C            | 2           | 0            | 0              | 0.3          | 155        | 0.3              |
| Brazier D            | 0           | 0            | 1              | 0.1          | 95         | 0.2              |
| Thin Walled Ware     | 1           | 0            | 0              | 0.1          | 5          | 0.0              |
| Plain Base 1a        | 0           | 5            | 0              | 0.7          | 190        | 0.4              |

RILEY

Fig. 10. Post Mid Sixth Century A.D. Deposits RBH (contd.).

| Type               | No. of Rims | No. of Bases | No. of Handles | Per cent RBH | Wt. of RBH | Per cent Wt. RBH |
|--------------------|-------------|--------------|----------------|--------------|------------|------------------|
| Plain Base 2a      | 0           | 5            | 0              | 0.7          | 150        | 0.3              |
| Misc. Lids         | 1           | 0            | 7              | 1.2          | 510        | 1.0              |
| Fabric 1 Lids      | 2           | 0            | 1              | 0.4          | 150        | 0.3              |
| Misc. Import. Lids | 2           | 0            | 0              | 0.3          | 20         | 0.0              |
| Lid 1              | 2           | 0            | 0              | 0.3          | 15         | 0.0              |
| Lid 3              | 1           | 0            | 0              | 0.1          | 10         | 0.0              |
| Lid 7              | 1           | 0            | 0              | 0.1          | 20         | 0.0              |
| H. Plain 4         | 1           | 0            | 0              | 0.1          | 10         | 0.0              |
| ER Plain 1a        | 1           | 0            | 0              | 0.1          | 120        | 0.2              |
| MR Plain 1         | 23          | 14           | 0              | 5.3          | 1595       | 3.3              |
| MR Plain 3         | 17          | 0            | 0              | 2.4          | 760        | 1.6              |
| MR Plain 3a        | 1           | 0            | 0              | 0.1          | 260        | 0.5              |
| MR Plain 5         | 1           | 0            | 0              | 0.1          | 50         | 0.1              |
| MR Plain 7         | 3           | 2            | 0              | 0.7          | 120        | 0.2              |
| MR Plain 7a        | 2           | 0            | 0              | 0.3          | T05        | 0.2              |
| MR Plain 7b        | 1           | 0            | 0              | 0.1          | 20         | 0.0              |
| Loomweight B       | 1           | 0            | 0              | 0.1          | 120        | 0.2              |
| Dolium             | 4           | 1            | 0              | 0.7          | 840        | 1.7              |
| LR Unguent. A      | 0           | 3            | 0              | 0.4          | 240        | 0.5              |
| Misc. Jugs         | 23          | 12           | 41             | 11.0         | 2585       | 5.3              |
| Spouted Jugs       | 2           | 0            | 0              | 0.3          | 70         | 0.1              |
| Fabric 1 Jugs      | 1           | 0            | 0              | 0.1          | 55         | 0.1              |
| Twisted Handle A   | 0           | 0            | 2              | 0.3          | 40         | 0.1              |
| MR Jug 1           | 3           | 0            | 0              | 0.4          | 75         | 0.1              |
| MR Jug 2           | 7           | 0            | 5              | 1.7          | 295        | 0.6              |
| Jug Base B         | 0           | 1            | 0              | 0.1          | 25         | 0.1              |
| Flat Based Jugs    | 0           | 6            | 0              | 0.9          | 410        | 0.8              |
| LR Jug 1           | 0           | 0            | 1              | 0.1          | 35         | 0.1              |
| LR Jug 2           | 2           | 0            | 0              | 0.3          | 65         | 0.1              |
| LR Jug 3           | 1           | 0            | 0              | 0.1          | 100        | 0.2              |
| LR Jug 5           | 1           | 0            | 0              | 0.1          | 150        | 0.3              |
| Totals             | 340         | 116          | 238            | 100.0        | 48810      | 100.0            |
| Total RBH          |             | 694          |                |              |            |                  |



## Appendix II: Summaries of the Quantified Amphora Data from Ostia

### QUANTIFICATION OF THE AMPHORAS FROM OSTIA

The writer has collected together the figures published in Panella 1974, Tables 1–18 in order to standardise their format with that of Berenice (see above pp. 103 ff.). The table presented in *ibid.* p. 620 only takes amphora rims into account. As details of the amphora bases and handles are presented in the other tables, the RBH figures were used. These figures include the ‘anfore di piccole dimensioni’ taken from *ibid.* Tables 1–5, as these are all included as amphoras in the Berenice type series. The figures in Panella 1974, Tables 1–18 were checked against the general list of Ostian types (*ibid.* Tables 19–24) and one or two minor discrepancies (probably typographical) were noted, although these in no way affect the final proportions. These have been amended as follows in the following figures:

Ostia Level 1D—Table 18, Ostia III, fig. 196: the four possible Algerian rims have been added to Ostia Form V.

Table 15, Ostia III, 132; this should surely read ‘2’ instead of ‘3’ for Level 1D (see *ibid.* p. 583 and compare Table 9).

Ostia Level 1E—Table 13: two miscellaneous Tripolitanian rims have been added to the figures for Tripolitanian amphoras (i.e. Ostia III, fig. 221; these are not included in the chart presented by Panella on p. 620).

Ostia Level III—Table 13, Ostia III, figs. 254, 253, 221; these three miscellaneous Tripolitanian rims have been added to the figures for Tripolitanian amphoras.

Ostia Level IVA/B—Table 9, Ostia III, fig. 391; two miscellaneous Dressel ?14 amphora rims have been added to the Dressel 14 figures (see also p. 521).

Ostia Level VA/B—Panella 1974, p. 620 chart; the rim total for Level VA/B on this chart should add up to 160, not 161 (see Tables 1, 3, 19, 22).

Panella 1974, Table 15: the figures for Ostia I, 521 and 523 for Levels 1A and 1B differ from those of Table 20. Surely those in Level 1A add up to 4 and those in Level 1B add up to 5 (see *ibid.* p. 583).

Panella 1974, Table 20: Level II should add up to 24.

RILEY

Fig. 1. *Quantification of Amphoras from Ostia, Levels IA & IB (Later Fourth Century A.D.) after Panella 1974.*

| <i>Type</i>                    | No. of Rims | No. of Bases | No. of Handles | Per cent No. RBH |
|--------------------------------|-------------|--------------|----------------|------------------|
| Misc. Amphoras                 | 6           | 2            | 2              | 8.0              |
| Ostia iii, p. 632, No. 41      | 1           | 0            | 5              | 4.8              |
| Ostia iii, p. 632, No. 42b     | 0           | 0            | 1              | 0.8              |
| Ostia iii, p. 632, Nos. 44-46b | 1           | 0            | 1              | 1.6              |
| Ostia iii, p. 632, No. 47      | 2           | 0            | 2              | 3.2              |
| Ostia Form I                   | 4           | 0            | 1              | 4.0              |
| Ostia Form II                  | 1           | 0            | 2              | 2.4              |
| Ostia Form III                 | 11          | 3            | 13             | 21.6             |
| Ostia Form IV                  | 8           | 1            | 3              | 9.6              |
| Ostia Form V                   | 0           | 2            | 0              | 1.6              |
| Ostia Form V/Form LX           | 0           | 0            | 3              | 2.4              |
| Ostia Form VI                  | 2           | 0            | 8              | 8.0              |
| Ostia Form VII                 | 1           | 0            | 0              | 0.8              |
| Ostia Form IX                  | 4           | 1            | 7              | 9.6              |
| Ostia Form XXII                | 10          | 3            | 2              | 12.0             |
| Ostia Form LIX                 | 1           | 0            | 0              | 0.8              |
| Ostia Form LX                  | 5           | 2            | 0              | 5.6              |
| Misc. Small Amphoras           | 1           | 3            | 0              | 3.2              |
| Totals                         | 58          | 17           | 50             | 100.0            |
| Total RBH                      |             | 125          |                |                  |

COARSE POTTERY

*Fig. 8. Quantification of Amphoras from Ostia, Levels IC, ID & IE (Early to Mid Third Century A.D.) after Panella 1974.*

| <i>Type</i>                    | No. of Rims | No. of Bases | No. of Handles | Per cent No. RBH |
|--------------------------------|-------------|--------------|----------------|------------------|
| Misc. Amphoras                 | 0           | 3            | 8              | 1.4              |
| Misc. Algerian Amphoras        | 4           | 0            | 0              | 0.5              |
| Misc. Tripolitanian Amphoras   | 2           | 0            | 0              | 0.3              |
| Ostia iii, p. 631, No. 34      | 1           | 0            | 1              | 0.3              |
| Ostia iii, p. 631, No. 35b     | 2           | 0            | 0              | 0.3              |
| Ostia iii, p. 632, No. 40a     | 2           | 0            | 5              | 0.9              |
| Ostia iii, p. 632, No. 40b     | 1           | 0            | 0              | 0.1              |
| Ostia iii, p. 632, No. 41      | 2           | 0            | 10             | 1.5              |
| Ostia iii, p. 632, No. 42a     | 0           | 0            | 6              | 0.8              |
| Ostia iii, p. 632, No. 42b     | 3           | 0            | 9              | 1.5              |
| Ostia iii, p. 632, Nos. 44-46b | 12          | 0            | 20             | 4.1              |
| Ostia iii, p. 632, No. 47      | 3           | 0            | 22             | 3.2              |
| Misc. Small Amphoras           | 13          | 15           | 8              | 4.6              |
| Ostia Form I                   | 13          | 0            | 0              | 1.7              |
| Ostia Form II                  | 26          | 0            | 12             | 4.9              |
| Ostia Form III                 | 54          | 2            | 26             | 10.6             |
| Ostia Form IV                  | 40          | 2            | 11             | 6.8              |
| Ostia Form V                   | 25          | 7            | 0              | 4.1              |
| Ostia Form VI                  | 16          | 18           | 48             | 10.6             |
| Ostia Form VII                 | 2           | 0            | 0              | 0.3              |
| Ostia Form VIII                | 5           | 0            | 1              | 0.8              |
| Ostia Form IX                  | 75          | 12           | 135            | 28.6             |
| Ostia Form XXIII               | 6           | 0            | 0              | 0.8              |
| Ostia Form XXIV                | 1           | 1            | 0              | 0.3              |
| Ostia Form L                   | 0           | 0            | 1              | 0.1              |
| Ostia Form LI (Campanian)      | 2           | 0            | 3              | 0.6              |
| Ostia Form LI (Spanish)        | 0           | 1            | 0              | 0.1              |
| Ostia Form LIX                 | 3           | 0            | 5              | 1.0              |
| Ostia Form LX                  | 33          | 5            | 0              | 4.9              |
| Ostia Form LX/Form V           | 0           | 0            | 30             | 3.9              |
| Ostia Form LXII                | 2           | 0            | 0              | 0.3              |
| Ostia Form LXIII               | 1           | 0            | 1              | 0.3              |
| Totals                         | 349         | 66           | 362            | 100.0            |
| Total RBH                      |             | 777          |                |                  |

## RILEY

Fig. 3. *Quantification of Amphoras from Ostia, Level II (Second Quarter of Third Century A.D.) after Panella 1974.*

| <i>Type</i>                    | No. of Rims | No. of Bases | No. of Handles | Per cent No. RBH |
|--------------------------------|-------------|--------------|----------------|------------------|
| Misc. Amphoras                 | 1           | 2            | 0              | 4.4              |
| Ostia iii, p. 632, No. 40a     | 2           | 0            | 2              | 5.9              |
| Ostia iii, p. 632, Nos. 44-46a | 1           | 0            | 1              | 2.9              |
| Ostia iii, p. 632, No. 47      | 1           | 0            | 2              | 4.4              |
| Misc. Small Amphoras           | 0           | 2            | 6              | 11.8             |
| Ostia Form I                   | 1           | 0            | 1              | 2.9              |
| Ostia Form IX                  | 2           | 2            | 5              | 13.2             |
| Ostia Form L                   | 6           | 0            | 4              | 14.7             |
| Ostia Form LI (Campanian)      | 1           | 0            | 7              | 11.8             |
| Ostia Form LI (Spanish)        | 2           | 1            | 1              | 5.9              |
| Ostia Form LII                 | 1           | 0            | 2              | 4.4              |
| Ostia Form LIV                 | 1           | 0            | 0              | 1.5              |
| Ostia Form LVIII               | 3           | 0            | 0              | 4.4              |
| Ostia Form LX                  | 0           | 1            | 0              | 1.5              |
| Ostia Form LIX                 | 1           | 0            | 3              | 5.9              |
| Ostia Form LXIII               | 1           | 0            | 0              | 1.5              |
| Ostia Form LXV                 | 1           | 0            | 1              | 2.9              |
| Totals                         | 25          | 8            | 35             | 100.0            |
| Total RBH                      |             | 68           |                |                  |

## COARSE POTTERY

*Fig. 4. Quantification of Amphoras from Ostia, Level III (Early Third Century A.D.) after Panella 1974.*

| <i>Type</i>                    | No. of<br>Rims | No. of<br>Bases | No. of<br>Handles | Per cent<br>No. RBH |
|--------------------------------|----------------|-----------------|-------------------|---------------------|
| Misc. Tripolitanian Amphoras   | 3              | 0               | 0                 | 4.8                 |
| Ostia iii, p. 632, No. 40a     | 0              | 0               | 3                 | 4.8                 |
| Ostia iii, p. 632, No. 41      | 0              | 0               | 1                 | 1.6                 |
| Ostia iii, p. 632, No. 42a     | 0              | 0               | 1                 | 1.6                 |
| Ostia iii, p. 632, No. 42b     | 0              | 0               | 2                 | 3.2                 |
| Ostia iii, p. 632, Nos. 44-46b | 0              | 0               | 3                 | 4.8                 |
| Ostia iii, p. 632, No. 47      | 1              | 0               | 2                 | 4.8                 |
| Misc. Small Amphoras           | 0              | 1               | 4                 | 7.9                 |
| Ostia Form I                   | 0              | 1               | 0                 | 1.6                 |
| Ostia Form III                 | 3              | 0               | 1                 | 6.3                 |
| Ostia Form IV                  | 1              | 0               | 0                 | 1.6                 |
| Ostia Form VI                  | 0              | 0               | 2                 | 3.2                 |
| Ostia Form IX                  | 9              | 1               | 14                | 38.1                |
| Ostia Form XXIV                | 1              | 0               | 0                 | 1.6                 |
| Ostia Form L                   | 1              | 0               | 2                 | 4.8                 |
| Ostia Form LI (Campanian)      | 0              | 0               | 1                 | 1.6                 |
| Ostia Form LVIII               | 1              | 0               | 0                 | 1.6                 |
| Ostia Form LX                  | 1              | 1               | 0                 | 3.2                 |
| Ostia Form LXII                | 1              | 0               | 0                 | 1.6                 |
| Ostia Form LXIV                | 1              | 0               | 0                 | 1.6                 |
| Totals                         | 23             | 4               | 36                | 100.0               |
| Total RBH                      |                | 63              |                   |                     |

## RILEY

Fig. 5. Quantification of Amphoras from Ostia, Levels IVA, IVB & IVC (Early Second Century A.D.) after Panella 1974.

| Type                           | No. of Rims | No. of Bases | No. of Handles | Per cent No. RBH |
|--------------------------------|-------------|--------------|----------------|------------------|
| Misc. Amphoras                 | 14          | 6            | 0              | 5.0              |
| Ostia iii, p. 631, No. 34      | 1           | 0            | 0              | 0.3              |
| Ostia iii, p. 631, No. 35a     | 1           | 0            | 7              | 2.0              |
| Ostia iii, p. 632, No. 40a     | 5           | 0            | 28             | 8.3              |
| Ostia iii, p. 632, No. 40b     | 3           | 0            | 0              | 0.8              |
| Ostia iii, p. 632, No. 42a     | 4           | 0            | 13             | 4.3              |
| Ostia iii, p. 632, Nos. 44-46a | 2           | 0            | 16             | 4.5              |
| Misc. Small Amphoras           | 8           | 3            | 10             | 5.3              |
| Ostia Form I                   | 14          | 1            | 14             | 7.3              |
| Ostia Form XX                  | 2           | 0            | 0              | 0.5              |
| Ostia Form L                   | 43          | 0            | 35             | 19.6             |
| Ostia Form LI (Campanian)      | 14          | 5            | 27             | 11.6             |
| Ostia Form LI (Spanish)        | 5           | 1            | 6              | 3.0              |
| Ostia Form LII                 | 0           | 1            | 4              | 1.3              |
| Ostia Form LVIII               | 6           | 0            | 0              | 1.5              |
| Ostia Form LIX                 | 21          | 0            | 10             | 7.8              |
| Ostia Form LX                  | 6           | 6            | 9              | 5.3              |
| Ostia Form LXI                 | 11          | 0            | 0              | 2.8              |
| Ostia Form LXII                | 0           | 0            | 8              | 2.0              |
| Ostia ? Form LXII              | 2           | 0            | 0              | 0.5              |
| Ostia Form LXIII               | 2           | 0            | 2              | 1.0              |
| Ostia Form LXIV                | 1           | 0            | 1              | 0.5              |
| Ostia Form LXV                 | 6           | 0            | 12             | 4.5              |
| Ostia Form LXVII               | 2           | 0            | 0              | 0.5              |
| Totals                         | 173         | 23           | 202            | 100.0            |
| Total RBH                      |             | 398          |                |                  |

## COARSE POTTERY

*Fig. 6. Quantification of Amphoras from Ostia, Levels VA and VB (Third Quarter of First Century A.D.) after Panella 1974.*

| <i>Type</i>                    | No. of<br>Rims | No. of<br>Bases | No. of<br>Handles | Per cent<br>No. RBH |
|--------------------------------|----------------|-----------------|-------------------|---------------------|
| Misc. Amphoras                 | 7              | 2               | 0                 | 2.3                 |
| Ostia iii, p. 631, No. 35a     | 0              | 0               | 1                 | 0.3                 |
| Ostia iii, p. 632, No. 40a     | 7              | 0               | 15                | 5.7                 |
| Ostia iii, p. 632, No. 42a     | 8              | 0               | 23                | 8.1                 |
| Ostia iii, p. 632, No. 43      | 1              | 0               | 0                 | 0.3                 |
| Ostia iii, p. 632, Nos. 44-46a | 3              | 0               | 19                | 5.7                 |
| Misc. Small Amphoras           | 5              | 15              | 7                 | 7.0                 |
| Ostia Form I                   | 3              | 0               | 19                | 5.7                 |
| Ostia Form XX                  | 3              | 0               | 0                 | 0.8                 |
| Ostia Form L                   | 36             | 0               | 18                | 14.1                |
| Ostia Form LI (Campanian)      | 30             | 7               | 43                | 20.9                |
| Ostia Form LI (Spanish)        | 14             | 3               | 10                | 7.0                 |
| Ostia Form LII                 | 10             | 2               | 10                | 5.7                 |
| Ostia Form LIV                 | 4              | 0               | 0                 | 1.0                 |
| Ostia Form LVIII               | 4              | 0               | 0                 | 1.0                 |
| Ostia Form LIX                 | 7              | 0               | 15                | 5.7                 |
| Ostia Form LX                  | 5              | 0               | 0                 | 1.3                 |
| Ostia Form LXI                 | 9              | 0               | 0                 | 2.3                 |
| Ostia Form LXII                | 1              | 0               | 6                 | 1.8                 |
| Ostia Form LXIII               | 2              | 0               | 3                 | 1.3                 |
| Ostia Form LXV                 | 1              | 0               | 4                 | 1.3                 |
| Ostia Form LXVI                | 0              | 0               | 1                 | 0.3                 |
| Totals                         | 160            | 29              | 194               | 100.0               |
| Total RBH                      |                | 383             |                   |                     |

## Bibliography

### ABBREVIATIONS

In general, the abbreviations followed are those included in the American Journal of Archaeology, 80 (1976), 1–8. Other abbreviations include:

- IJNA: International Journal of Nautical Archaeology  
KSIA: Kratkie Sooshcheniya o Dokladakh i Polevikh Issledovaniyakh Instituta Arkheologii Akademii Nauk SSSR.  
Materiali: Materiali i Issle Dovaniyapo Arkheologii SSSR.  
PBSR: Proceedings of the British School at Rome  
RCRF Acta: Rei Cretariae Romanae Fautorum Acta  
SLSAR: Society for Libyan Studies Annual Report  
Adams, W.Y., 'An Introductory Classification of Christian Nubian Pottery', *Kush*, 10(1962), 245–88.  
—, 'The Vintage of Nubia', *Kush*, 14 (1966), 262–83.  
Alarcão, J., *Fouilles de Conimbriga, V, La Céramique Commune Locale et Régionale*, Paris, 1975.  
—, *et al. Fouilles de Conimbriga, VI, Céramiques Diverses et Verres*, Paris, 1976.  
'Alim, M. 'A. al, 'Libyans and Greeks in Ptolemaic Papyri', in (ed.) Gadallah 1968, 99–116 (in Arabic).  
Almagro Basch, M., *Las Necrópolis de Ampurias Vol. I; Introducción y Necrópolis Griegas*, Barcelona, 1953.  
—, *Las Necrópolis de Ampurias Vol. II; Necrópoles Romanas y Necrópolis Indígenas*, Barcelona, 1955.  
Alpözen, T. Oguz, 'Bodrum Müzesi Ticari Amphoraları', *Türk Arkeoloji Dergisi*, 22 (1975) 5–32.  
Anderson, J. G. C., 'Augustan Edicts from Cyrene', *JRS*, 17 (1927), 33–48.  
Anderson, J. K., 'Excavations on the Kofina Ridge, Chios', *BSA*, 49 (1954), 123–82.  
Annechio, M. et al., 'L'Instrumentum Domesticum di Pompeii e Ercolano nella Prima Eta' Imperiale', *Quaderni di Cultura Materiale*, 1 (1977), Rome.  
Annis, M. B., 'Amphora Sixti', in 'Festoen' *Opgedragen aan A. N. Zadoks-Josephus Jitta bij haar zeventigste verjaardag*, *Scripta Archaeologica Groningana*, 6 (1975), 29–40.  
Applebaum, S., 'The Jewish Revolt in Cyrene in 115–7 and the Subsequent Recolonization', *JJS*, 2 (1951), 177–86.  
*Archeologia Sottomarina, Atti del II Congresso Internazionale di Archeologia Sottomarina*, Albenga, 1958.  
*Archeologia Sottomarina, Atti del III Congresso Internazionale di Archeologia Sottomarina*, Barcelona, 1961.  
Athran, R. A. H. el, 'Political and Economic History of Cyrenaica (7th Century B.C. – 96 B.C.)', Benghazi, 1975 (in Arabic).



## COARSE POTTERY

- Aurigemma, S. 'Un Sepolcreto Punico Romano sotto il 'Forte delle Vite' o 'Forte Nord-Ouest' in Tripoli (Libia)', *Reports and Monographs of the Department of Antiquities in Tripoli*, 4 (1958).
- Baatz, D., 'Reibschale und Romanisierung', *RCRF Acta*, 17-18 (1977), 147-58.
- Bailey, D. M., 'Crowe's Tomb at Benghazi', *BSA*, 67 (1972), 1-11.
- Bakir, T., 'Archaeological News 1965-7: Gargaresh', *Libya Antiqua*, 3-4 (1967), 241-4.
- Baldacci, P., 'Alcuni Aspetti dei Commerci dei Territori Cisalpini', *Atti Centro Studi e Documentazione sull' Italia Romana*, 1 (1967-8), 7-50.
- , 'Le Principali Correnti del Commercio di Anfore Romane nella Cisalpina', *Atti del Convegno Internazionale di Ravenna, 10-12 V 1969*, Bologna, 1972.
- , *et al.*, *Les Amphores Romaines*, Rome, 1972.
- Baly, T. J. C., 'The Pottery', in Colt (1962), 270-303.
- Barnea, I., 'L'Incendie de la Cité de Dinogetia au VI<sup>e</sup> Siècle', *Dacia* n.s. 10 (1966).
- Barnea, I., Iliescu, O., & Nicolescu, C., *La Culture Byzantine en Roumanie*, Bucharest, 1971.
- Barr, F. T. (ed.), *Geology and Archaeology of Northern Cyrenaica, Libya*, Amsterdam, 1968.
- Bass, G. F., & Doorninck, H. Van, 'A Fourth Century Shipwreck at Yassi Ada', *AJA*, 75 (1971), 27-37.
- Beltrán Lloris, M., *Las Anforas Romanas en Espana*, Zaragoza, 1970.
- Ben-Arieh, S., 'Survey between Raphia and the Brook of Egypt; B; The Finds', *Atiqot*, 7 (1974), 91-4.
- Benoit, F., 'Amphores et Céramiques de l'Epave de Marseilles', *Gallia*, 12 (1954), 34-54.
- , 'Epaves de la Cote de Provence: Typologie des Amphores', *Gallia*, 14 (1956), 23-34.
- , 'Typologie et Epigraphie Amphoriques; Les Marques de Sestius', *Rivista di Studi Liguri*, 23 (1957), 247-85.
- , 'L'Epave du Grand Congloué à Marseille', *Gallia*, Supplement 14 (1961).
- , 'Mediterranean Trade', in Taylor 1966, 24-33.
- Bennett, W. J., 'The Field Recording of Ceramic Data', *Journal of Field Archaeology*, 1 (1974), 211-4.
- Bisi, A. M., 'Scoperta di Due Tombe Puniche a Mellita (Sabratha)', *Libya Antiqua*, 6-7 (1969-70), 189-228.
- , *La Ceramica Punica*, Naples, 1970.
- , 'A Proposito di alcune Anfore Puniche di Tripolitania', *Studi Magrebini*, 4 (1971), 17-32.
- Boardman, J., 'Reflections on the Greek Pottery Trade with Tocra', in (ed.) Gadallah 1968, 89-91.
- , & Hayes, J. W., *Excavations at Tocra 1963-65, The Archaic Deposits, I*, Oxford, 1966.
- , *Excavations at Tocra, 1963-65, II*, London, 1973.
- Bon, A-M., & Bon, A., *Les Timbres Amphoriques de Thasos*, Paris, 1957.
- Böttger, B., 'Die Importkeramik aus dem Spätantiken Donaulimeskastell Iatrus in Nordbulgarien', in Pippidi 1974, 131-6.
- Braidwood, R. J., & Braidwood, L. S., *1960 Excavations in the Plain of Antioch*, (Oriental Institute Publications, Vol. 61), Chicago, 1960.
- Brashinsky, J. B., 'A Complex of Roof Tiles from the Excavation of the Olbian Agora, 1959-60', in *Olviya, Temenos i Agora*, Moscow, 1964, 285-313.
- , 'The Progress of Greek Ceramic Epigraphy in the USSR', *Eirene*, 11 (1973), 111-44.
- Brea, L. B., & Cavalier, M., *Meligunis-Lipara, II*, Palermo, 1965.

- Brecchia, E., 'Un Ipogeo Cristiano à Hadra', *Bulletin de la Société Archéologique d'Alexandrie*, 2 (1909), 278–88.
- , *La Nécropole di Sciatbi*, Cairo, 1912.
- Brock, J. K., 'Excavation in Siphnos', *BSA*, 44 (1949), 1–92.
- Broneer, O., *Corinth IV ii. Terracotta Lamps*, Harvard, 1930.
- , 'Excavations at Isthmia', *Hesperia*, 28 (1959), 298–343.
- Brown, P. D. C., 'Roman Pottery Kilns at Jericho', *Levant*, 3 (1971), 95–6.
- Bruckner, A., 'Zu der Keramik aus der Casa del Fauno', in ed. B. Andreae & H. Kyrielis, *Neue Forschungen in Pompeji*, Essen, 1975, 205–9.
- Bruneau, P. (ed.), *Exploration Archéologique de Delos*, 27 (1970), Paris.
- Bruyère, B., et al. *Tell Edfou 1937, Fouilles Franco-Polonaises, Rapports, I*, Cairo, 1937.
- Buchi, E., 'Banchi di Anfore Romane a Verona. Note sui Commerci Cisalpini', in *Il Territorio Veronese in Eta Romana*, Verona, 1971, 531–637.
- Bucovală, M., *Necropole Elenistice la Tomis*, Constanța, 1967.
- , 'Tradiții Elenistice in Materialele Funerare de Epocă Romană Timpurie la Tomis', *Pontice*, 2 (1969), 297–332.
- Burr, D., 'Excavations in the Athenian Agora: The Terracotta Figurines', *Hesperia*, 2 (1933), 184–94.
- Burton-Brown, T., 'Hellenistic Burials from Cyrenaica', *JHS*, 68 (1948), 148–52.
- Buttle, D., 'The Architecture and Planning of the City of Cyrene', in Rowe 1956, 27–42.
- , *The Greek and Roman Architecture of Cyrene*, University of Manchester, PhD. Thesis, 1957.
- Buttrey, T. V., 'The Coins', in ed. Humphrey 1976, 157–97.
- Callender, M., *Roman Amphorae: with Index of Stamps*, London, 1965.
- Callu, J-P., Morel, J-P., Rebuffat, R., & Hallier, G., *Thamusida—Fouilles du Service des Antiquités du Maroc, I*, Paris, 1965.
- Calvet, Y., *Salamine de Chypre, III, Les Timbres Amphoriques*, Paris, 1972.
- Cambi, N., 'Spanish Amphorae found near Split', *Archeološki Vestnik*, 26 (1975), 115–23.
- Camps-Fabrer, H., *L'Olivier et L'Huile dans L'Afrique Romaine*, Algiers, 1953.
- Canarache, V., *Importul Amforelor Stampilate la Istria* (Editura Academiei Republica Populare Romîne), 1957.
- Capitanio, M., 'La Necropoli Romana di Portoreanati', *Notizie degli Scavi*, 28 (1974), 145–445.
- Carandini, A., 'Produzione agricola e Produzione Ceramica nell'Africa di Età Imperiale', *Studi Miscellani* (Rome), 15 (1969–70), 97–120.
- Carratelli, P., 'Supplemento Epigrafico Cirenaico', *Annuario della Scuola Archeologia di Atene*, 39–40 (1961–2), 219–375.
- Carrazé, F., 'L'Epave "Grand Ribaud A". Sondages et Travaux Préliminaires', *Cahiers d'Archéologie Subaquatique*, 4 (1975), 19–58.
- Carter, T. H., 'Reconnaissance in Cyrenaica', *Expedition*, 5 (1963), 18–27.
- Casson, L., 'The Isis and Her Voyage', *TAPA*, 81 (1950), 43–56.
- , 'The Grain Trade of the Hellenistic World', *TAPA*, 85 (1954), 168–87.
- , 'The Isis and Her Voyage: A Reply', *TAPA*, 87 (1956), 239–40.
- Casson, S., 'The Modern Pottery Trade in the Aegean', *Antiquity*, 12 (1938), 464–73.
- Catling, H. W., 'An Early Byzantine Pottery Factory at Dhiothios in Cyprus', *Levant*, 4 (1972), 1–82.
- Charles-Picard, G., & Rougé, J., *Textes et Documentes Relatifs à la Vie Economique et Sociale dans L'Empire Romain, 31 B.C. – A.D. 225*, Paris, 1969.

## COARSE POTTERY

---

- Charlesworth, M. P., *Trade Routes and Commerce of the Roman Empire*, Cambridge, 1924.
- Cintas, P., *Céramique Punique*, Paris, 1950.
- Cisneros, M. J., 'Beobachtungen in einem Römischen Töpferbezirk bei Puerto Real', *Germania*, 36 (1958), 469–75.
- Clairmont, C. W., *Excavations at Salona, Yugoslavia (1969–72)*, New Jersey, 1975.
- Coarelli, F., 'Su Alcuni Vetri Dipinti Scoperti nella Germania e Sul Commercio Alessandrino in Occidente nei Primi Due Secoli dell'Impero', *ArchCl*, 15 (1963), 61–85.
- Coldstream, J. N., & Huxley, G. L., *Kythera 1972*, London, 1972.
- Colt, H. D., *Excavations at Nessana, I*, London, 1962.
- Condurachi, E., et al., *Histria Monografie Arheologică, I*, Búcharest, 1954.
- Conimbriga 1975, 'A Propos des Céramiques de Conimbriga', *Conimbriga*, 14, (1975).
- Conze, M., 'Griechische Kohlenbecken', *JdI*, 5 (1890), 118–41.
- Cook, R. M., 'The Double Stoking Tunnel of Greek Kilns', *BSA*, 56 (1961), 64–7.
- , *Greek Painted Pottery*, London, 1972, (2nd ed.).
- Coster, C. H., 'The Economic Position of Cyrenaica in Classical Times', in *Late Roman Studies*, Cambridge (Mass.), 1968, 104–44. (= Coster 1968a).
- , 'Christianity and the Invasions in Synesius of Cyrene', in *Late Roman Studies*, Cambridge (Mass.), 1968, 218–68. (= Coster 1968b).
- Courtois, C., *Les Vandales en L'Afrique*, Paris, 1955.
- Cox, D. H., *The Excavations at Dura-Europas, Final Report IV, Part 1, fasc. 2, The Greek and Roman Pottery*, New Haven, 1949.
- Crawford, M. H., & Reynolds, J. M., 'The Publication of the Prices Edict: A New Inscription from Aezani', *JRS*, 65 (1975), 160–3.
- Crowfoot, G. M., 'Of the Warp Weighted Loom', *BSA*, 37 (1937), 36–47.
- , & Harden, D. B., 'Early Byzantine and later Glass Lamps', *JEA*, 17 (1931), 196–208.
- Crowfoot, J. W., et al., *Samaria Sebaste, iii, The Objects from Samaria*, London, 1957.
- , & Fitzgerald, G. M., 'Excavations in the Tyropoeon Valley, Jerusalem', *Palestine Exploration Fund Report for 1927*, London, 1929.
- Culican, W., & Curtis, J. E., 'The Punic Wreck in Sicily. 2. The Pottery from the Ship', *IJNA*, 3 (1974), 43–54.
- Cunliffe, B., *Fifth Report on the Excavations of the Roman Fort at Richborough, Kent*, Oxford, 1968.
- , *Roman Bath*, Oxford, 1969.
- Daniels, C., 'Garamantian Excavations in Zincheera, 1965–67', *Libya Antiqua*, 5 (1968), 113–94.
- D'Arms, J. H., 'Puteoli in the Second Century of the Roman Empire: A Social and Economic Study', *JRS*, 64 (1974), 104–24.
- Daszewski, W. A., 'Polish Excavations at Kato (Nea) Paphos in 1968–9', *Report of the Department of Antiquities of Cyprus*, 1970.
- Davidson, G. R., 'The Minor Objects', *Corinth, Results of the Excavations Conducted by the American School of Classical Studies at Athens*, 12 (1952).
- Davidson, T. E. & McKerrell, H., 'Pottery Analysis and Halaf Period Trade in the Khabur Region', *Iraq*, 38 (1976), 45–53.
- Déchelette, J., *Les Vases Céramiques Ornés de la Gaule Romaine*, Paris, 1904.
- Degrassi, A., 'L'Esportazione di Olio e Olive Istriane nell'Eta Romana', in *Scritti Vari di Antichità II*, Rome, 1962, 965–72.
- Delattre, R. P., 'Le Mur à Amphores de la Colline Saint Louis à Carthage', *Bulletin Archéologique de Comité de Travaux Historiques et Scientifiques*, 1894, 89–119.

- Delougaz, P., & Haines, R. C., *A Byzantine Church at Khirbat al-Karak*, Chicago, 1960.
- Dennis, C., 'On Recent Excavations in the Greek Cemeteries of the Cyrenaica', *Transactions of the Royal Society of Literature*, (2nd Series) 9 (1870), 135–82.
- Déonna, W., 'Le Mobilier Délien', *Exploration Archéologique de Délos*, 28 (1938).
- Desio, A., 'History of Geologic Exploration of Cyrenaica', in ed. Barr 1968, 79–114.
- Doran, J. E., & Hodson, F. R., *Mathematics and Computers in Archaeology*, Edinburgh, 1975.
- Dore, J. & Greene, K., *Roman Pottery Studies in Britain and Beyond*, BAR Supplementary Series, 30 (1977), Oxford.
- Dothan, M., 'Ashdod II–III. The Second and Third Seasons of Excavations 1963, 1965', *Atiqot* (English Series), 9–10 (1971).
- , & Freedman, D. N., 'Ashdod I, the First Season of Excavation 1962', *Atiqot* (English Series), 7 (1967).
- Downey, G., *A History of Antioch: Syria from Seleucus to the Arab Conquest*, Princeton, 1961.
- Dressel, H., 'Instrumentum Domesticum', *CIL*, 15 (1891).
- Duncan, G. C., 'A Roman Pottery Near Sutri', *PBSR*, 32 (1964), 38–88.
- , 'Roman Republican Pottery from the Vicinity of Sutri', *PBSR*, 33 (1965), 134–76.
- Duncan-Jones, R. P., *The Economy of the Roman Empire: Quantitative Studies*, Cambridge, 1974.
- Dyson, S. L., 'The Commonware Pottery, The Brittle Ware', *The Excavation at Dura Europas Final Report IV, Part 1, Fascicle 3*, Newhaven, 1968.
- , *Cosa: The Utilitarian Pottery*, (Memoirs of the American Academy in Rome, 33), 1976.
- Edwards, G. R., 'Hellenistic Pottery', Small Objects from the Pnyx: II, *Hesperia Supplement* 10, Part II (1956), 79–112.
- , 'The Antikythera Shipwreck Reconsidered. The Hellenistic Pottery', *TAPA*, 55 (1965), 18–27.
- , *Corinth Vol. 7, Part 3, Corinthian Hellenistic Pottery*, Princeton, 1975.
- Eitan, A., 'Excavation at the Foot of Tel Rosh Ha'ayin', *Atiqot*, 5 (1969), 49–68.
- Elgavish, J., 'Pottery from the Hellenistic Stratum at Shiqmona', *IEJ*, 26 (1976), 65–76.
- Emery, W. B. & Kirwan, L. P., *The Royal Tombs of Ballana & Qustal*, Cairo, 1938.
- Ettlinger, E. 'Aspects of Amphora Typology—Seen from the North', in *Méthodes Classiques . . . 1977*, 9–16.
- , & Simonett, C., *Römische Keramik aus dem Schutthügel von Vindonissa*, Basle, 1952.
- Farnsworth, M., 'Greek Pottery: A Minerological Study', *AJA*, 68 (1964), 221–8.
- , 'Corinthian Pottery: Technical Studies', *AJA*, 74 (1970), 9–20.
- , Perlman, I., and Asaro, F., 'Corinth and Corfu: A Neutron Activation Study of their Pottery', *AJA*, 81 (1977), 455–68.
- Ferron, J., & Pinard, M., 'Les Fouilles de Byrsa 1953–4', *Cahiers de Byrsa*, 5 (1955), 31–81.
- , 'Les Fouilles de Byrsa (suite)', *Cahiers de Byrsa*, 9 (1960–1), 77 ff.
- Finley, M. I., *The Ancient Economy*, London, 1973.
- Fiori, P., 'Le Mouillage Antique du Cap Gros', *Cahiers D'Archéologie Subaquatique*, 3 (1974), 81–102.
- , & Joncheray, J-P., 'L'Epave de la Tradelière', *Cahiers D'Archéologie Subaquatique*, 4 (1975), 59–67.
- Flower, B., & Rosenbaum, E., *The Roman Cookery Book—A Critical Translation of the Art of Cooking by Apicius for Use in the Study and the Kitchen*, London, 1958.
- Foster, E. D. H., *The Manufacture and Trade of Mycenaean Perfumed Oil*, PhD Duke University (1974).

## COARSE POTTERY

---

- Frank, T. (ed.), *An Economic Survey of Ancient Rome*, London, 1936.
- Franken, H. J., 'Analysis of Methods of Potmaking in Archaeology', *Harvard Theological Review*, 64 (1971), 227–55.
- Fraser, P. M., *Ptolemaic Alexandria*, Oxford, 1973.
- Frend, W. H. C., & Johnston, D., 'The Byzantine Basilica Church at Knossos', *BSA*, 57 (1962), 186–238.
- Frost, H., *The Mortar Wreck in Mellieha Bay*, London, 1969.
- Gadallah, F. F. (ed.), *Libya in History*, Beirut, 1968.
- Gasparini, L., 'Le Inscrizioni del Cesaro e della Basilica di Cirene', *Quaderni di Archeologia della Libia* 6 (1971), 3–22.
- Ghislanzoni, E., 'Notizie Archeologiche sulla Cirenaica', *Notiziario Archeologico*, 1 (1915), 4–23.
- Glidchkevich, B., 'Raskopki Tiritaki V 1935–1940 GG', *Materiali CCCP*, 25 (1952), 15–220.
- Glodariu, I., *Dacian Trade with the Hellenistic and Roman World*, (BAR Supplementary Series, 8), Oxford, 1976.
- Glotz, G., 'Le Prix des Dénrées à Délos', *Journal des Savants*, 1913, 16–29.
- Goitein, S. D. F., *Jews and Arabs: Their Contacts through the Ages*, New York, 1955.
- , *A Mediterranean Society. The Jewish Communities of the Arab World as Portrayed in the Documents of the Cairo Geniza, I, Economic Foundations*, Berkeley, 1967.
- , *Letters of Medieval Jewish Traders*, Princeton, 1973.
- Goldman, H., 'The Acropolis of Halae', *Hesperia*, 9 (1940), 381–514.
- Goodchild, R. G., 'Euhesperides—A Devastated City Site', *Antiquity*, 26 (1952), 208–12.
- , 'Cyrene', *Tabula Imperii Romani*, London, 1954.
- , *Benghazi, The Story of a City*, Cyrene, 1962.
- , 'A Coin Hoard from "Balagrae" (El Beida) and the Earthquake of A.D. 365', *Libya Antiqua*, 3–4 (1967), 203–12.
- , 'Graeco-Roman Cyrenaica', in Barr 1968, 23–40.
- , *Kyrene und Apollonia*, Zürich, 1971.
- , ed. J. Reynolds, *Libyan Studies: Select Papers of the Late R. G. Goodchild*, London, 1976.
- , & Reynolds, J. M., 'Some Military Inscriptions from Cyrenaica', *PBSR*, 30 (1962), 37–46.
- Goudineau, C., *Bolsena IV, La Céramique Arétine Lisse*, Paris, 1968.
- Grace, R., 'A Graeco-Roman Cemetery at Aboukir', *Bulletin de la Société Archéologique d'Alexandrie*, 34 (1941), 82–4.
- Grace, V., 'Stamped Amphora Handles found in 1931–1932', *Hesperia*, 3 (1934), 197–310.
- , 'Standard Pottery Containers of the Ancient Greek World', *Hesperia Supplement* 8 (1949).
- , 'Timbres Amphoriques Trouvées à Délos', *BCH*, 76 (1952), 514–40.
- , 'The Eponyms Named on Rhodian Stamps' *Hesperia*, 22 (1953), 116–28.
- , 'Ancient Greek Wine Jar Fragments in Collections in Alexandria', *Year Book of the American Philosophical Society*, 1955, 321–6.
- , 'Stamped Wine Jar Fragments: Small Objects from the Pnyx, II', *Hesperia Supplement* 10 (1956), 117–89.
- , *Amphoras and the Ancient Wine Trade*, Princeton, 1961.
- , 'Stamped Handles of Commercial Amphoras', in Colt 1962, 106–30.
- , 'The Antikythera Shipwreck Reconsidered: The Commercial Amphoras', *TAPA*, 55 (1965), 5–17.

- , 'Samian Amphoras', *Hesperia*, 40 (1971), 52–95.
- , 'Revisions in Early Hellenistic Chronology', *AthMitt*, 89 (1974) 193–200.
- , & Pétropoulakou, M., 'Les Timbres Grecs', in Bruneau 1970, chapter 14.
- Grégoire, H., & Kugener, M. A., *Marc le Diacre: Vie de Porphyre, Evêque de Gaza*, Paris, 1930.
- Gregory, J. W., 'The Geology of Cyrenaica', *Quarterly of the Journal of the Geographical Society of London*, 67 (1911), 572–615.
- Grenfell, B. P., Hunt, A. S., & Smyly, J. G. (ed.), *The Tebtunis Papyri*, London, 1902–76.
- Griffith, F., 'Oxford Excavations in the Meroitic Cemetery at Faras in Nubia', *Annals of Archaeology and Anthropology*, 9 (1924).
- Grinsell, L., Rahtz, P., & Price-Williams, D., *The Preparation of Archaeological Reports*, Aylesbury, 1974.
- Gsell, S., 'L'Huile de Leptis', *Rivista della Tripolitania I* (1924), 41–6.
- , *Histoire de l'Afrique du Nord*, Paris, 1913–30.
- Habachi, B., 'Two Tombs of the Roman Epoch Recently Discovered at Gabbary', *Bulletin de la Société Archéologique d'Alexandrie*, 31 (1937), 270–85.
- Hardy, E. R., *The Large Estates of Byzantine Egypt*, New York, 1931.
- Hartley, K. F., 'The Mortaria and their Origins', in Cunliffe 1968, 172–83.
- , 'Diffusion des Mortiers et autres Produits en Provenance D'Italie', *Cahiers D'Archéologie Subaquatique*, 1 (1973), 49–60.
- Hawkes, C. F. C., & Hull, M. R., *Camulodunum; First Report on the Excavation at Colchester 1930–1939*, Oxford, 1947.
- Hayes, J. W., 'Cypriot Sigillata', *Reports of the Department of Antiquities of Cyprus*, 1967, 65–77. (= Hayes 1967a).
- , 'North Syrian Mortaria', *Hesperia*, 36 (1967), 337–47. (= Hayes 1967b).
- , 'A Seventh Century Pottery Group', *Dumbarton Oaks Papers*, 22 (1968), 203–16.
- , 'Four Early Roman Groups from Knossos', *BSA*, 66 (1971), 249–75. (= Hayes 1971a).
- , 'A New Type of Early Christian Ampulla', *BSA*, 66 (1971), 243–48. (= Hayes 1971b).
- , *Late Roman Pottery*, London, 1972.
- , 'Roman Pottery from the South Stoa at Corinth', *Hesperia* 42 (1973), 416–70.
- , 'Pottery: Stratified Groups and Typology' in Humphrey 1976, 47–124. (= Hayes 1976a).
- , *Roman Pottery in the Royal Ontario Museum*, Toronto, 1976. (= Hayes 1976b).
- , 'Early Roman Wares from the House of Dionysius, Paphos', *RCRF Acta*, 17–18 (1977), 96–108.
- Heichelheim, F. M., 'Roman Syria', in Frank 1938, Vol. 4, 121–257.
- Higginbottom, R., *Anglo-Saxon Contact with the Eastern Mediterranean A.D. 400–700 and its Context*, M.A. Thesis, Manchester University, 1975.
- Hodder, I., & Orton, C., *Spatial Analysis in Archaeology*, Cambridge, 1976.
- Holwerda, J. H., *Het Laat-Grieksche en Romeinsche Gebruiks aardewerk uit het Middellandsche Zee-Gebied in het Rijksmuseum van Oudheden te Leiden*, s'Gravenhage, 1936.
- Homann-Wedeking, B., 'A Kiln Site at Knossos', *BSA*, 45, (1950), 165–92.
- Homo, L., 'Les Romains en Tripolitaine et en Cyrenaique', *Revue des Deux Mondes*, 2 (1914), 389–423.
- Howland, R. H., *The Athenian Agora, Vol. IV, Greek Lamps and their Survivals*, Princeton, 1958.
- Hull, M. R., *Roman Colchester*, Oxford, 1958.
- Hulthen, B., 'On Choice of Element for Determination of Quantities of Pottery', *Norwegian Archaeological Review*, 7 (1974), 1–5.

## COARSE POTTERY

---

- Humphrey, J. H., *Excavations at Carthage 1975 Conducted by the University of Michigan*, I, Tunis, 1976.
- Hunt, A. S., & Edgar, C. C., *Select Papyri*, London, 1952.
- Hussong, L., & Cüppers, H., *Die Spätromische und Frühmittelalterliche Keramik, Die Trierer Kaiser Thermen 2.*, Mainz, 1972.
- Ingen, W. van, *Corpus Vasorum Antiquorum, United States of America*, (Fascicle 3, University of Michigan Fascicle 1), Cambridge, 1933.
- Isings, C., *Roman Glass from Dated Finds*, Groningen, 1957.
- Isserlin, B. S. J., 'The Isis and her Voyage: Some Additional Remarks', *TAPA*, 86 (1955), 319–20.
- Jessop, R. F., 'Excavation of a Roman Barrow at Holborough, Snodland', *Archaeologia Cantiana*, 68 (1954), 1–61.
- Johnson, A. C., 'Roman Egypt to the Reign of Diocletian', in Frank 1936.
- Johnson, D. L., *Jabal al-Akhdar, Cyrenaica: an Historical Geography of Settlement and Livelihood*, Chicago, 1973.
- Joncheray, J.-P., 'Étude de l'Épave Dramont D', *Cahiers D'Archéologie Subaquatique*, 1 (1972), 11–33. (= Joncheray 1972a).
- , 'Notes Archéologiques (Région Est-Varoise)', *Cahiers D'Archéologie Subaquatique*, 1 (1972), 119–23. (= Joncheray 1972b).
- , 'Étude de l'Épave Dramont D, Dite "Des Pelves"', *Cahiers D'Archéologie Subaquatique*, 3 (1974), 21–48.
- , 'Une Épave du Bas Empire: Dramont F', *Cahiers D'Archéologie Subaquatique*, 4 (1975), 91–140. (= Joncheray 1975a).
- , 'L'Épave "E" du Cap Dramont', *Cahiers D'Archéologie Subaquatique*, 4 (1975), 141–6. (= Joncheray 1975b).
- , 'Mediterranean Hull Types Compared. 2. Wreck F from Cape Dramont (Var), France', *IJNA*, 6 (1977), 3–7.
- Jones, A. H. M., *The Later Roman Empire, A.D. 284–602*, Oxford, 1964.
- , *The Cities of the Eastern Roman Provinces* (2nd ed. revised by M. Avi-Yonah et al.), Oxford, 1971.
- , 'The Economic Life of the Towns of the Roman Empire', in ed. P. A. Brunt, *The Roman Economy, Studies in Ancient Economic and Administrative History*, Oxford, 1974.
- Jones, F. F., 'The Pottery', in ed. H. Goldman, *Excavations at Gözlu Kule Tarsus 1, The Hellenistic and Roman Periods*, Princeton, 1950.
- Jones, G. D. B., & Little, J. H., 'Coastal Settlement in Cyrenaica' *JRS* 61 (1971), 64–79. (= Jones & Little 1971a).
- , 'Hadrianopolis', *Libya Antiqua*, 8 (1971), 53–67. (= Jones & Little 1971b).
- Jones, J. E., 'Hives and Honey of Hymettus. Beekeeping in Ancient Greece', *Archaeology*, 29 (1976), 80–91.
- , Graham, A. J., & Sackett, L. H., 'An Attic Country House Below the Cave of Pan at Vari', *BSA*, 68 (1973), 355–452.
- Kahane, P., 'Pottery Types from the Jewish Ossuary Tombs Round Jerusalem', *IEJ*, 2 (1952), 125–39; 176–82.
- , 'Pottery Types from the Jewish Ossuary Tombs Round Jerusalem', *IEJ*, 3 (1953), 48–54.
- Kapitän, G., 'A Corinthian Shipwreck at Savelletri (Brindisi, Apulia, Italy)', *IJNA*, 2 (1973), 185–6.

- Kaufmann, C. M., *Die Menasstadt und das Nationalheiligtum der altchristlichen Aegypten in der west Alexandrianischen Wüste*, Leipzig, 1910.
- Kenyon, K. M., 'Late Pottery from Hagfet ed Dabba', in *McBurney & Hey 1955*, Appendix G, 300–2.
- , & Crowfoot, J. C., Chapters 9 and 10 in *Crowfoot et al. 1957*.
- Kirwan, L. P., *The Oxford University Excavations at Firka*, London, 1939.
- Kiss, Z., 'Les Ampoules de St. Menas Découvertes à Kôm el Dikka (Alexandrie) en 1967', *Etudes et Travaux*, 3 (1969), 153–66.
- , 'Nouvelles ampoules de St. Menas a Kôm el Dikka', *Etudes et Travaux*, 5 (1971), 145–9.
- Kleinsmiede, W. F. J., & Berg, N. J. van den, 'Surface Geology of the Jabal al Akhdar, Northern Cyrenaica', in *Barr 1968*, 115–124.
- Kraeling, C. M., *Ptolemais*, Chicago, 1962.
- Kropotkin, B. B., 'Rimskie Importnie Iedeliya v Vostounoi Evrope (II v do N.E.—V v V.N.E.)', Moscow, 1970.
- Kryglekova, I. T., 'Remeslennoe Proievodstvo Prostoi Keramiki v Pantikapee v VI—III vv do N.E.', *Materiali C.C.C.P.*, 56 (1957), 96–138.
- Krywonos, W., *Provenance Studies of Romano-Cyrenaican Pottery Sherds by Neutron Activation Analysis*, PhD Thesis, University of Manchester, 1978.
- Kuzmanov, G., 'Typologie et chronologie des amphores de la Haute époque byzantine', *Arkheologiya*, (1973), 14–21.
- Laing, L., *The Archaeology of Late Celtic Britain and Ireland*, London, 1975.
- Lamb, W., 'Grey Wares from Lesbos', *JHS*, 52 (1932), 1–12.
- Lamboglia, N., *Gli Scavi di Albintimilium e la Cronologia della Ceramica Romana*, Bordighera, 1950.
- , 'Per una Classificazione Preliminare della Ceramica Campana', *Atti I Congresso Internazionale di Studi Liguri 1950*, Bordighera, 1952, 139–206.
- , 'Sulla Cronologia delle Anfore Romane di Età Republicanica', *Rivista di Studi Liguri*, 21 (1955), 241–70.
- , 'La Questione della Cupola del Battistero di Albenga', in *Studi in Onere di A. Calderini e R. Paribeni*, III, Milan, 1956.
- Lambrechts, P., 'Le Commerce des "Syrians" en Gaule du Haut Empire à l'Epoque Mérovingienne', *Antiquité Classique*, 6 (1937), 35–61.
- Lang, M., 'Dated Jars of Early Imperial Times', *Hesperia*, 24 (1955), 277–85.
- , *The Athenian Agora, Vol. 21, Graffiti and Dipinti*, Princeton, 1976.
- Lapp, P., *Palestinian Ceramic Chronology*, New Haven, 1961.
- Laronde, A., 'Histoire et Archéologie en Cyrénaïque: Perspectives Nouvelles', *Revue Archéologique*, (1974), 190–2.
- Leatham, J., & Hood, S., 'Sub Marine Exploration in Crete 1955', *BSA*, 53–4 (1958–9), 263–80.
- Leepenska, N. O., 'Peipunska, N. O. Metodike Klasifikachii Amforeogo Materialu', *Arkheologiya*, 3 (1971), 63–74.
- Leighton, A. C., *Transport and Communication in Early Medieval Europe, A.D. 500–1100*, Newton Abbot, 1972.
- Leonard, M. R., 'Braziers in the Bodrum Museum', *AJA*, 77 (1973), 19–25.
- Leroux, G., *Lagynos: Recherches sur la Céramique et l'Art Ornemental Hélienistiques*, Paris, 1913.
- Le Roy, C., 'Réchauds Déliens', *BCH*, 85 (1961), 474–500.
- , 'Timbres Amphoriques Provenant de Tanis (Egypt)', *BCH*, 99 (1975), 235–46.



## COARSE POTTERY

- Levine, L. I., *Caesarea Under Roman Rule*, Leiden, 1975.
- Liebeschuetz, J. H. W. G., *Antioch: City and Imperial Administration in the Later Roman Empire*, Oxford, 1972.
- Liou, B., 'Direction des Recherches Archéologiques Sous-marins' *Gallia*, 31 (1973), 571-608.
- , 'Direction des Recherches Archéologiques Sous-marins' *Gallia*, 33 (1975), 571-605.
- Lloyd, J. A., 'Sidi Khrebish Excavations, Benghazi, 1972-3', *SLSAR*, 4 (1973), 11-7.
- , 'Sidi Khrebish Excavations, Benghazi, 1974 and 1975', *SLSAR*, 6 (1975), 5-8.
- , *Excavations at Sidi Khrebish, Benghazi, (Berenice) Vol. I*, (Libya Antiqua Supplement V), 1978.
- Loane, H. J., *Industry and Commerce of the City of Rome (50 B.C.—A.D. 200)*, Baltimore, 1938.
- Loeschcke, S., 'Keramische Funde in Haltern', *Mitteilungender Altertumskommission für Westfalen*, 5 (1909), 101-322.
- , 'Sigillata-Töpfereien in Tschandarli', *AthMitt*, 37 (1912), 344-407.
- Loffreda, S., *Cafarnao II. La Ceramica*, Jerusalem, 1974.
- Lucas, A., *Ancient Egyptian Materials and Industry*, London, 1962.
- McBurney, C. B. M., & Hey, R. W., *Prehistory and Pleistocene Geology in Cyrenaican Libya*, Cambridge, 1955.
- McFadden, G. H., 'A Tomb of the Necropolis of Ayios Ermoyenis at Kourion', *AJA*, 50 (1946).
- Mackay, T. S., 'More Byzantine and Frankish Pottery from Corinth', *Hesperia*, 36 (1967), 249-320.
- Maiuri, A., *Pompeii*, Novara, 1951.
- , *Herculaneum*: (Guidebooks to the Museums, Galleries and Monuments of Italy No. 53), Rome, 1970.
- Marabini Moevs, M. T., *The Roman Thin Walled Pottery from Cosa*, (Memoirs of the American Academy at Rome 32), Rome, 1973.
- Marcadé, J., 'A Propos des Statuettes Hellenistiques en Aragonite du Musée de Délos', *BCH*, 76 (1962), 96-135.
- Marchetti, M., *Idrologia Cirenaica*, Florence, 1938.
- Martens, M., 'Sur la Décoration des Réchauds Gréco-romaines', *Etudes et Travaux*, 5 (1971), 135-44.
- Maspero, J., *Papyrus grecs d'Epoque Byzantine (Catalogue Général des Antiquités Egyptiennes du Musée du Caire)*, Cairo, 1911-6.
- Mau, A., 'Tituli Vasi Fictilibus Inscripti', *CIL*, 4 Supplement (1898).
- Mayence, F., 'Fouilles de Délos: Les Réchauds en Terre-cuite', *BCH*, 29 (1905), 373-404.
- Melenteva, G. M., 'Olviiskii Keramicheskii Kompleks Pervikh Vekov N. E.', *KSIA*, 116 (1969), 23-28.
- Méthodes Classiques et Méthodes Formelles dans L'Etude des Amphores*, (Collection de L'Ecole Francaise de Rome, 32) Rome, 1977.
- Michalowski, K., *Les Fouilles Polonaises à Tel Atrib 1957-60*, Cairo, 1962.
- , et alia, *Tell Edfou 1938, Fouilles Franco-Polonaises, Rapports II*, Cairo, 1938.
- , *Tell Edfou 1939, Fouilles Franco-Polonaises, Rapports III*, Cairo, 1950.
- Mitford, T. B., 'The Hellenistic Inscriptions of Old Paphos', *BSA*, 56 (1961), 1-41.
- Morel, J-P., 'Recherches Stratigraphiques à Hippone', *Bulletin D'Archéologie Algérienne*, 3 (1968), 35-84.
- , 'Kerkouane, Ville Punique du Cap Bon: Remarques Archéologiques et Historiques', *Mélanges D'Archéologie et D'Histoire*, 81 (1969), 473-518.

- Moss, J. R., *The Sea and the Fifth Century West Roman Empire*, PhD thesis, University of London, 1970.
- Munsell Soil Colour Charts, Baltimore, 1973.
- Oates, D., & Oates, J., 'Ain Sinu', *Iraq*, 21 (1959), 207–42.
- Ochsenchlagel, E. L., 'The Excavations at Tell Timai', *JARCE*, 6 (1967), 32–51.
- Oelmann, F., *Die Keramik des Kastells Niederbieber*, Frankfurt-am-Main, 1914.
- O'Ferrall, R. S. M., 'A Pilgrim's Flask Found in Derby', *Journal of the Derbyshire Archaeological and Natural History Society*, 71 (1951), 78–9.
- Oliver, E. H., *Roman Economic Conditions to the Close of the Republic*, Rome, 1966.
- Oliverio, G., 'Campagna di Scavi a Cirene nell'Estate del 1928', *Africa Italiana*, 3 (1930).
- Oost, S. I., 'Cyrene 96–74 B.C.', *Classical Philology*, 58 (1963), 11–25.
- Ormerod, H. A., *Piracy in the Ancient World*, Liverpool, 1924.
- Ostia i*, 'Le Terme del Nuotatore, Scavo dell'Ambiente IV', *Studi Miscellanei*, 13 (1968).
- Ostia ii*, 'Ostia, Terme del Nuotatore, Ambiente 1, Strato V', *Studi Miscellanei*, 16 (1970).
- Ostia iii*, *Studi Miscellanei*, 21 (1974).
- Oxé, A. & Comfort, H., *Corpus Vasorum Arretinorum*, Bonn, 1968.
- Pagano, V. P., 'Le Rotte Antiche tra la Grecia e la Cirenaica e gli Itinerari Marittimi e Terrestri Lungo le Coste Cirenaiche e della Grande Sirte', *Quaderni di Archeologia della Libia*, 8 (1976), 285–352.
- Pagenstecher, R., *Expedition Ernst von Sieglin*, Leipzig, 1913.
- Pando, J. C., 'The Life and Times of Synesius of Cyrene as Revealed in his Works', (Catholic University of America Press Patristic Studies, 63), Washington, 1940.
- Panella, C., 'Le Terme del Nuotatore, Scavo dell'Ambiente IV; XIV: Anfore', *Ostia i* (1968), 97–116.
- , 'Ostia, Terme del Nuotatore, Ambiente 1, Strato V; Le Anfore', *Ostia ii*, (1970), 102–56.
- , 'Annotazioni in Margine alle Stratigrafie delle Terme Ostiensi del Nuotatore', in Baldacci *et al.* 1972, 69–106.
- , 'Appunti su un Gruppo di Anfore della Prima, Media e Tarda Età Imperiale (Secoli I–V d.c.)', *Ostia iii*, (1974), 460–633.
- , 'Per uno Studio delle Anfore di Pompeii', *Studi Miscellanei*, 22 (1976), 151–62.
- Parker, A. J., 'Roman Amphoras: A Review Article', *IJNA*, 1 (1972), 225–9, (= Parker, 1972a).
- , 'The Evidence Provided by Underwater Archaeology for Roman Trade in the Western Mediterranean', in ed. D. J. Blackman, *Marine Archaeology*, (Colston Papers 23), London, 1972, 361–82. (= Parker 1972b).
- , Review of Baldacci *et al.* 1972, in *IJNA*, 3 (1974), 173–4.
- , 'News', *IJNA*, 6 (1977), 256.
- , 'Lusitanian Amphoras', in *Méthodes Classiques*. . . 1977, 35–46.
- , & Squire, D. M., 'A Wreck of the late Second century A.D. at Terrauzza (Siracusa, Sicily)', *IJNA*, 3 (1974), 27–34.
- Parr, P. J., 'A Sequence of Pottery from Petra', in ed. J. A. Saunders, *Near Eastern Archaeology in the Twentieth Century*, New York, 1970, 348–81.
- Pascual Guasch, R., 'Las Anforas de la Layetania', in *Méthodes Classiques*. . . 1977.
- Peacock, D. P. S., 'The Scientific Analysis of Ancient Ceramics: A Review', *World Archaeology*, 1 (1970), 375–89.
- , 'Roman Amphorae in Pre-Roman Britain', in ed. M. Jesson & D. Hill, *The Iron Age and its Hill Forts*, Southampton, 1971, 161–88.

## COARSE POTTERY

---

- , 'Amphorae and the Baetican Fish Industry', *Antiquaries Journal*, 54 (1975), 232–43.
- , Review of ed. C. W. Beck, *Archaeological Chemistry*, Washington, 1974, in *Antiquaries Journal*, 56 (1977), 267–8. (= Peacock 1977a).
- , 'Late Roman Amphorae from Chalk, near Gravesend, Kent', in ed. Dore & Greene 1977, 295–300. (= Peacock 1977b).
- , (ed.) *Pottery and Early Commerce. Characterization and Trade in Roman and Later Ceramics*, London, 1977. (= Peacock 1977c).
- , 'Roman Amphorae: Typology, Fabric and Origins', in *Méthodes Classiques*. . . 1977, 261–78 (= Peacock 1977d).
- , 'The Rhine and the Problem of Gaulish Wine in Roman Britain', in ed. J. du Plat Taylor & H. Clere, *Roman Shipping & Trade in Britain in the Rhine Provinces*, (CBA Research Report 24) London 1978, 49–51.
- , 'Recent Discoveries of Roman Amphora Kilns in Italy', *Antiquaries Journal*, in press.
- Pfeffer, W. von, & Haevernick, T. E., 'Zarte Rippenschalen', *Saalburg Jahrbuch*, 1958, 76–91.
- Pélichet, E., 'A Propos des Amphores Romaines Trouvées à Nyon', *Zeitschrift für Schweizerische Archäologie und Kunstgeschichte*, 1946, 189–202.
- Picard, C. G., 'Sacra Punica. Etude sur les Masques et Rasoirs de Carthage', *Karthago*, 13 (1965–6).
- Picon, M., *Introduction à L'Etude Technique des Céramiques Sigillées de Lezoux*, Lyon, 1973.
- Pippidi, D. M. (ed.), *Actes du IX<sup>e</sup> Congrès International d'Etudes sur les Frontières Romaines*, Bucharest & Köln, 1974.
- Pirenne, H., *Mohammed and Charlemagne*, London, 1968.
- Ponsich, M., 'Note Préliminaire sur L'Industrie de la Céramique Préromaine en Tingitaine (Kouass Région D'Arcila)', *Karthago*, 15 (1969), 77–97.
- , & Tarradell, M., *Garum et Industries Antiques de Salaison dans la Méditerranée Occidentale*, Paris, 1965.
- Pottier, E., & Reinach, S., *La Necropole de Myrina*, Paris, 1887.
- Prag, A. J. N. W., Schweizer, F., & Williams, J. Ll. W., 'Hellenistic Glazed Wares from Athens and South Italy: Analytical Techniques and Implications', *Archaeometry*, 16 (1974).
- Précheur-Canonge, T., *La Vie Rurale en Afrique Romaine d'après les Mosaïques*, Tunis, 1968.
- Pritchard, J. B., 'The 1951 Campaign at Herodian Jericho', *BASOR*, 125 (1951), 8–17.
- Quibell, J. E., *Excavations at Saqqara IV, The Monastery of Apa Jeremias*, Cairo, 1912.
- Rădulescu, A., 'Amfore cu Inscriptii de la Edificiul Roman cu Mozaic din Tomis', *Pontica*, 6 (1973), 193–207.
- Rebuffat, R., 'Bu Ngem 1970', *Libya Antiqua*, 6–7 (1969–70), 107–68. (= Rebuffat 1970a).
- , 'Zella et les Routes d'Egypte', *Libya Antiqua*, 6–7 (1969–70), 181–7. (= Rebuffat 1970b).
- , Gassend, J. M., Guéry, R., Hallier, G., 'Bu Ngem 1968', *Libya Antiqua*, 6–7 (1969–70), 9–106.
- Reynolds, J. M., 'The Jewish Revolt of A.D. 115 in Cyrenaica', *Proceedings of the Cambridge Philological Society*, 185 (1958–59), 24–8. (= Reynolds 1959a).
- , 'Four Inscriptions from Roman Cyrene', *JRS*, 49 (1959), 95–101. (= Reynolds 1959b).
- , 'The Christian Inscriptions of Cyrenaica', *Journal of Theological Studies* n.s. 11 (1960), 284–94.
- , 'Inscriptions of Roman Cyrenaica' in ed. Gadallah 1968, 181–9.
- , 'New Boundary Stones from the Public Land of the Roman People in Cyrenaica', *Libya Antiqua*, 8 (1971), 47–51. (= Reynolds 1971a).

- , 'Zaviyet Msus', *Libya Antiqua*, 8 (1971), 39–42. (= Reynolds 1971b).
- , 'Libya and Diocletian's Edict on Maximum Prices', *Libya Antiqua*, 8 (1971), 33–7. (= Reynolds 1971c).
- , 'A Civic Decree from Benghazi', *SLSAR*, 5 (1973–4), 19–24. (= Reynolds 1974a).
- , 'A Civic Decree from Tocra in Cyrenaica' *Archeologia Classica*, 25–6 (1973–4), 622–30. (= Reynolds 1974b).
- , 'The Sidi Khrebish Graffiti: An Interim Note', *SLSAR*, 6 (1974–5), 13–7.
- , & Goodchild, R. G., 'The City Lands of Apollonia in Cyrenaica', *Libya Antiqua*, 2 (1965), 103–8.
- Rhodes, M., 'A Pottery Fabric Type Series for London', *Museums Journal*, 76 (1977), 150–2.
- Ricci, C., 'Il Sepolcro di Galla Placida a Ravenna', *Bolletino d'Arte*, 8 (1914).
- Rijksmuseum G. M. Kam Museum van Romeins Nijmegen*, Nijmegen, 1967 (= Rijksmuseum Nijmegen 1967).
- Riley, J. A., 'Benghazi—A Note on the Coarse Pottery', *SLSAR*, 4 (1972–3), 18–20.
- , 'Excavations of a Kiln Site at Tocra', *SLSAR*, 6 (1975–6), 25–9. (= Riley 1976a).
- , 'Quantification of the Coarse Pottery at Carthage' in Humphrey 1976, 125–56. (= Riley 1976b).
- , 'Quantification of Roman Pottery in the Mediterranean', *Computer Applications in Archaeology* (Proceedings of the Annual Conference at the Computer Centre, University of Birmingham), 1976, 53–7. (= Riley 1976c).
- , *The Hellenistic and Roman Coarse Pottery in Cyrenaica*, PhD Thesis, Manchester University, 1978.
- , 'Excavation of a Kiln Site at Tocra', *Libya Antiqua*, (in press) (= Riley in press 1).
- , 'The Pottery from the Hellenistic and Roman Tombs at Selmani, Benghazi', *Libya Antiqua*, (in press). (= Riley in press 2).
- , 'Ajdabiyah 1971–6: The Pottery', *Libya Antiqua* (in press) (= Riley in press 3).
- Ritterling, E., 'Das Frühromische Lager bei Hofheim', *Annalen des Vereins für Nassauische Altertumskunde und Geschichtsforschung*, 40 (1912).
- Robert, K., *Die Masken der Neueren Attischen Komödie*, Halle a.S. (1899).
- Robinson, H. S., *The Athenian Agora, Volume V, Pottery of the Roman Period*, Princeton, 1959.
- , 'A Sanctuary and Cemetery in Western Corinth', *Hesperia*, 38 (1969), 1–35.
- Roeder, G., *Hermopolis 1929–1939*, Hildesheim, 1959.
- Rostovtzeff, M., *The Social and Economic History of the Hellenistic World*, Oxford, 1941.
- , (revised P. M. Fraser), *The Social and Economic History of the Roman Empire*, Oxford, 1971.
- Rougé, J., *Récherches sur L'Organisation du Commerce Maritime au Méditerranée sous L'Empire Romain*, Paris, 1966. (= Rougé 1966a).
- , (ed.), *Expositio Totius Mundi et Gentium*, (Sources Chrétiennes 124), Paris, 1966. (= Rougé 1966b).
- Rowe, A., 'Painted Pottery Situla from "Pompey's Pillar"', *Bulletin de la Société Archéologique d'Alexandrie*, 34 (1941), 54–61.
- , *New Light on Aegyptio-Cyrenean Relations: Two Ptolemaic Statues Found in Cyrenaica*, Cairo, 1948.
- , (ed.), *Cyrenaican Expedition of the University of Manchester 1952*, Manchester, 1956.
- , (ed.), *Cyrenaican Expedition of the University of Manchester 1955–57*, Manchester, 1959.

## COARSE POTTERY

---

- Rutkowski, B., 'Die Römische Keramik ausserhalb der Grenzen des Imperiums', *RCRF Acta*, 17-8 (1977), 159-68.
- Sackett, L. H., 'Post Minoan Occupation above the Mansion', *Archaeological Reports for 1972-3*, (Society for Hellenic Studies), 1973, 62-71.
- Salomonson, J. W., 'Etudes sur la Céramique Romaine d'Afrique', *BABesch*, 43 (1968), 80-145.
- Scheffenegger, S., & Schindler-Kaudelka, E., 'Ein Früher Fundort am Ostrand des Händlerforums des Magdalensberges' *RCRF Acta*, 17-18 (1977).
- Sciarra, B., 'Alcuni Bolli Anforari Brindisini', *Epigraphica*, 28 (1966), 122-34.
- Scorpan, C., 'Săpăturile Arheologice de la Sacidava 1969, 1970, 1971', *Pontica*, 6 (1973), 267-331.
- Scrammuzzza, V. M., 'Roman Sicily', in Frank 1938, 225-377.
- Serra, B. P., 'Su una Eulogia Fittile del Museo Archeologico Nazionale "G. A. Sanna" di Sassari', *Studi Sardi*, 22 (1971-2), 369-81.
- Shelov, D. B., '*Tanais i Nizhnii Don i Pervie Veka Nashsi Eri*', Moscow, 1972.
- , '*Keramicheskie Kleima ie Tanaisa III-I Vekov do N. E.*', Moscow, 1975.
- Shepard, A. O., *Ceramics for the Archaeologist*, Washington, 1965.
- Siebert, G., 'Les Réchauds', in Bruneau 1970, chapter 13.
- Sieglin, E. von, *Die Nekropole von Kôm-Esch-Schukâfa*, Leipzig, 1908.
- Smallwood, E. M., *The Jews under Roman Rule from Pompey to Diocletian*, Leiden, 1976.
- Solheim, W. G., 'The Use of Sherd Weights and Counts in the Handling of Archaeological Data', *Current Anthropology*, 1 (1960), 325-9.
- Sokolski, N. I., *Tamanskii Toros i Reedenchiya Khisaliska* Moscow, 1976.
- Sparkes, B. A., & Talcott, L., *The Athenian Agora, Volume XII, Black and Plain Pottery, Parts 1 and 2*, Princeton, 1970.
- Stucchi, S., 'First Outline for a History of Cyrenaican Architecture during the Greek Period', in Gadallah 1968, 207-22. (= Stucchi 1968a).
- , 'First Outline for a History of Cyrenaican Architecture during the Roman Period', in Gadallah 1968, 223-32. (= Stucchi 1968b).
- , *Architettura Cirenaica*, Rome 1975.
- Sztetyllo, Z., 'Production et Commerce du Vin à Mirmekion à L'Epoque Héllenistique', *Etudes et Travaux*, 4 (1970), 95-112.
- , 'Timbres Amphoriques Grecs des Fouilles Polonaises à Alexandrie (1962-1972)', *Etudes et Travaux*, 8 (1975), 159-235.
- Tatton-Brown, T. W. T., 'Sidi Khrebish Excavations, Benghazi, 1971-2', *SLSAR*, 3 (1972), 7-11.
- Taylor, J. du Plat, *Marine Archaeology*, London, 1965.
- Tchernia, A., 'Les Amphores Romaines et L'Histoire Economique', *Journal des Savants*, 1967, 216-34.
- , 'Informations Archéologiques: Directions des Recherches Archéologiques Sous Marines', *Gallia*, 27 (1969), 465-99.
- , 'Premiers Résultats des Fouilles de Juin 1968 sur L'Epave 3 de Planier', *Etudes Classiques*, 3 (1970), 51-82.
- , 'Les Amphores Vinaires de Terraconaise et leur Exportation au Début de l'Empire', *ArchEspArq*, 44 (1971), 38-84.
- , & Villa, J-P., 'Note sur le Materiel Recueilli dans la Fouille d'un Atelier d'Amphores à Veloux', in *Méthodes Classiques*. . . 1977, 231-239.

- , & Zevi, F., 'Amphores de Byzacène au Bas Empire', *Antiquités Africaines*, 3 (1969), 173–214.
- , 'Amphores Vinaires de Campanie et de Taraconaise à Ostie', in Baldacci 1972, 35–67.
- Thompson, D. B., *Ptolemaic Oinochoai and Portraits in Faience*, Oxford, 1973.
- Thompson, H. A., 'Two Centuries of Hellenistic Pottery', *Hesperia*, 3 (1934), 311–480.
- Tomlinson, R. A., 'Perachora: The Remains Outside the Two Sanctuaries', *BSA*, 64 (1969), 155–258.
- Tudor, D., 'Răspîndirea Amforelor Stampilate Grecești în Moldava, Muntenia și Oltenia', *Arheologia Moldovei*, 5 (1967), 37–80.
- Ucelli, G., *Le Nave di Nemi*, Rome, 1950.
- Uenze, O., *Frührömische Amphoren als Zeitmarken in Spätlatène*, Marburg, 1958.
- Vegas, M., *Clasificación Tipológica Preliminar de Algunas Formas de la Cerámica Común Romana*, Barcelona, 1964.
- , 'Spätkaiserliche Keramik aus Pollentia (Mallorca)', *BonnJbb*, 165 (1965), 108–40.
- , 'Römische Keramik von Gabii (Latium)', *BonnJbb*, 168 (1968), 13–55.
- , *Cerámica Común Romana del Mediterráneo Occidental*, Barcelona, 1973.
- , *Die Augustische Gebrauchskeramik von Neuss*, (Limesforschungen 14), Berlin, 1975.
- Vercoutter, J., *Les Objets Egyptiens et Egyptisants du Mobilier Funéraire Carthaginois*, Paris, 1945.
- Vermaseren, M. J., & Essen, C. C. van, *The Excavations in the Mithraeum of the Church of Santa Prisca in Rome*, Leiden, 1965.
- Vessberg, O., & Westholm, A., *The Swedish Cyprus Expedition, Volume 4, Part 3, The Hellenistic and Roman Periods in Cyprus*, Stockholm, 1956.
- Vickers, M., & Reynolds, J., 'Cyrenaica 1962–72', *Archaeological Reports for 1971–72*, (Society of Hellenic Studies), 18 (1972), 27–47.
- Vita, A. di, 'Influences Grecques et Tradition Orientale dans l'Art Punique de Tripolitaine', *MélRome*, 80 (1968), 7–80.
- , 'Un Passo dello "ΣΤΑΔΙΑΣΜΟΣ ΤΗΣ ΜΕΓΑΛΗΣ ΘΑΛΑΣΣΗΣ" e il Porto Ellenistico di Leptis Magna', *Collection de L'Ecole Francaise de Rome*, 22 (1974).
- Waagé, F. O., 'The Roman and Byzantine Pottery', *Hesperia*, 2 (1933), 279–328.
- , 'Hellenistic and Roman Tableware of North Syria' in *Antioch-on-the-Orontes IV, i, Ceramics and Islamic Coins*, Princeton, 1948, 1–60.
- Ward-Perkins, J. B., 'Tripolitania and the Marble Trade', *JRS*, 41 (1951), 89–104.
- Warmington, E. H., *The Commerce between the Roman Empire and India*, London, 1974.
- Weinberg, S., 'Investigations at Corinth 1947–48', *Hesperia*, 18 (1949), 148–157.
- Werff, J. v.d., Review of Baldacci et alia 1972, *BABesch*, 49 (1974), 294–7.
- , 'Amphores de Tradition Punique à Uzita', *BABesch*, (in press).
- Wheeler, R. E. M., Ghosh, A., & Deva, K., 'Arikamedu: An Indo Roman Trading Station on the East Coast of India', *Ancient India*, 2 (1946), 17–124.
- , & Wheeler, T. V., 'The Roman Amphitheatre at Caerleon, Monmouthshire', *Archaeologia*, 78 (1928), 111–218.
- White, D., 'Excavations in the Sanctuary of Demeter and Persephone at Cyrene 1973. Third Preliminary Report', *AJA*, 79 (1975), 33–48.
- Whitehouse, D., 'Excavations at Ajdabiyah: An Interim Report', *SLSAR*, 3 (1972), 12–9.
- , 'Excavations at Ajdabiyah: Second Interim Report', *SLSAR*, 4 (1973), 20–7.
- Wilkes, J. J., *Dalmatia*, London, 1969.

## COARSE POTTERY

---

- Will, E. L., 'Les Amphores de Sestius', *Revue Archéologique de L'Est et du Centre-Est*, 7 (1956), 224 ff.
- , 'Latin Stamped Amphoras in the Eastern Mediterranean Area', *Yearbook of the American Philosophical Society*, 1962, 647–51.
- , 'Les Timbres Amphoriques Latins', in Bruneau 1970, chapter 15.
- , 'The Ancient Commercial Amphora', *Archaeology*, 30 (1977), 264–70.
- Williams, C. K., 'Corinth 1976: Forum Southwest', *Hesperia*, 46 (1977), 40–81.
- , & Fisher, J. E., 'Corinth 1972: The Forum Area', *Hesperia*, 42 (1973), 1–44.
- Wilson, A. J. N., *Emigration from Italy in the Republican Age of Rome*, Manchester, 1966.
- Winlock, H. E., & Crum, W. E., *The Monastery of Epiphanius at Thebes*, New York, 1926.
- Winter, F., 'Griechische Kohlenbecken', *JdI*, 12 (1897), 160–7.
- Wiseman, J., 'Excavations at Corinth, The Gymnasium Area 1966', *Hesperia*, 36 (1967), 402–28.
- , 'Excavation at Corinth: the Gymnasium Area, 1967–1968', *Hesperia*, 38 (1969), 64–106.
- Wright, G. H. R., 'Excavations at Tocra', *PEQ* 1963, 22–64.
- Yacoub, M., *Le Musée du Bardo*, Tunis, 1970.
- Yakobson, A. L., 'Srednevekovie Amfori Severnogo Prichernomorya', *Sovetskaya Arkheologiya*, 15 (1951), 325–44.
- Yeo, C. A., 'Land and Sea Transportation in Imperial Italy', *TAPA*, 77 (1946), 221–44.
- Youtie, H. C., & Winter, J. G., (ed.), *Papyri and Ostraca from Karanis, Michigan Papyri Volume 8*, Ann Arbor, 1951.
- Zaza, H., 'La Céramique d'Alexandrie, Etude Comparée', *Bulletin Archéologique D'Alexandrie*, 42 (1967), 37–45.
- Zeest, I. B., 'Pantikapeiskaya Keramika Sarmatskogo Vremeni', *Materiali*, 56 (1957), 139–59.
- , 'Keramicheskaya Tara Bospora', *Materiali*, 83 (1960).
- Zemer, A., *Storage Jars in Ancient Sea Trade*, 1977.
- Zevi, F., 'Appunti Sulle Anfore Romane; La Tavola Tipologica', *ArchCl*, 18 (1966), 208–47.
- , Review of Callender 1965 in *JRS*, 57 (1967), 234–8. (= Zevi 1967a).
- , 'Anfore Istriane ad Ostia', *Atti e Memorie della Società Istriana di Archeologia e Storia Patria*, 15 (1967), 21 ff. (= Zevi 1967b).
- , & Pohl, I., 'Ostia Saggi di Scavo', *Notizie degli Scavi*, 24, Supplement I (1970).

## Acknowledgements

This work, which is a revised version of part of a PhD thesis for the University of Manchester, would not have been possible without help, advice and co-operation from a large number of people. I owe a great debt to Prof. G. D. B. Jones who gave me the opportunity to go to Libya in the first place, introduced me to scholars from a variety of disciplines, and provided practical help throughout my period of research. The late Prof. D. Strong provided much encouragement and I am grateful for his patience and advice in the early stages of the study.

While in Libya, I have enjoyed much help and hospitality from the Libyan Department of Antiquities especially from the late Director-General of Antiquities for Libya, Mr. Awad Sadawya, the former Controller of Antiquities for Western Cyrenaica, Mr. Abdulhamid Abdusaid, and the present Controller, Mr. Masoud Shaglouf. The Assistant Controller, Mr. Ali Salem Letrik, has been particularly generous with his time and support over several years, and my gratitude to him is profound. The work would not have been possible without the assistance and co-operation of Haj Breyek Attijah, the Controller of Antiquities for Eastern Cyrenaica, Mr. Saleh Wanis, the Librarian of Cyrene, Mr. Fadullah Abdusalem, the Inspector of Antiquities for Apollonia, Mr. Abdusalem Bazama, the Inspector of Antiquities for Tolmeita, Mr. Mansur Ali, the Inspector of Antiquities for Tocra, as well as Messrs. Mohammed Kawash, Abdusalem Kawash, Ahmed Nashad, Idris Badi, and Ibrahim Turhani, all of the Department of Antiquities, Benghazi, and Mr. Mufta Ben Kaiel, formerly of the same Department. I wish also to thank Mr. and Mrs. R. Sutherland, Mr. and Mrs. G. Coe, and the former British Consul at Benghazi, Mr. C. Keith, for their hospitality and interest while in Libya.

In Manchester, I have benefited from close collaboration with Dr. G. W. Newton and Dr. W. Krywonos of the Department of Chemistry who analysed samples by neutron activation analysis.

I am particularly grateful to Dr. D. Chadwick, formerly of the Department of Chemistry, University of Salford, for writing the initial computer programme 'POT' and for his patience in seeing it through its 'teething' stages.

comments on the programme and on computer facilities.

Much of the pottery from Mediterranean excavations is unpublished, and I owe a great debt to many pottery specialists, in particular to Dr. J. W. Hayes, who has at all times been most generous in supplying me with advice, criticism and unpublished information and from whom I learnt a great deal while working with him on pottery from several sites. I also owe much to Dr. D. P. S. Peacock, who put the facilities of the Department of Archaeology, University of Southampton, at my disposal and who provided much advice about the thin sections and about pottery in general. I am also grateful to Mr. N. Bradford and Miss J. Bukenburger of the same Department for teaching me how to make thin sections. In addition the following scholars kindly allowed me to see their pottery or gave me access to unpublished material, Prof. W. Y. Adams, Mr. D. Bailey, Dr. A. Bonnanno, Miss J. Bourriau, Prof. R. Bull, Mr. B. Cook, Mr. C. Daniels, Dr. M. Fulford, Mr. Y. Gheriani, Dr. V. Grace, Mrs. K. Hartley, Mr. D. E. L. Haynes, D. R. W. Hey, Mr. P. M. Kenrick, Dame Kathleen



## COARSE POTTERY

---

Kenyon, Dr. C. Koehler, Dr. M. Lang, Dr. K. K. Orlov, Dr. C. Panella, Dr. A. J. Parker, Mr. J. Patterson, Miss J. Reynolds, Dr. M. Rodziewicz, Dr. D. Smith, Dr. D. Soren, Dr. B. Sultov, Dr. M. Vegas, Mr. J. B. Ward-Perkins, Dr. J. van der Werff, Dr. D. White, and Dr. D. Whitehouse. I wish also to thank Dr. G. Fehérvári, Mr. T. W. T. Tatton-Brown, Prof. J. J. Wilkes, and Miss J. Reynolds for comments on various aspects of the study. I am grateful to Dr. V. Grace and Miss J. Reynolds for reading the amphora and other stamps and their comments and to Mrs. K. Hartley for reading the mortarium stamps and her comments.

Dr. J. A. Lloyd, the director of the Berenice excavations and Dr. J. H. Humphrey, field director of the Michigan University excavation at Carthage, have contributed much to the present work by their appreciation of the value of coarse pottery studies and by their provision of all required facilities in the field.

Most of the drawings are by myself or by Miss F. Everett, who has taken a keen interest in every stage of the work, accompanied me on arduous visits to many pottery storerooms and museums throughout the Mediterranean, and encouraged me with her ideas and enthusiasm. She also re-drew all the pottery drawings, histograms and distribution maps and prepared them and the photographs for presentation, and to her go my especial thanks. Other drawings were originally by Mr. P. Adams, Mr. G. Burzak and Mr. and Mrs. J. Ravilious.



1



2



3



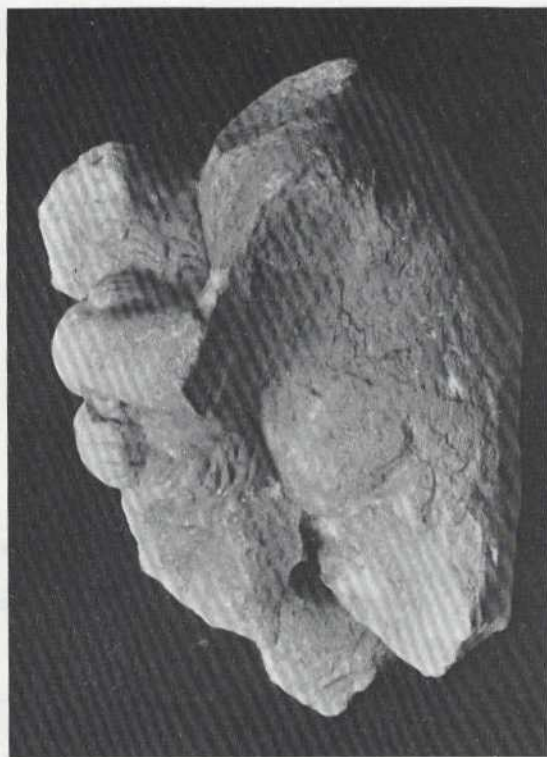
4



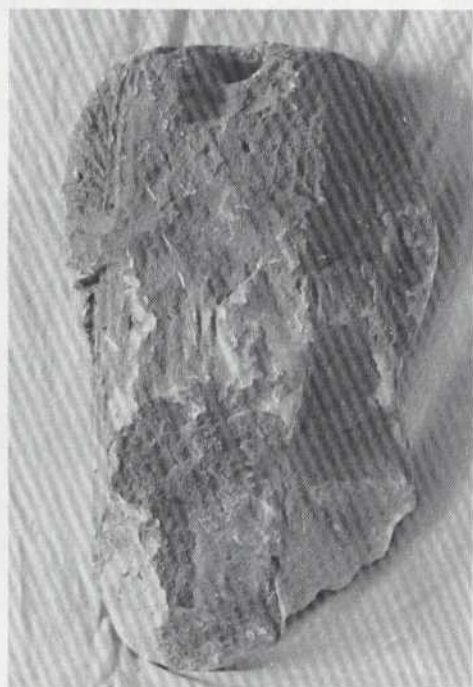
5

*Sculpture cat. nos G1-G5*

PLATE II



6



7



8

*Sculpture cat. nos. G6-G8*



9



10



11



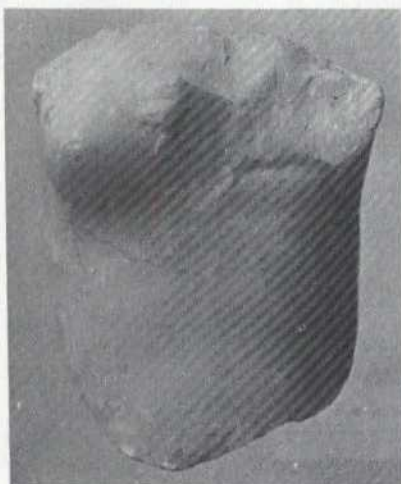
12



13



14



15



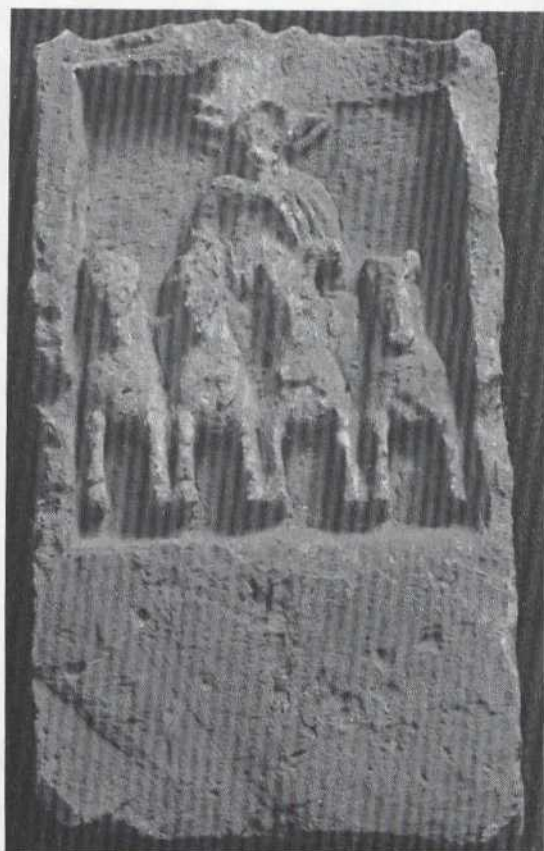
16



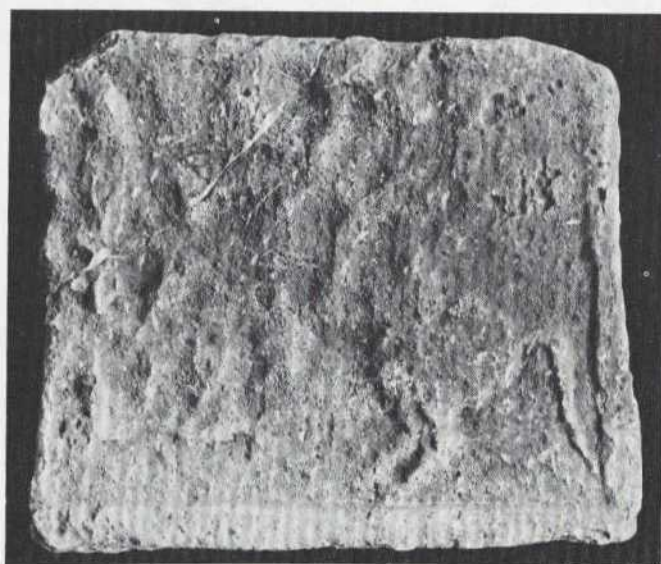
20

*Sculpture cat. nos. G9-G16, G20*

PLATE IV



38



39



40

*Sculpture cat. nos. G38-G40*



1



2



3



4



5



6



7



8

*Terracottas cat. nos. F1-F8*

PLATE VI



9



10



11



12



13



14



15



16



17



18



19

*Terracottas cat. nos. F9-F19*



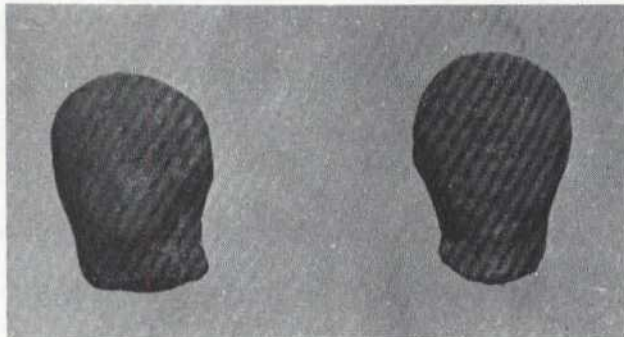
20



21



22



23



24



25



26



27



28



PLATE VIII



29



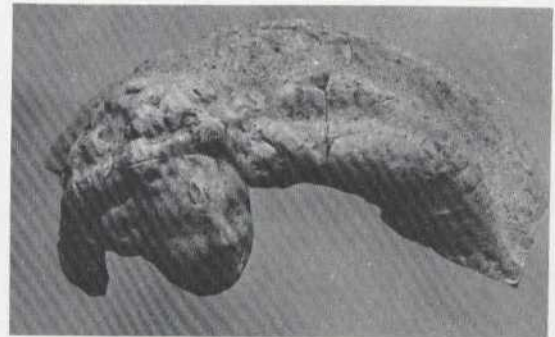
30



31



32



33



35



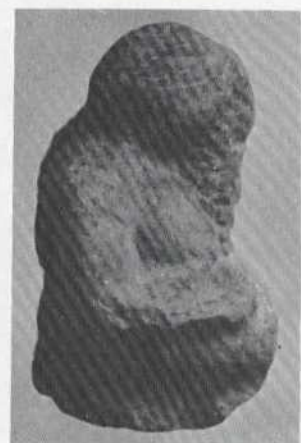
36



34



37

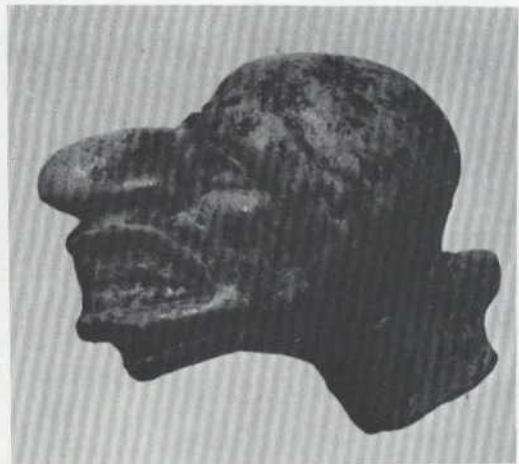


37

*Terracottas cat nos. F29-F37*



38



39



40



41



42



43



44



45

PLATE X



46



47



48



49



50

*Terracottas cat. nos. F46–F50*

55



56



57



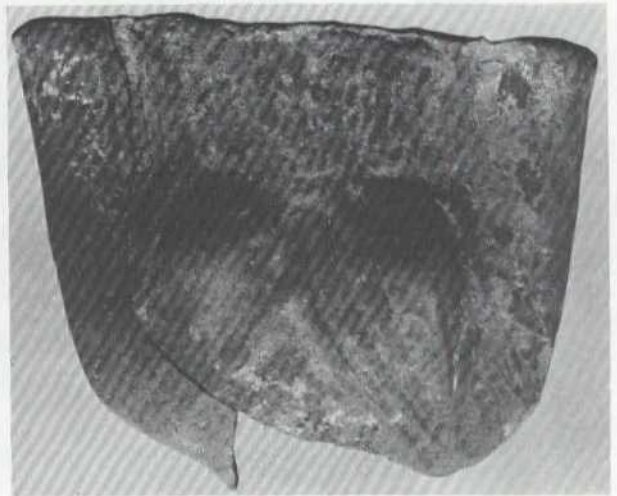
53



54



51



52



PLATE XII



58



59



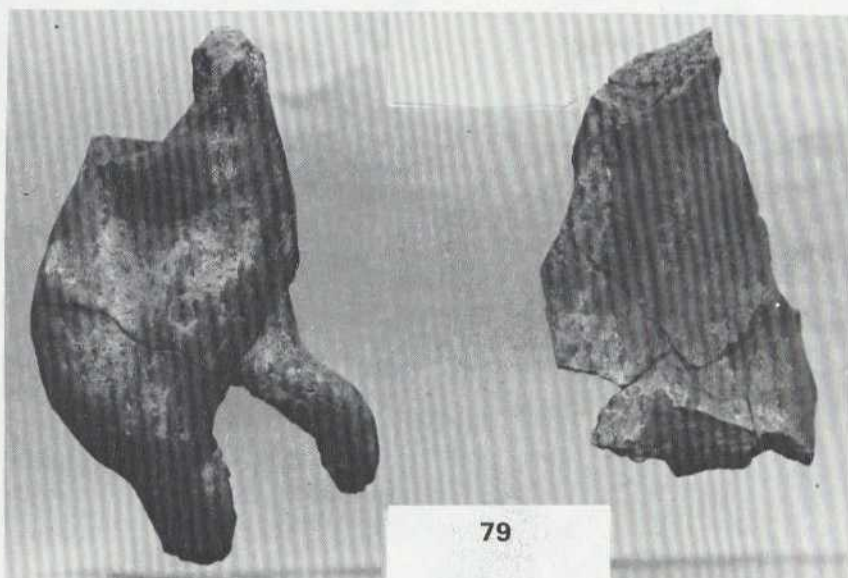
60



77

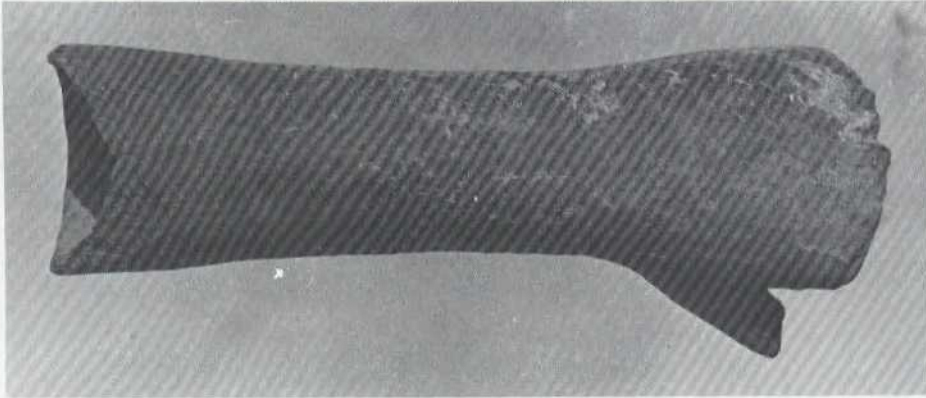


78

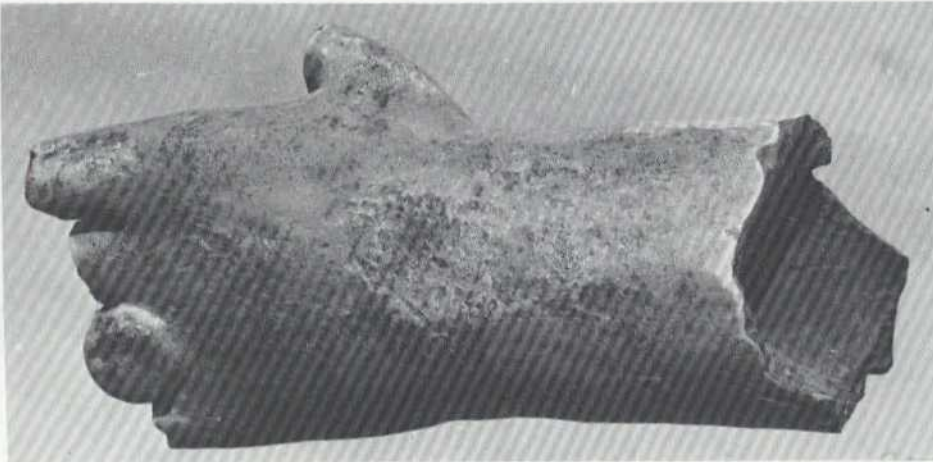


79

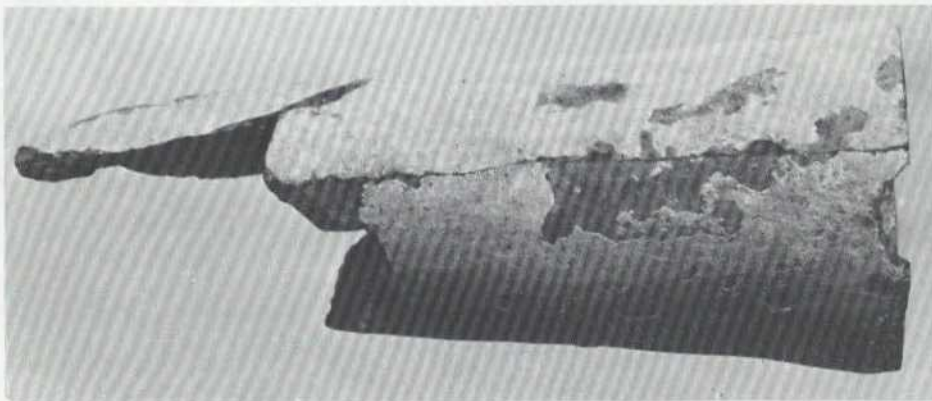
*Terracottas cat. nos. F58-F60, F77-F79*



80



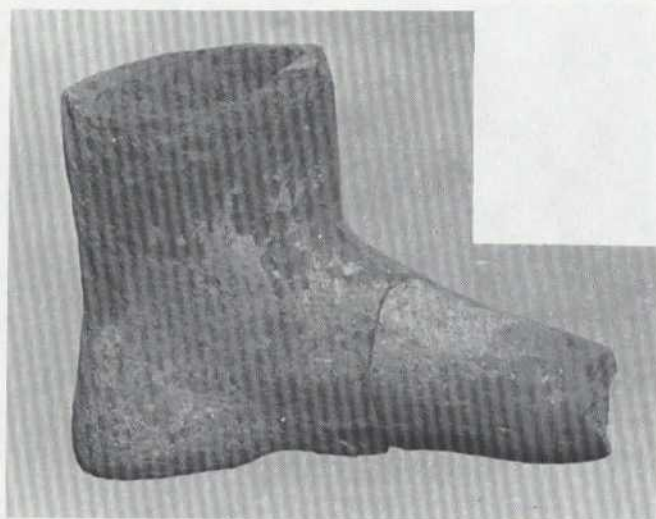
81



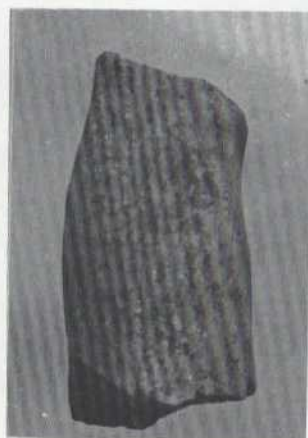
82

*Terracottas cat. nos. F80-F82*

PLATE XIV



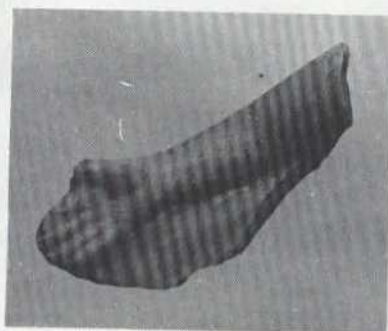
83



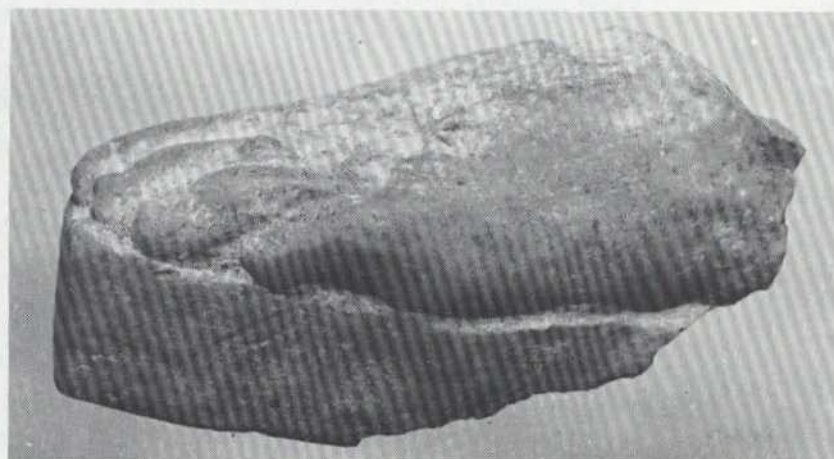
84



85

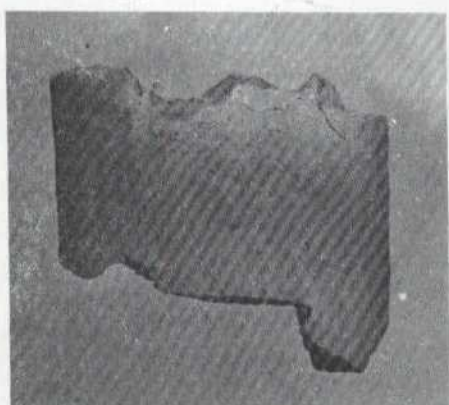


86



87

*Terracottas cat. nos. F83-F87*



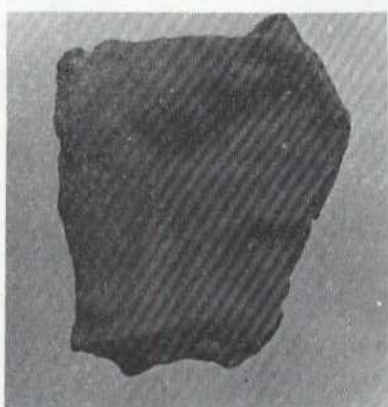
88



89



90



91



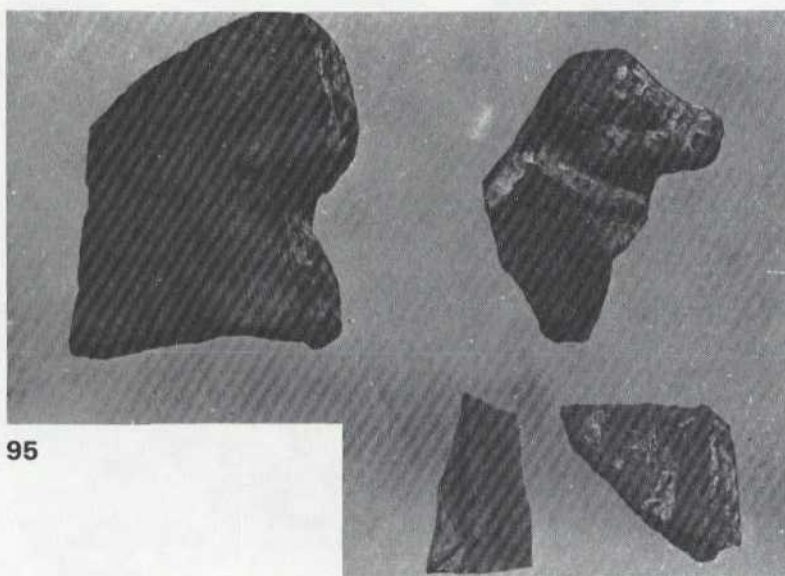
92



93



94



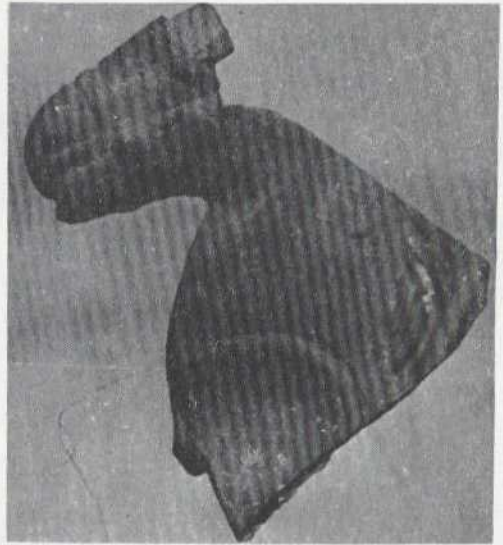
95



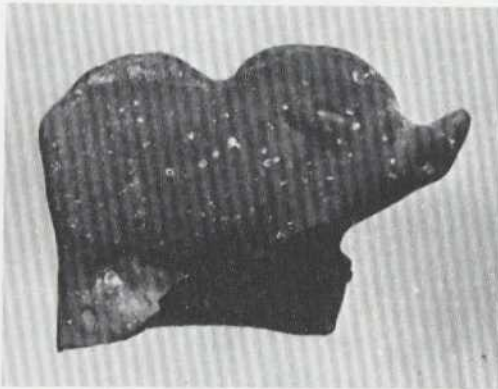
PLATE XVI



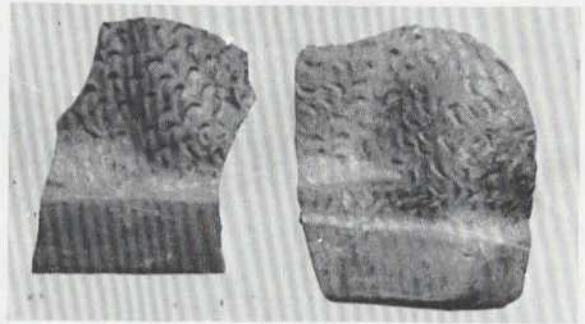
96



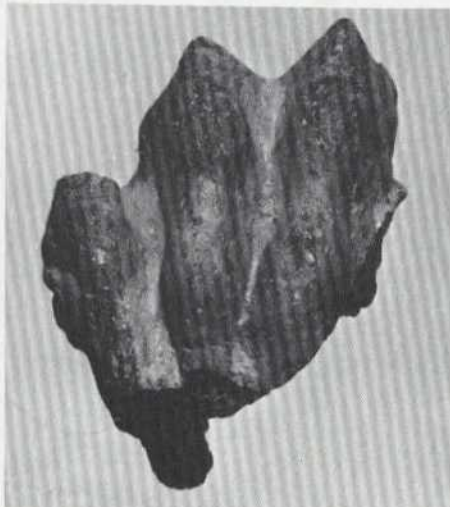
97



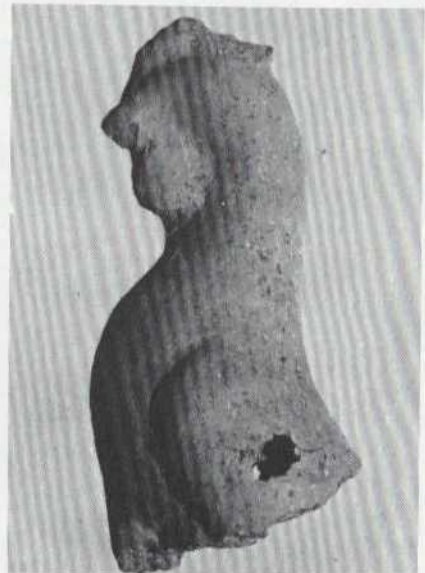
98



99



100



101

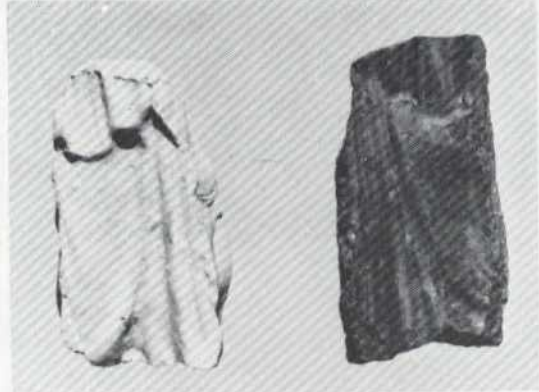
*Terracottas cat. nos. F96-F101*



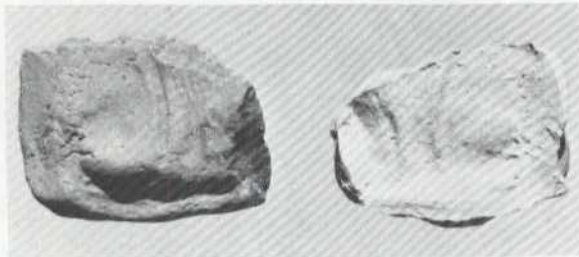
102



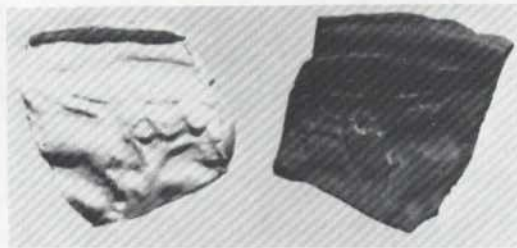
103



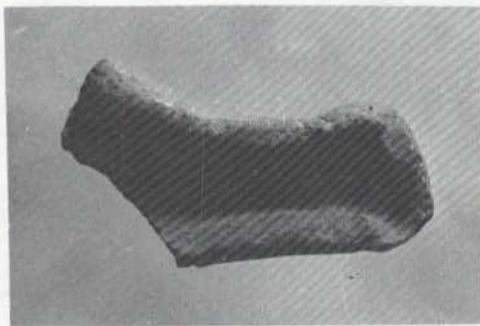
104



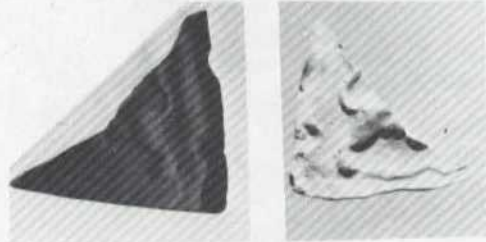
105



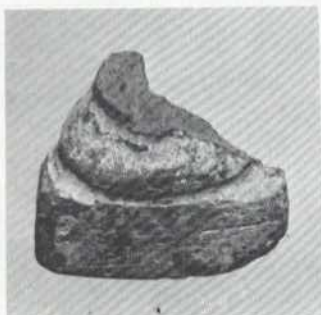
106



108



107



109



110



111

*Terracottas cat. nos. F102-F111*

PLATE XVIII



112



113



114



115



116



117



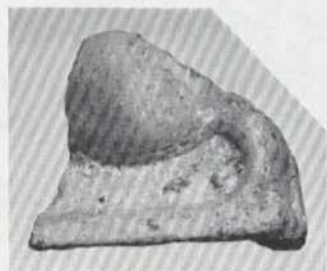
118



119



120



121

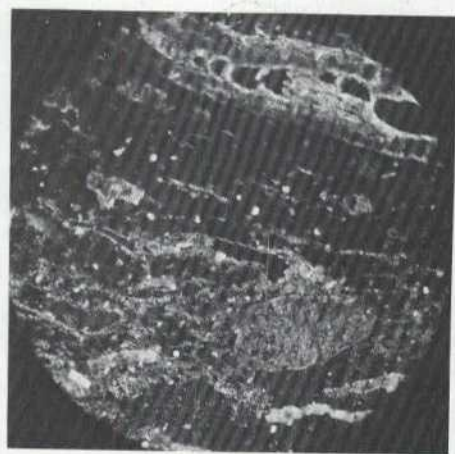


122



123

*Terracottas cat. nos. F112-F123*



a



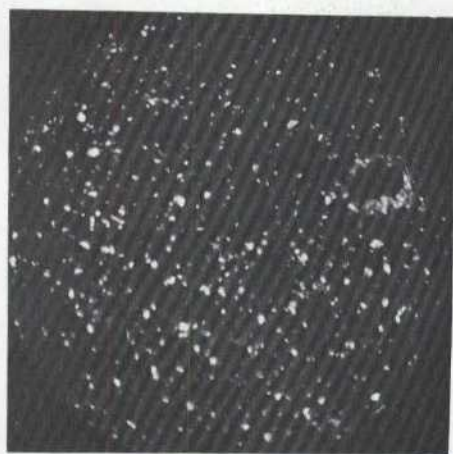
b



c



d



e



f

*Petrological Micrographs of Benghazi Fabrics (scale approx.  $\times 30$ ): a) typical local fabric 1 with a high proportion of foraminifera, some mica and small quartz grains, b) local fabric 2 (H. Amphora 1, No. 2) showing quartz and a little limestone, c) local fabric 3 with matrix of small quartz grains, a little mica and large lumps of limestone (top right), d) local fabric 4 (MR Cooking Ware 3a waster) with characteristic dense matrix of small quartz grains, a little mica and limestone, e) typical local fabric 6 essentially similar to 'c' and 'd', f) H. Amphora 1 stamped handle (No. 5) to compare with 'b' and 'c' (all crossed polars).*

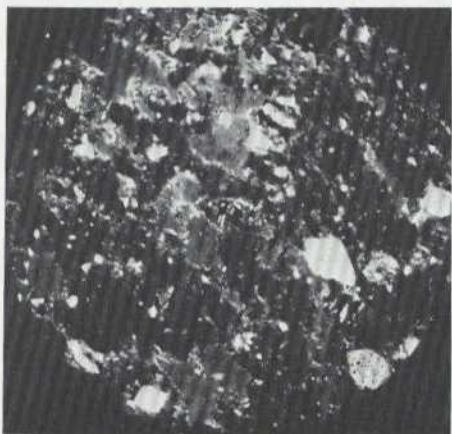
PLATE XX



a



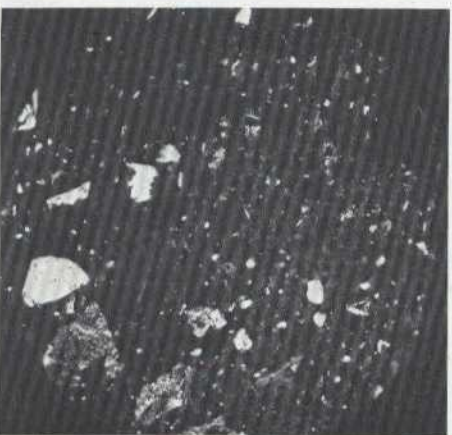
b



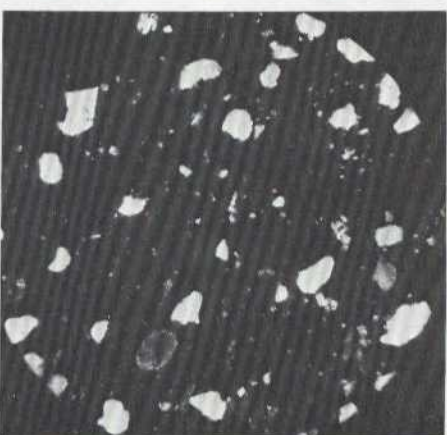
c



d

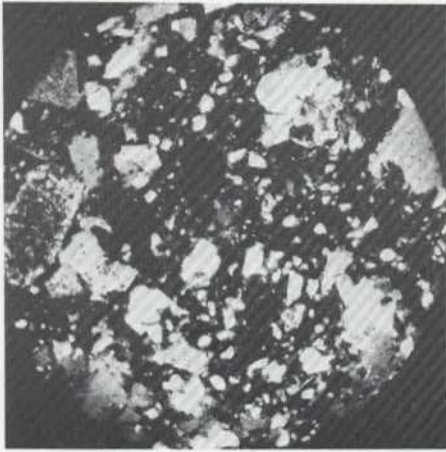


e

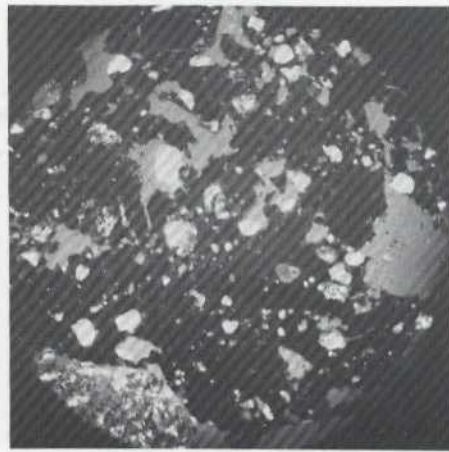


f

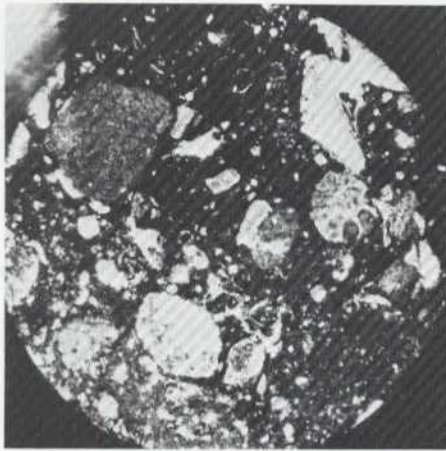
*Petrological Micrographs (scale approx.  $\times 30$ ): a) miscellaneous Hellenistic stamped amphora handle (No. 61) with large quartz lumps, cherty matter and sanidine feldspar, b) MR Amphora 2 (No. 224) with large amount of mica, foraminifera and limestone, c) ER Cooking Ware 3 (No. 446) with leucite (dead centre), d) ER Cooking Ware 4 (No. 459) with plagioclase feldspar, potash feldspar, hornblende, tourmaline and iron ore, e) stamped ER Cooking Ware 6 (No. 477) with sanidine feldspar and volcanic lumps throughout, f) miscellaneous corrugated cooking ware sherd from Deposit 59 with large grains of quartz and some plagioclase feldspar (not local)(all crossed polars).*



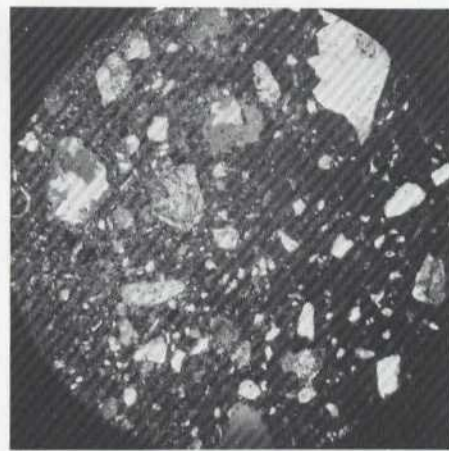
a



b



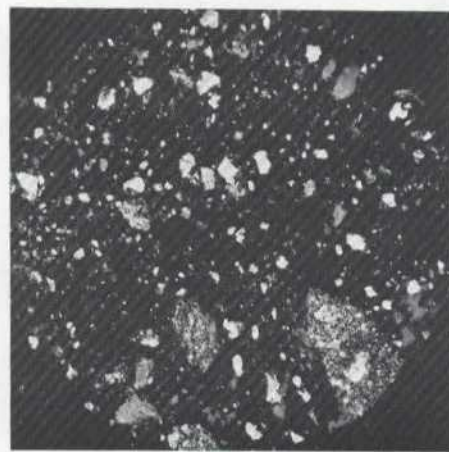
c



d



e



f

*Petrological Micrographs (scale approx.  $\times 30$ ): a) LR Cooking Ware 2a (No. 550) with mainly quartz, feldspar, mica and some epidote, b) LR Cooking Ware 3 (No. 559) with limestone, potash feldspar, chert, iron ore and epidote, c) miscellaneous burnished cooking ware sherd (No. 591) with fossiliferous limestone, fine quartz and occasional rounded lumps of iron ore, d) Lid Type 8, e) miscellaneous glazed Islamic sherd from Deposit 161 showing a very different matrix to that of local wares and includes rounded sand grains. f) typical LR Jug 1 sherd with a mixture of medium sized and small quartz grains, limestone and chert (all crossed polars).*

PLATE XXII



5



6



7



8



9



10



12



17



18



19

*Stamped Amphora Handles. (Scale 1:1).*



20



21



22



23



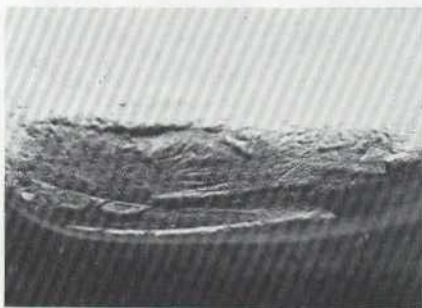
24



25



26



27

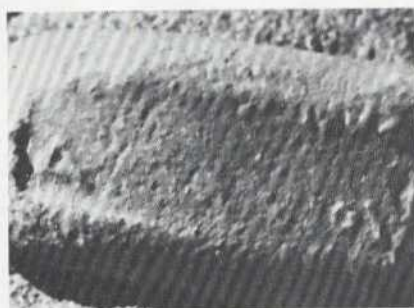
*Stamped Amphora Handles. (Scale 1:1).*



PLATE XXIV



28



29



30



31



34



37



46

*Stamped Amphora Handles. (Scale 1:1).*



60



61



62



63



64



65



66



67



68



69

*Stamped Amphora Handles. (Scale 1:1).*

PLATE XXVI



70



71



72



73



74



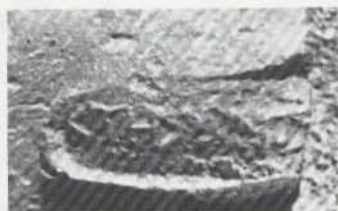
75



76



77



78



79

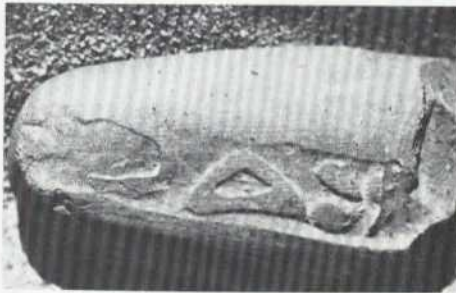
*Stamped Amphora Handles. (Scale 1:1).*



85



110



111



122



130



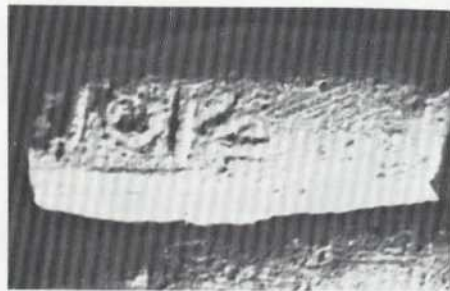
148



157



166



184

*Stamped Amphora Handles. (Scale 1:1).*

PLATE XXVIII



185



290



291



292



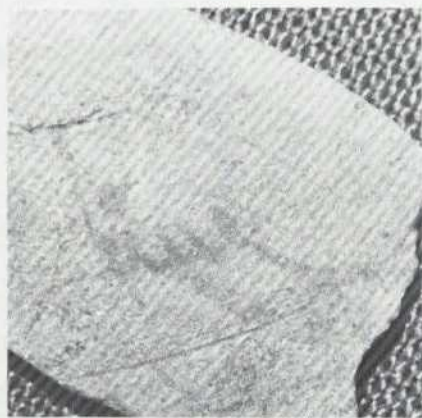
293



294



295

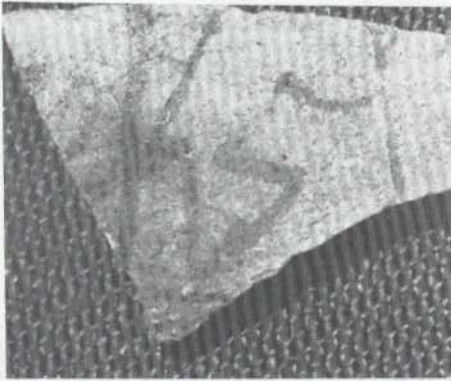


339

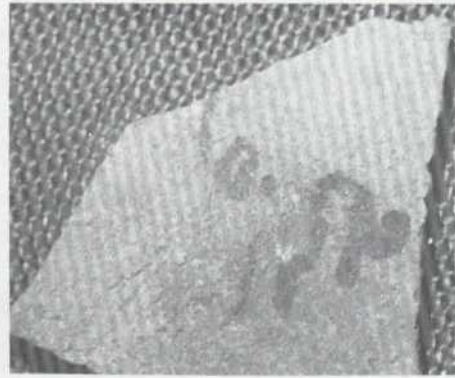


340

*Stamped Amphora Handles and Dipinti. (Scale 1:1).*



341



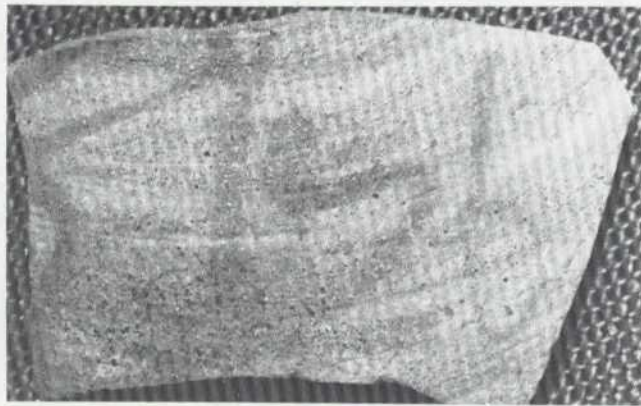
342



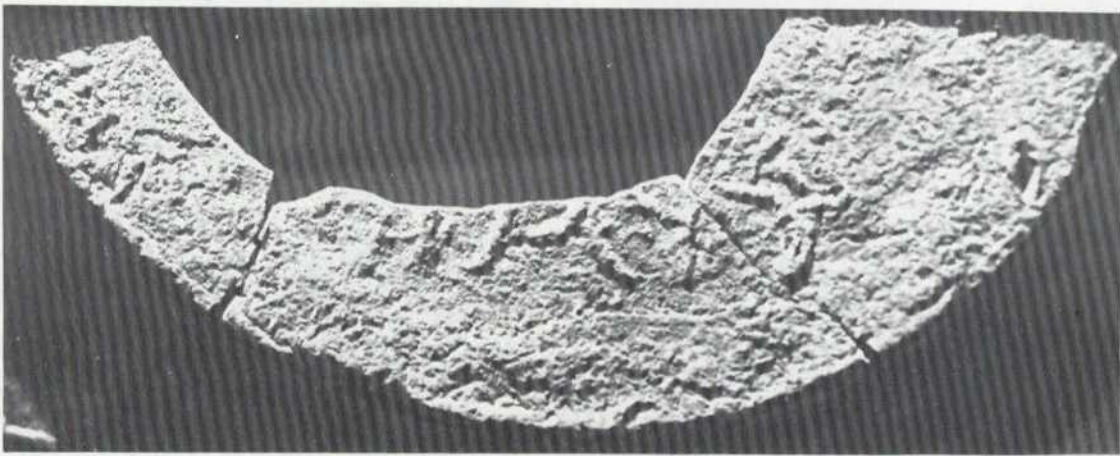
343



344



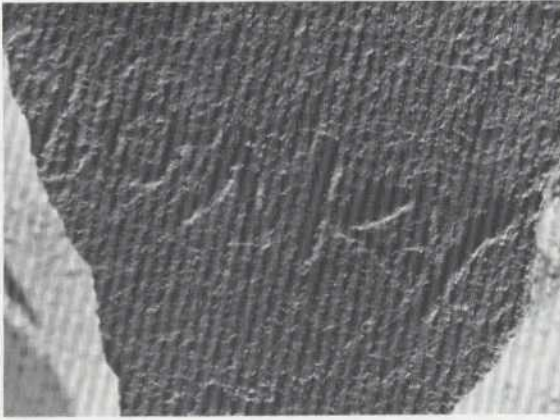
345



476

*Amphora Dipinti and Frying Pan Stamp. (Scale 1:1).*

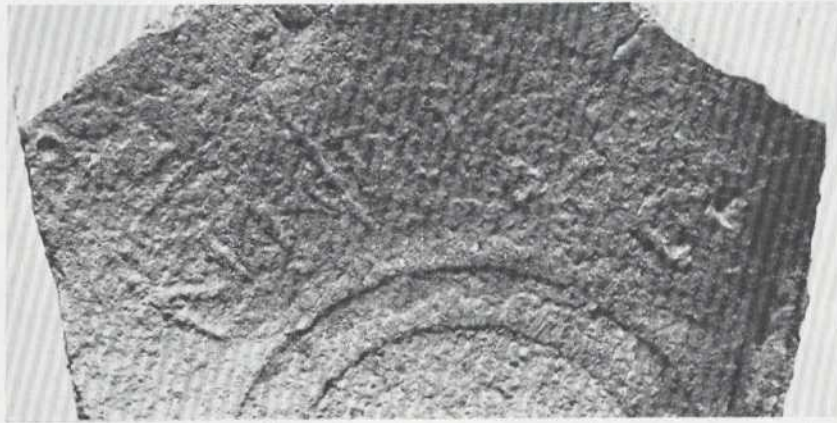
PLATE XXX



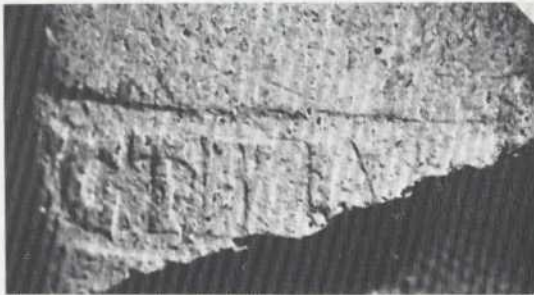
477



478



479



670



671



672

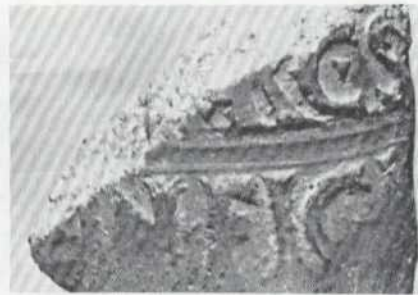


673

*Frying Pan and Mortaria Stamps. (Scale 1:1).*



674



675



676



679



749



962



979

*Mortaria and Dolia Stamps and Graffiti. (Scale 1:1).*



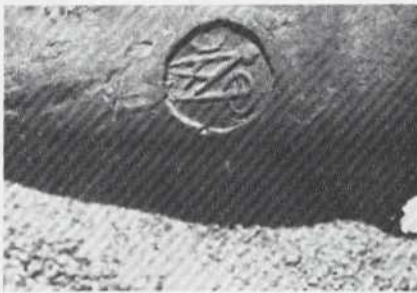
PLATE XXXII



1031



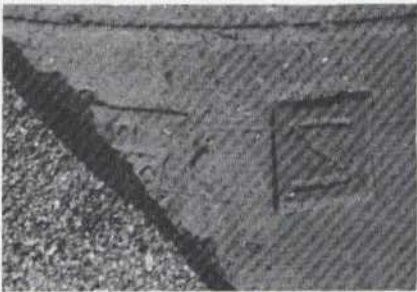
1031 (detail)



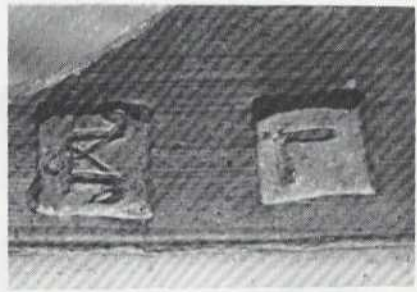
1032



1033



1081



1182



1183

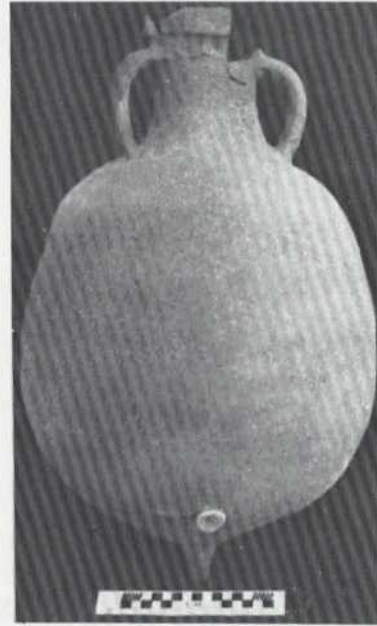


1185

*Plain Ware and Jug Stamps. (Scale 1:1; 1031 (detail) is 3:1).*



2



85

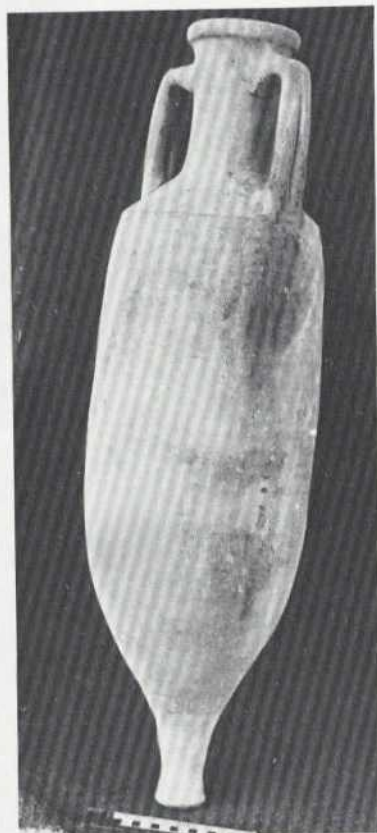


107

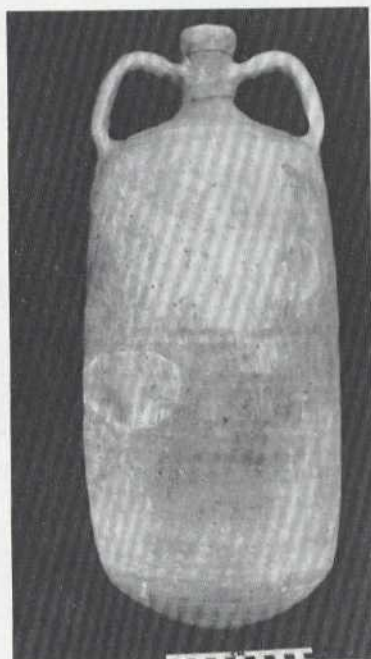


108

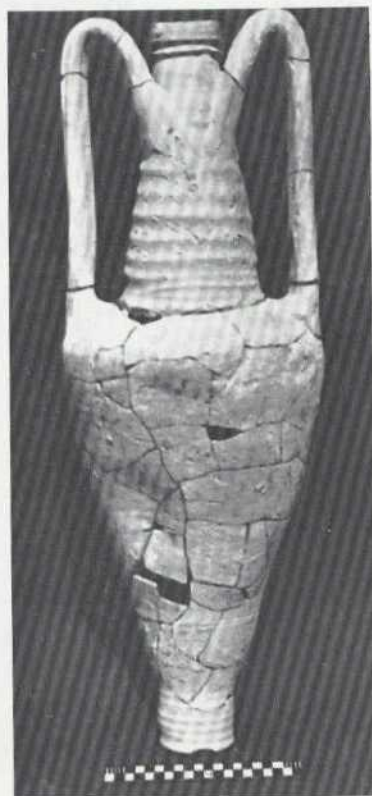
*Complete Amphoras. (Scale 1:8).*



118



222

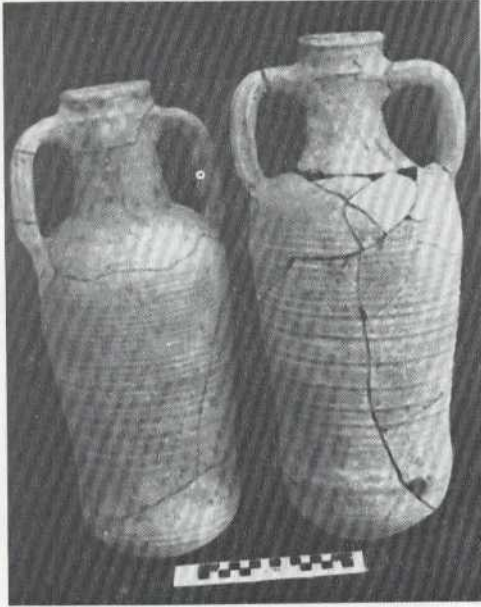


243



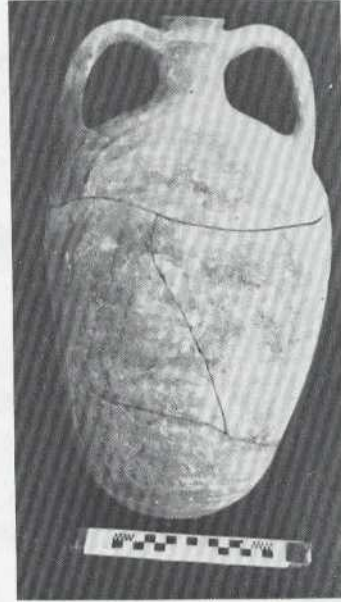
251

*Complete Amphoras. (Scale 1:8).*



347 (left)

346 (right)



375



377



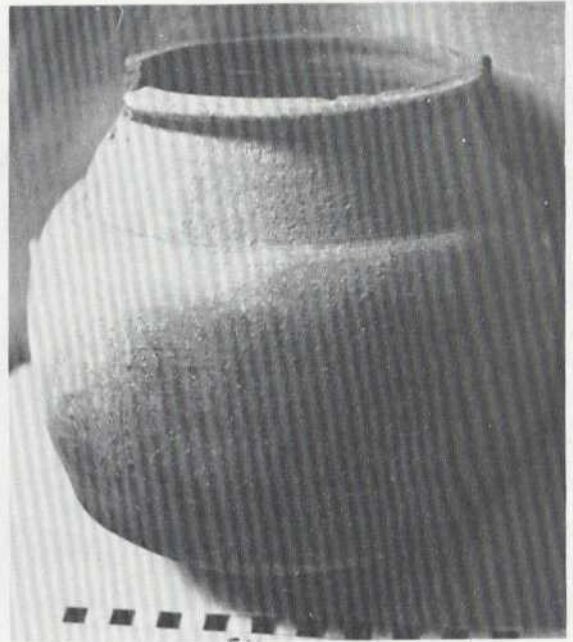
376

*Complete Amphoras. (Scale 1:8).*

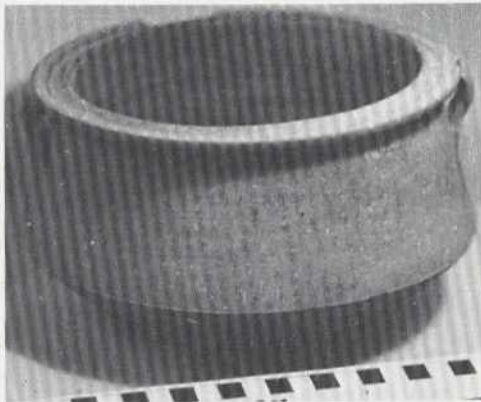
PLATE XXXVI



**a** LR Amphora 5



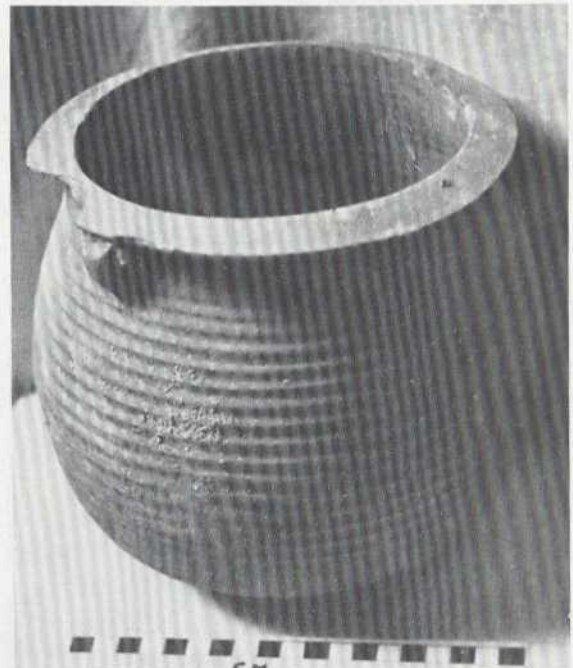
**b** ER Cooking Ware 1



**c** MR Cooking Ware 1



**e** MR Jug 1



**d** MR Cooking Ware 3

*Coarse Pottery. (Scale 1:3; 'a' is 1:4).*



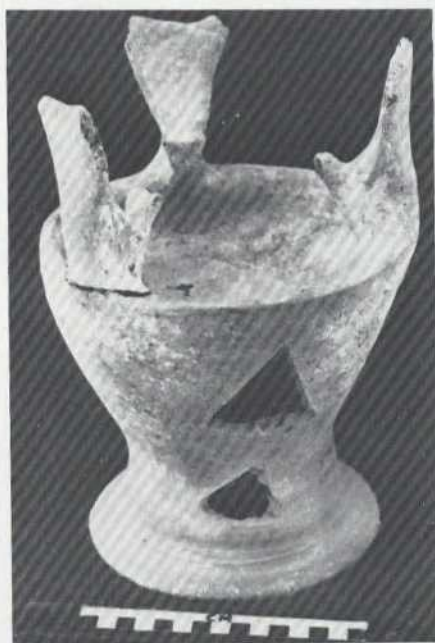
(as 689) Piriform Unguentaria



699



701



702

*Unguentaria and Braziers. (Scale 1:4).*

PLATE XXXVIII



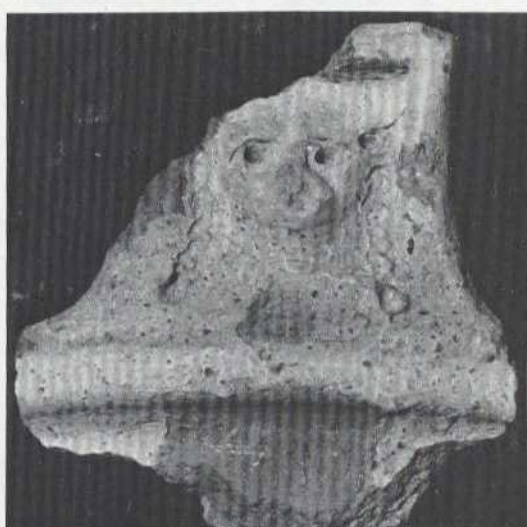
705 interior



705 exterior



706 interior



706 exterior



707



708

*Brazier Lugs. (Scale 1:2).*



710



711



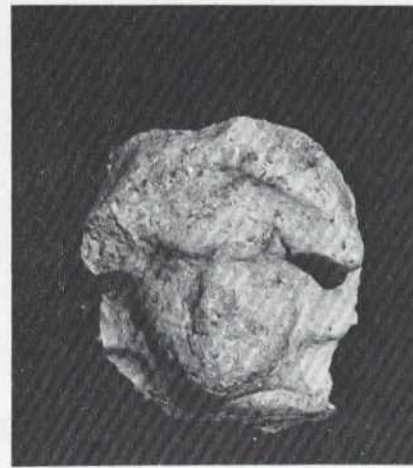
712



713



714

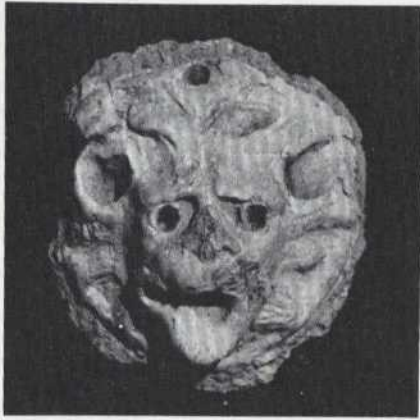


715

*Coarse Pottery Appliqués. (Scale 1:2)*



PLATE XL



716



717



718



719



723

*Coarse Pottery Appliqués and Bread Mould. (Scale 1:2).*



812



813a



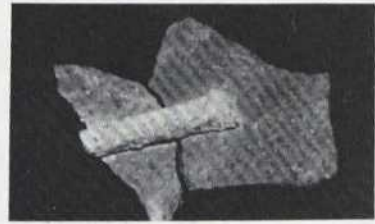
813b

*Decorated Situlae. (Scale 1:2).*

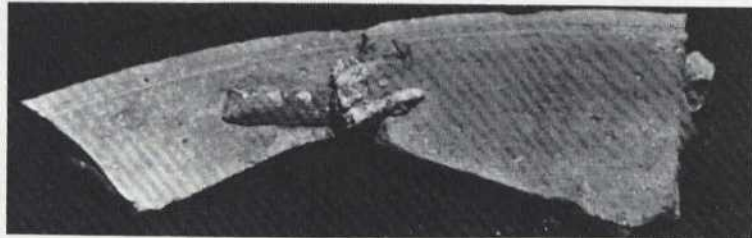
PLATE XLII



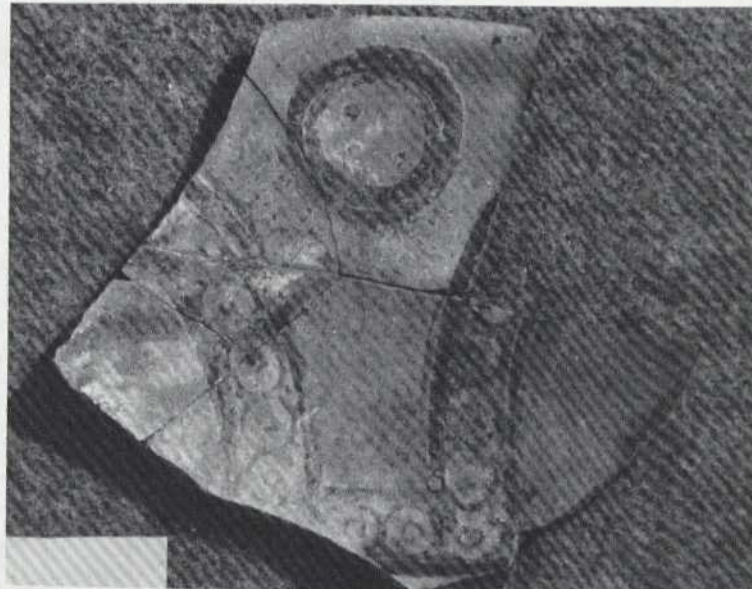
828



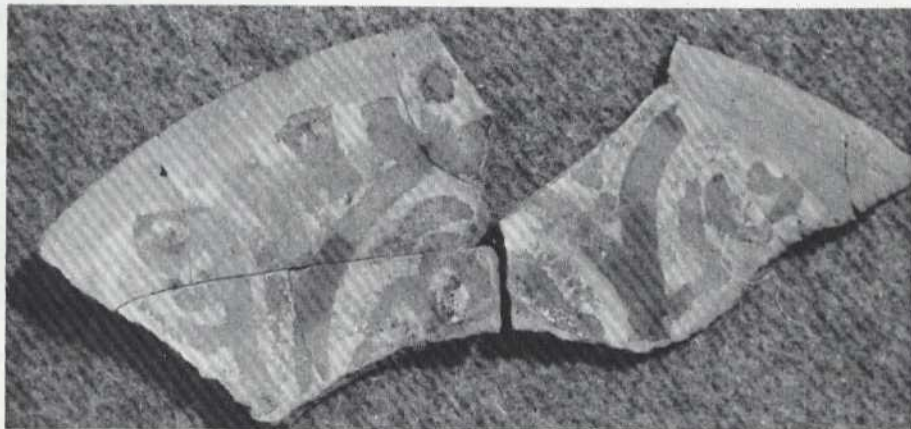
977



978

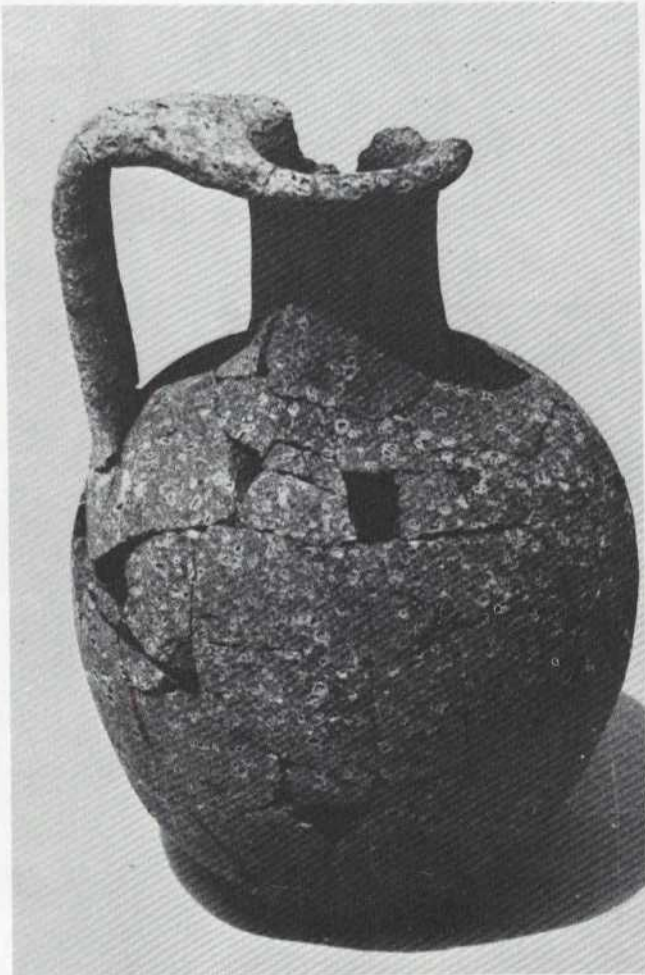


1087



1088

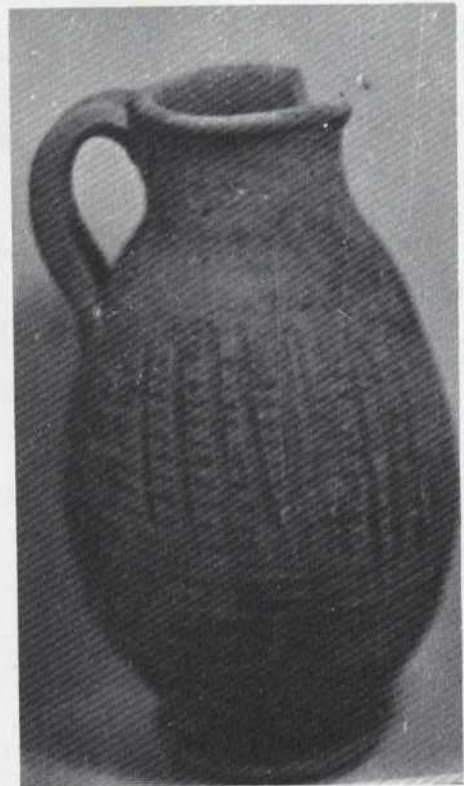
*Decorated Plain Ware, Riveted Sherds and Islamic Pottery. (Scale 1:2).*



1099



1104



1189

*Jugs. (Scale 1:2).*

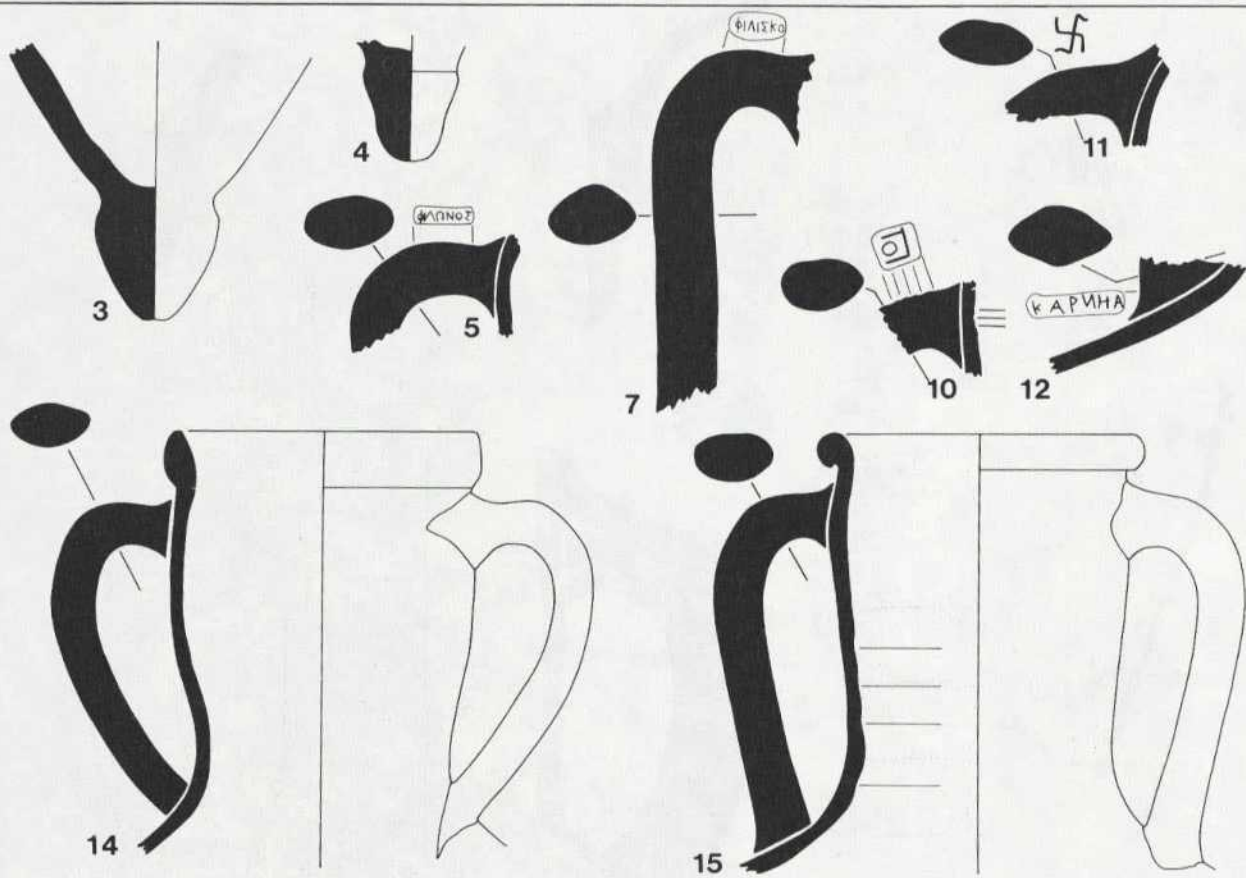
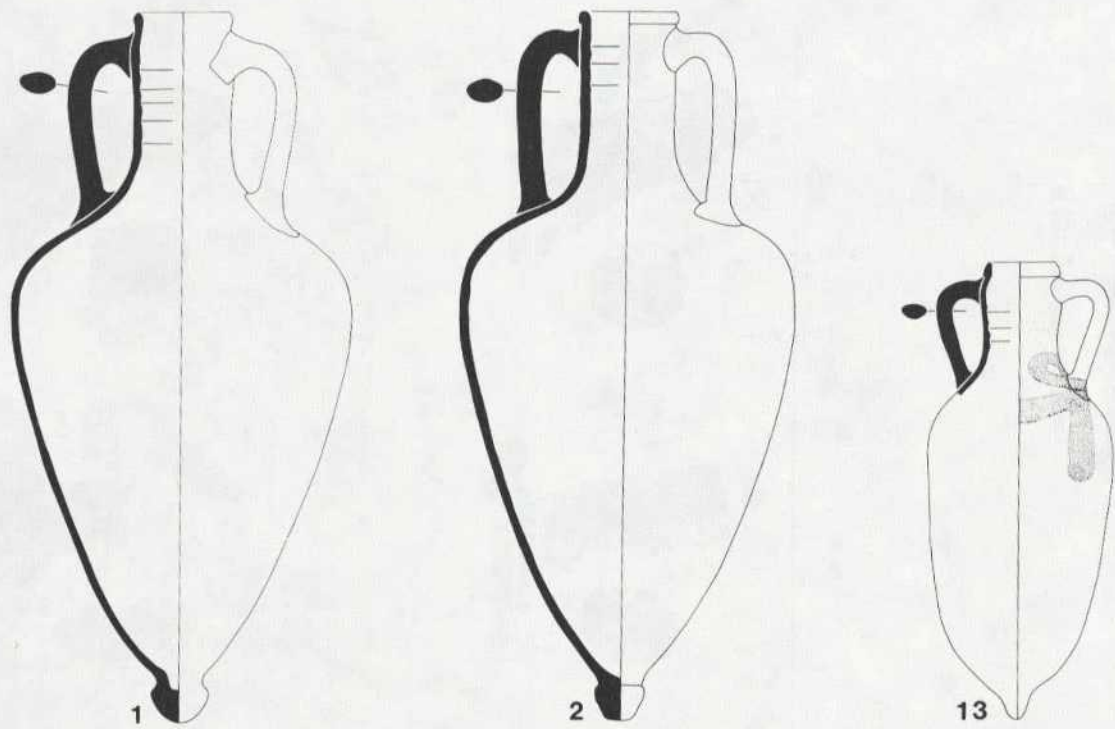


Fig. 68. Hellenistic Amphorae. (Scale 1:3; Nos. 1, 2 and 13 are 1:8).

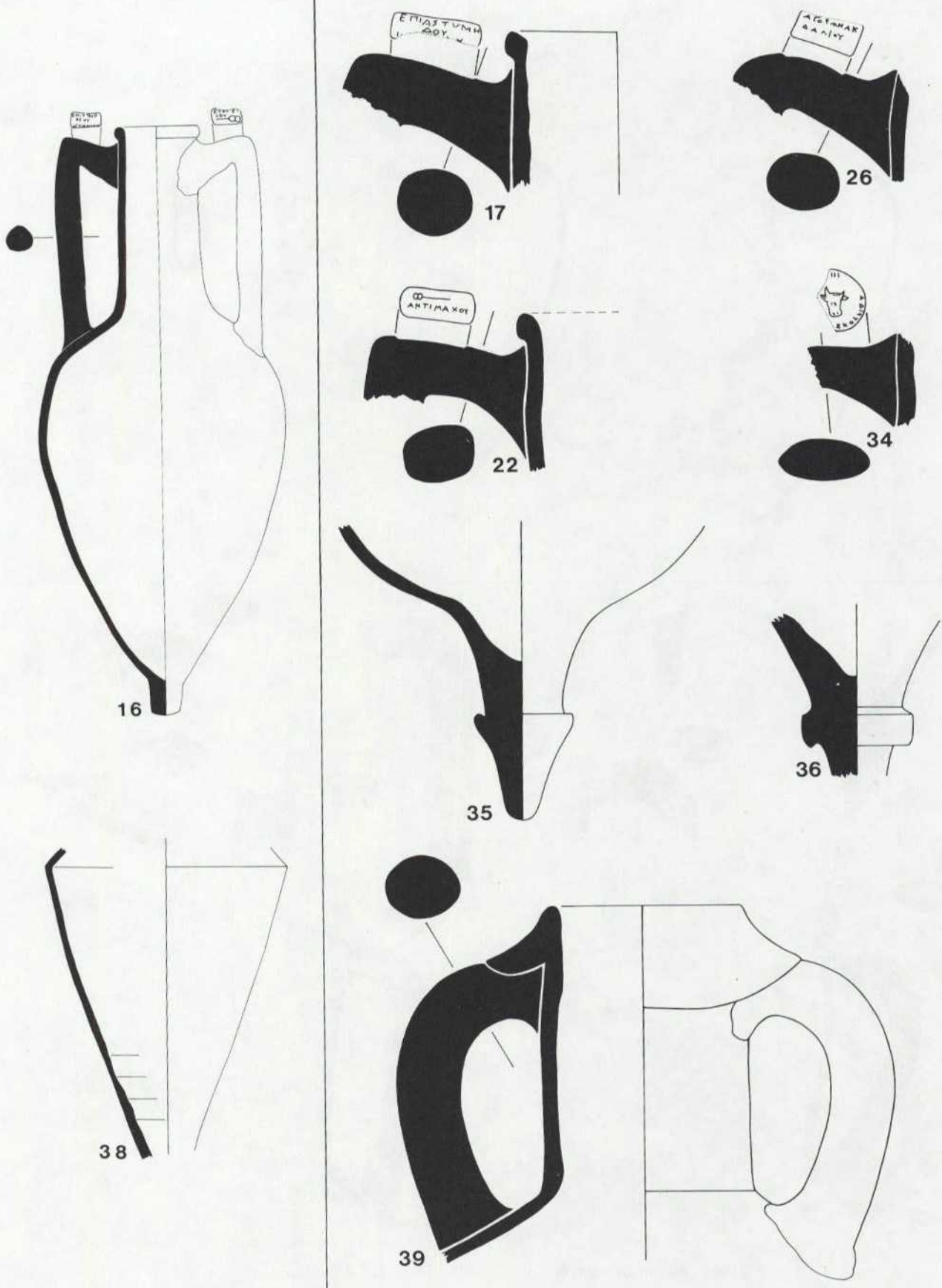


Fig. 69. Hellenistic Amphorae. (Scale 1:3; Nos. 16 and 38 are 1:8).

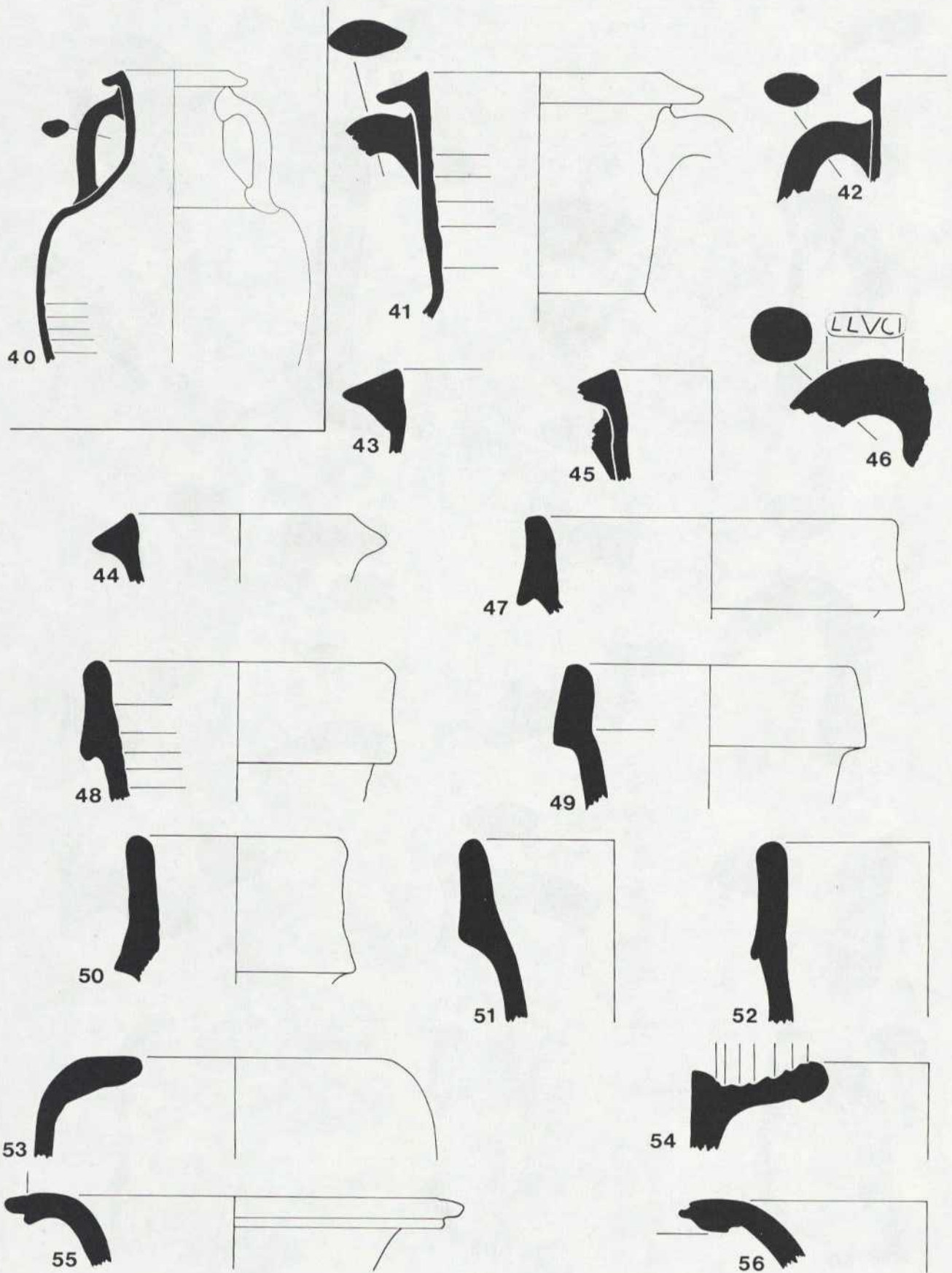


Fig. 70. Hellenistic Amphoras. (Scale 1:3; No. 40 is 1:8).



Fig. 71. Hellenistic Amphoras. (Scale 1:3).



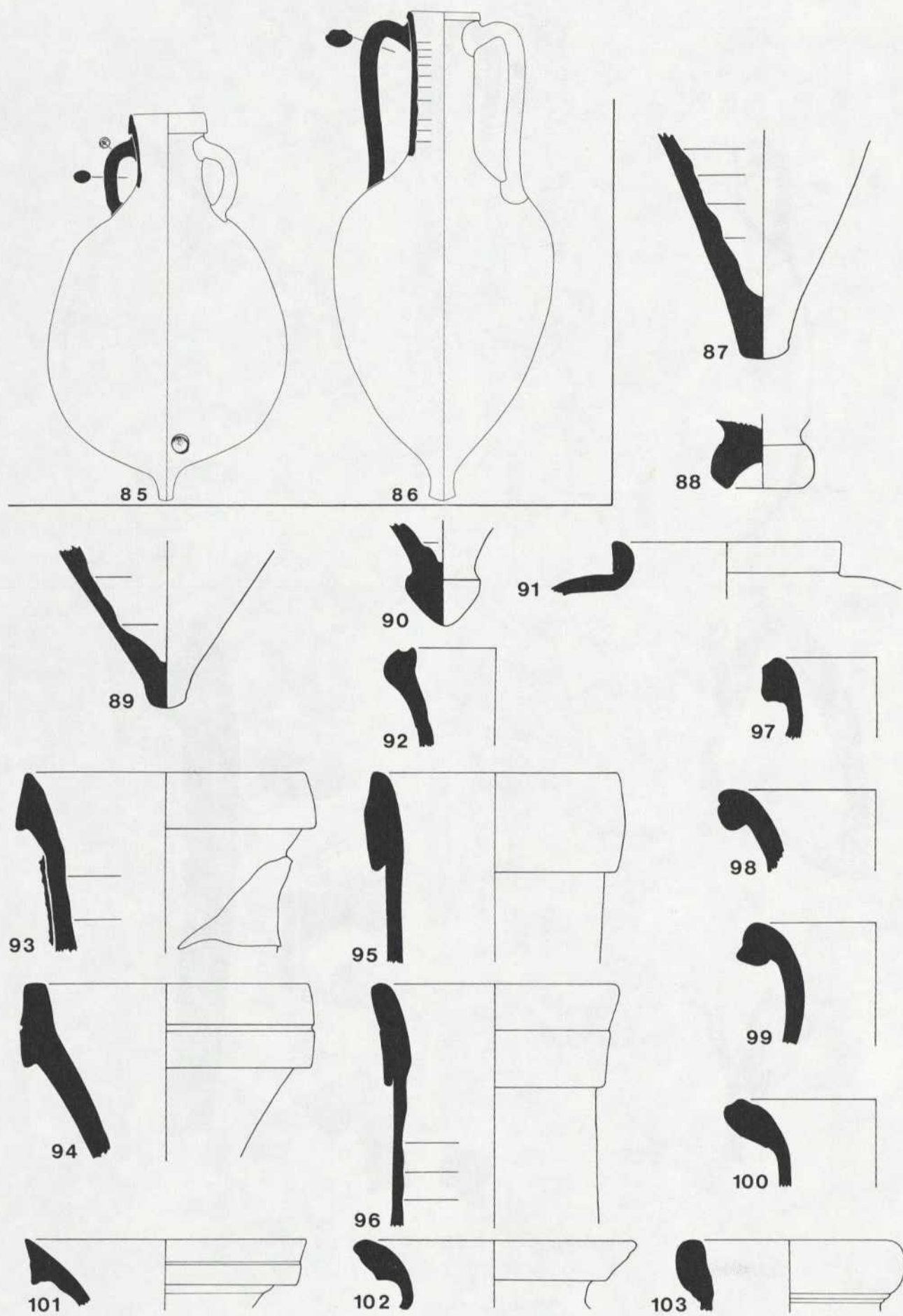


Fig. 72. Hellenistic Amphorae. (Scale 1:3; Nos. 85-6 are 1:8).

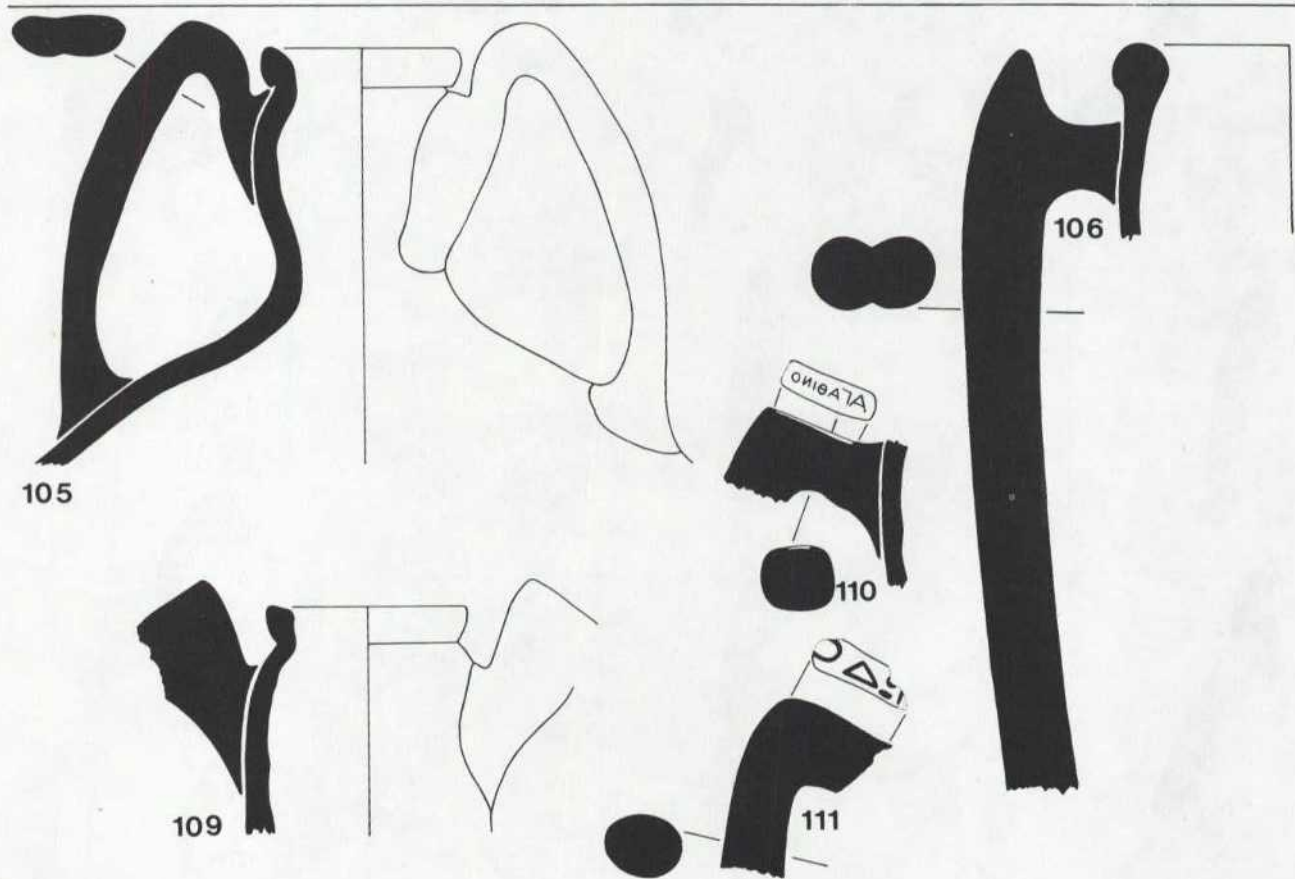
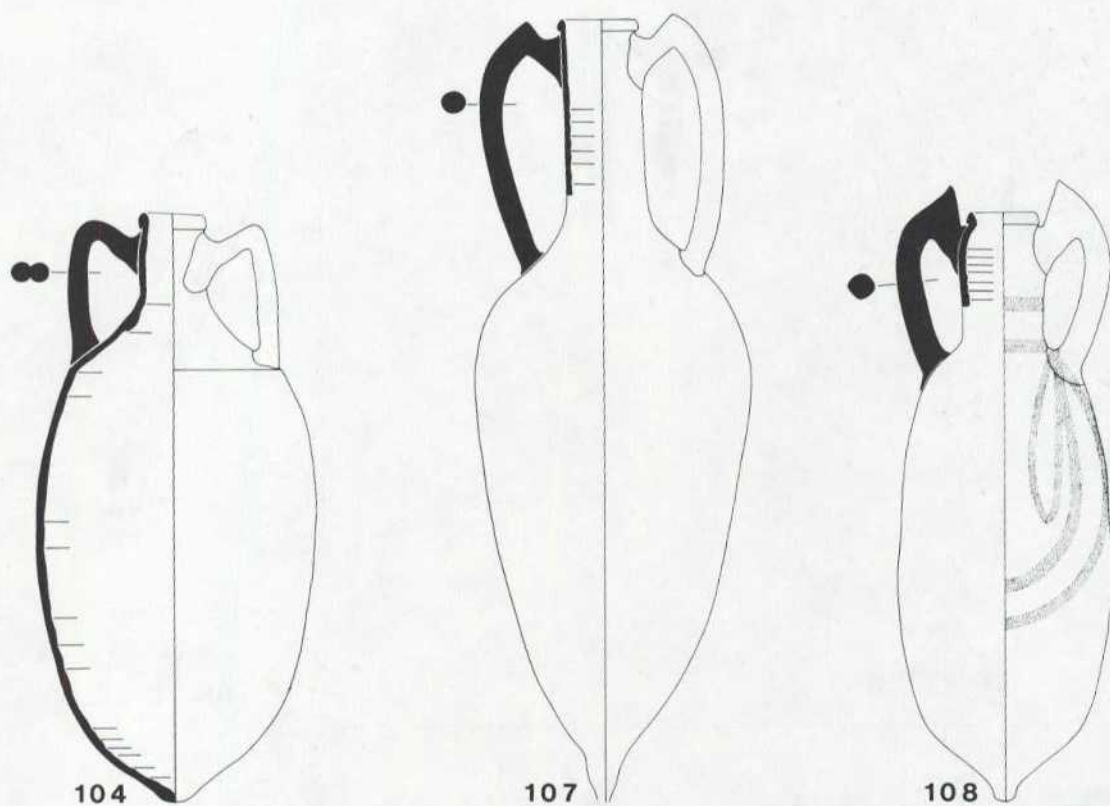


Fig. 73. Early Roman Amphoras. (Scale 1:3; Nos. 104, 107-8 are 1:8).

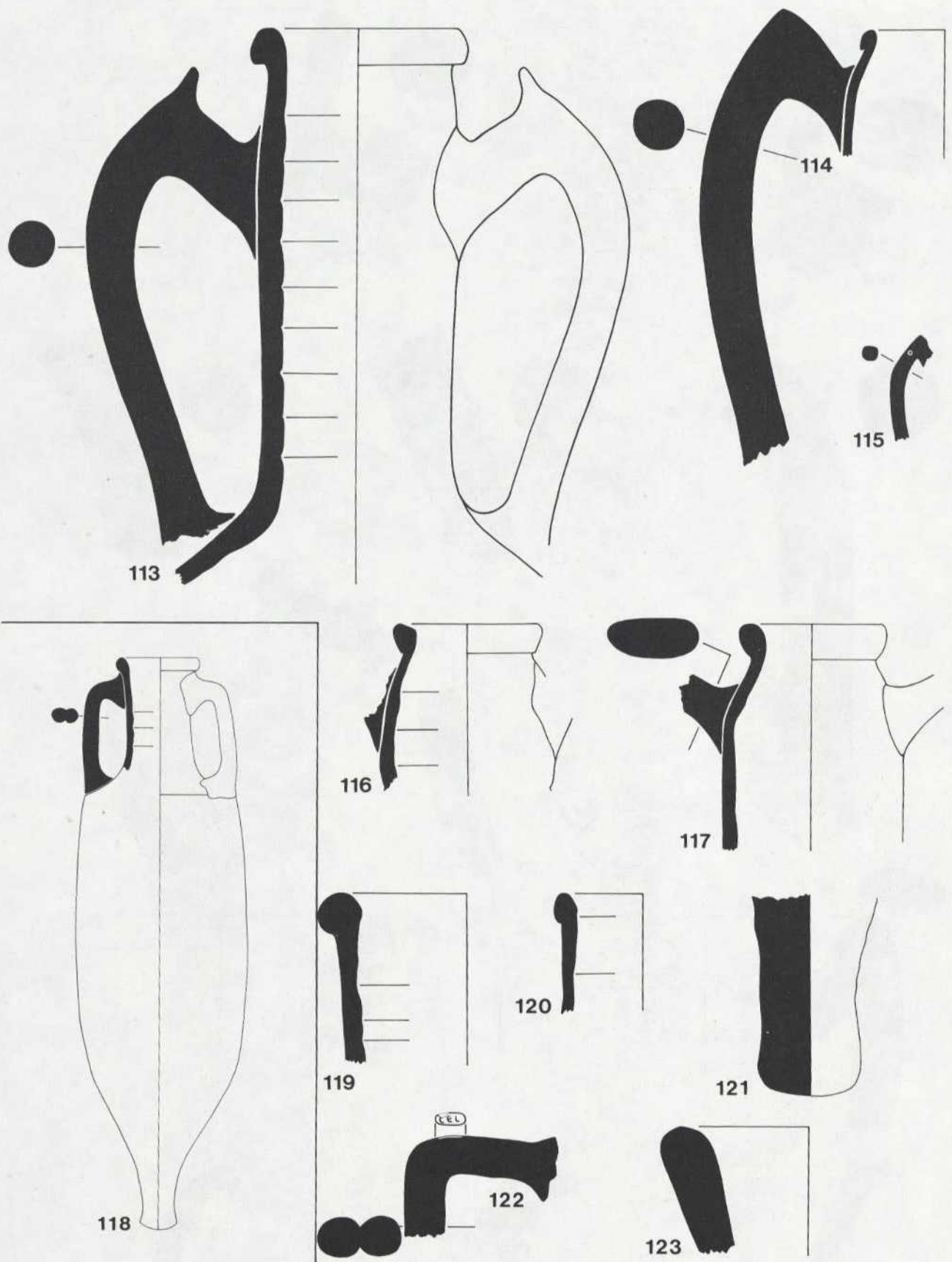


Fig. 74. Early Roman Amphoras. (Scale 1 : 3; No. 118 is 1 : 8).

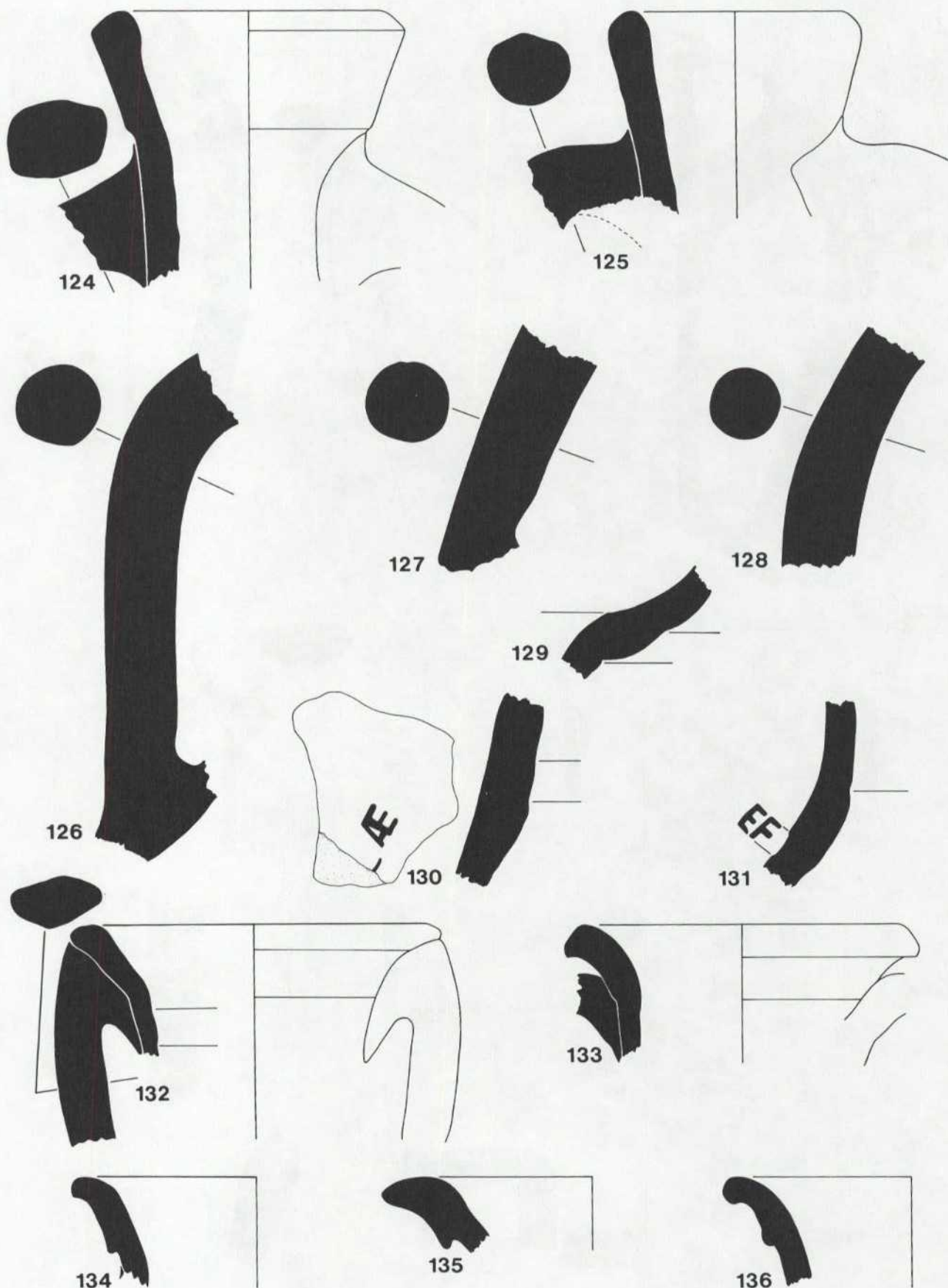


Fig. 75. Early Roman Amphoras. (Scale 1:3).

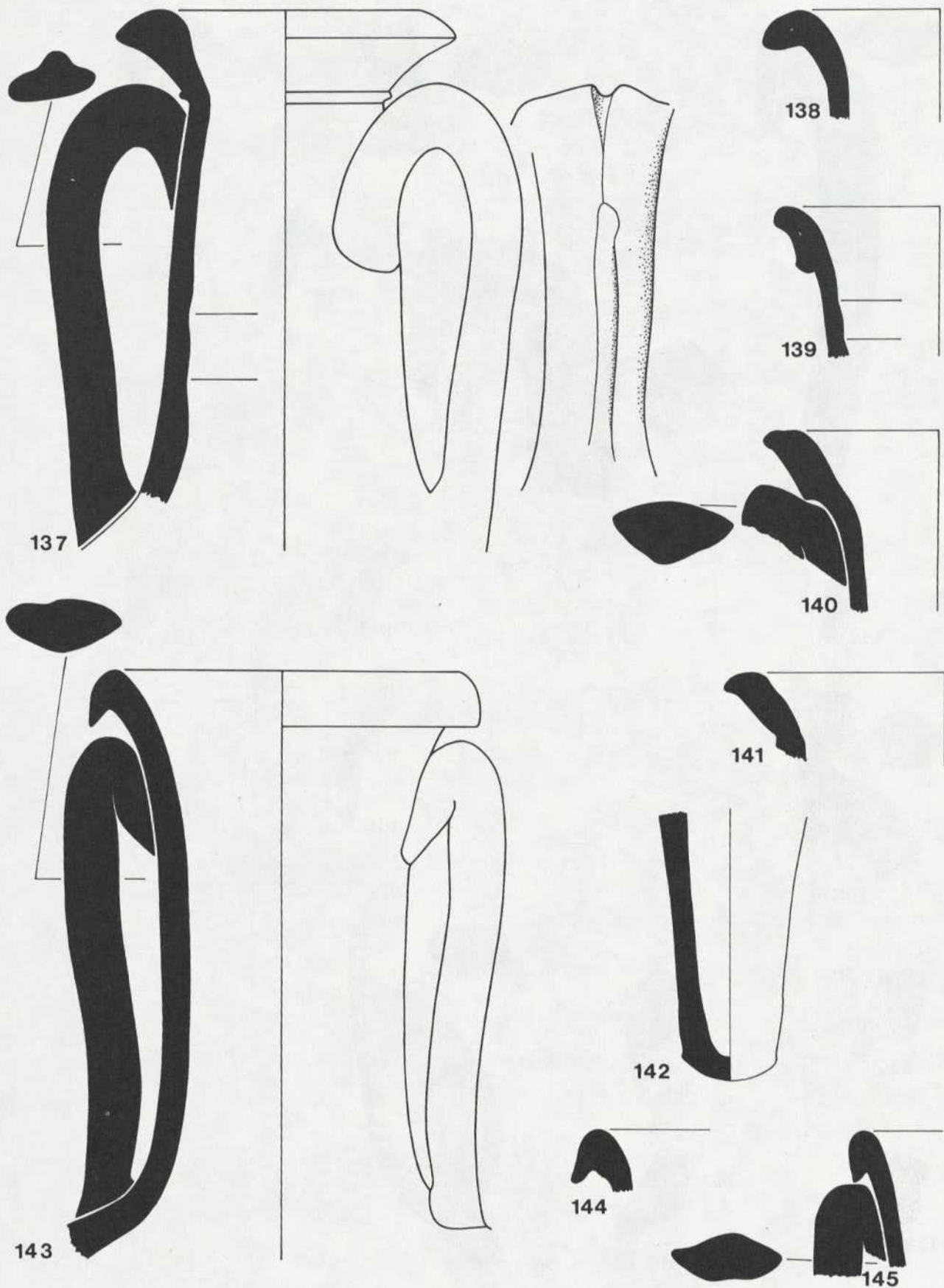


Fig. 76. Early Roman Amphoras. (Scale 1:3).

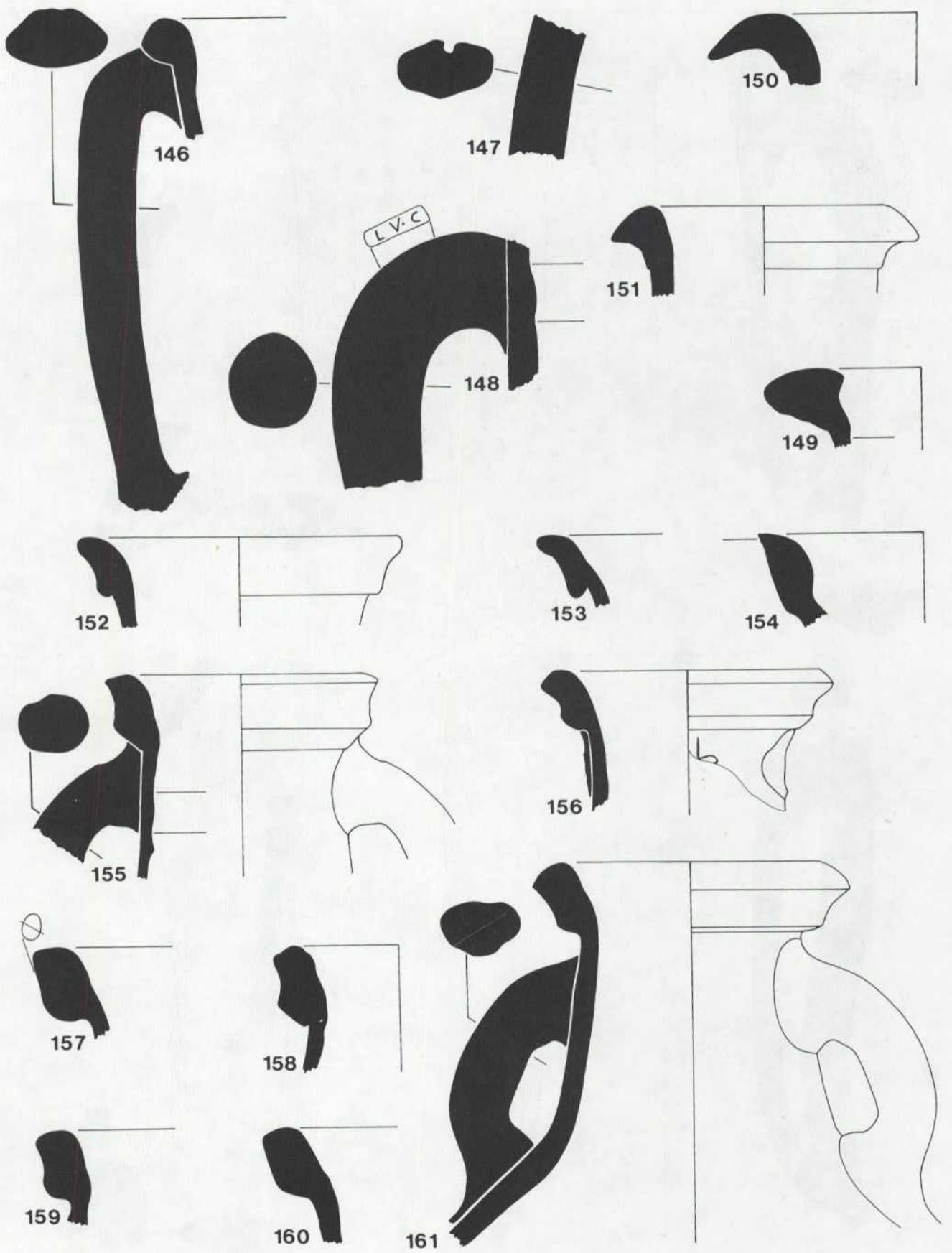
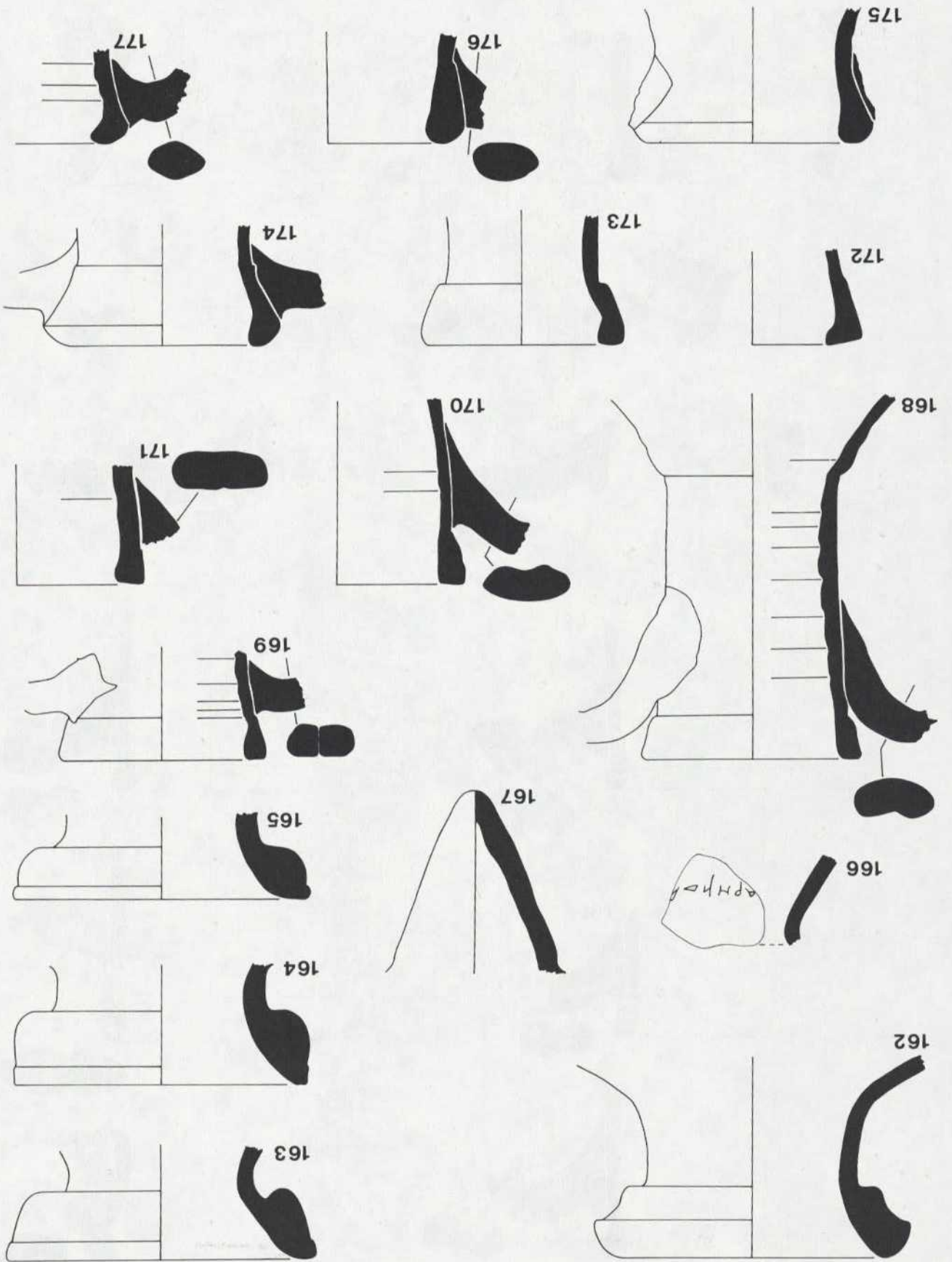


Fig. 77. Early Roman Amphoras. (Scale 1:3).

Fig. 78. Early Roman Amphoras. (Scale 1:3).



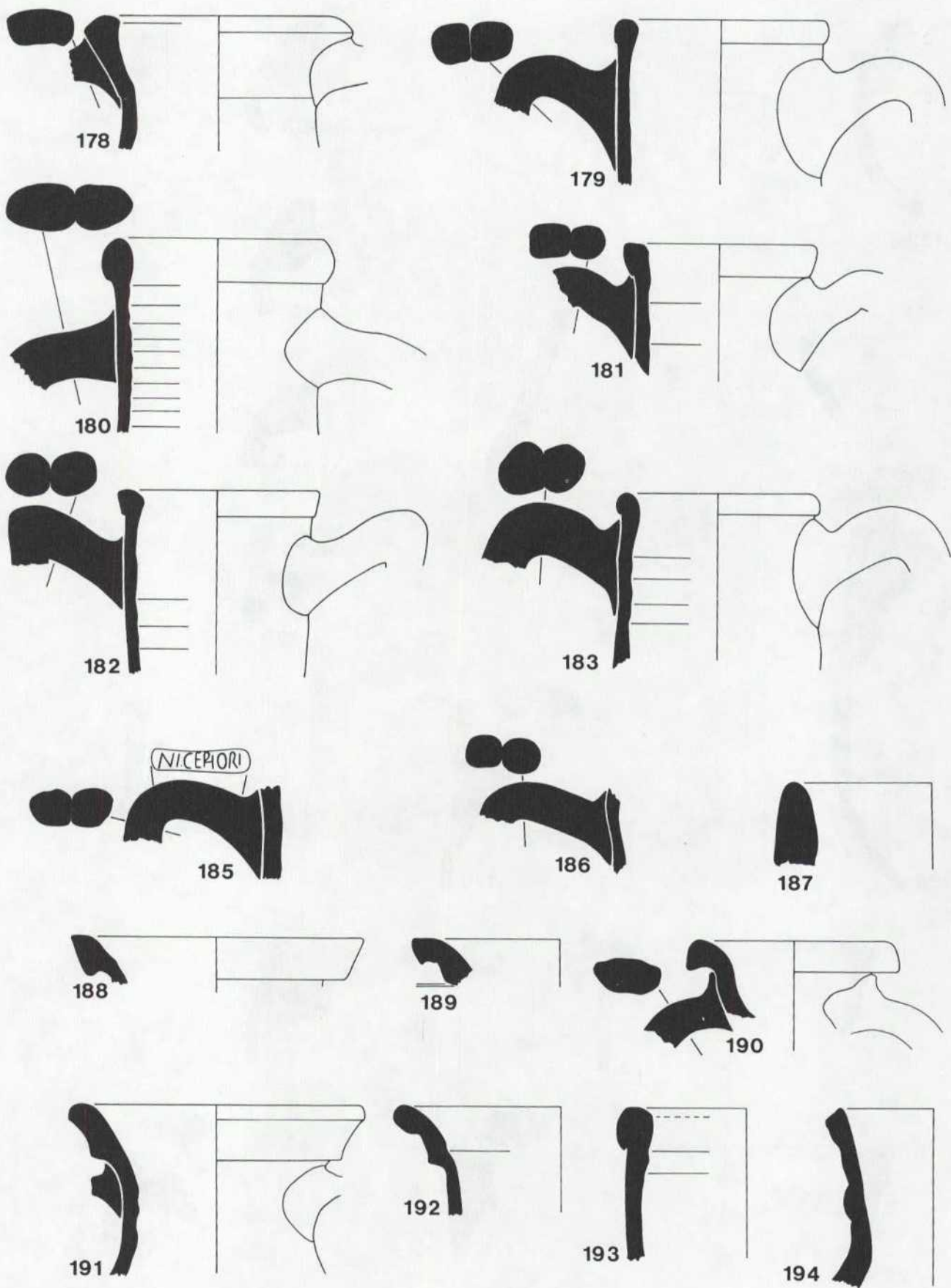


Fig. 79. Early Roman Amphoras. (Scale 1:3).



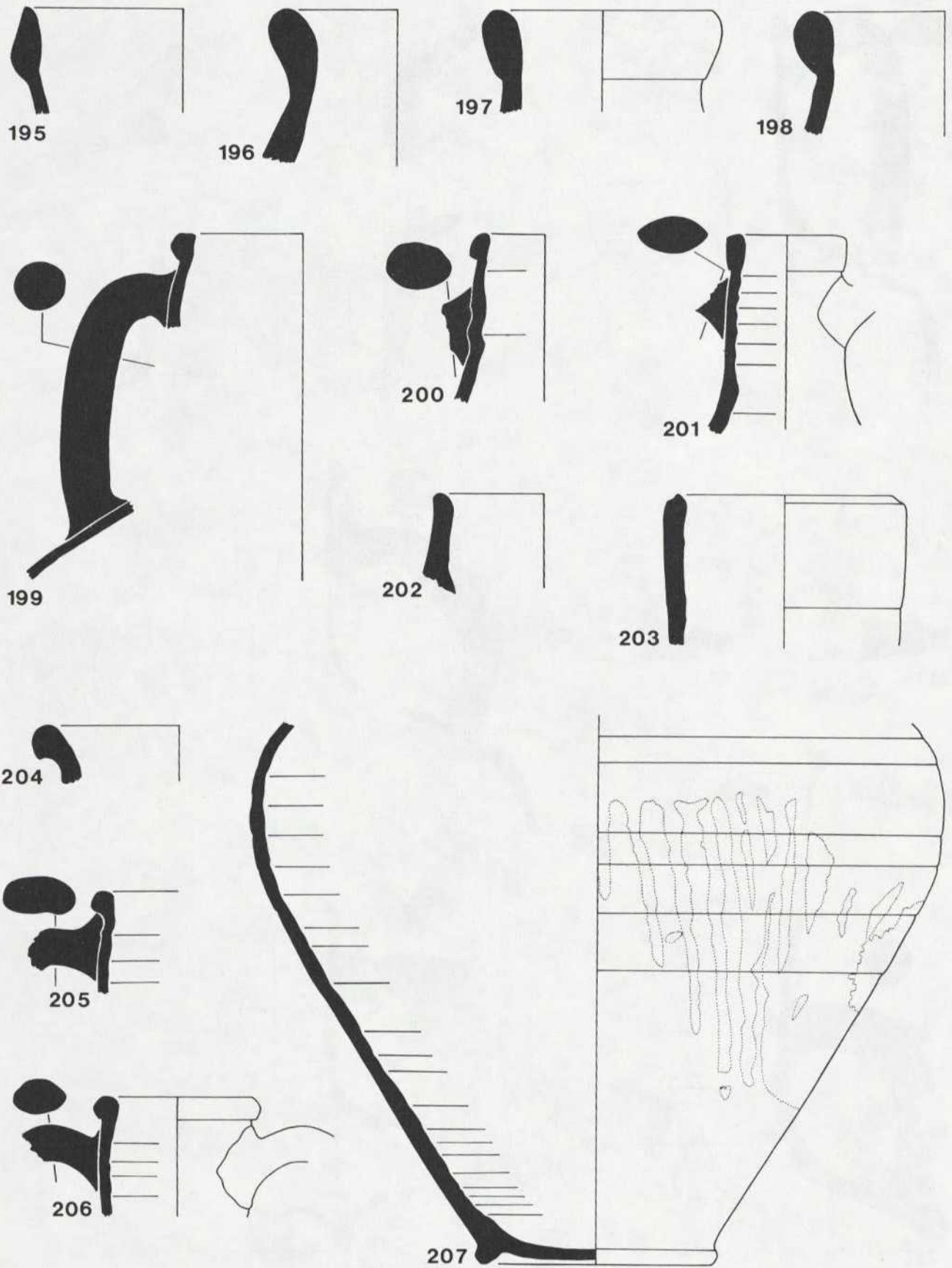


Fig. 80. Early Roman Amphoras. (Scale 1:3).

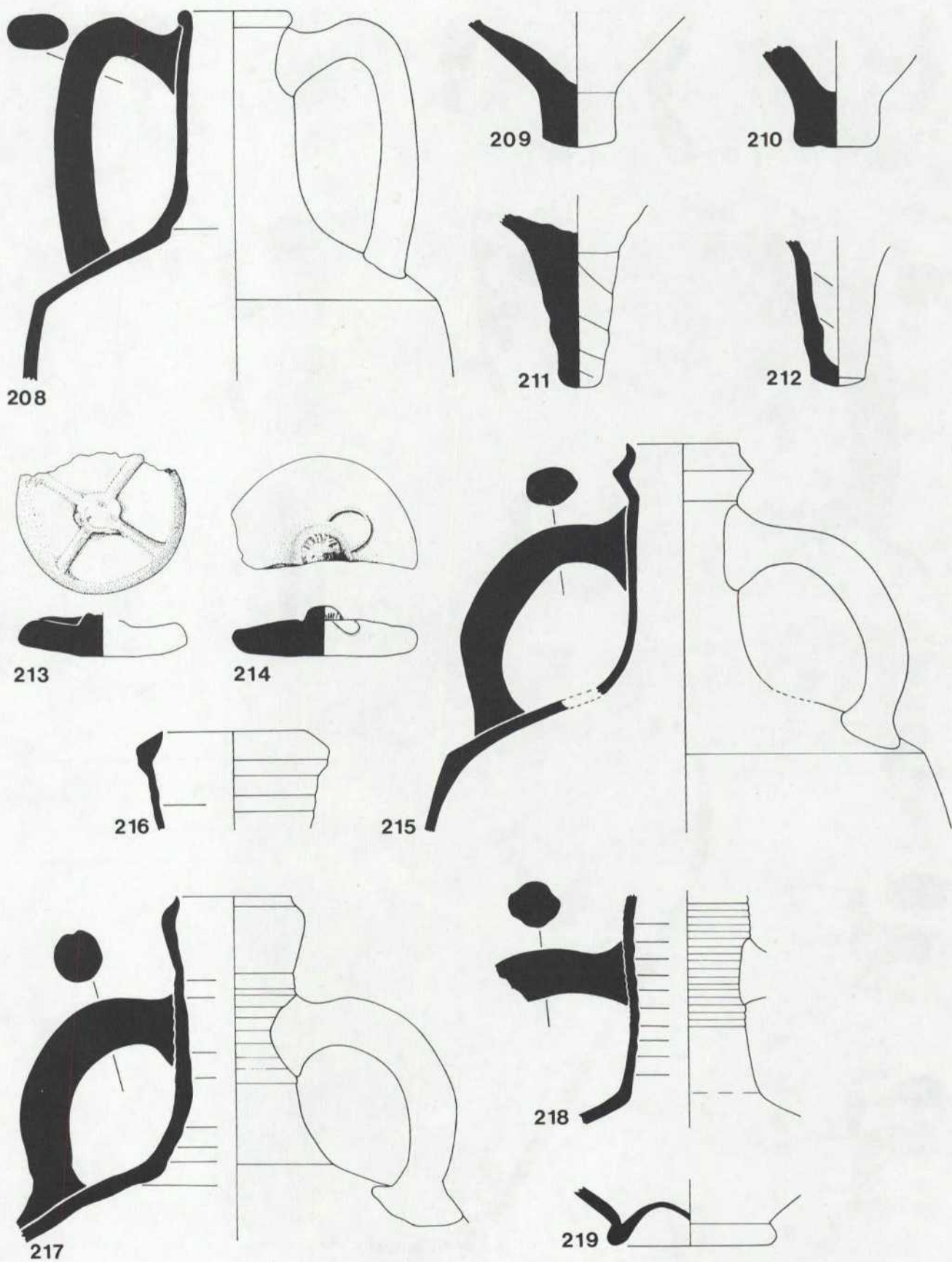


Fig. 81. Early and Mid Roman Amphoras. (Scale 1:3).

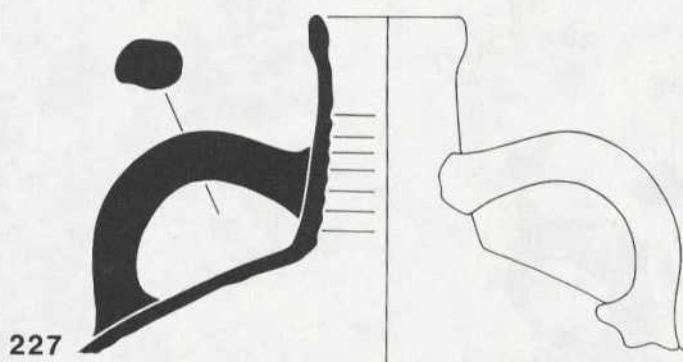
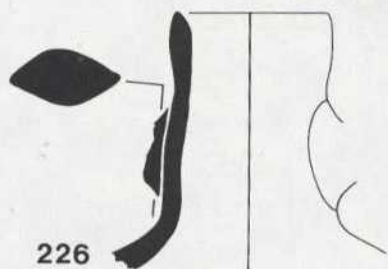
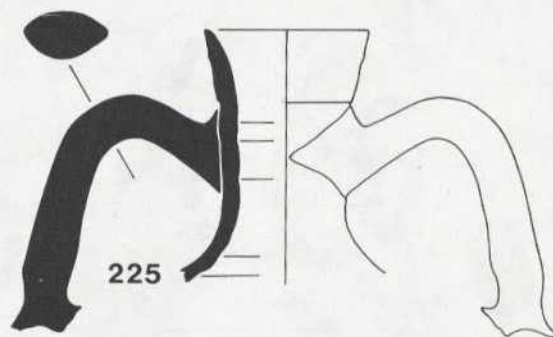
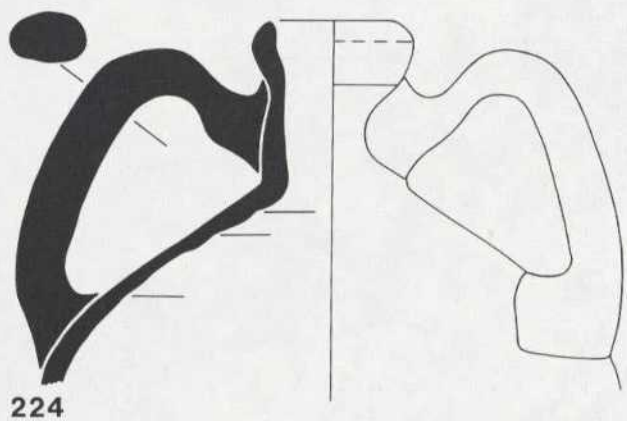
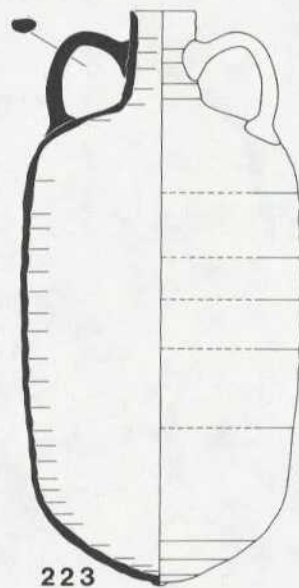
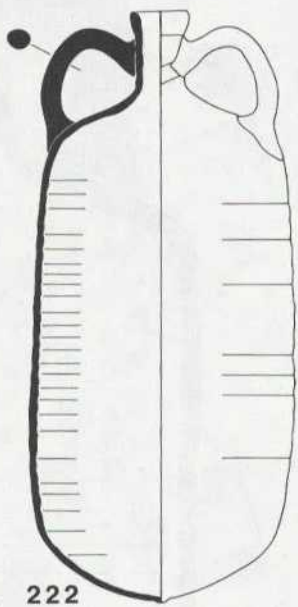
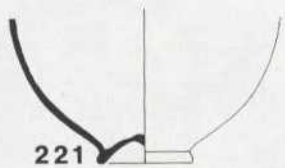
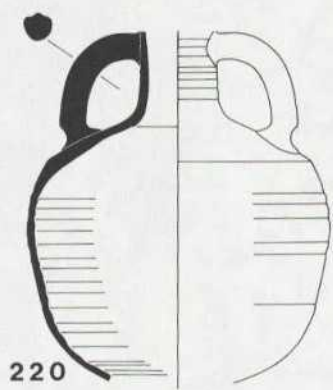


Fig. 82. Mid Roman Amphoras. (Scale 1:3; Nos. 220-3 are 1:8).

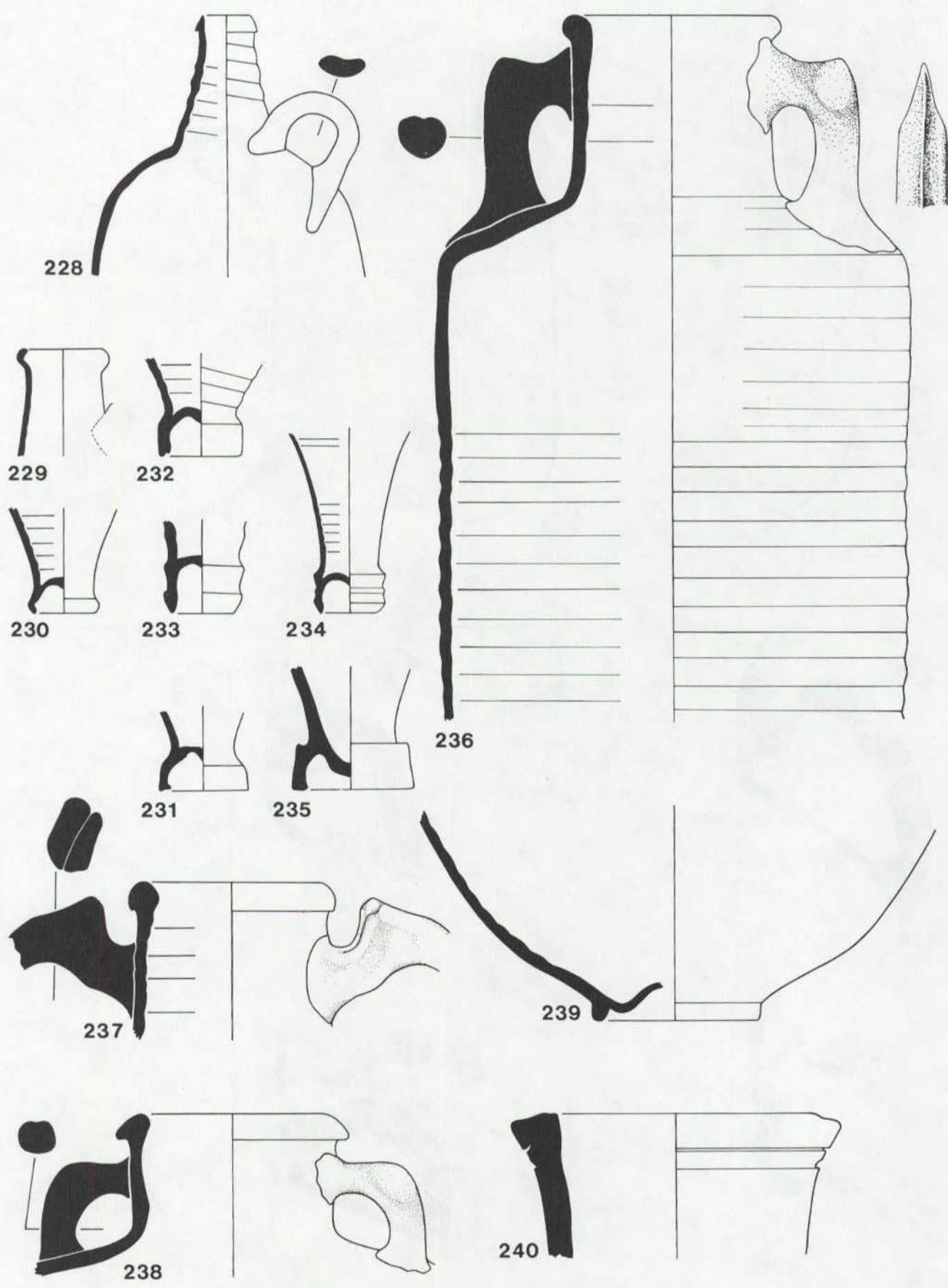


Fig. 83. Mid Roman Amphoras. (Scale 1:3).

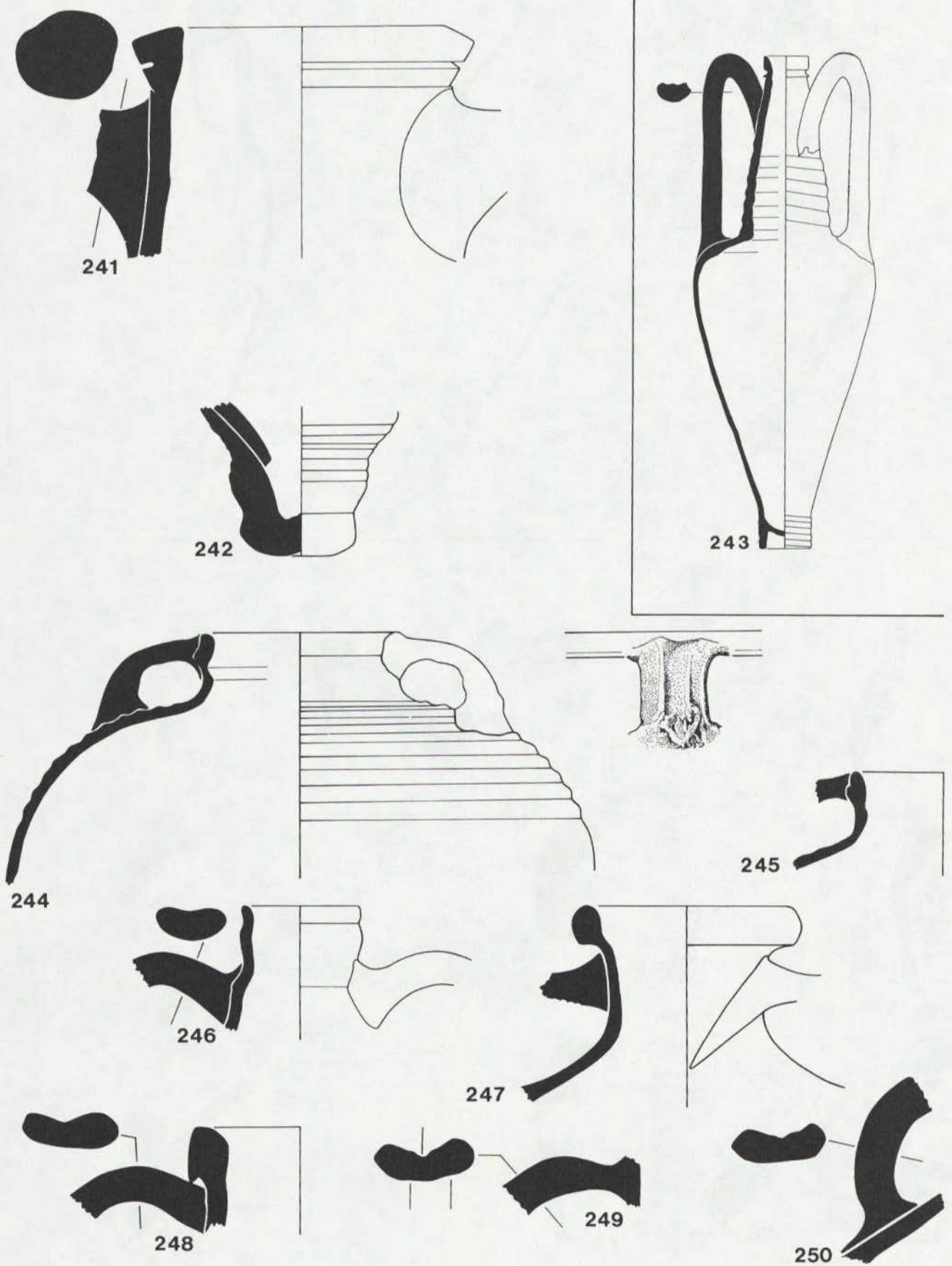


Fig. 84. Mid Roman Amphoras. (Scale 1:3; No. 243 is 1:8).

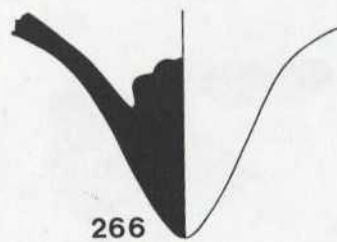
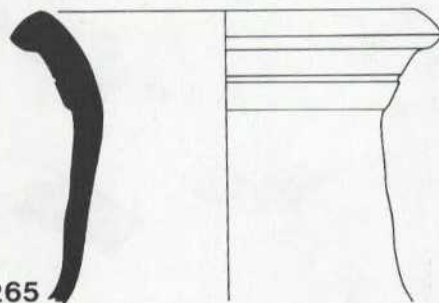
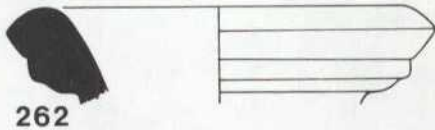
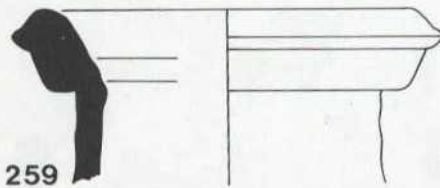
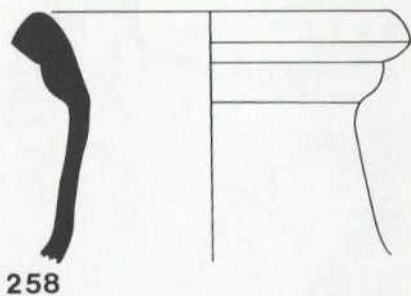
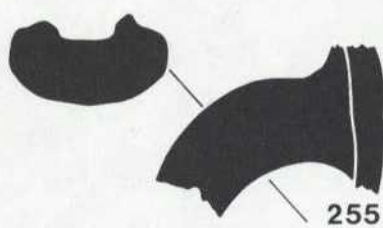
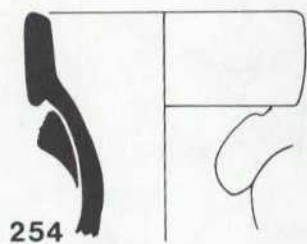
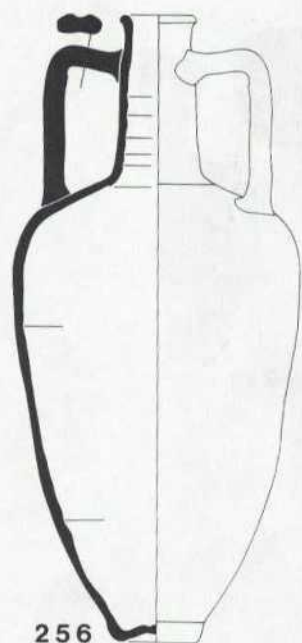
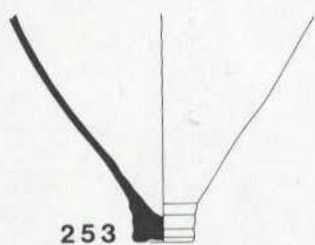
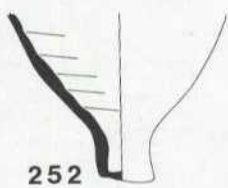
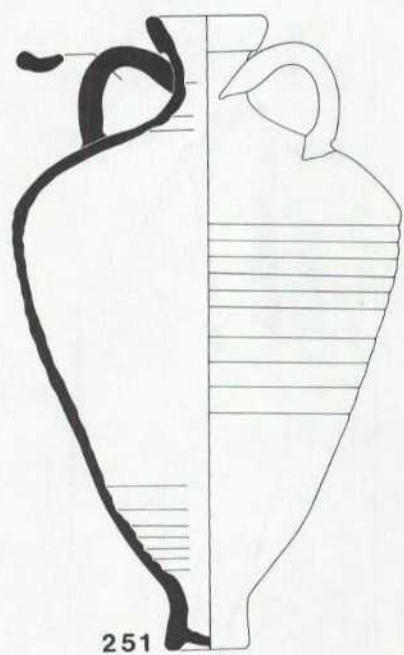


Fig. 85. Mid Roman Amphoras. (Scale 1:3; Nos. 251-3 and 256 are 1:8).

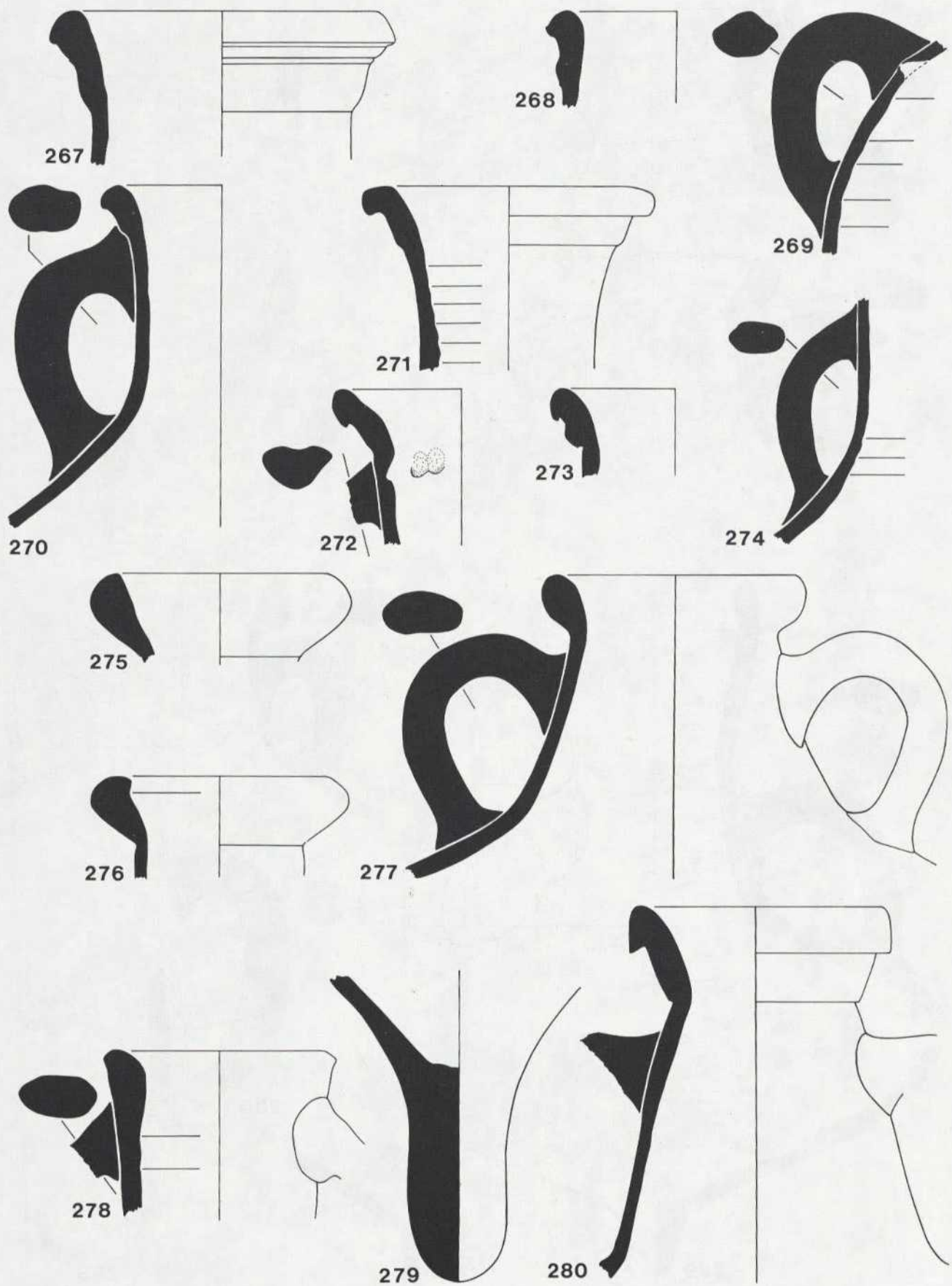


Fig. 86. *Mid Roman Amphoras.* (Scale 1:3).

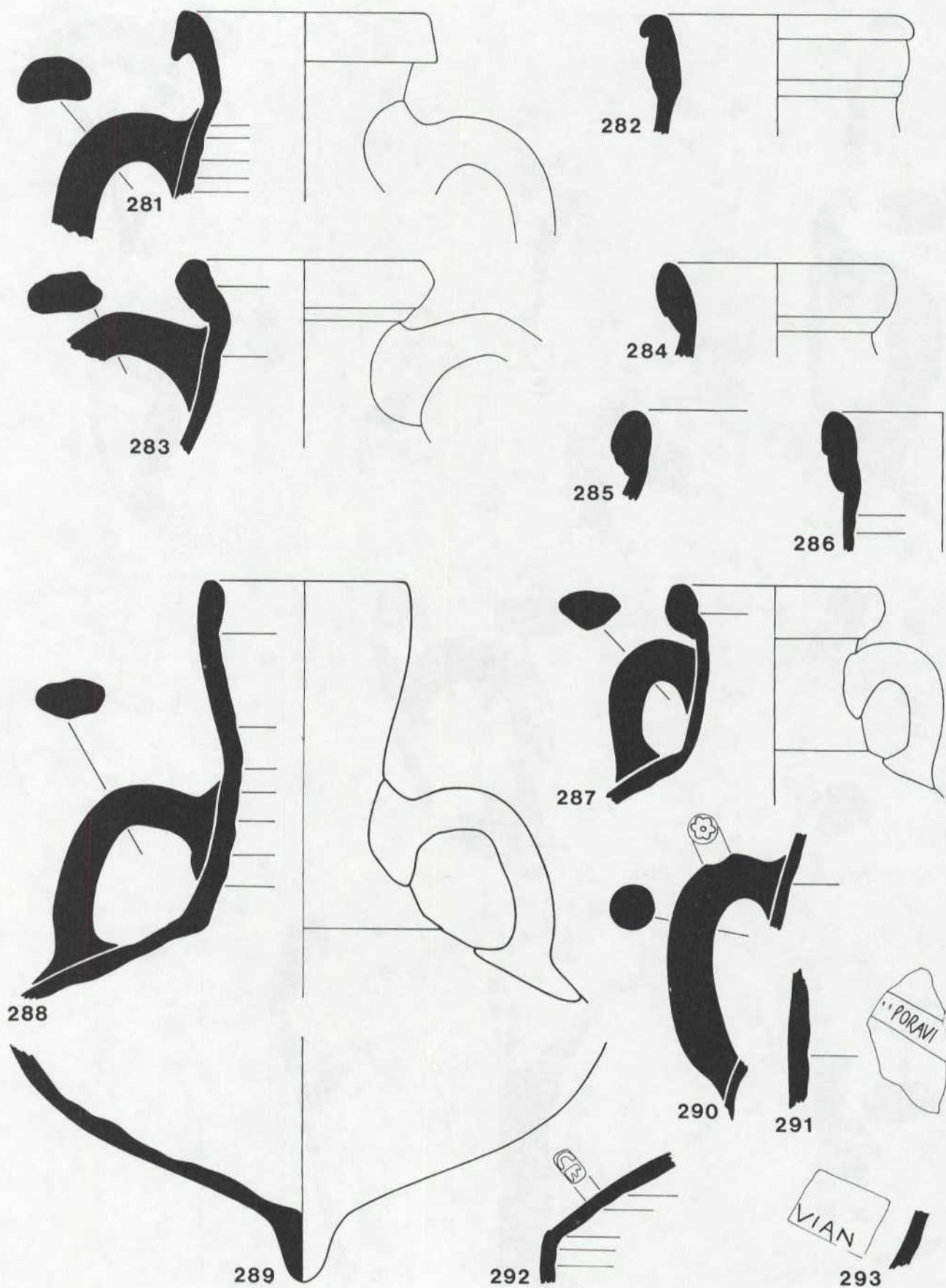


Fig. 87. Mid Roman Amphoras. (Scale 1:3).



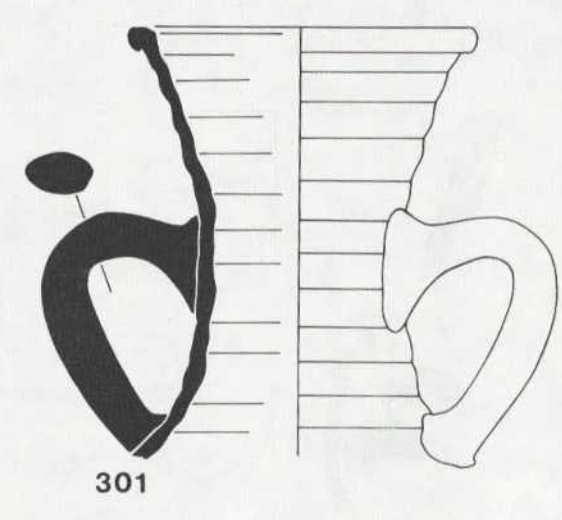
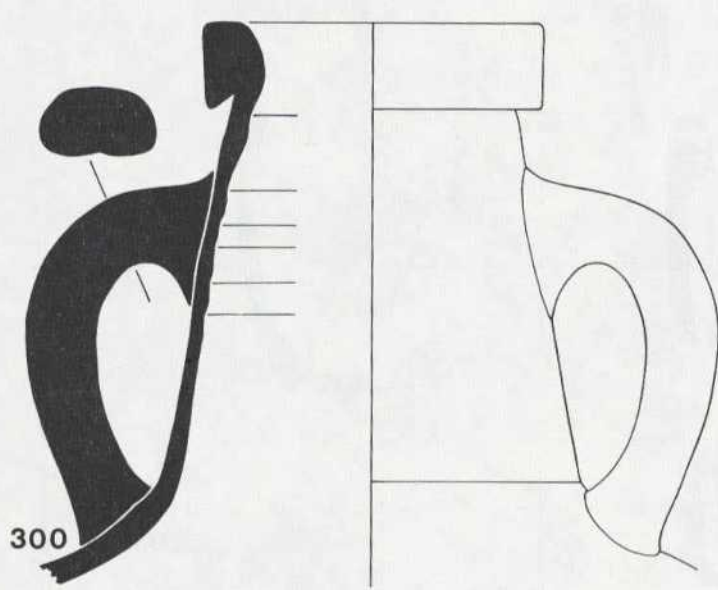
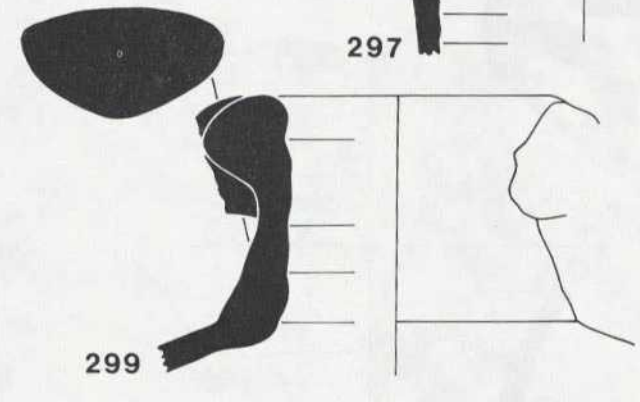
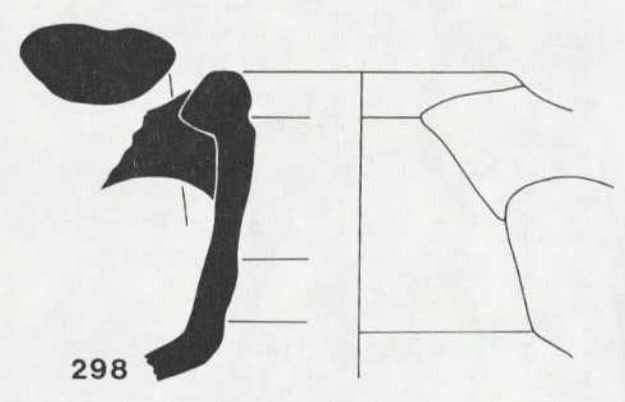
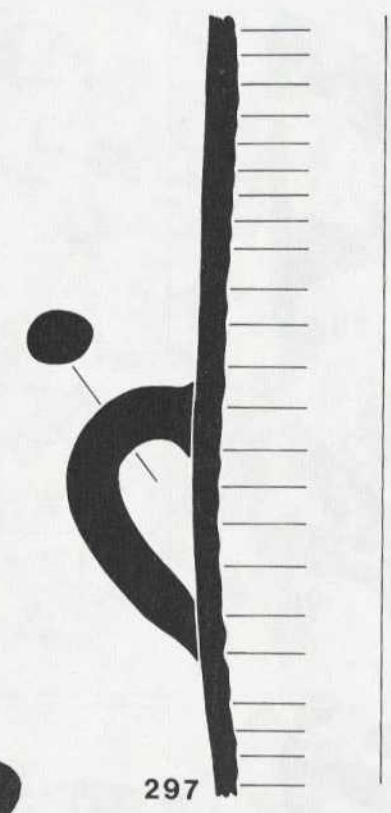
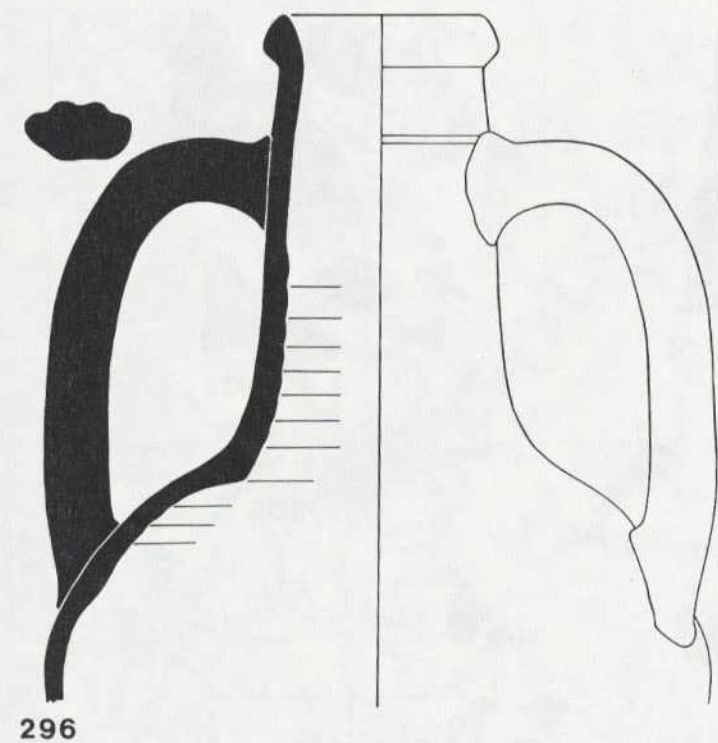


Fig. 88. Mid Roman Amphoras. (Scale 1:3).

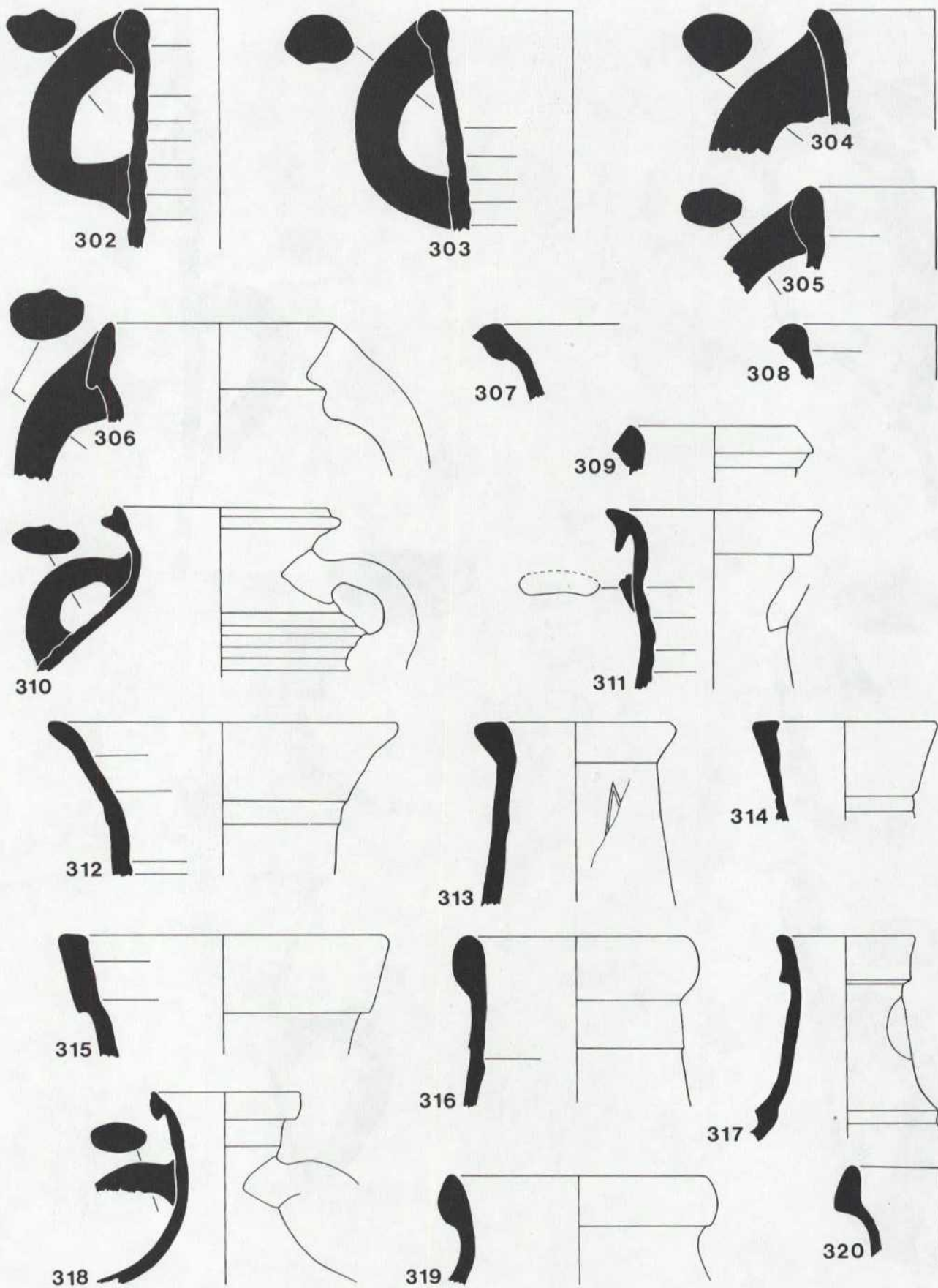


Fig. 89. Mid Roman Amphoras. (Scale 1:3).

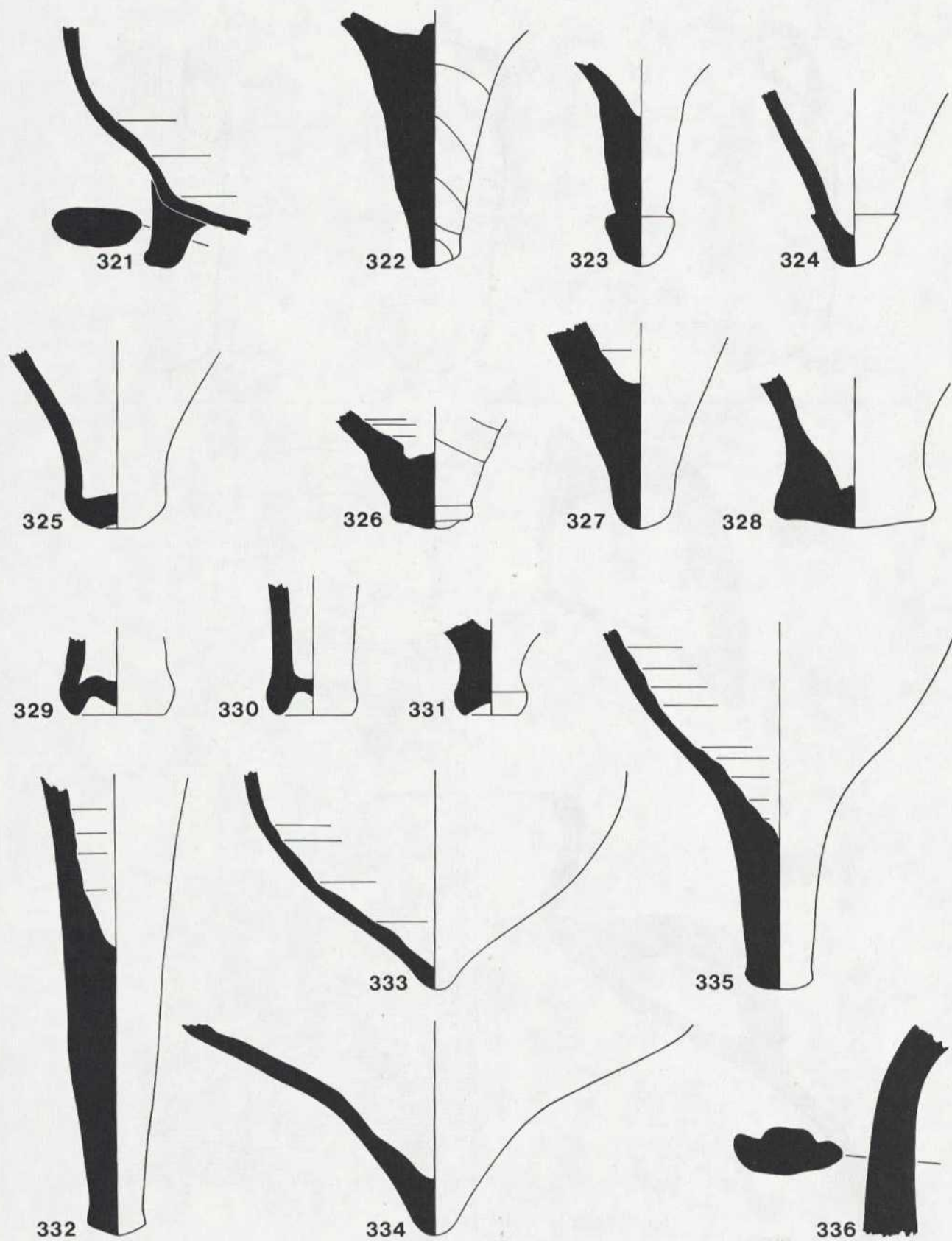
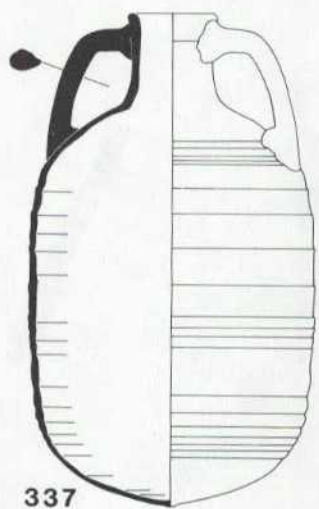
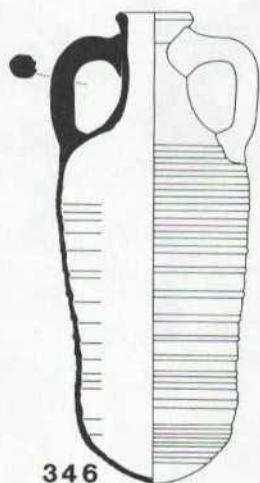


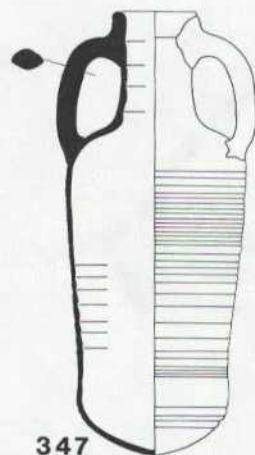
Fig. 90. Mid Roman Amphoras. (Scale 1:3).



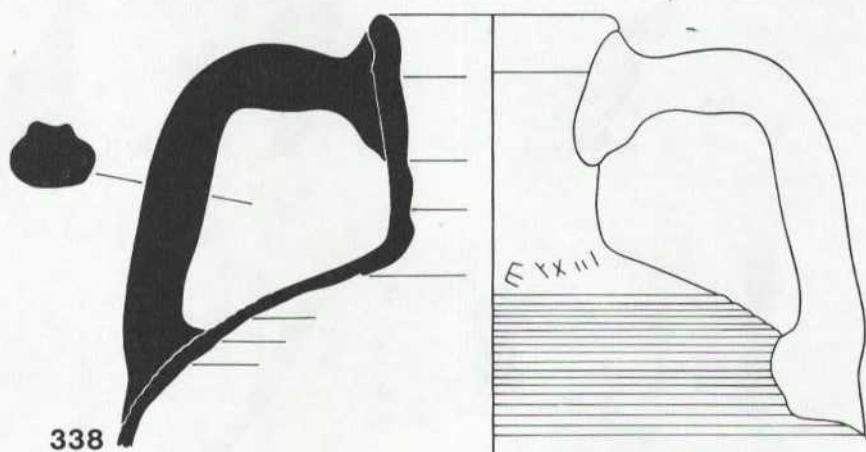
337



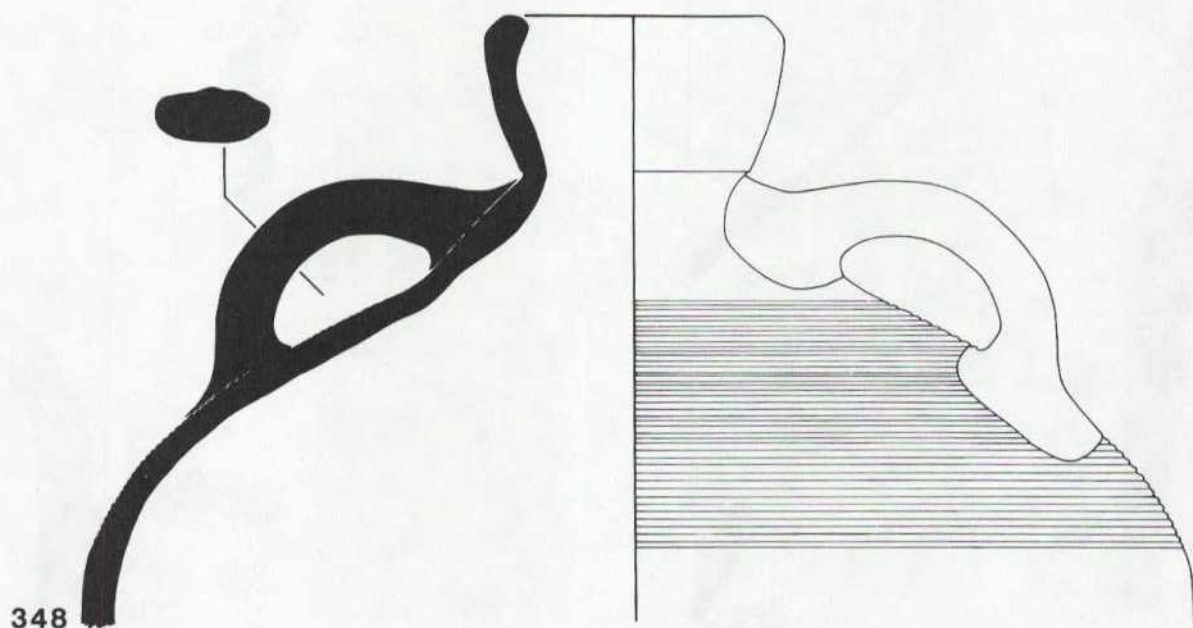
346



347



338



348

Fig. 91. Late Roman Amphoras. (Scale 1:3; Nos. 337 and 346-7 are 1:8).

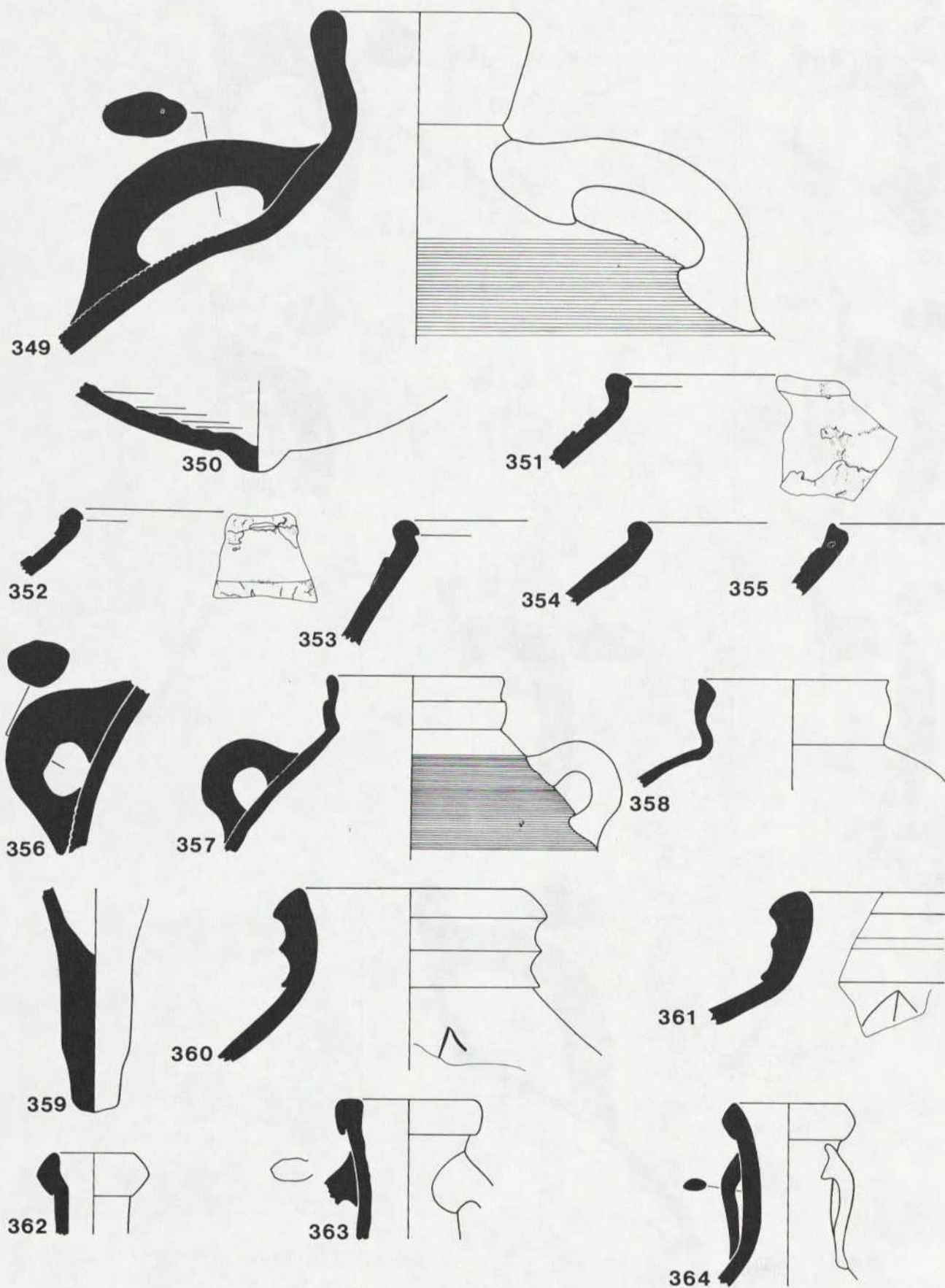
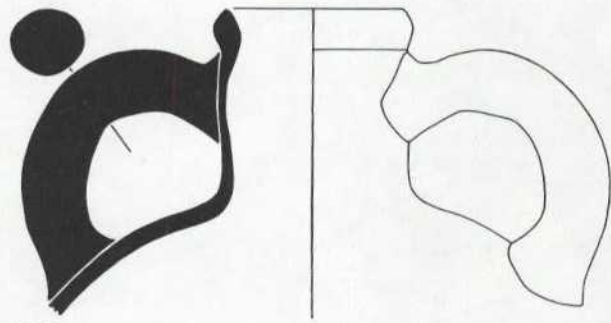
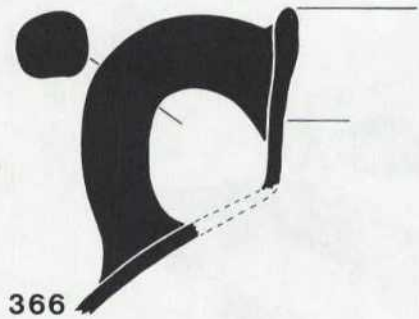


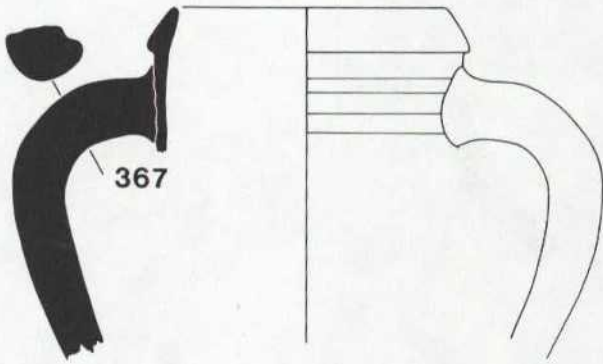
Fig. 92. Late Roman Amphoras. (Scale 1:3).



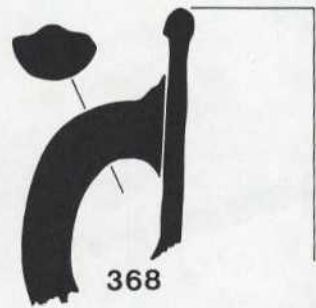
365



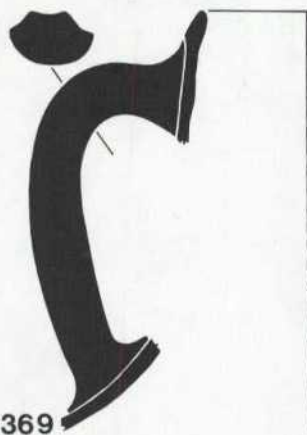
366



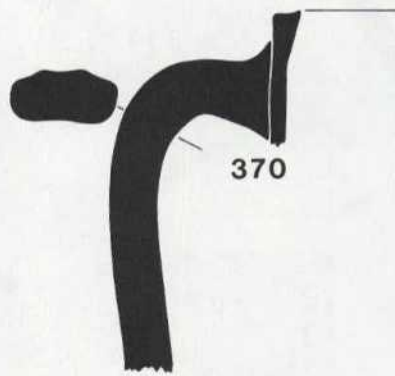
367



368



369



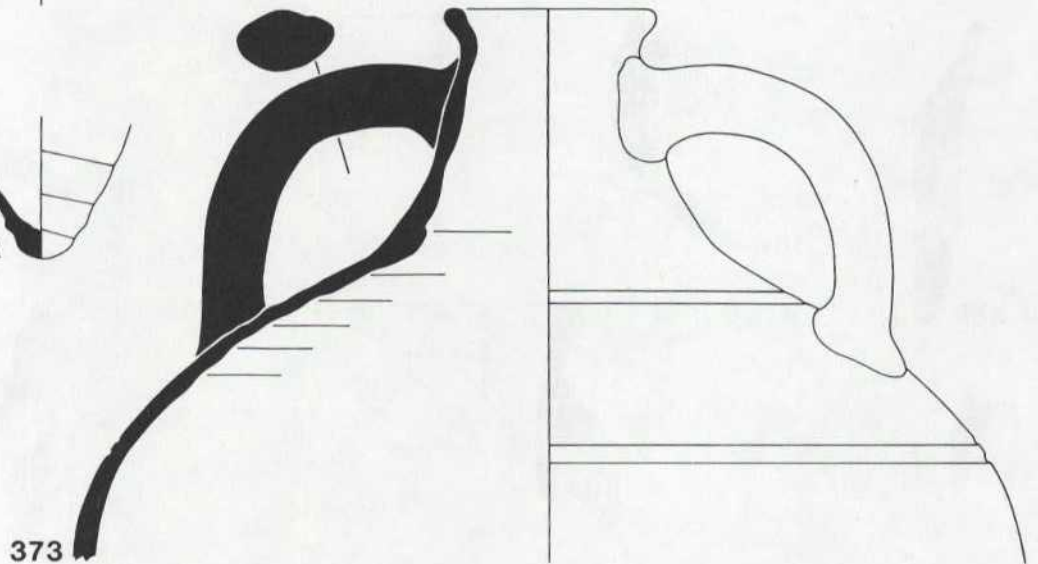
370



371

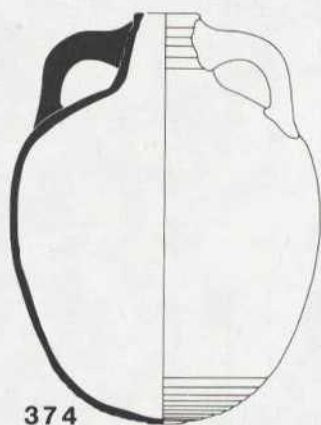


372

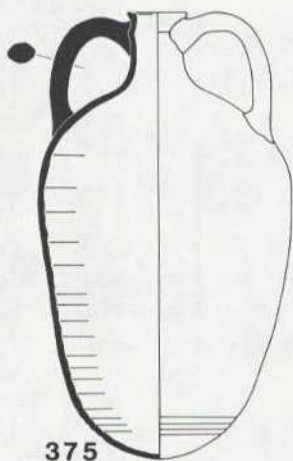


373

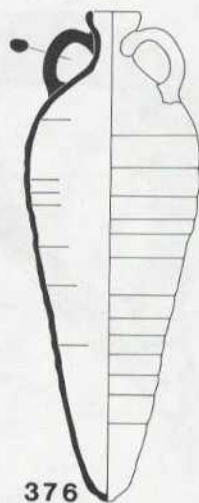
Fig. 93. Late Roman Amphoras. (Scale 1:3).



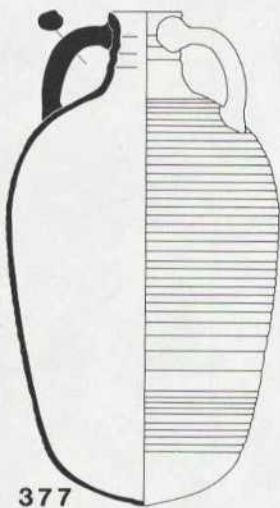
374



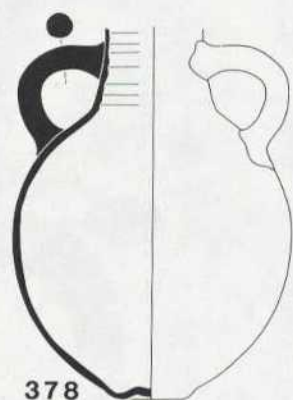
375



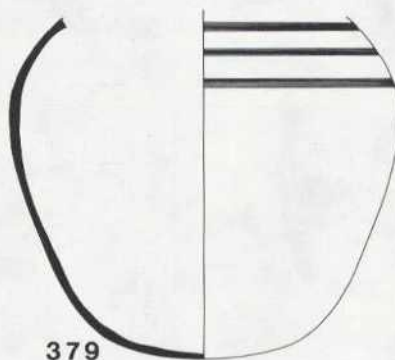
376



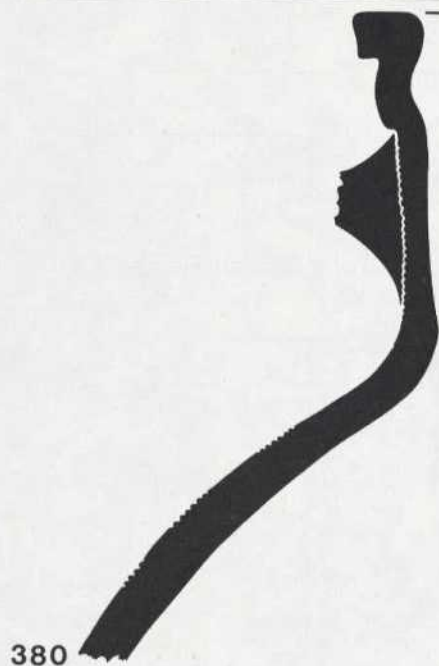
377



378



379



380

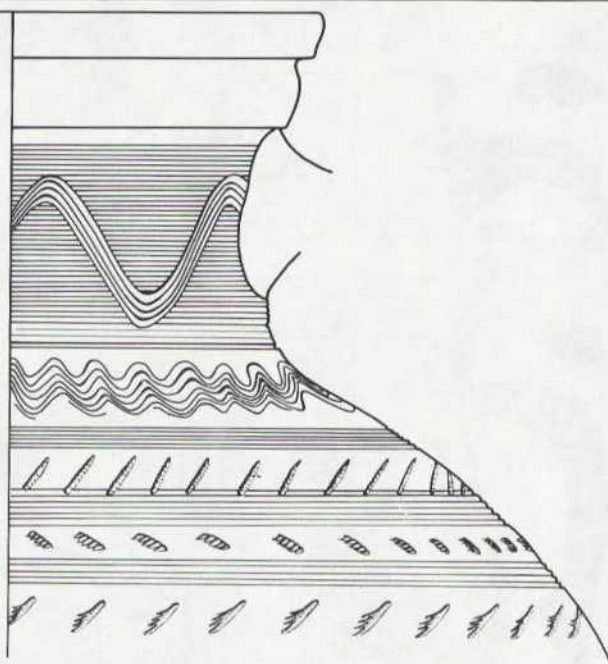
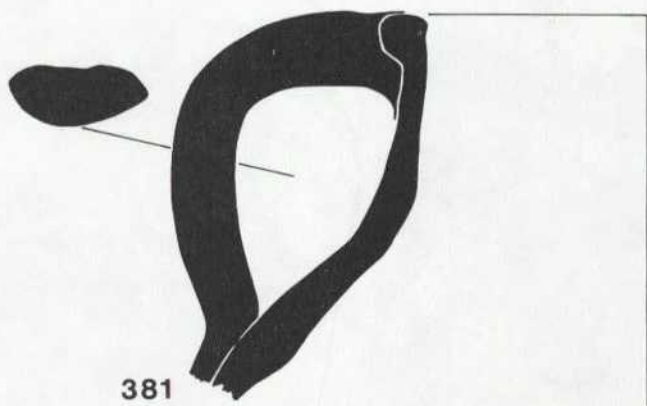
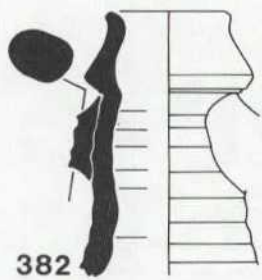
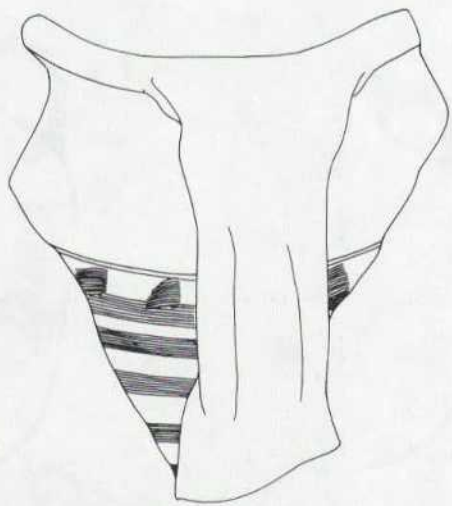


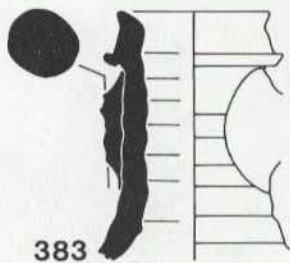
Fig. 94. Late Roman Amphoras. (Scale 1:8; No. 380 is 1:3).



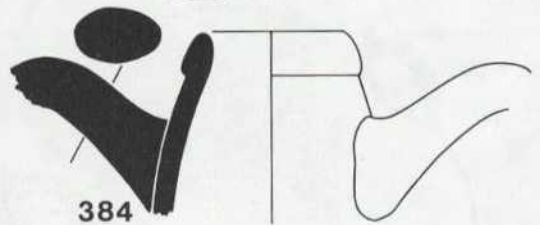
381



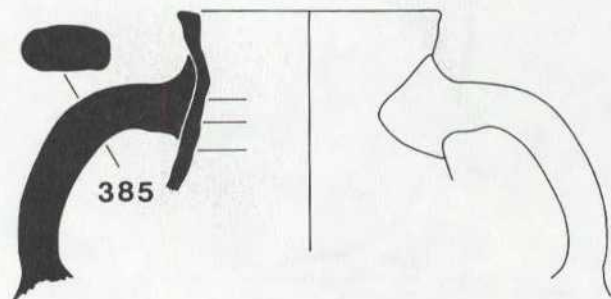
382



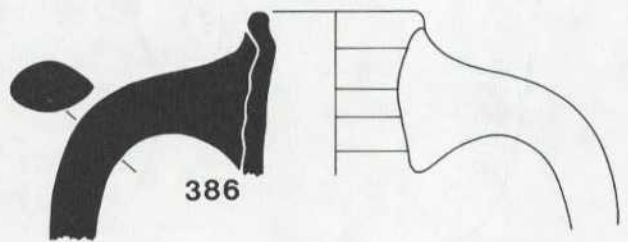
383



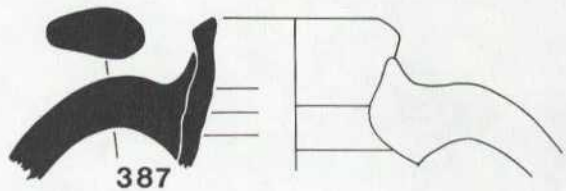
384



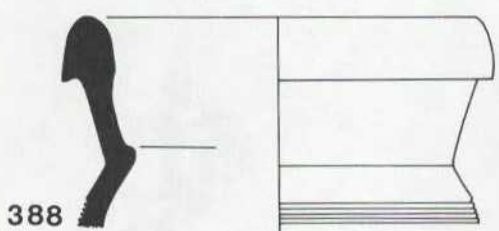
385



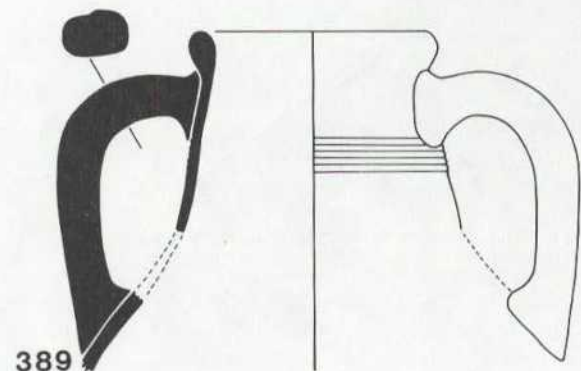
386



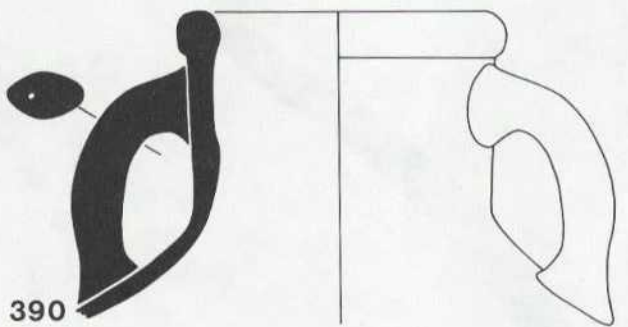
387



388



389



390

Fig. 95. Late Roman Amphoras. (Scale 1:3).



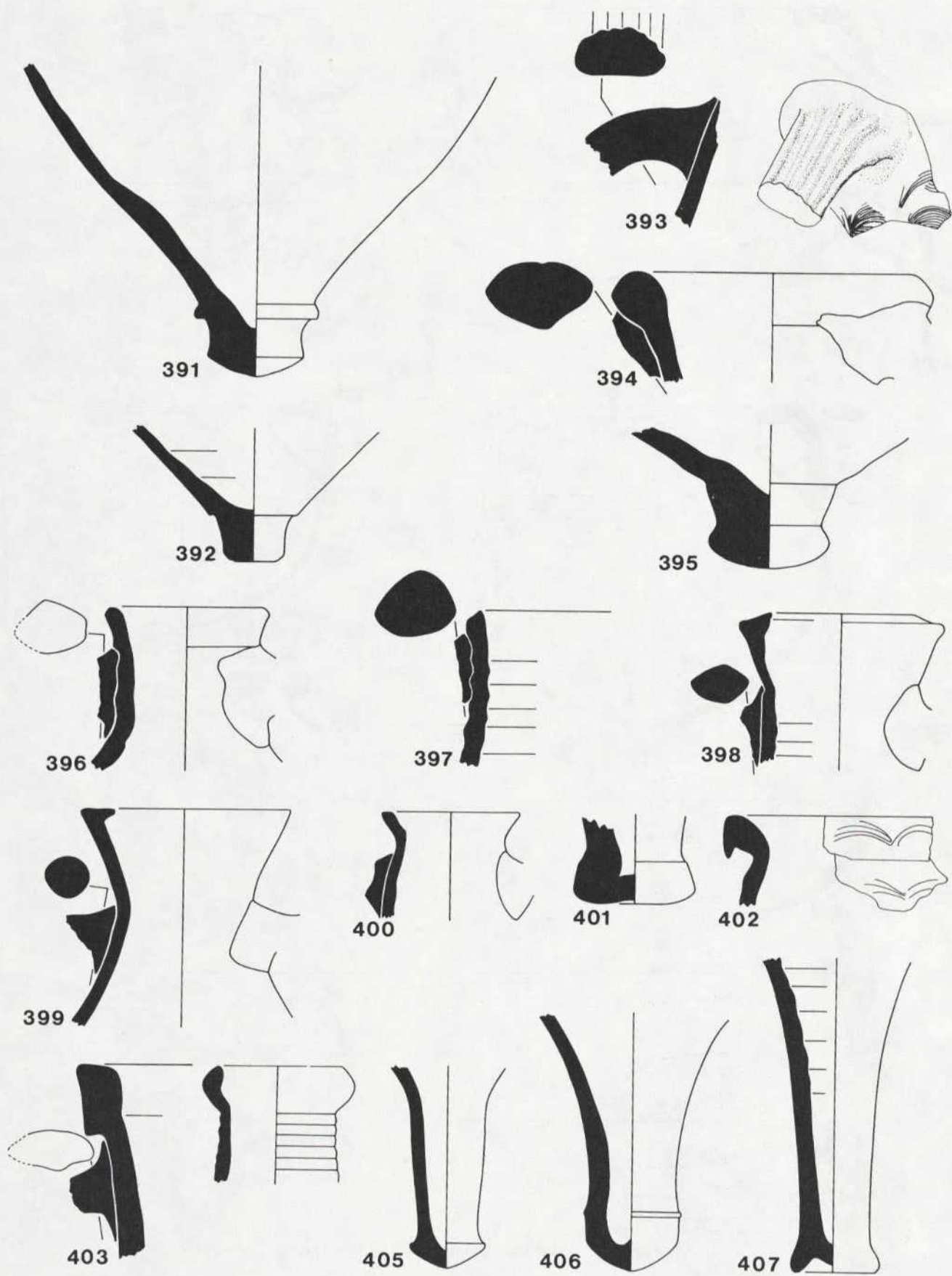


Fig. 96. Miscellaneous Amphoras. (Scale 1:3).

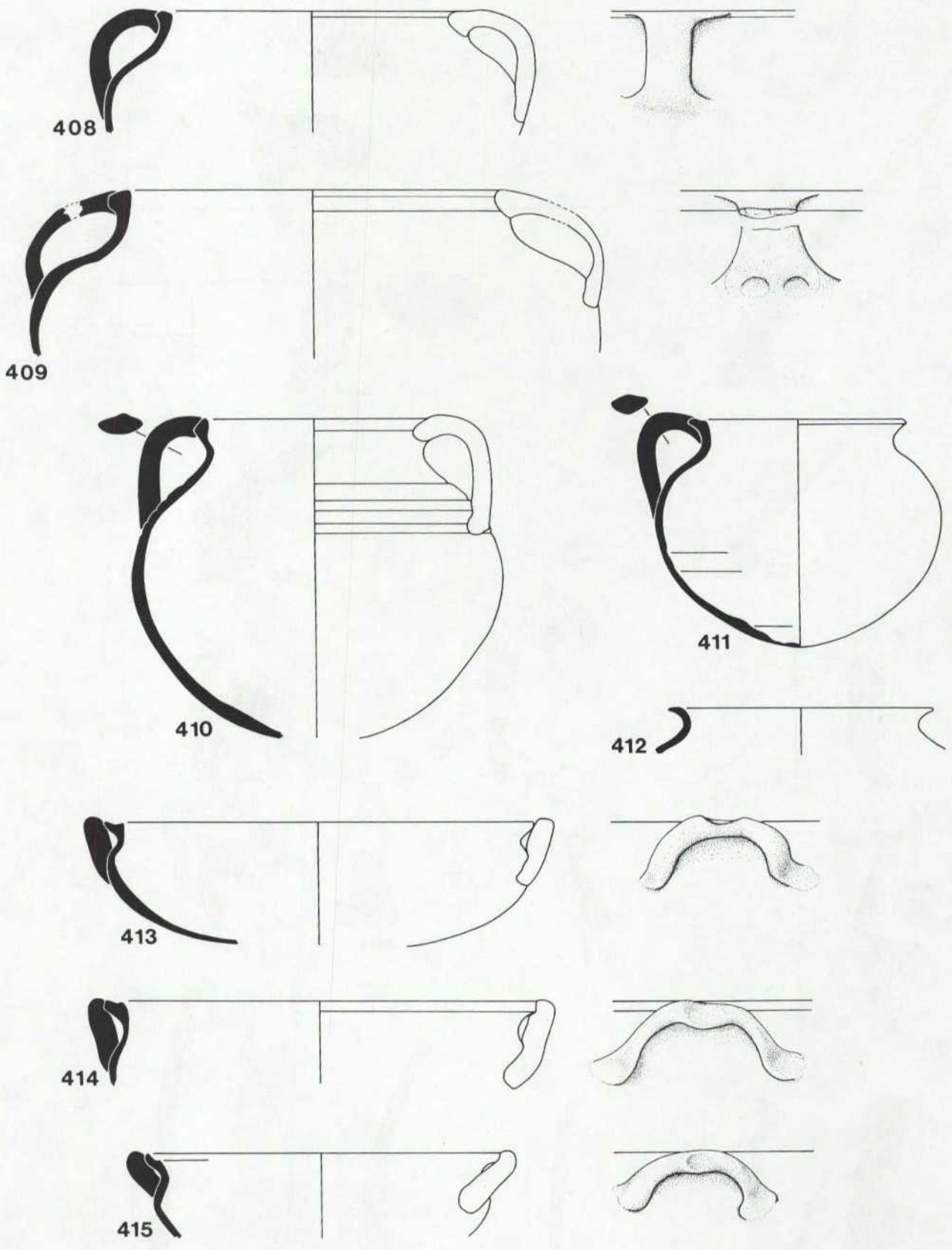


Fig. 97. Hellenistic Cooking Wares. (Scale 1:3).

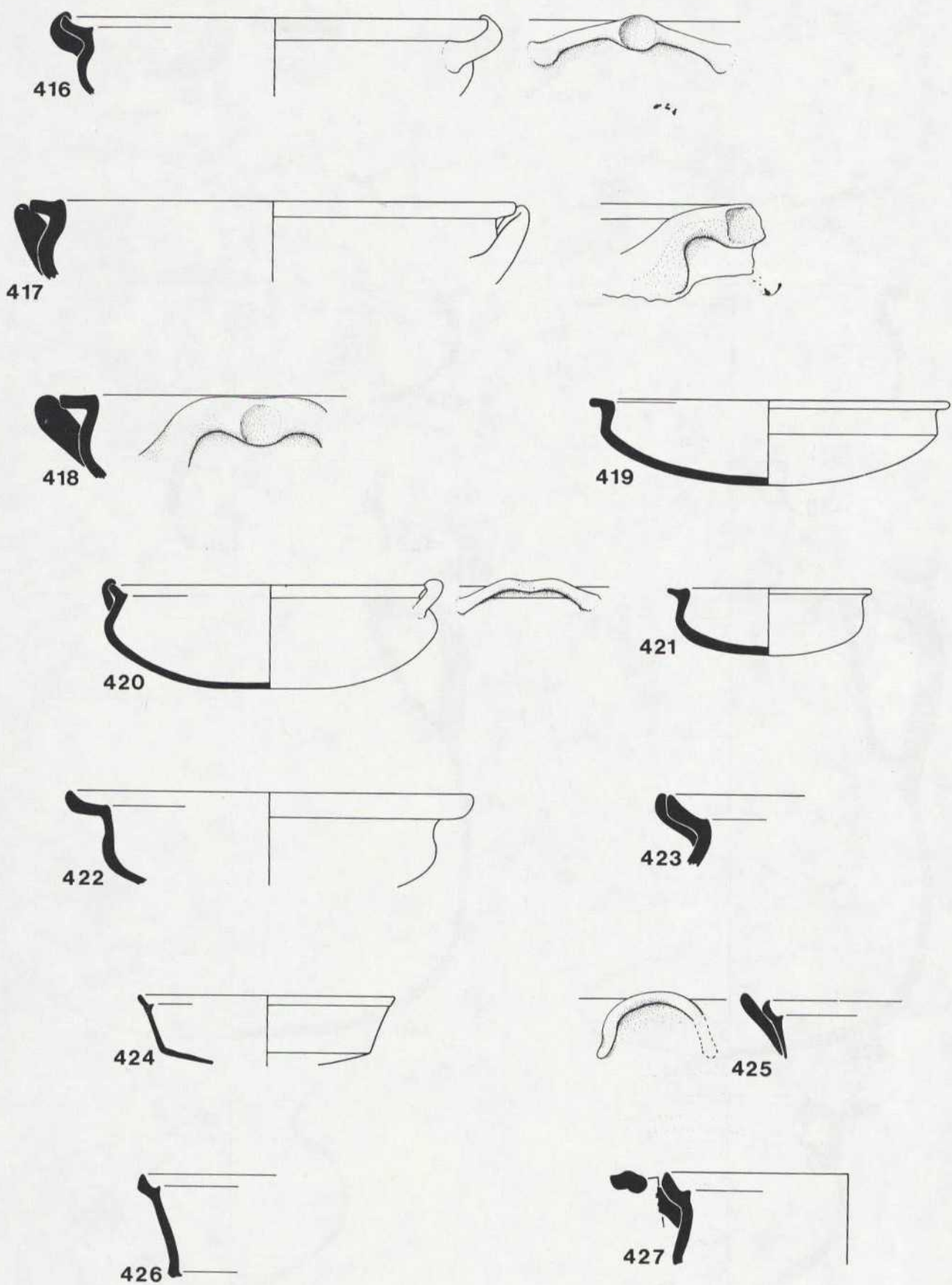


Fig. 98. Hellenistic Cooking Wares. (Scale 1:3).

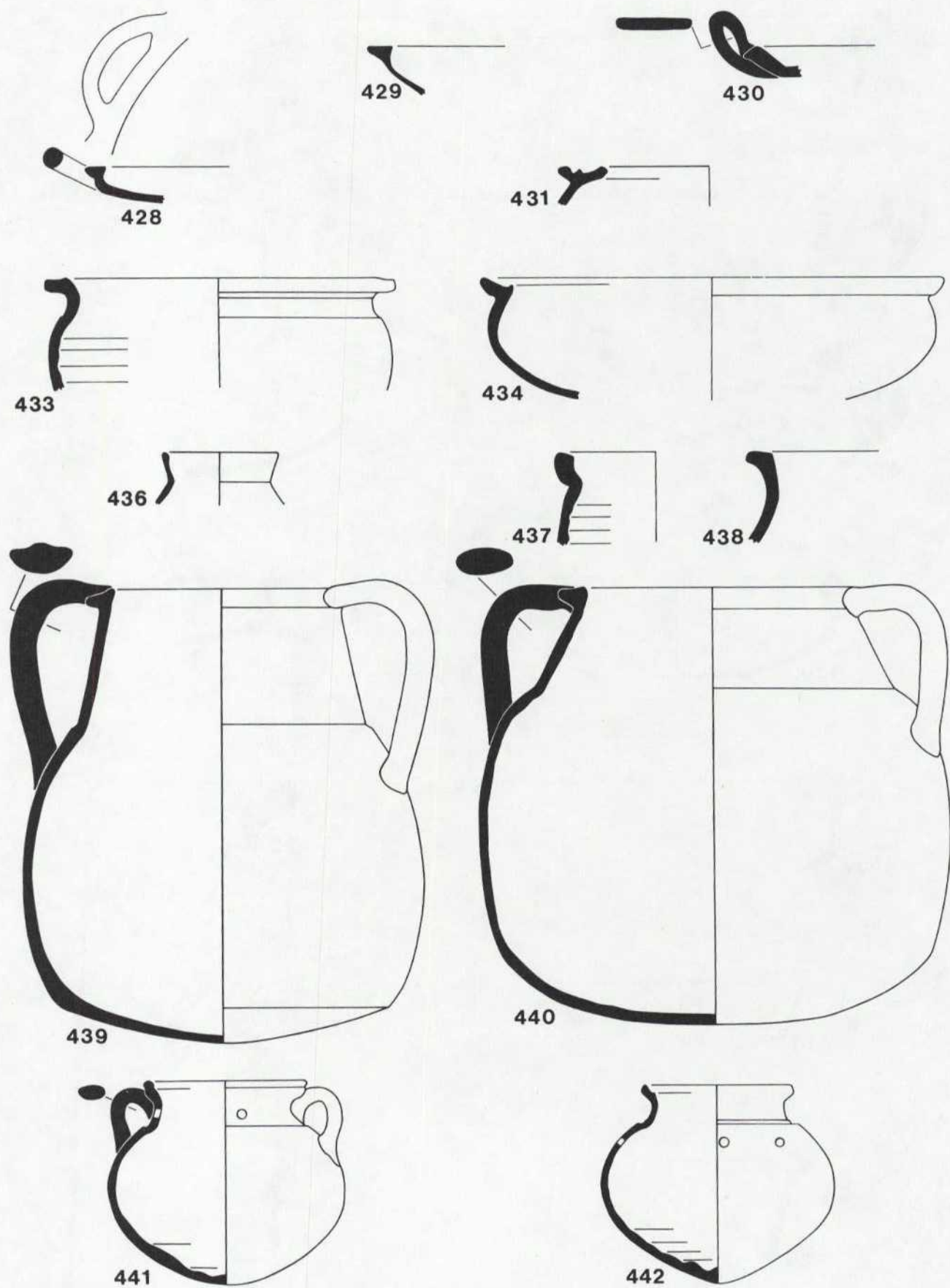


Fig. 99. Hellenistic and Early Roman Cooking Wares. (Scale 1:3).

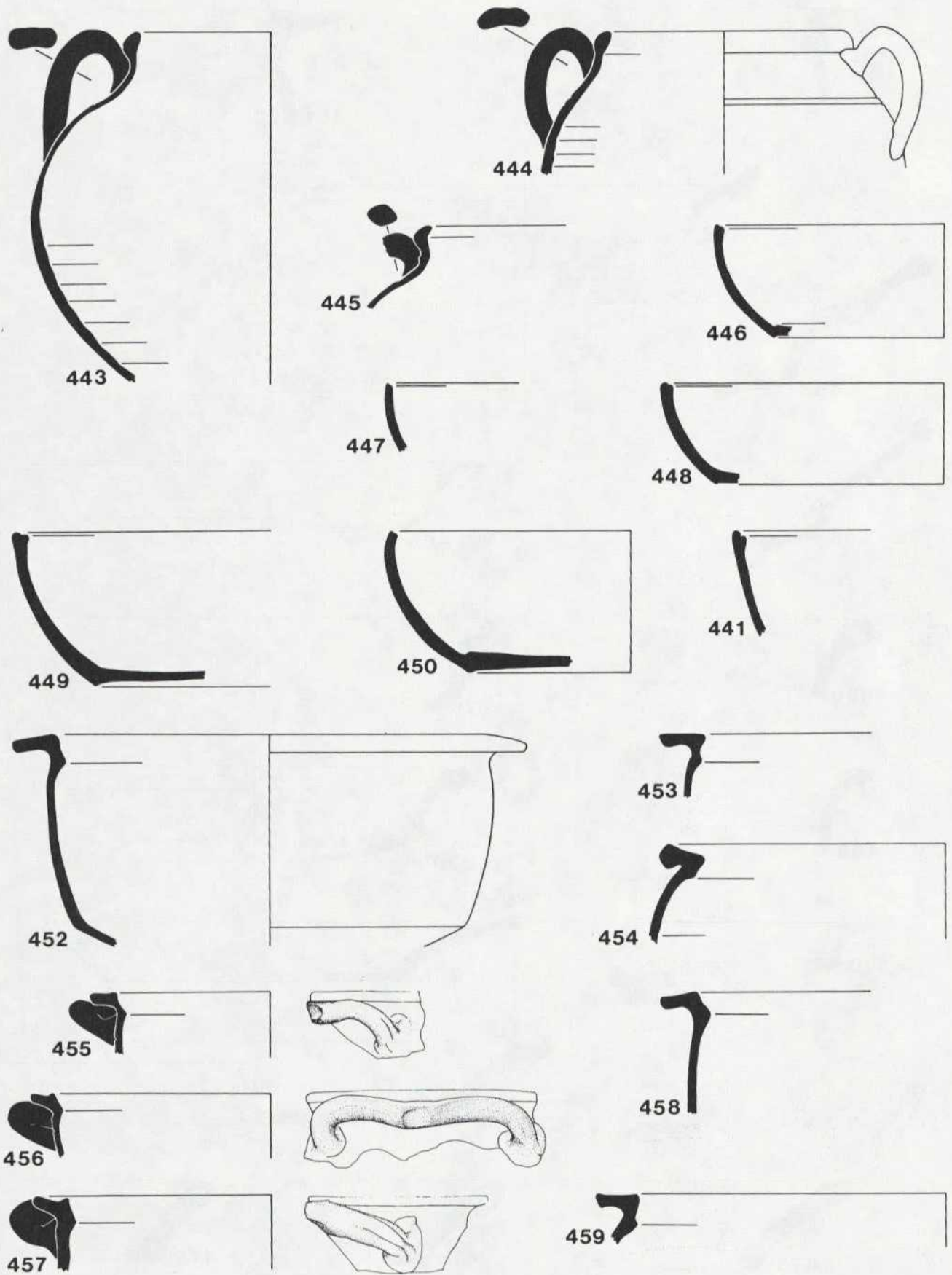


Fig. 100. Early Roman Cooking Wares. (Scale 1:3).

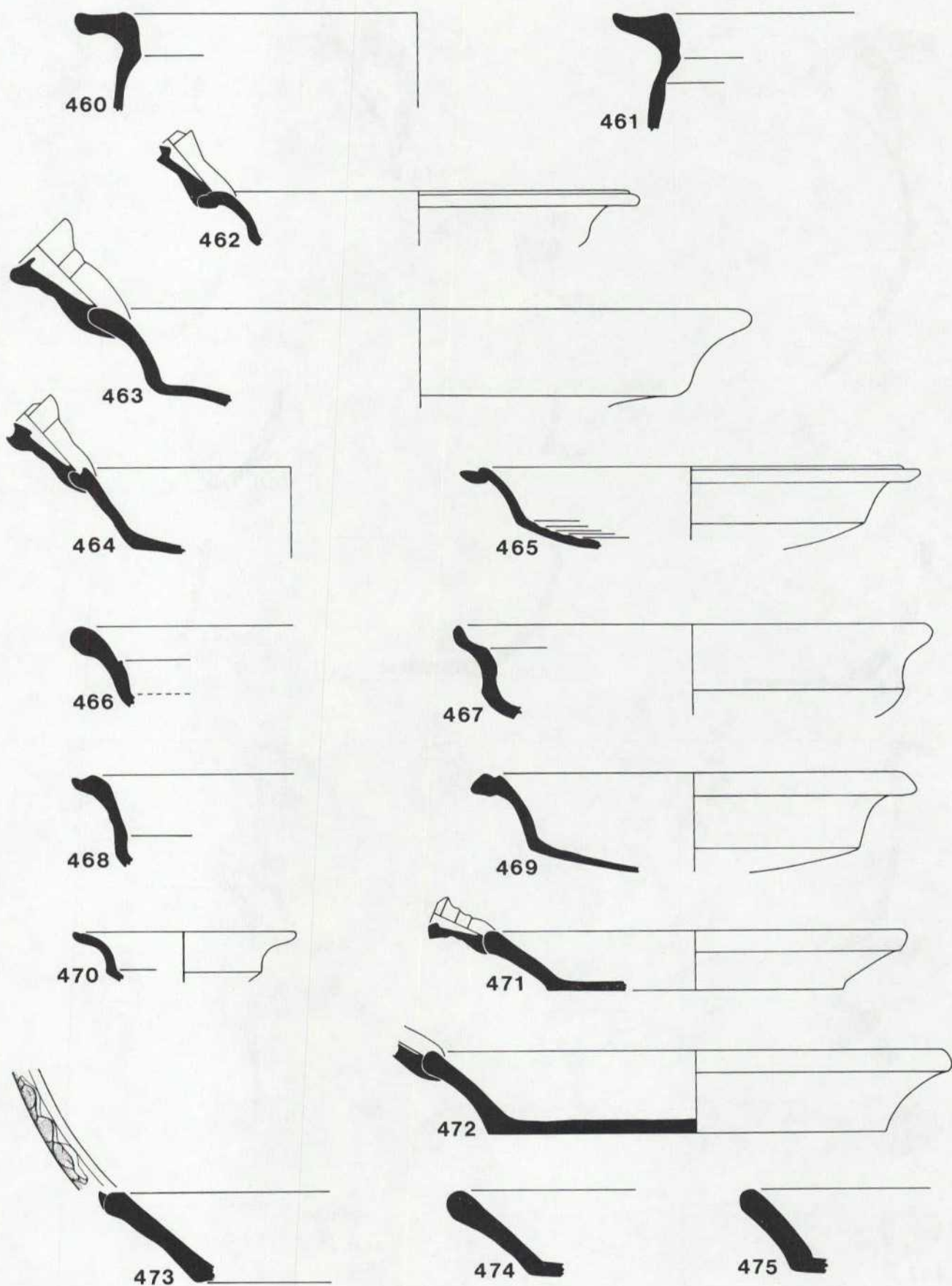


Fig. 101. Early Roman Cooking Wares. (Scale 1:3).

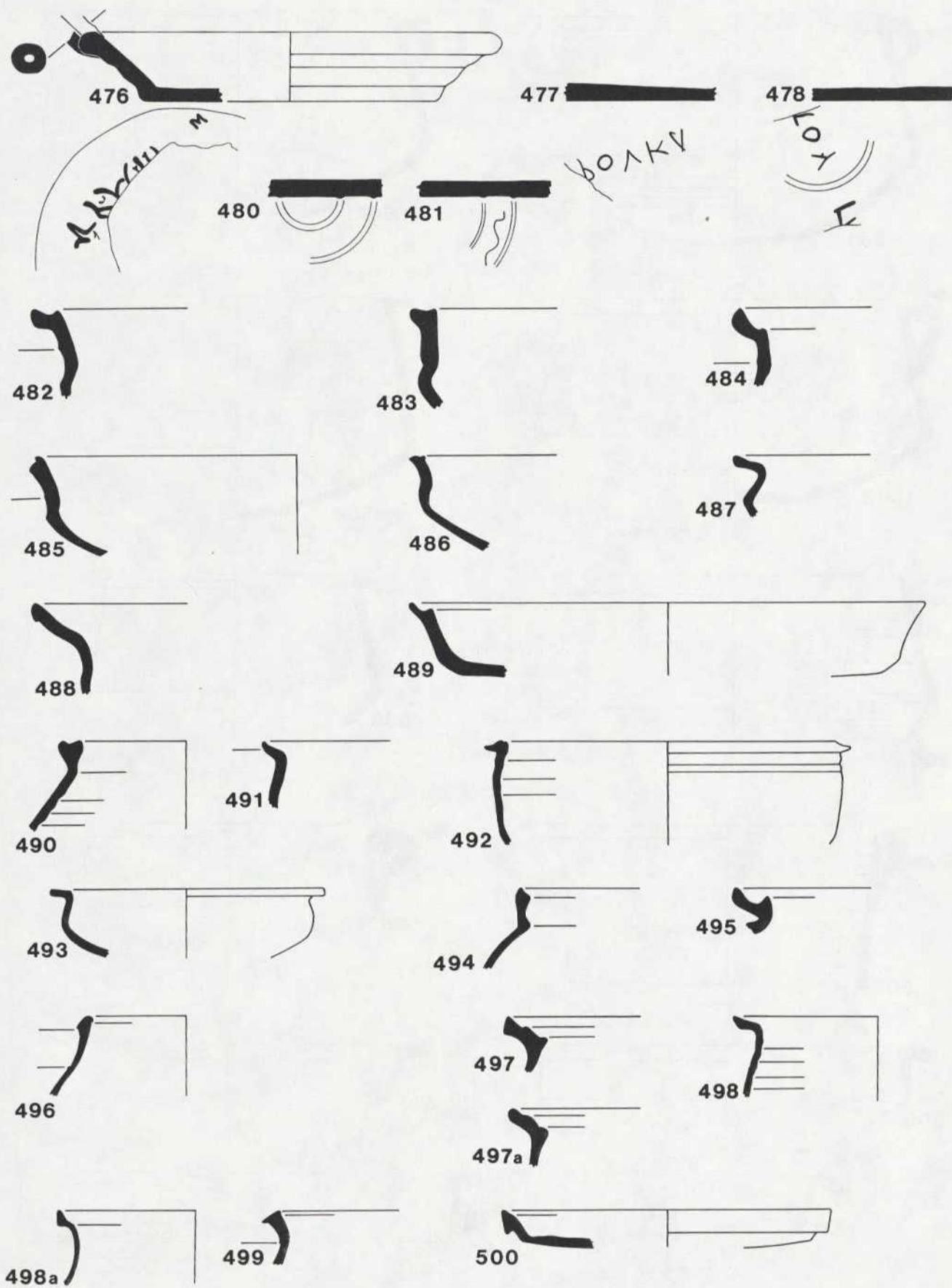
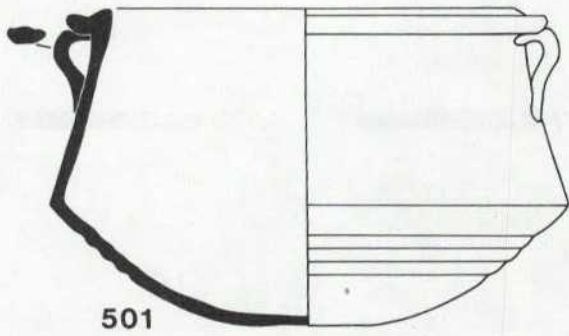
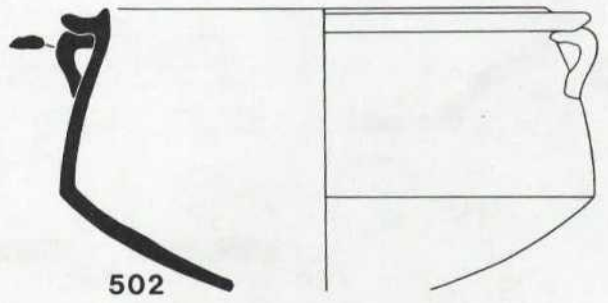


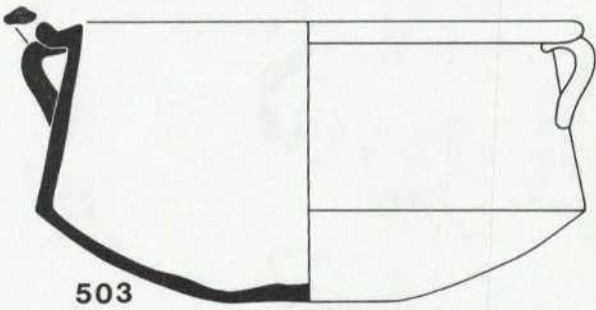
Fig. 102. Early Roman Cooking Wares. (Scale 1:3).



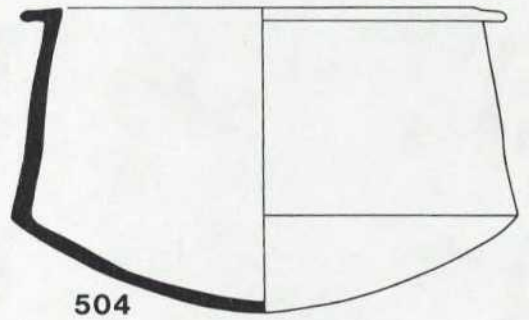
501



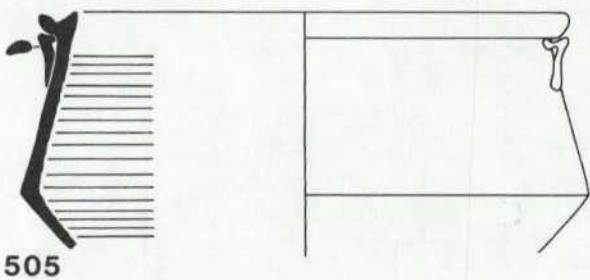
502



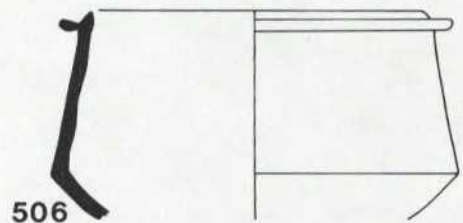
503



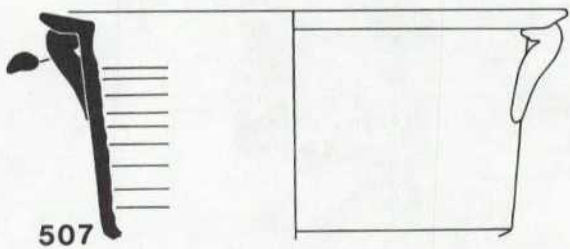
504



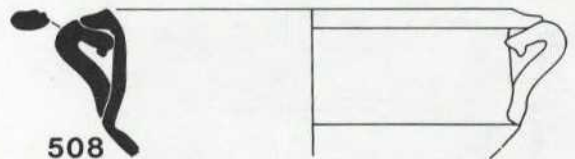
505



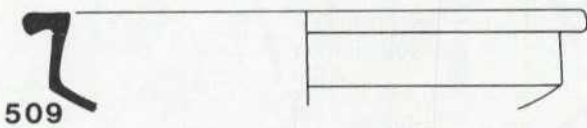
506



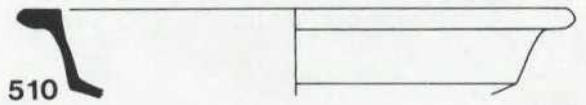
507



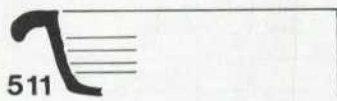
508



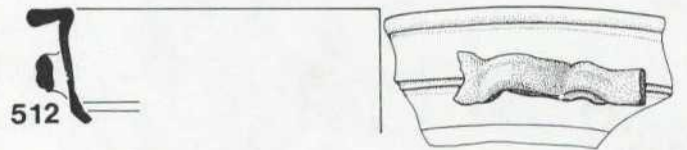
509



510



511



512

Fig. 103. Mid Roman Cooking Wares. (Scale 1:3).



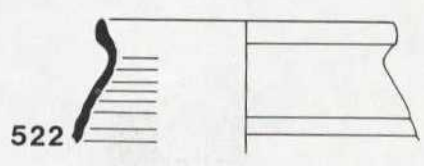
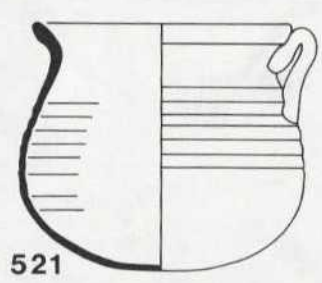
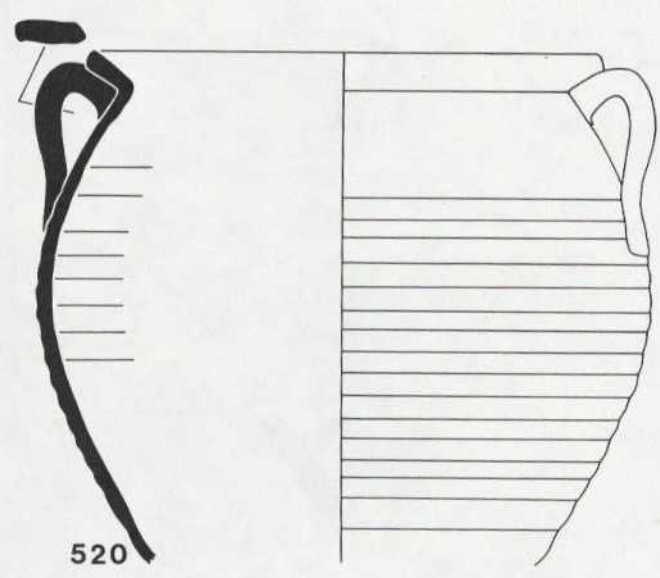
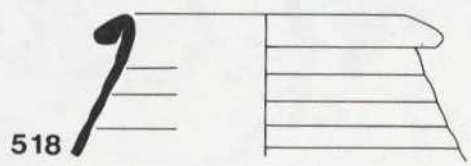
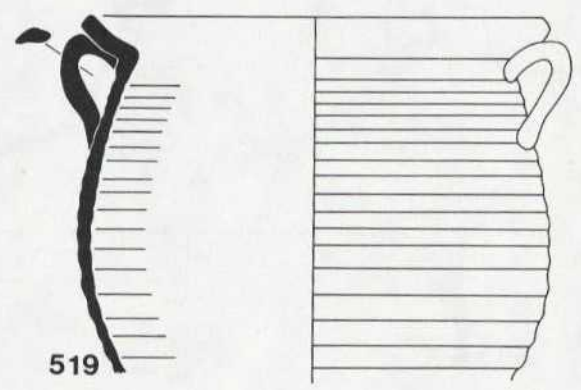
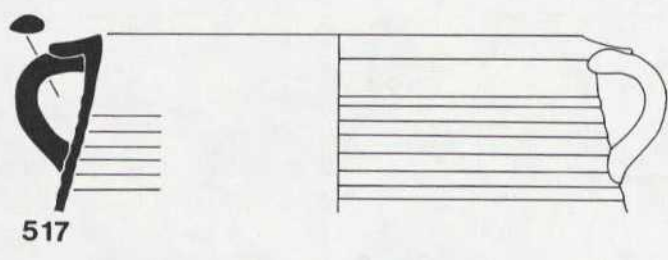
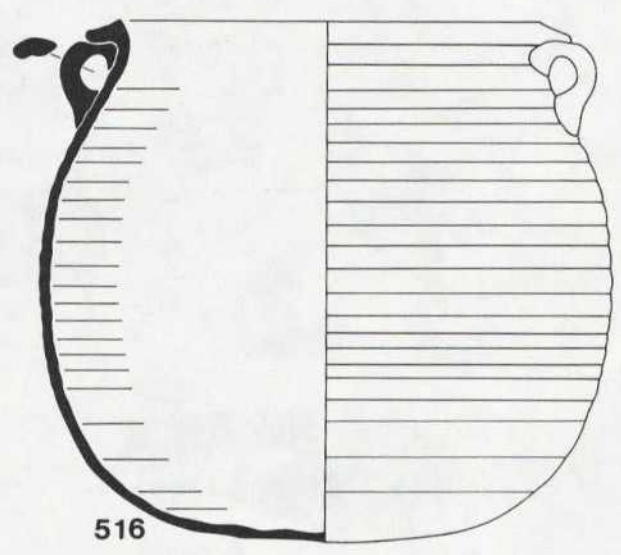
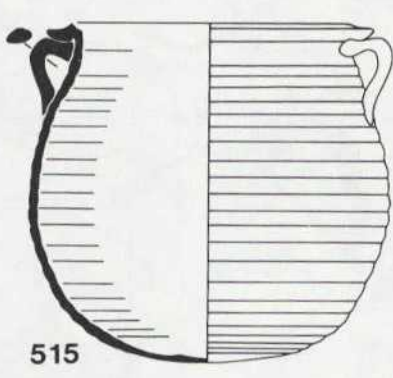
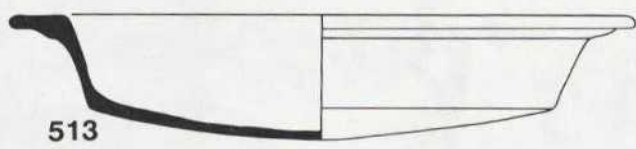


Fig. 104. Mid Roman Cooking Wares. (Scale 1:3).

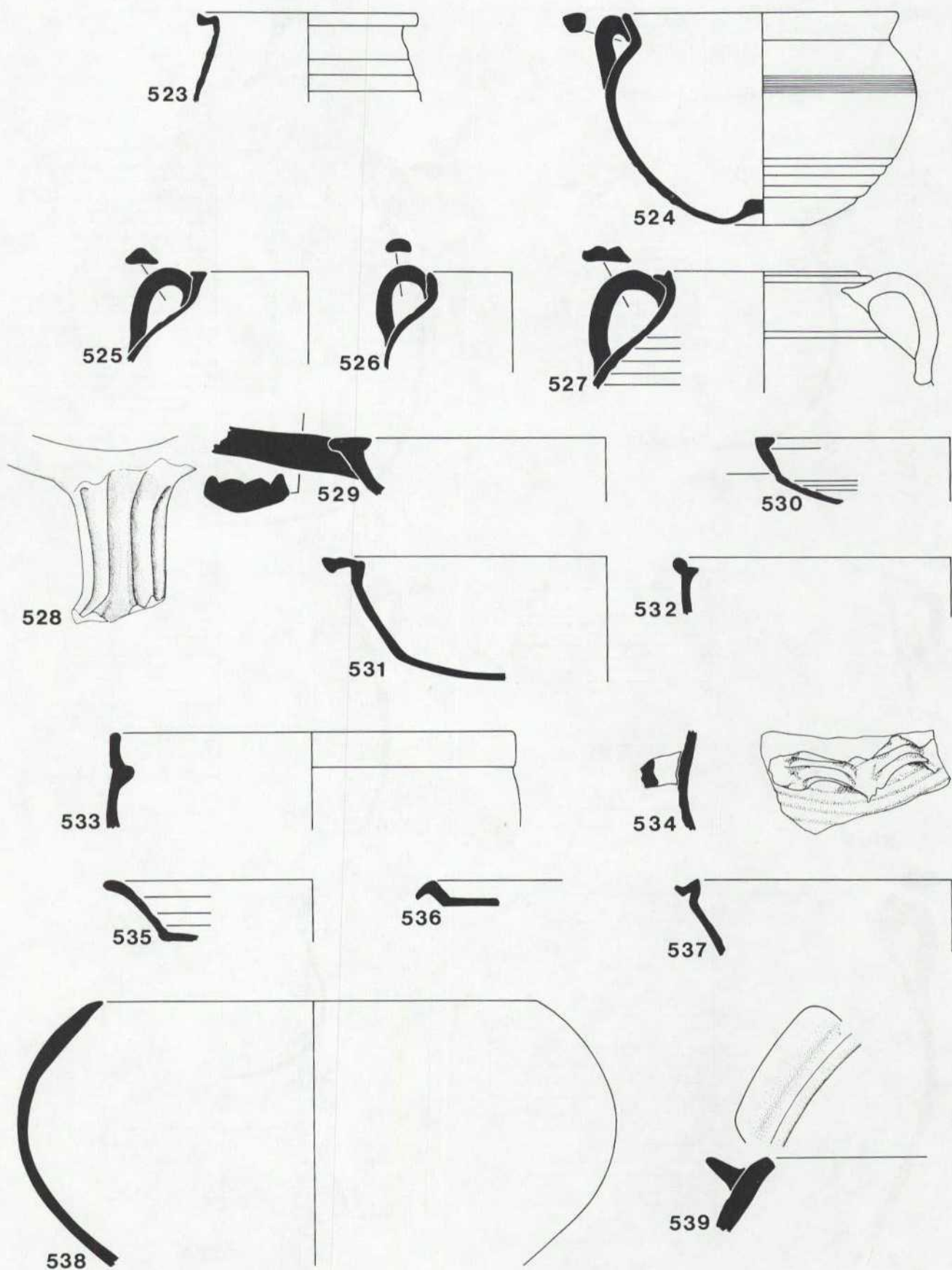


Fig. 105. Mid and Late Roman Cooking Wares. (Scale 1:3).

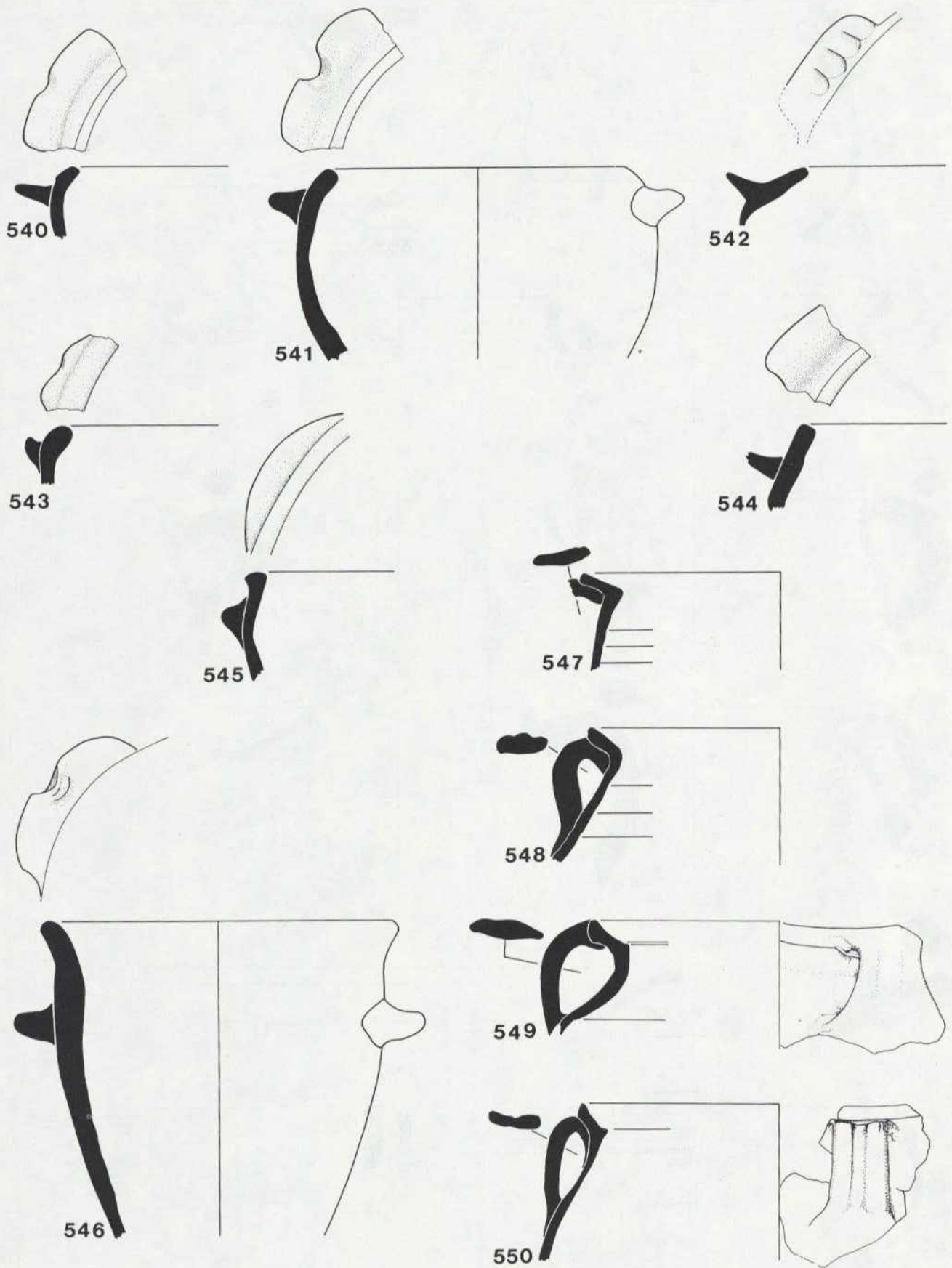


Fig. 106. Late Roman Cooking Wares. (Scale 1:3).

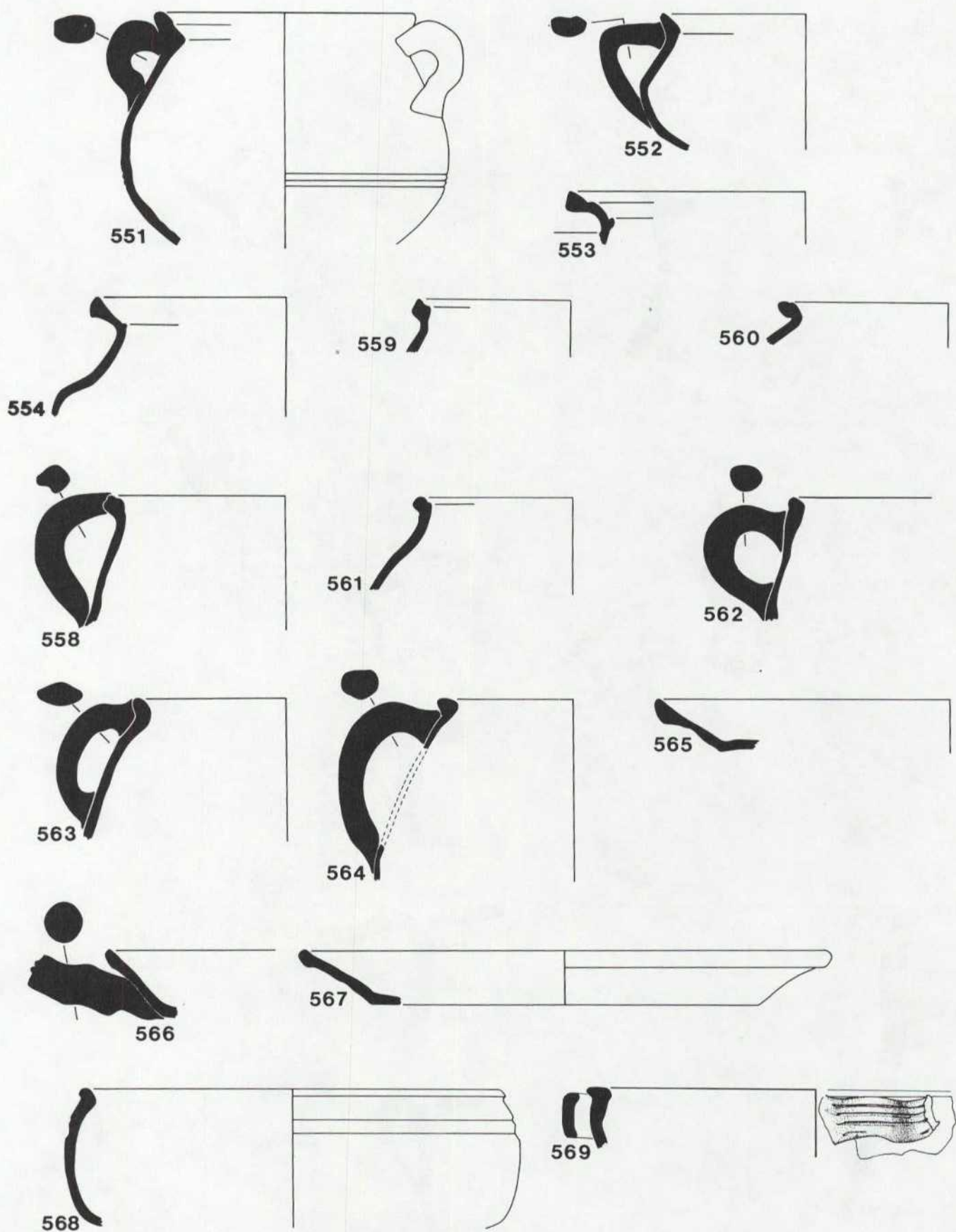


Fig. 107. Late Roman Cooking Wares. (Scale 1:3).

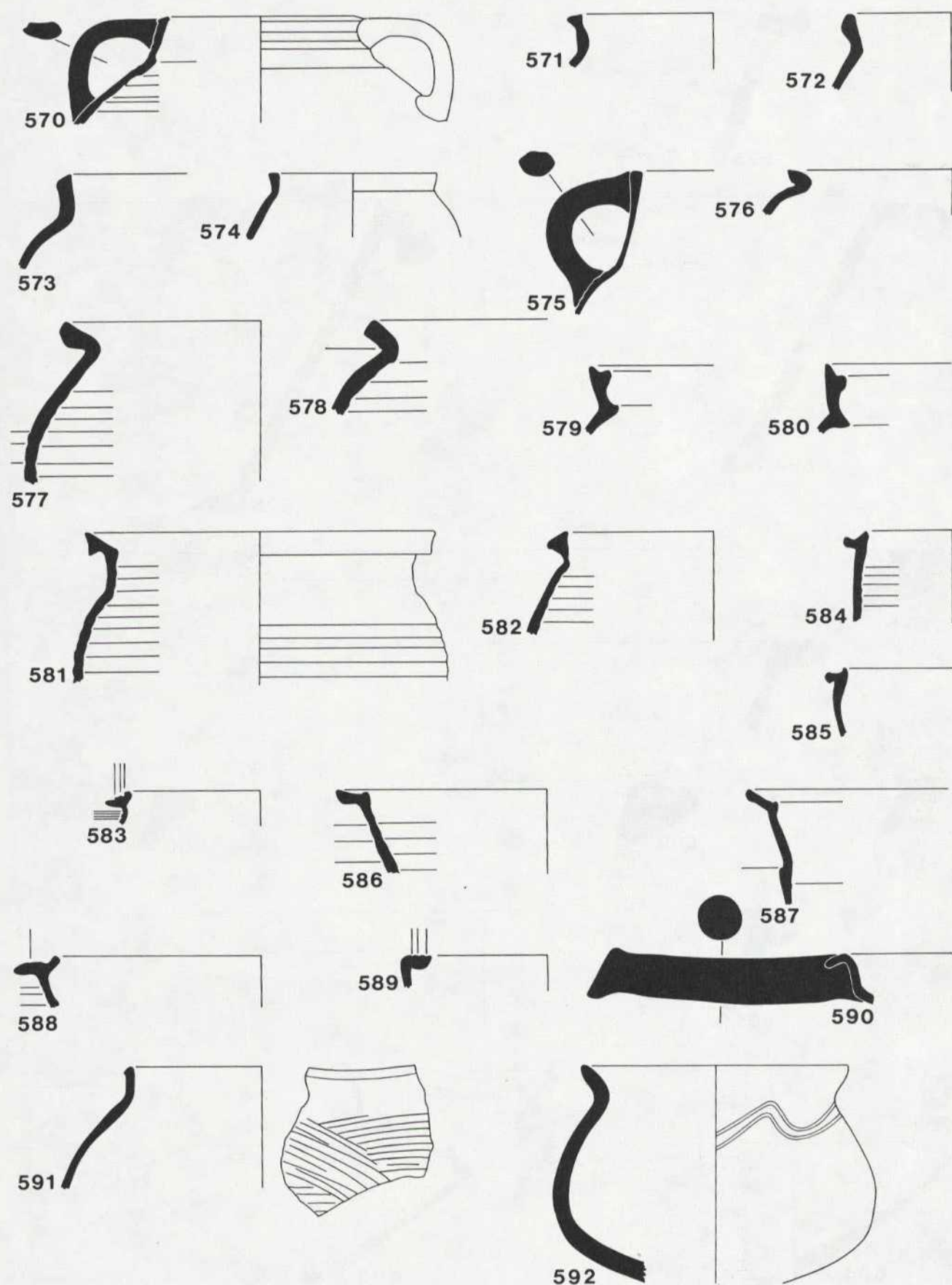


Fig. 108. Late Roman Cooking Wares. (Scale 1:3).

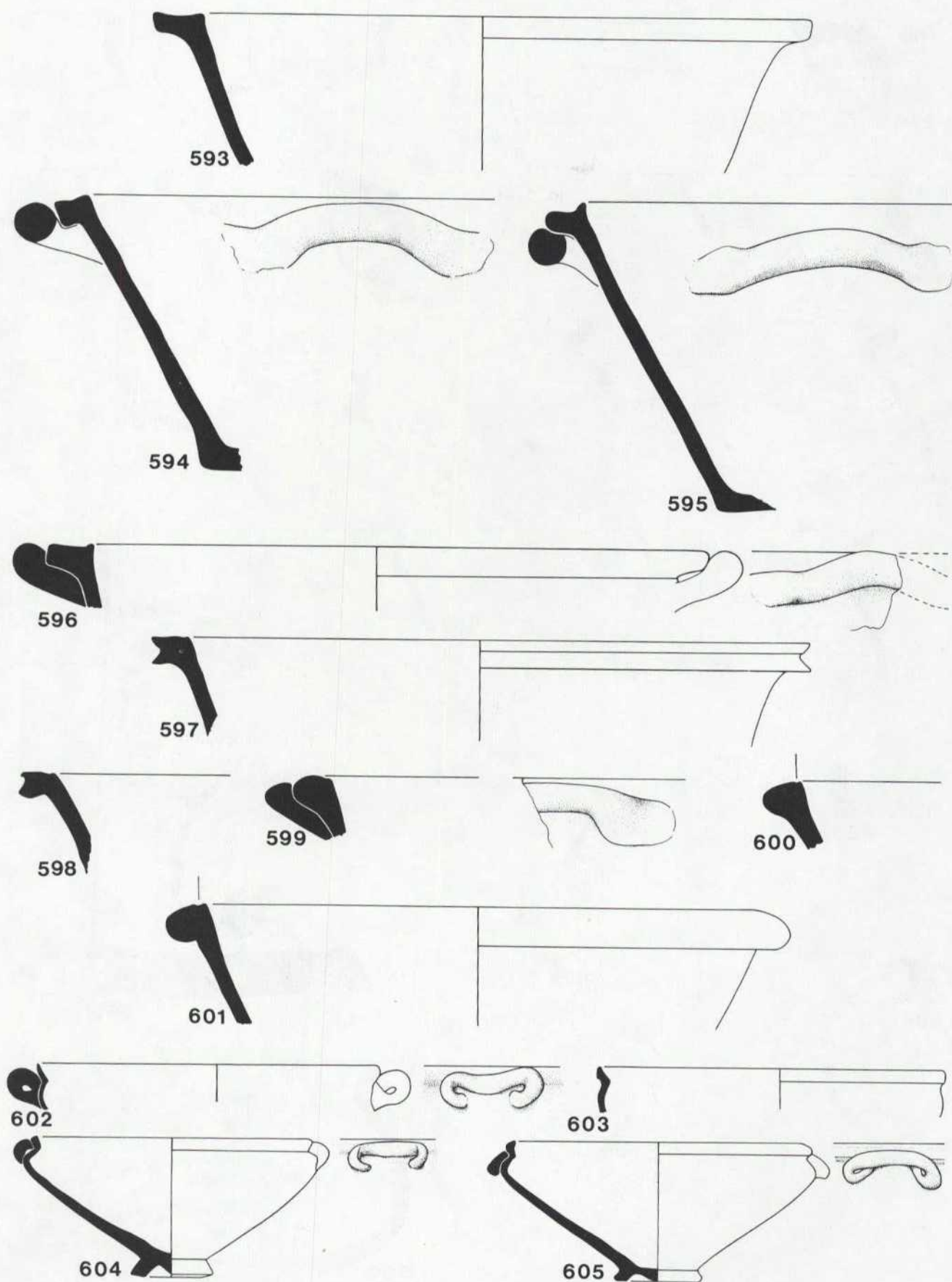


Fig. 109. Hellenistic Plain Wares. (Scale 1:3).

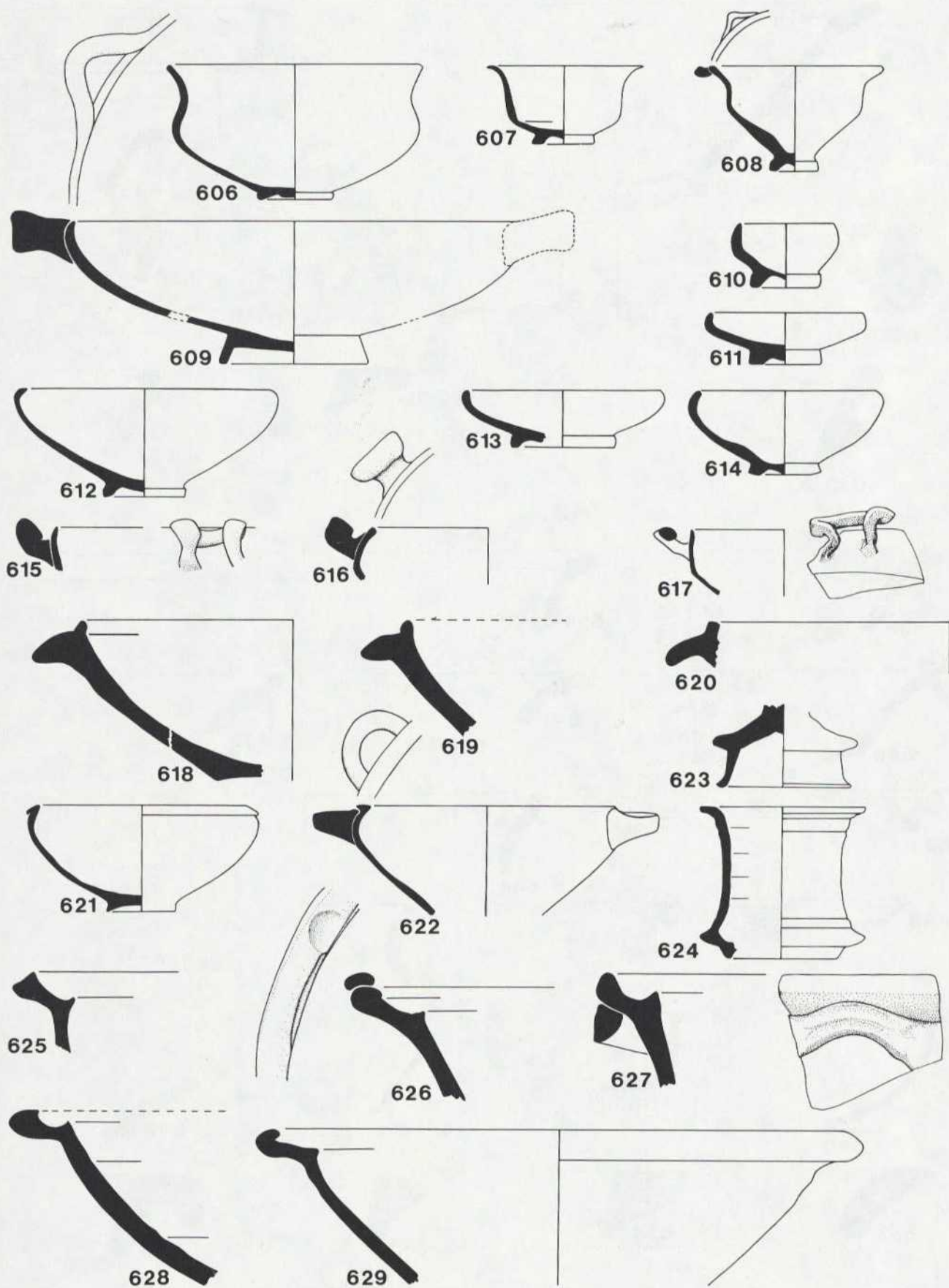


Fig. 110. Hellenistic Plain Wares. (Scale 1:3).

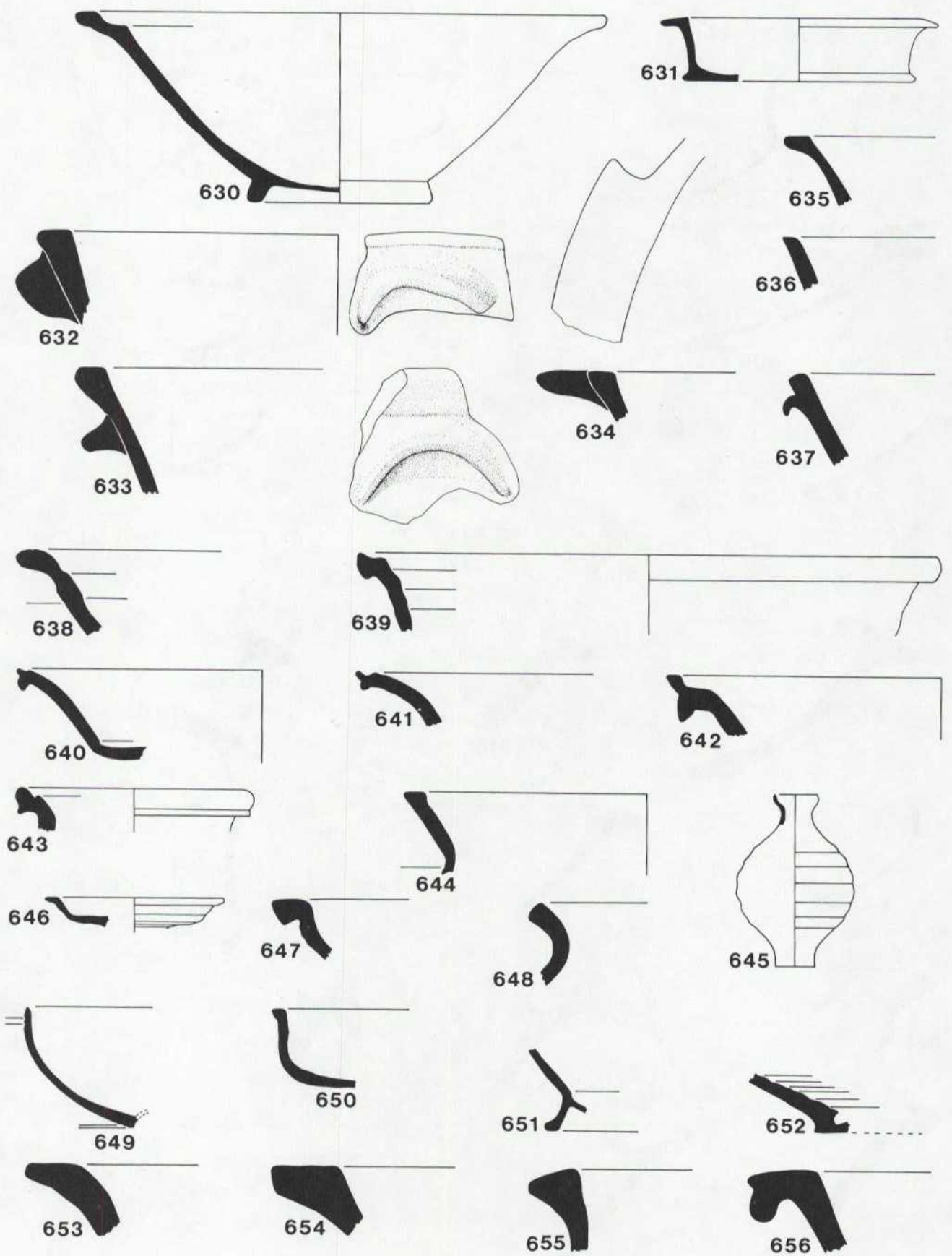


Fig. 111. Hellenistic Plain Wares. (Scale 1:3).



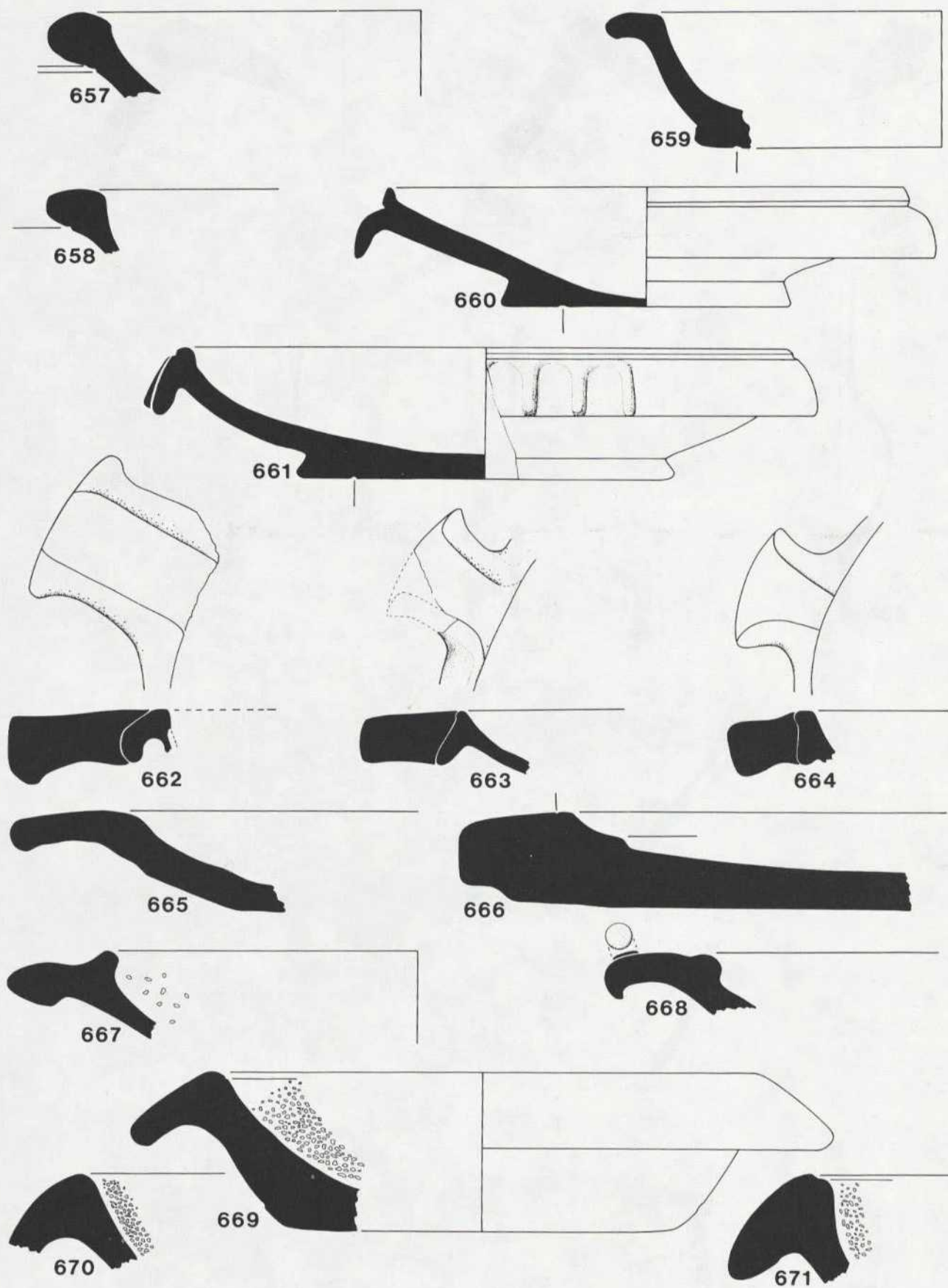


Fig. 112. *Mortaria*. (Scale 1:3).

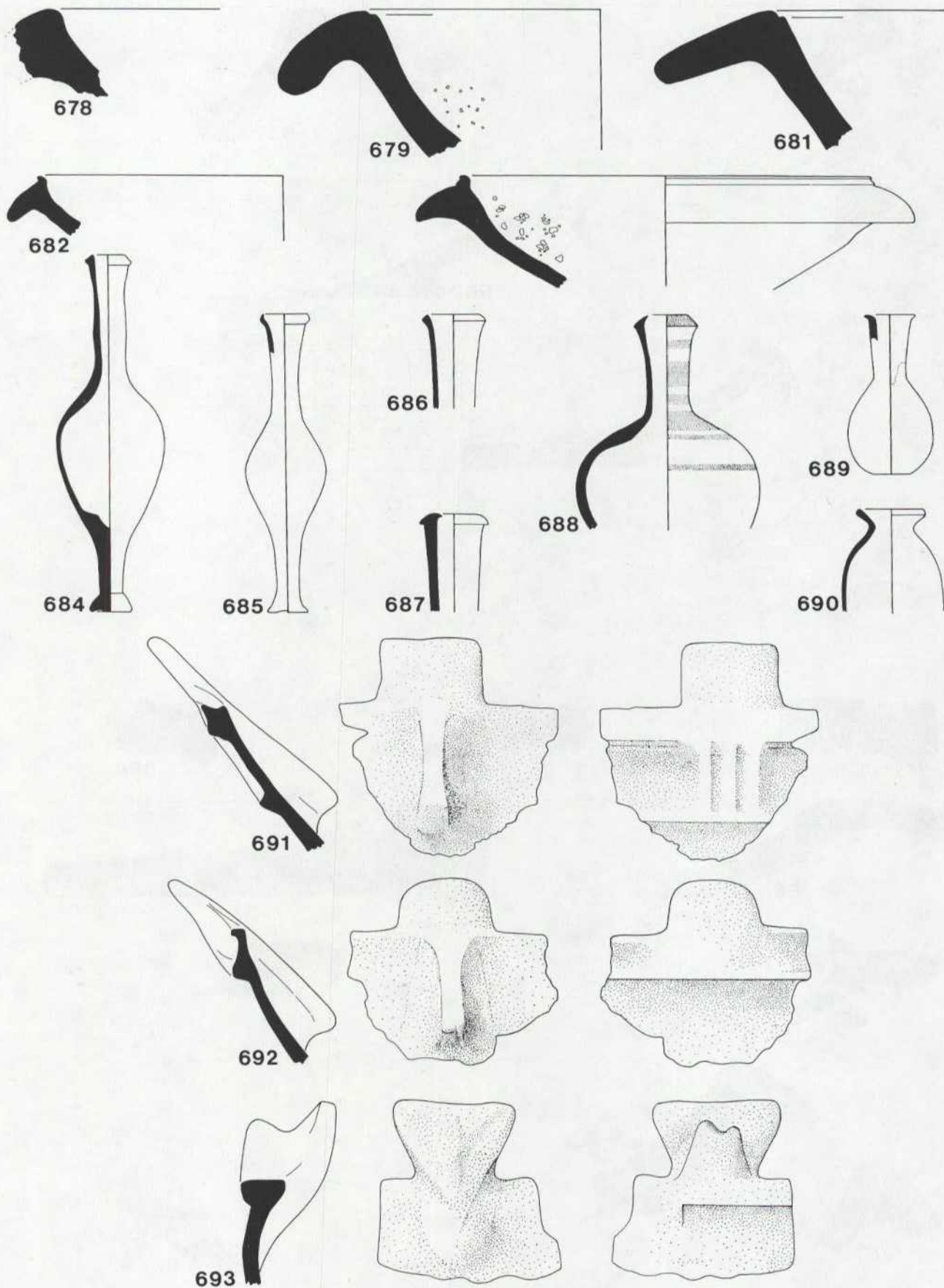


Fig. 113. *Mortaria, Unguentaria and Braziers.* (Scale 1:3).

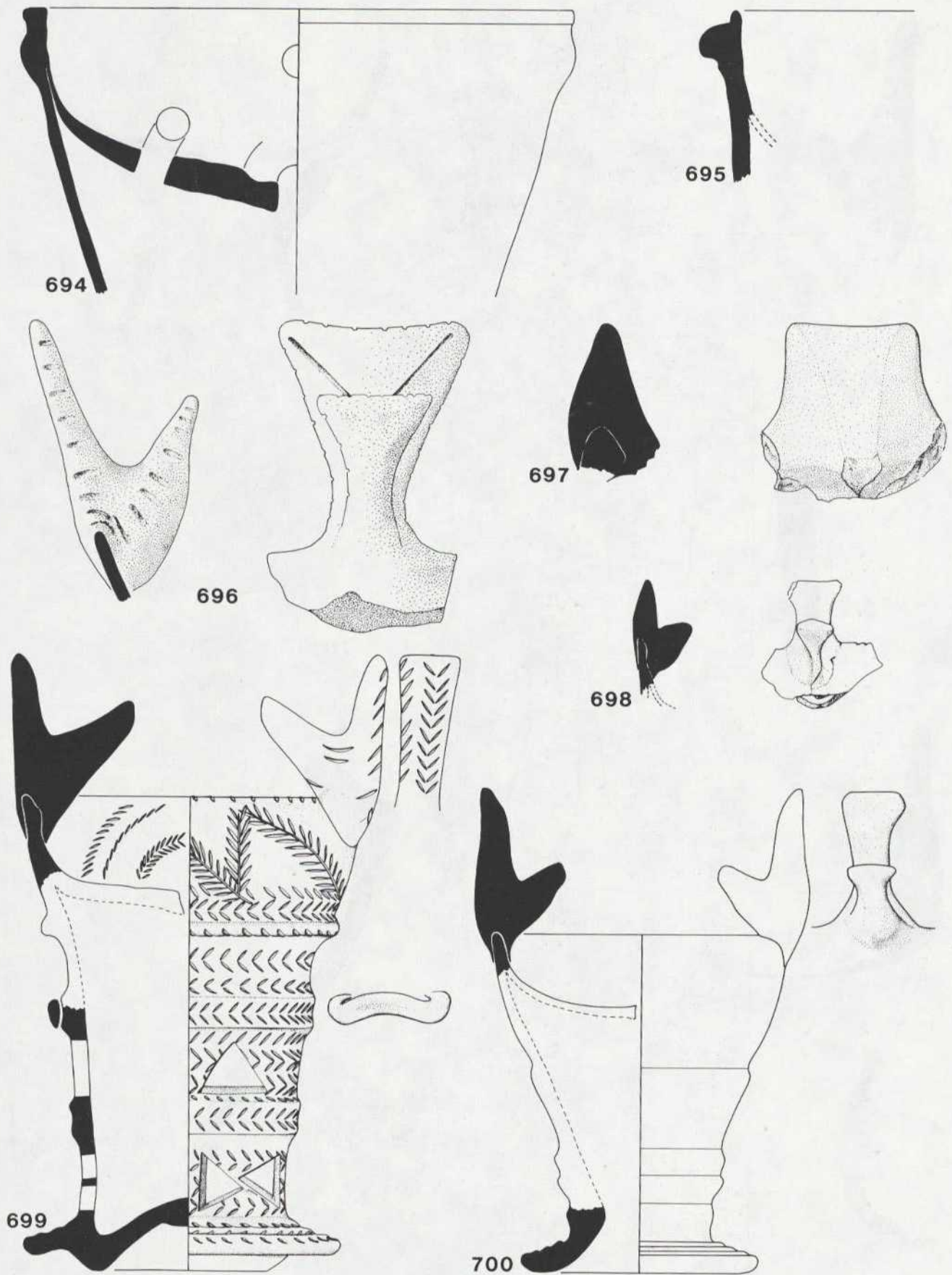


Fig. 114. Braziers. (Scale 1:3).

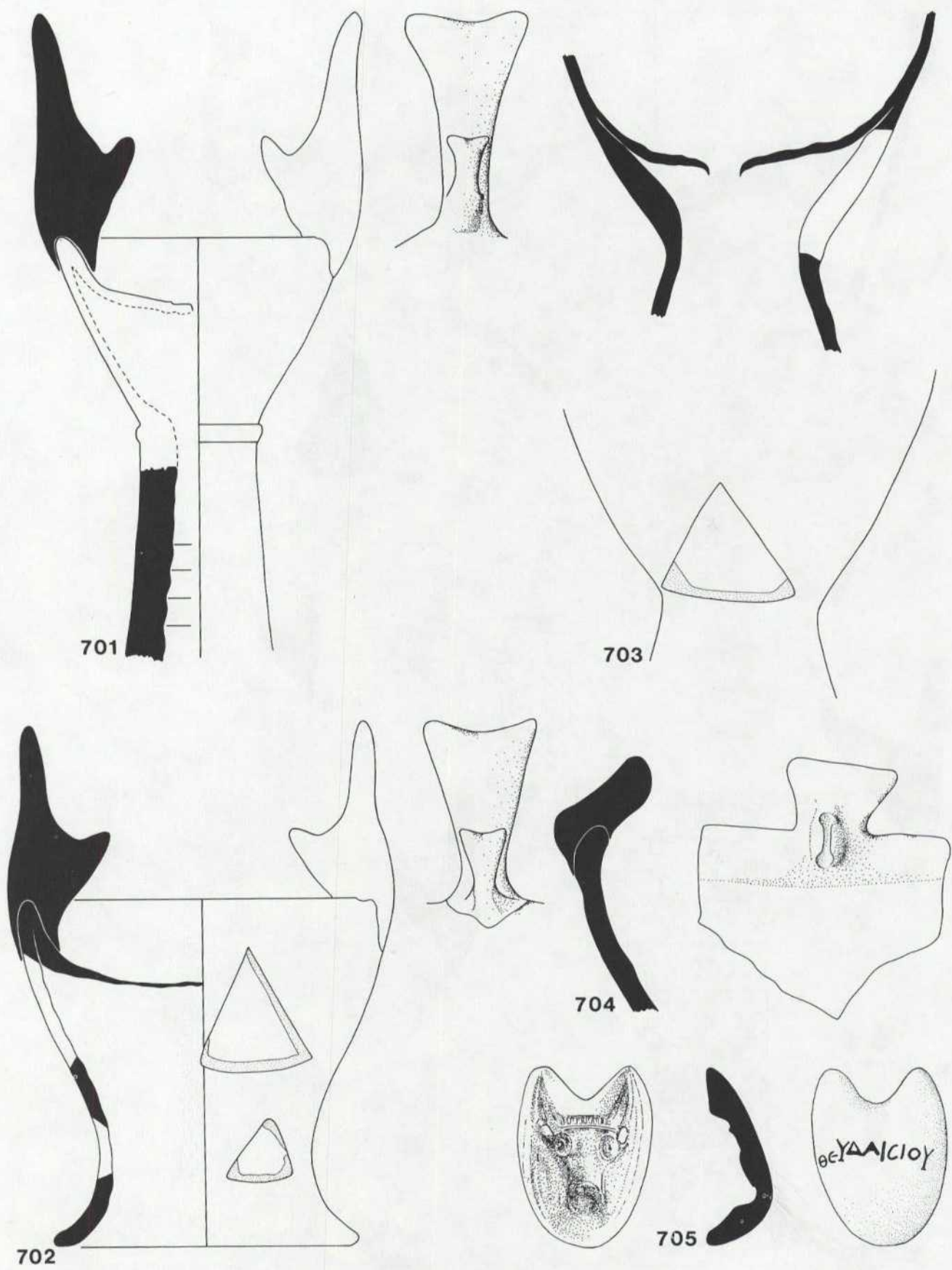


Fig. 115. Braziers. (Scale 1:3).

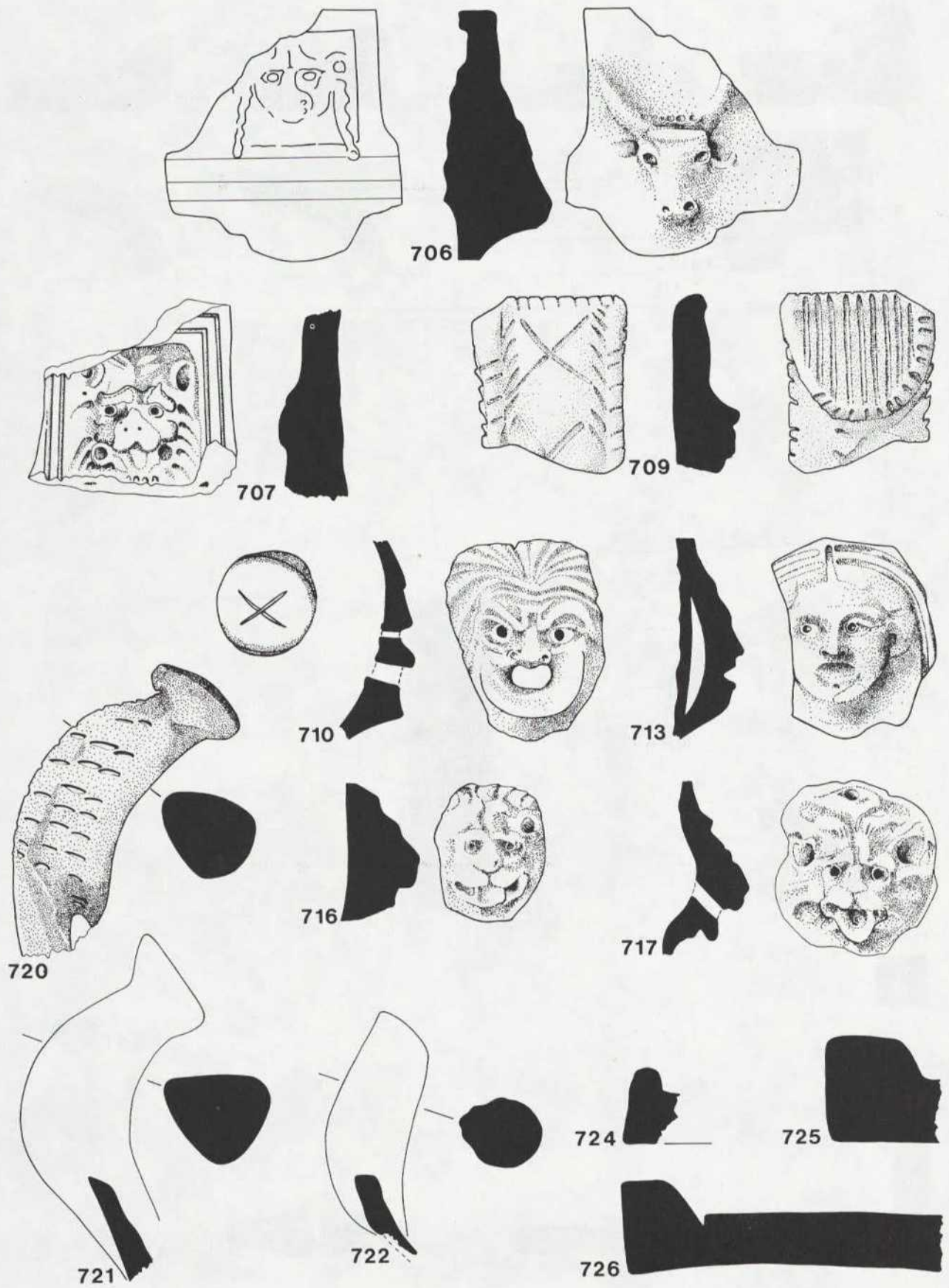


Fig. 116. Braziers and Tile. (Scale 1:3).

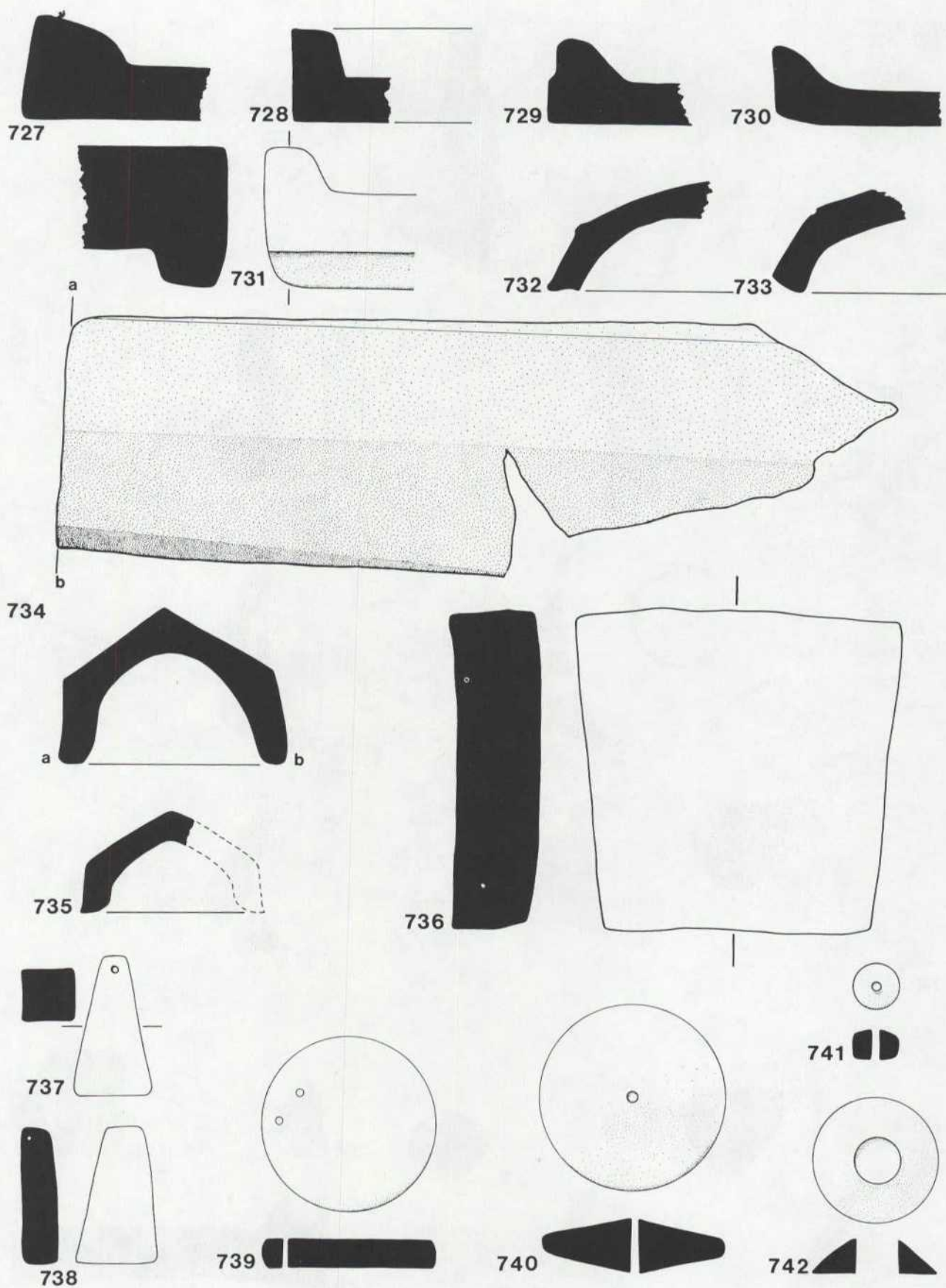


Fig. 117. Tile and Loomweights. (Scale 1:3).

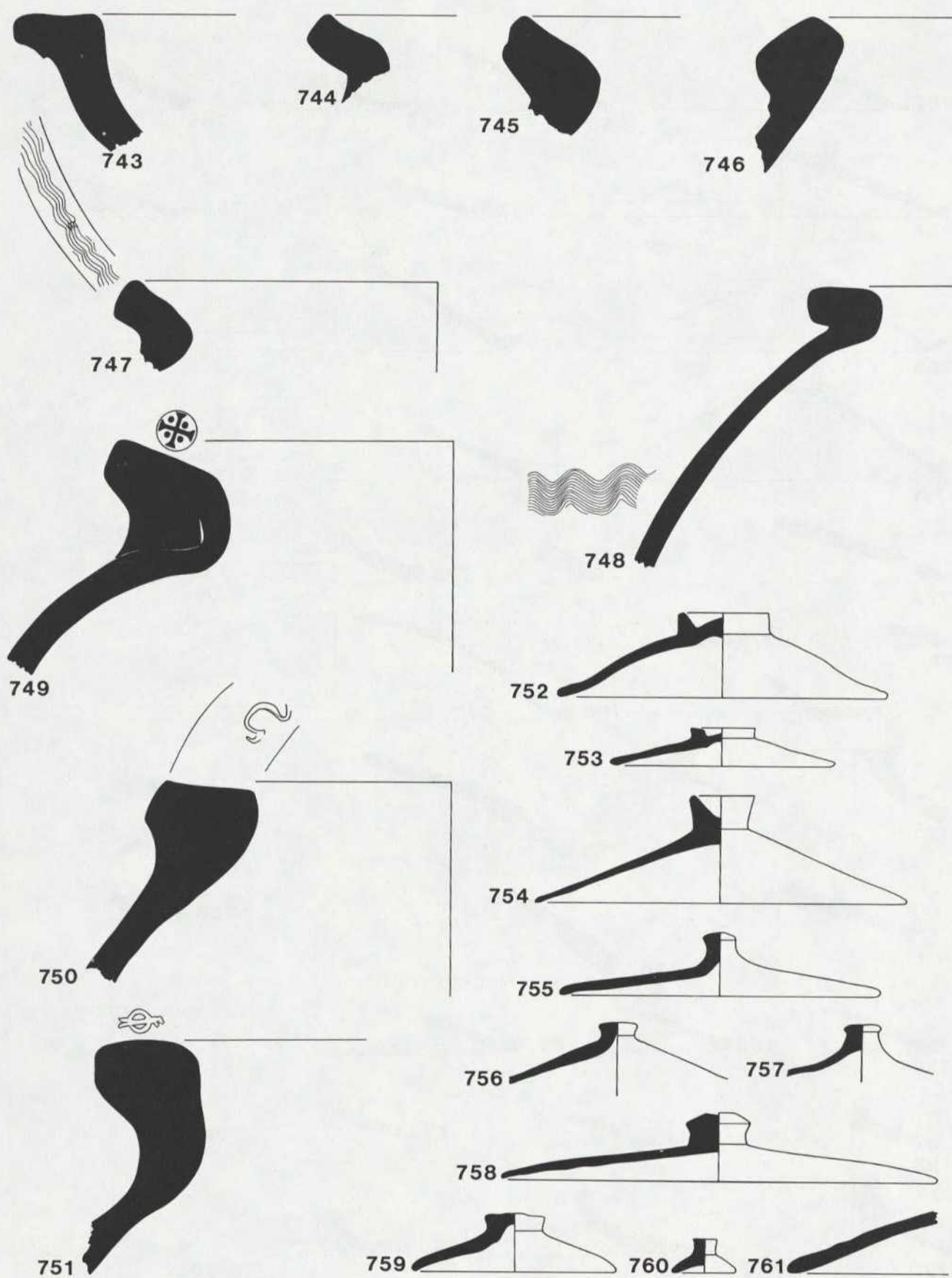


Fig. 118. *Dolia and Lids.* (Scale 1:3).

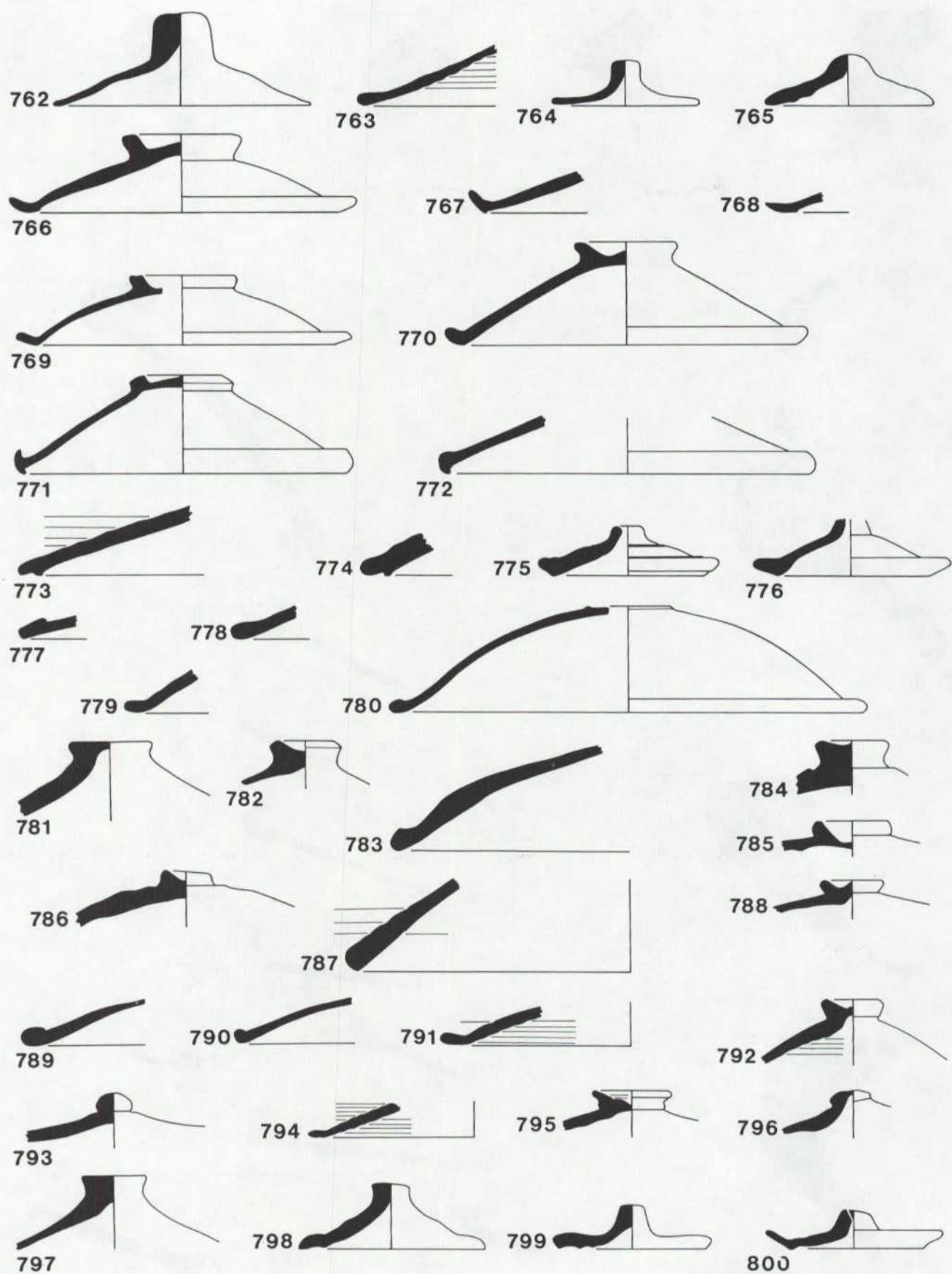


Fig. 119. Lids. (Scale 1:3).



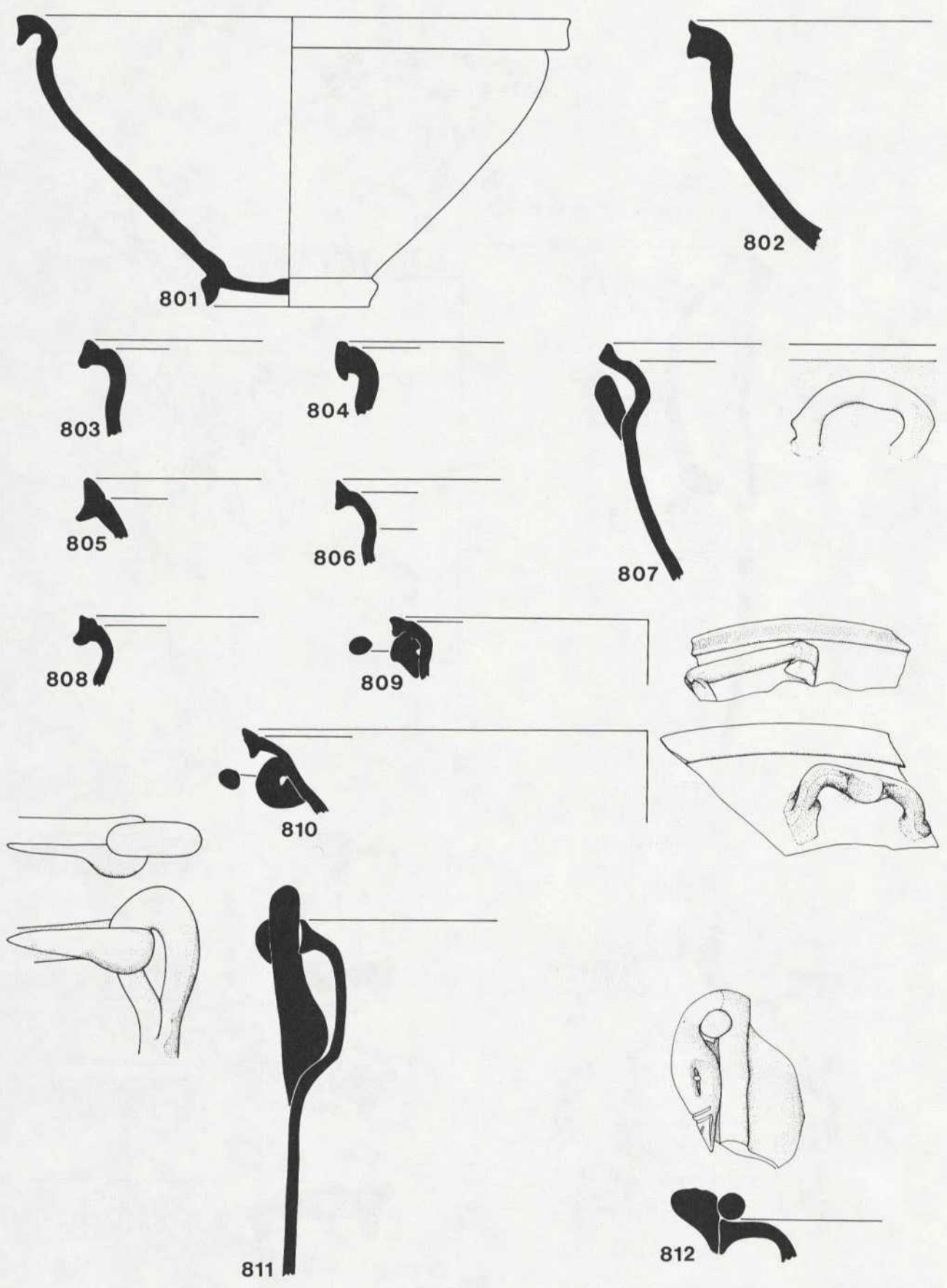


Fig. 120. Early Roman Plain Wares. (Scale 1:3).

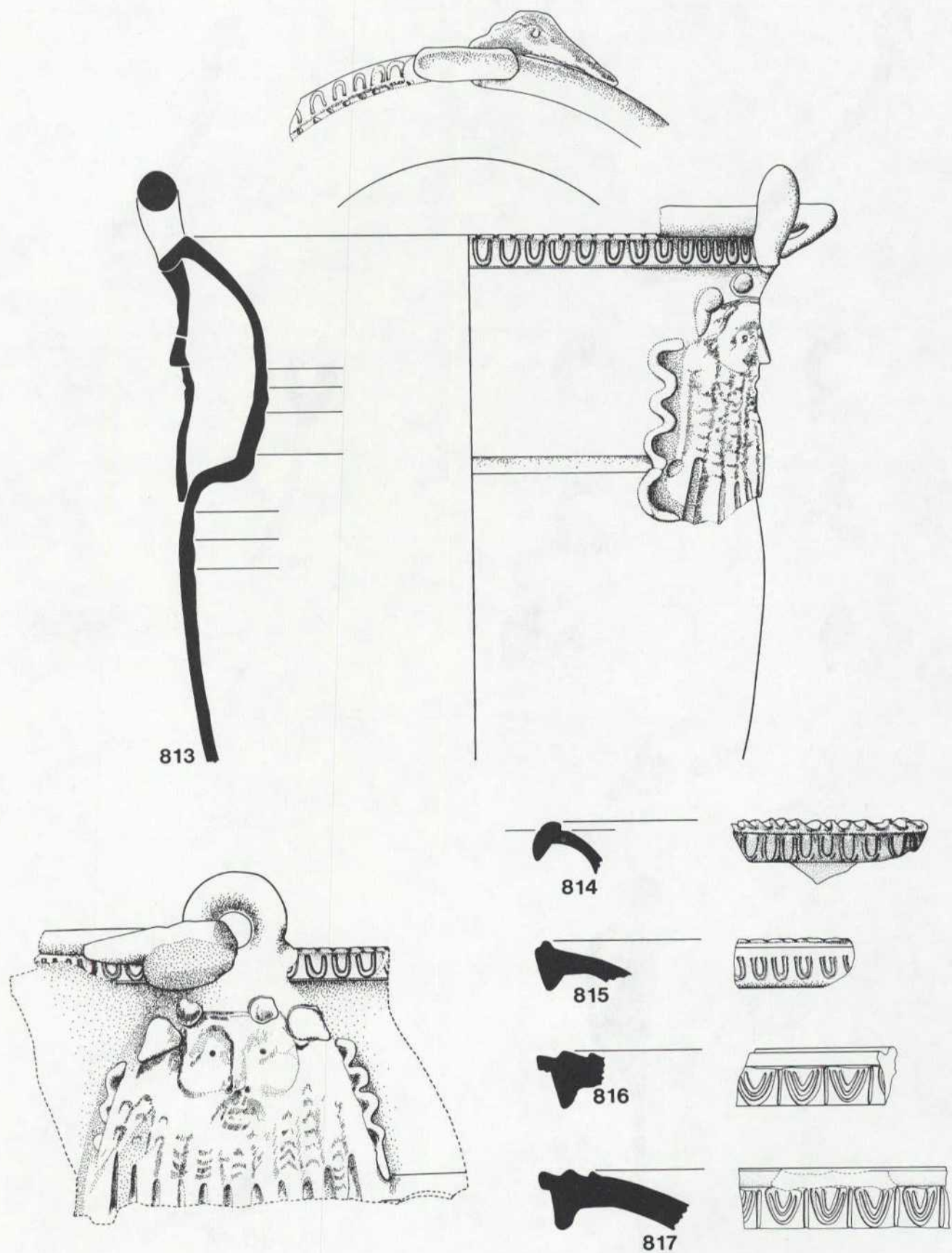


Fig. 121. Early Roman Plain Wares. (Scale 1:3).

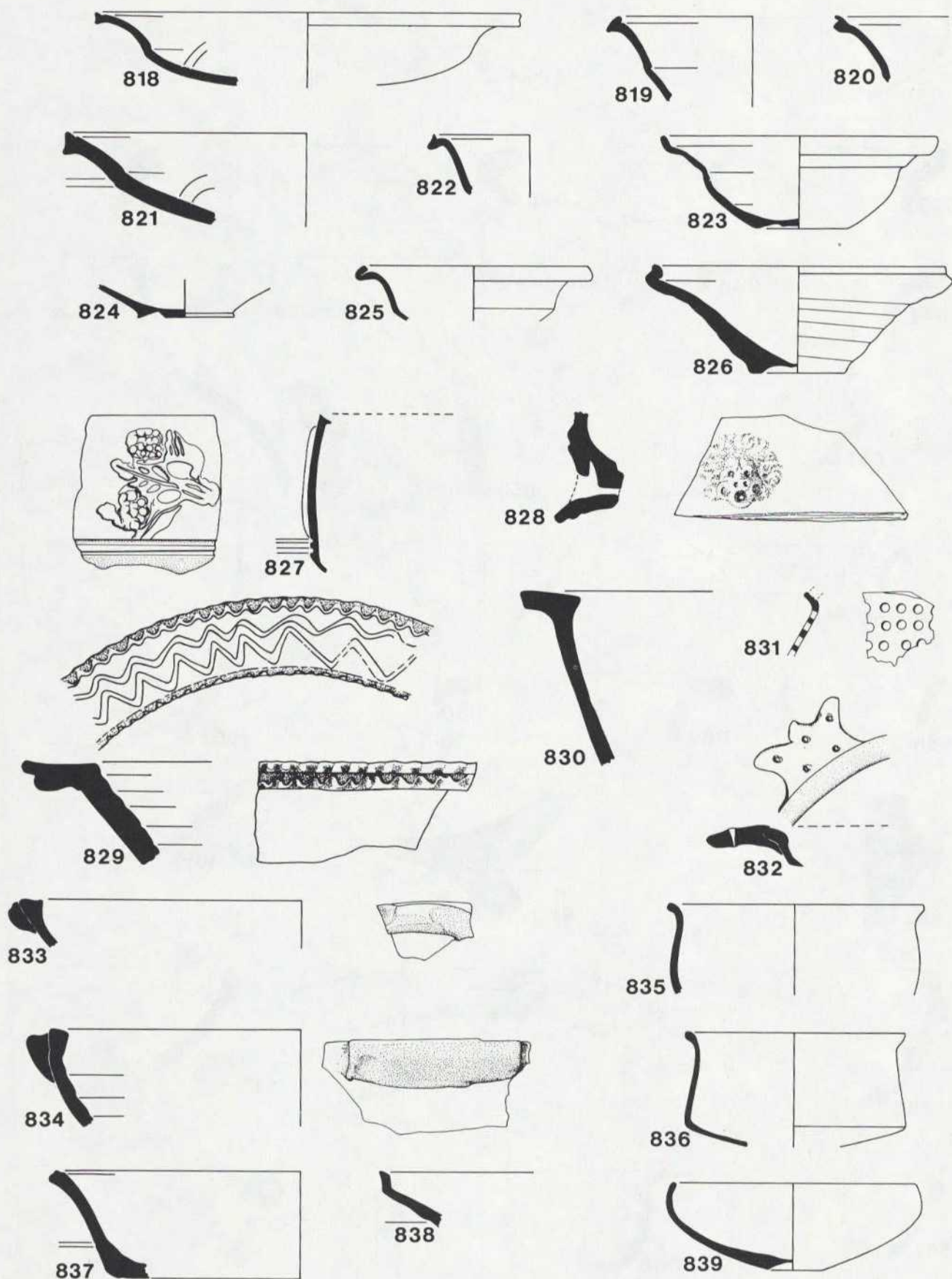


Fig. 122. Early Roman Plain Wares. (Scale 1:3).

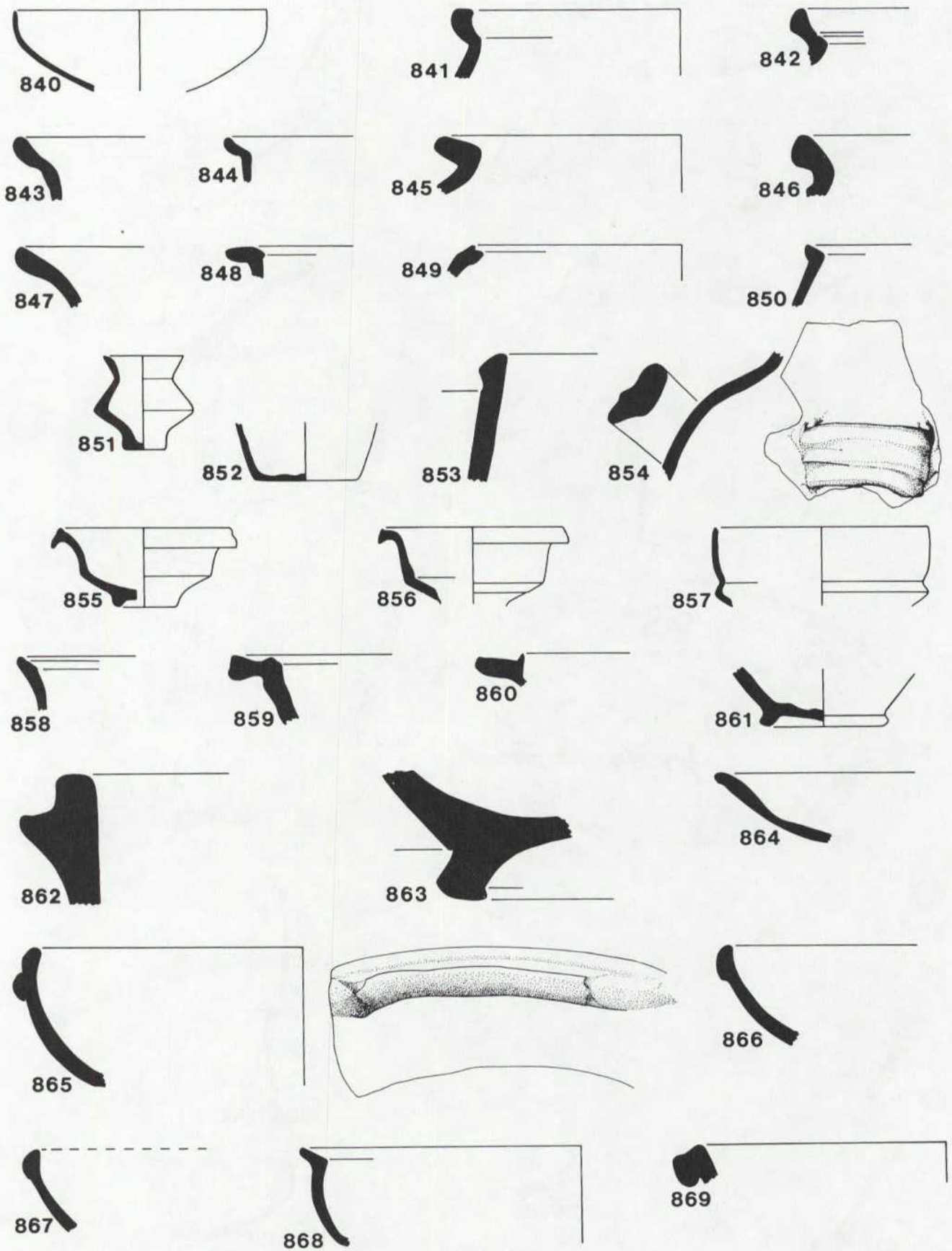


Fig. 123. Early Roman Plain Wares. (Scale 1:3).

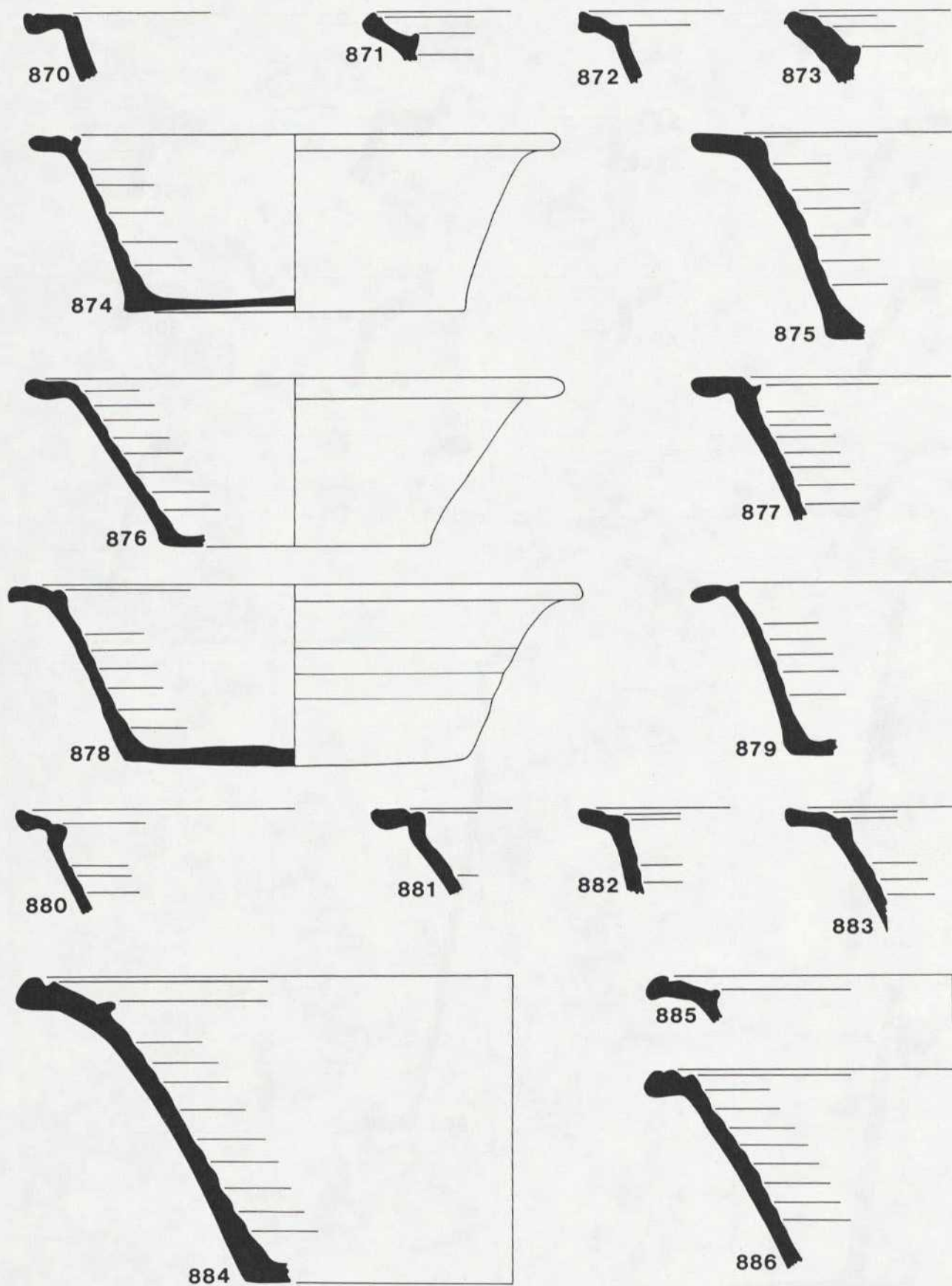


Fig. 124. Mid Roman Plain Wares. (Scale 1:3).

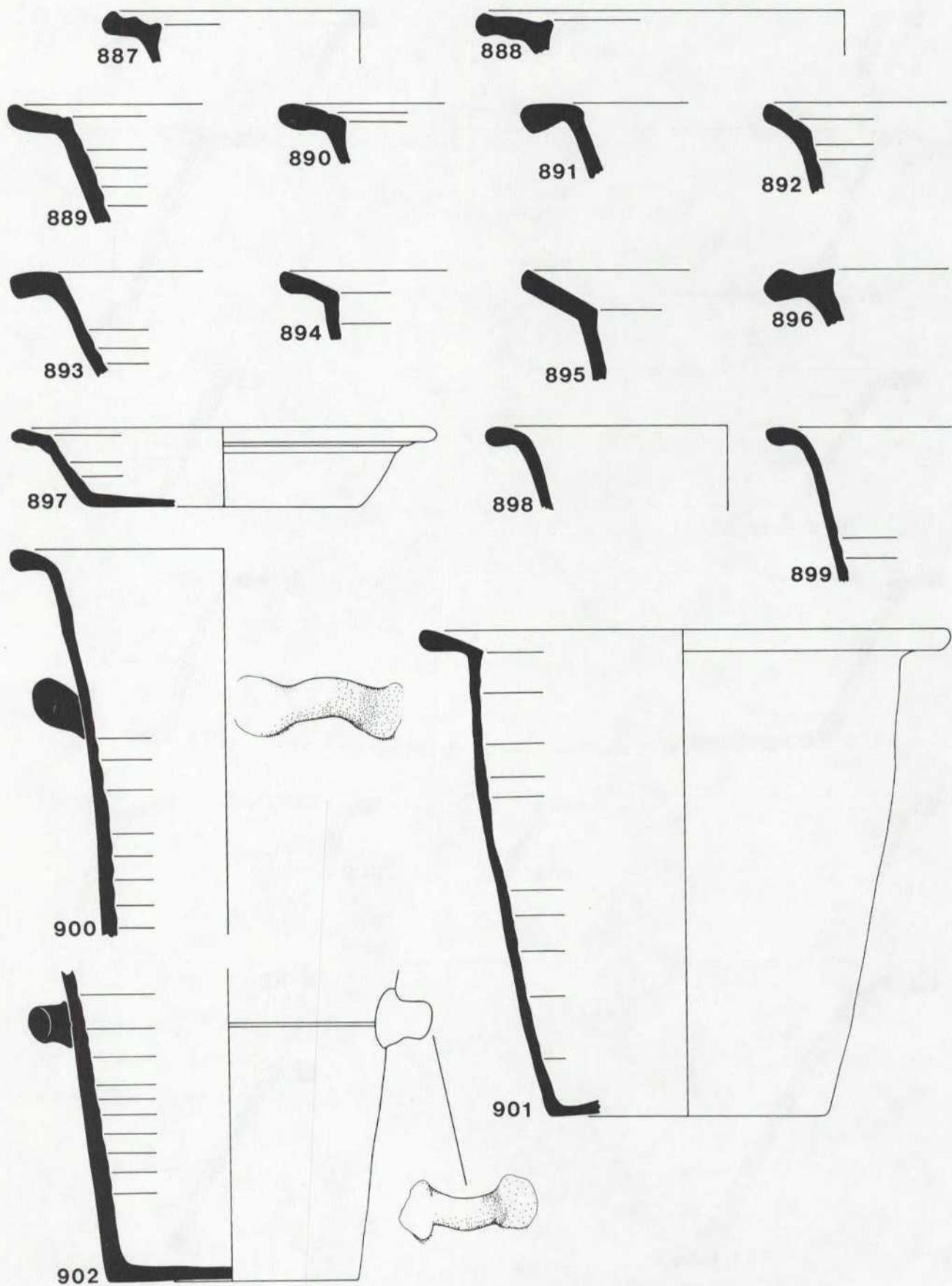


Fig. 125. Mid Roman Plain Wares. (Scale 1:3).

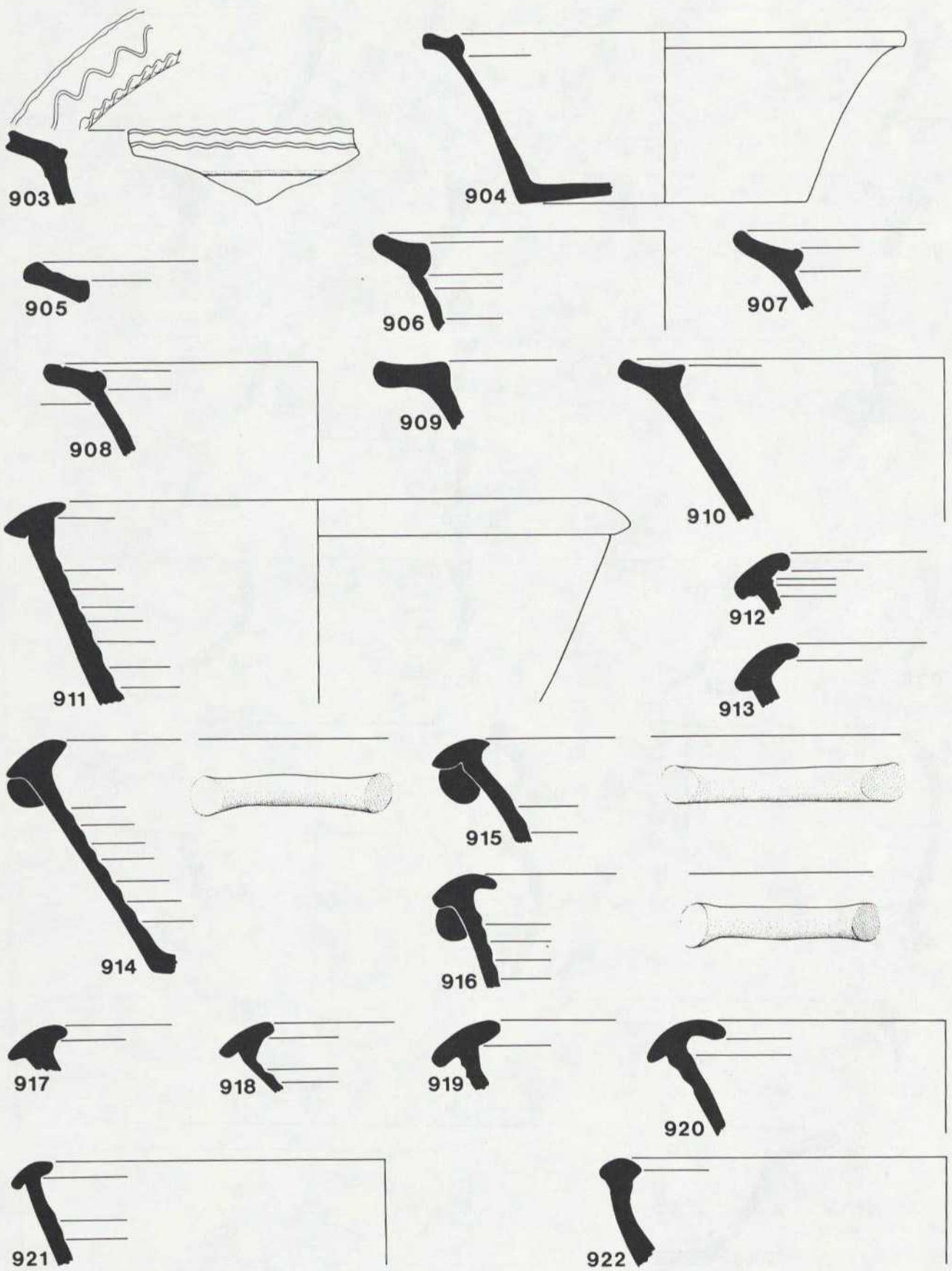


Fig. 126. Mid Roman Plain Wares. (Scale 1:3).

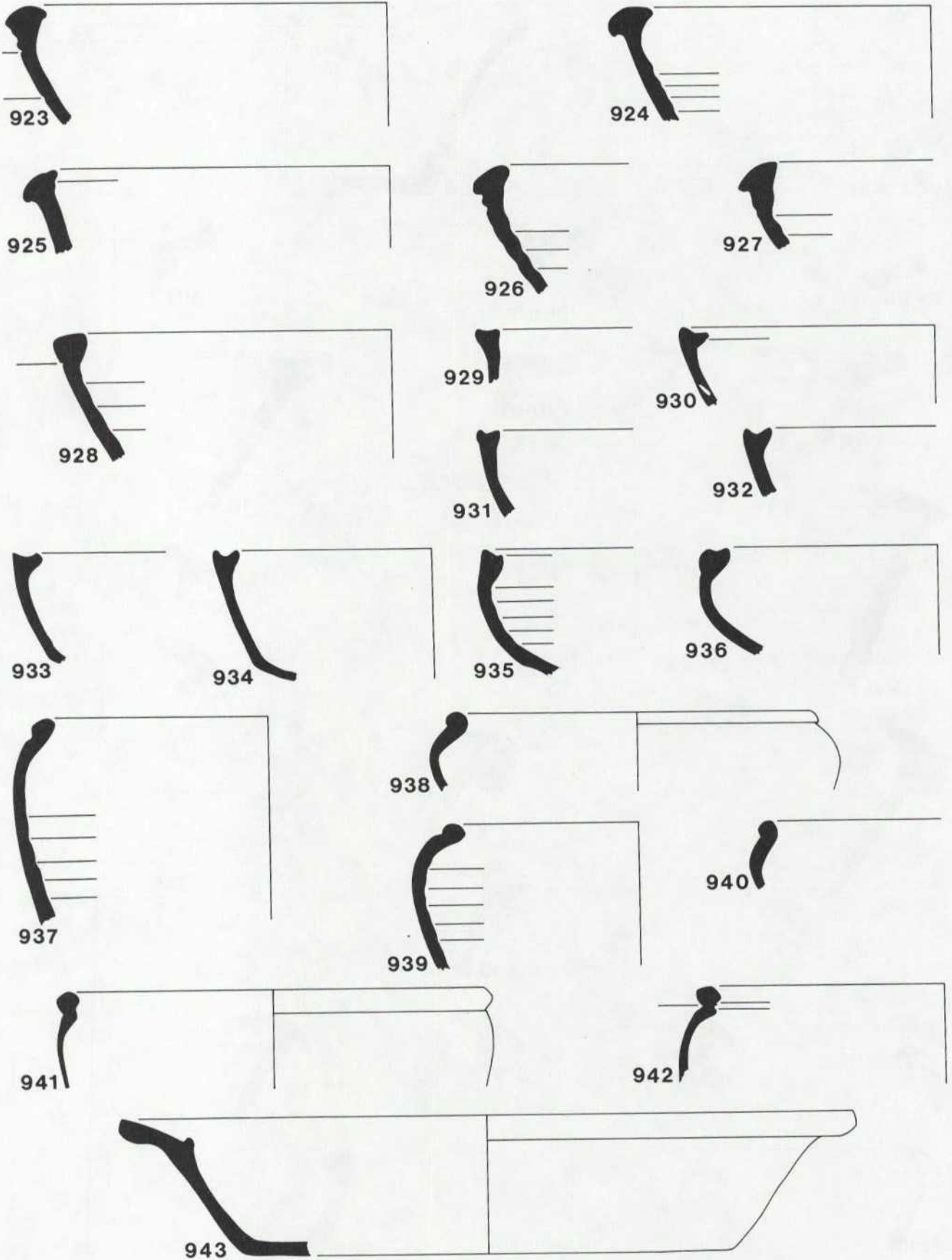


Fig. 127. Mid Roman Plain Wares. (Scale 1:3).



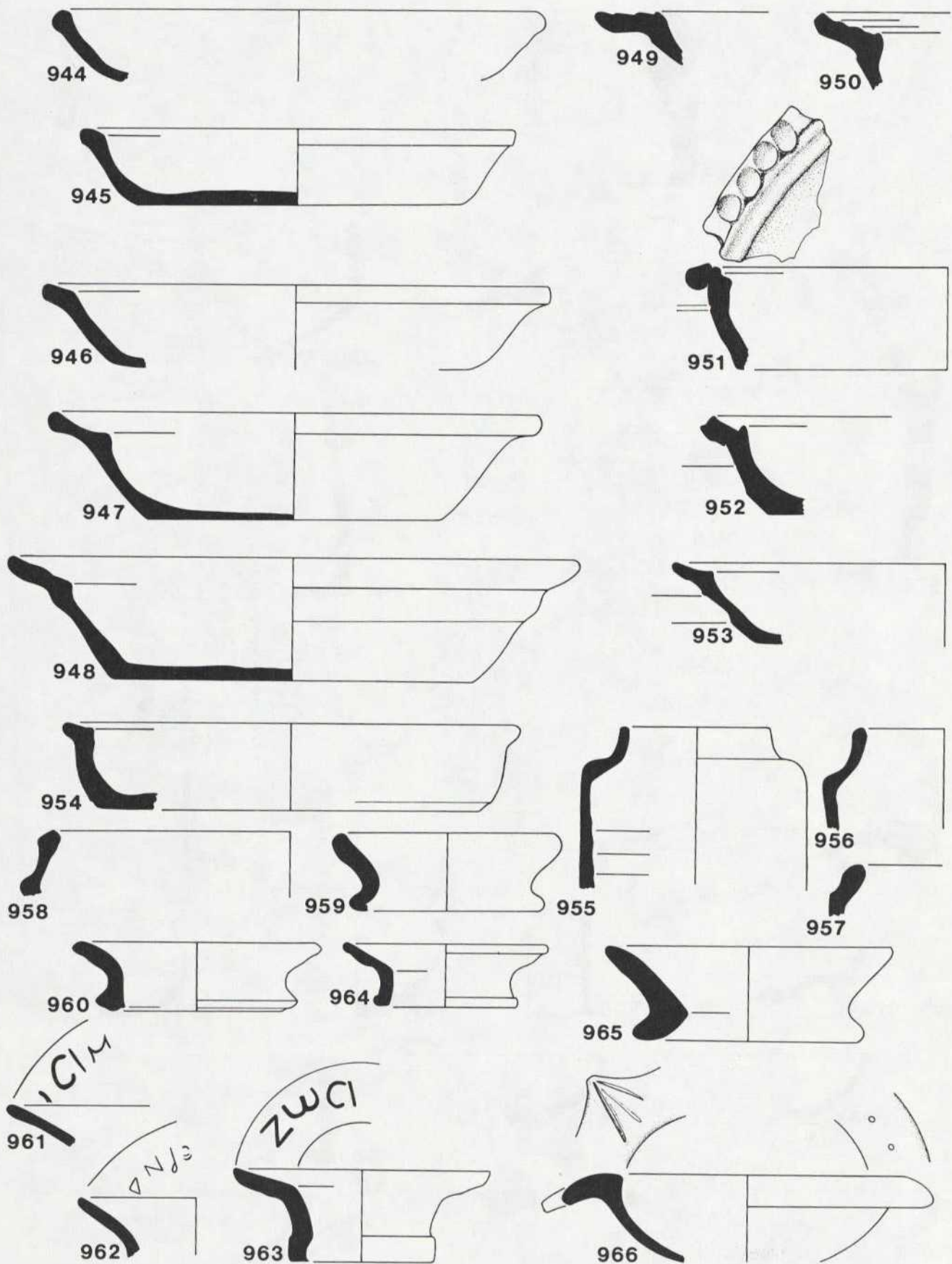


Fig. 128. Mid Roman Plain Wares. (Scale 1:3).

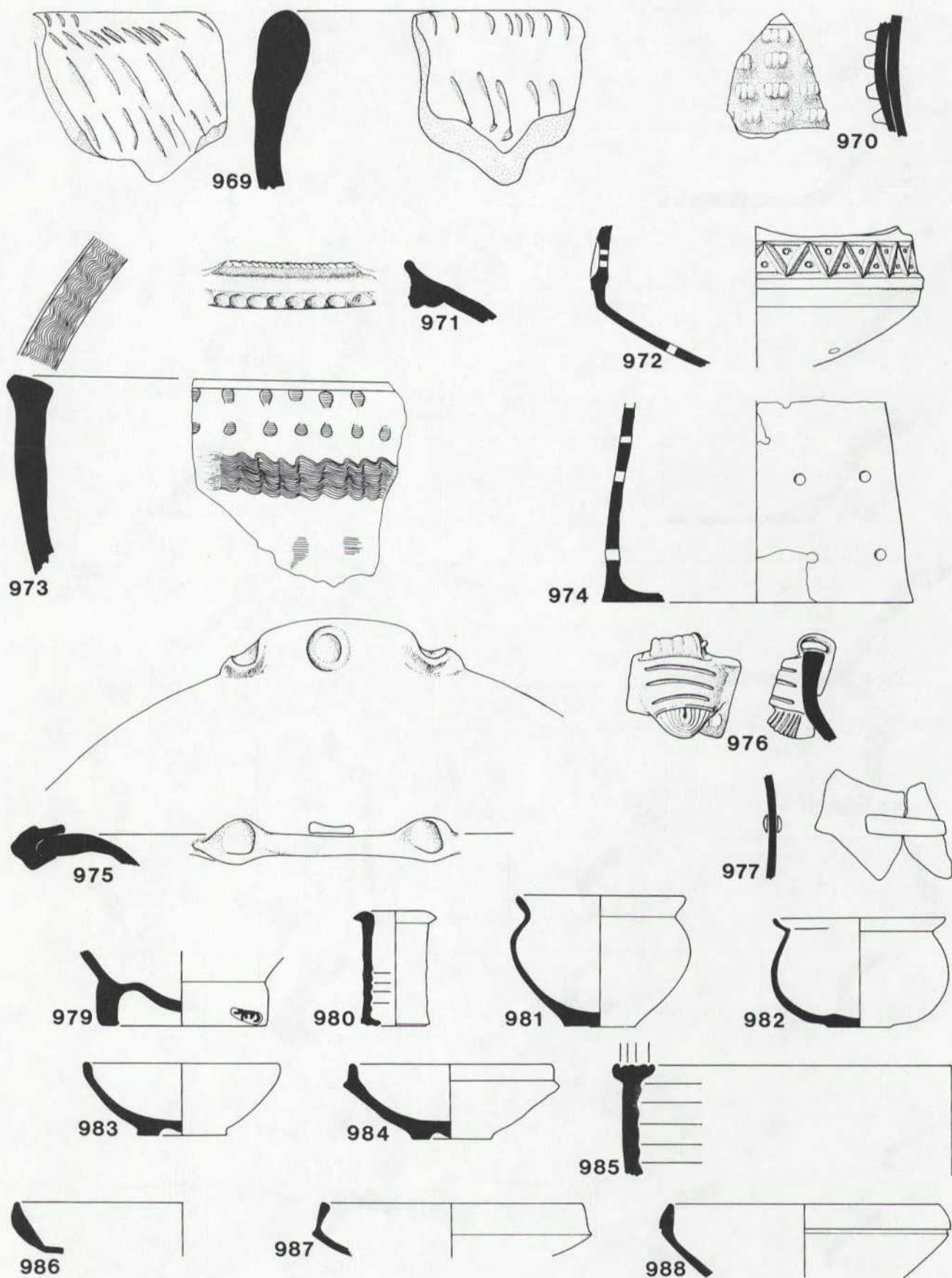


Fig. 129. Mid Roman Plain Wares. (Scale 1:3).

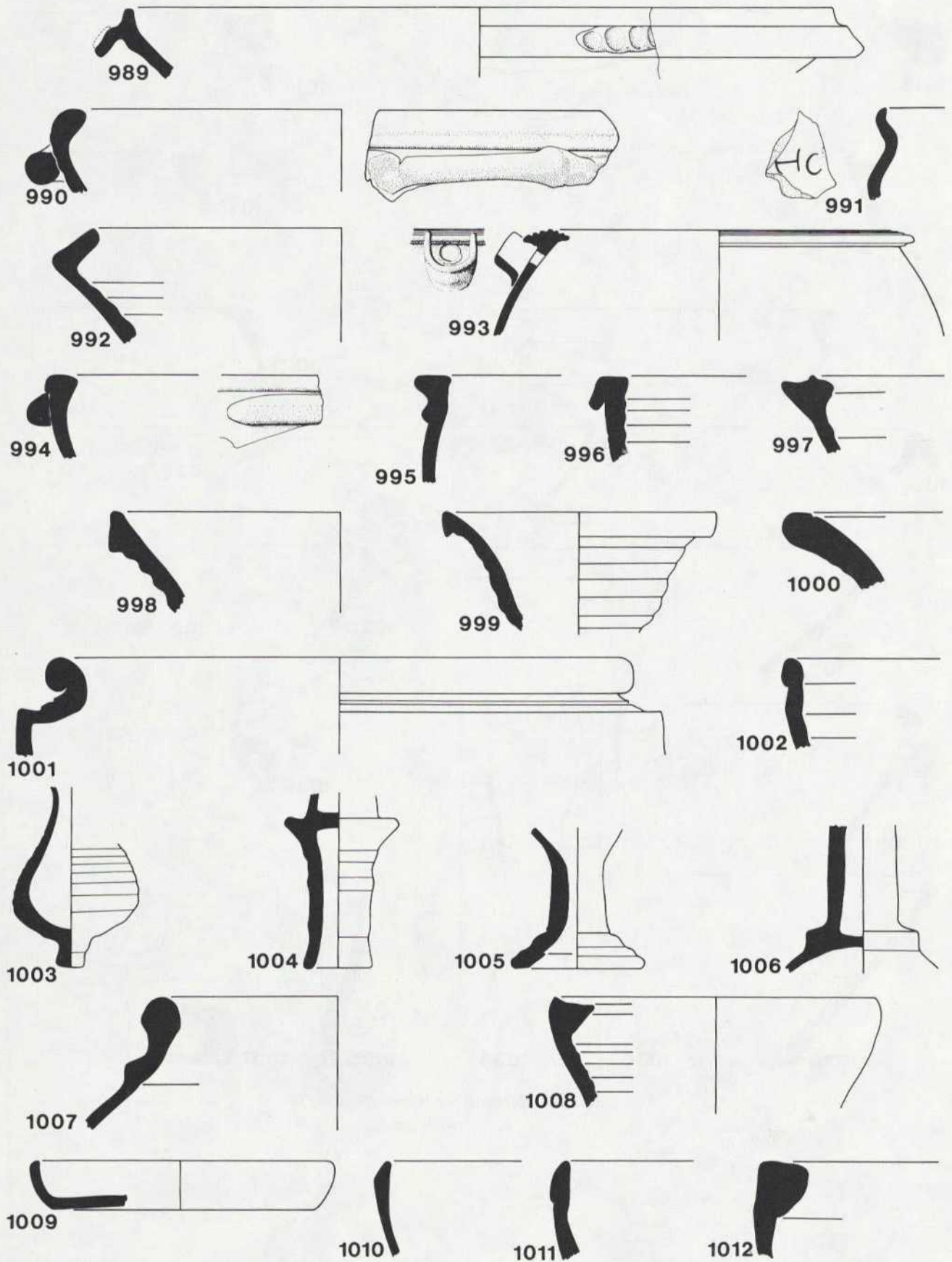


Fig. 130. Mid Roman Plain Wares. (Scale 1:3).

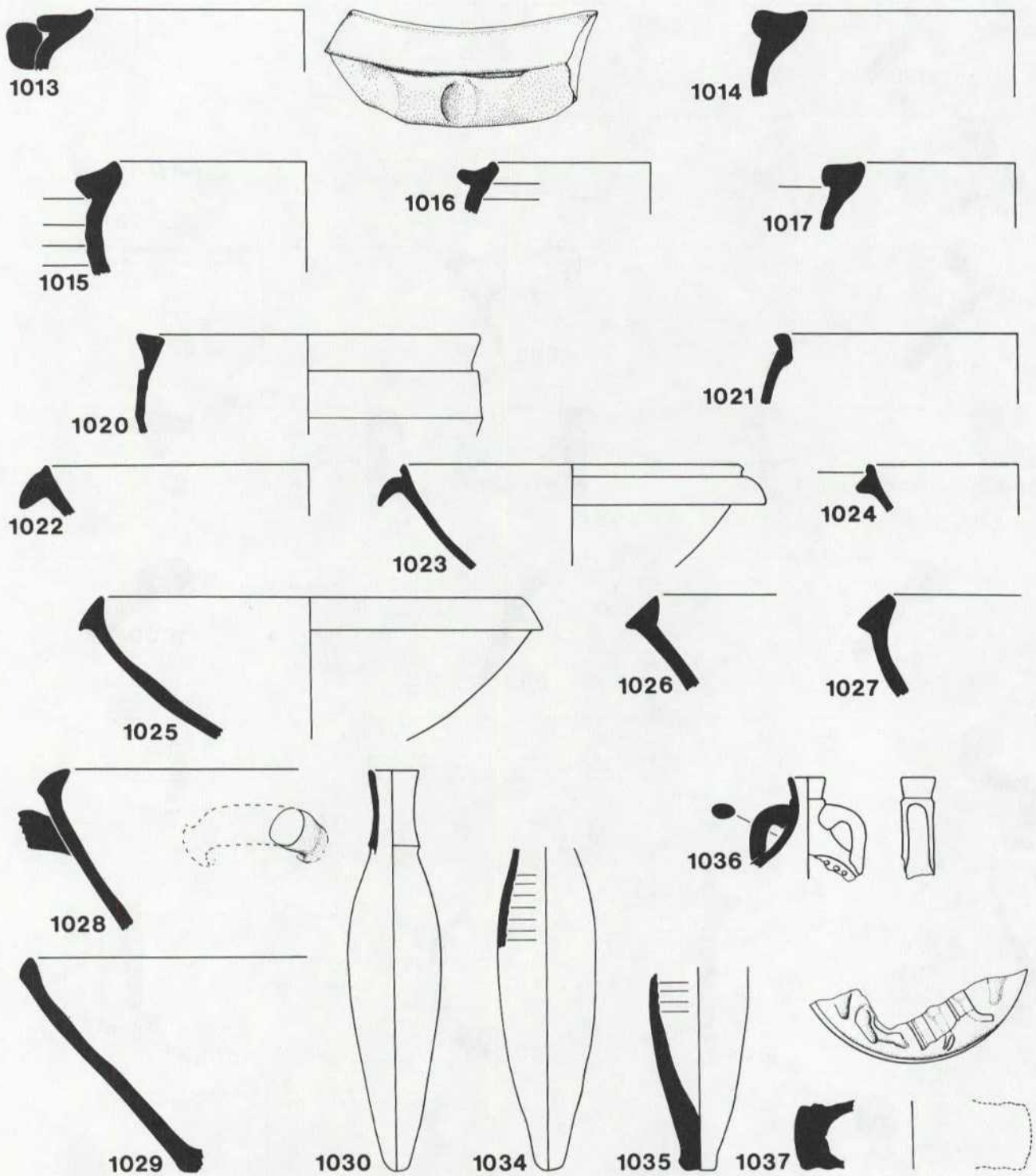


Fig. 131. Late Roman Plain Wares. (Scale 1:3).

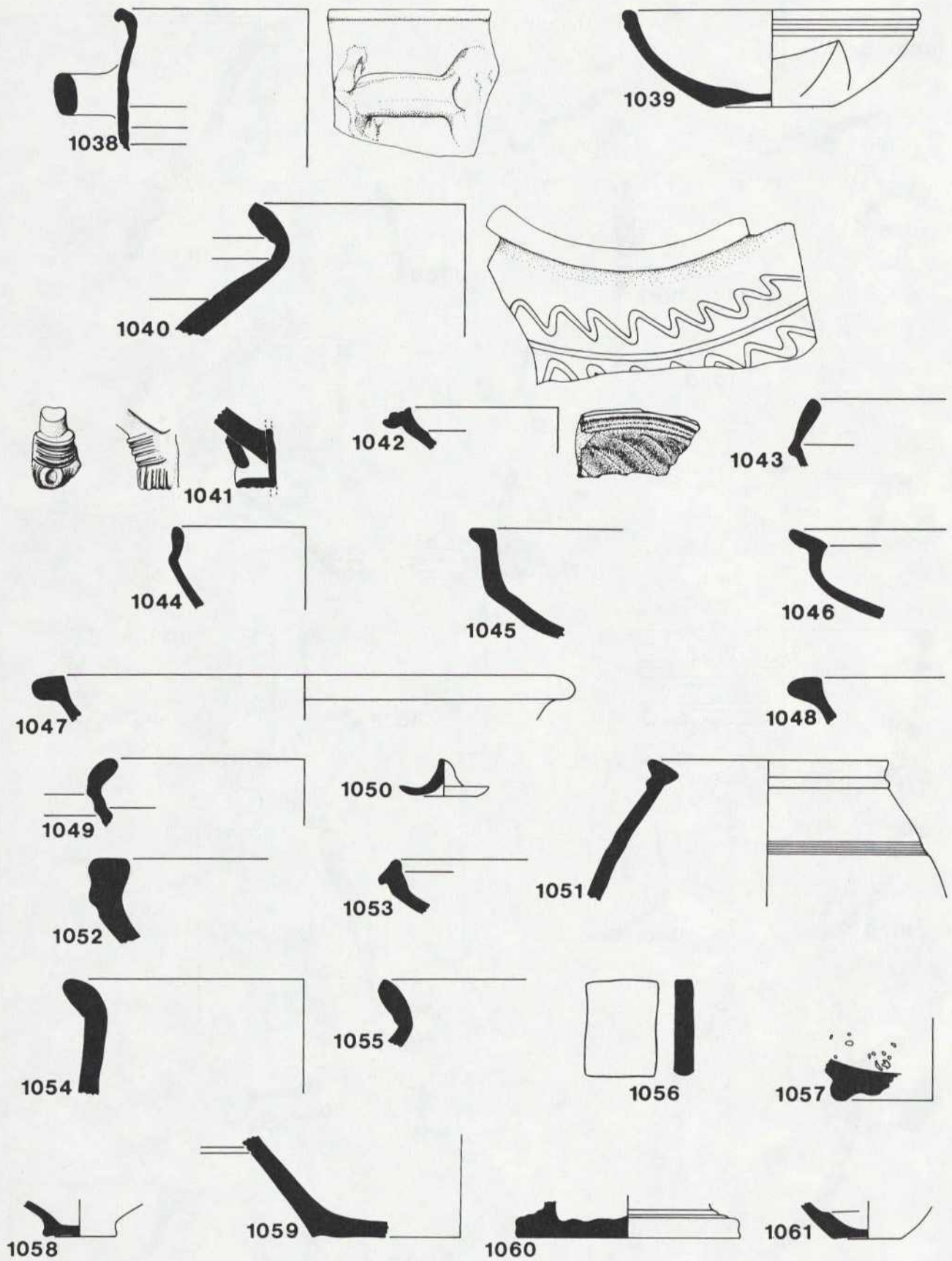


Fig. 132. Miscellaneous Plain Wares. (Scale 1:3).

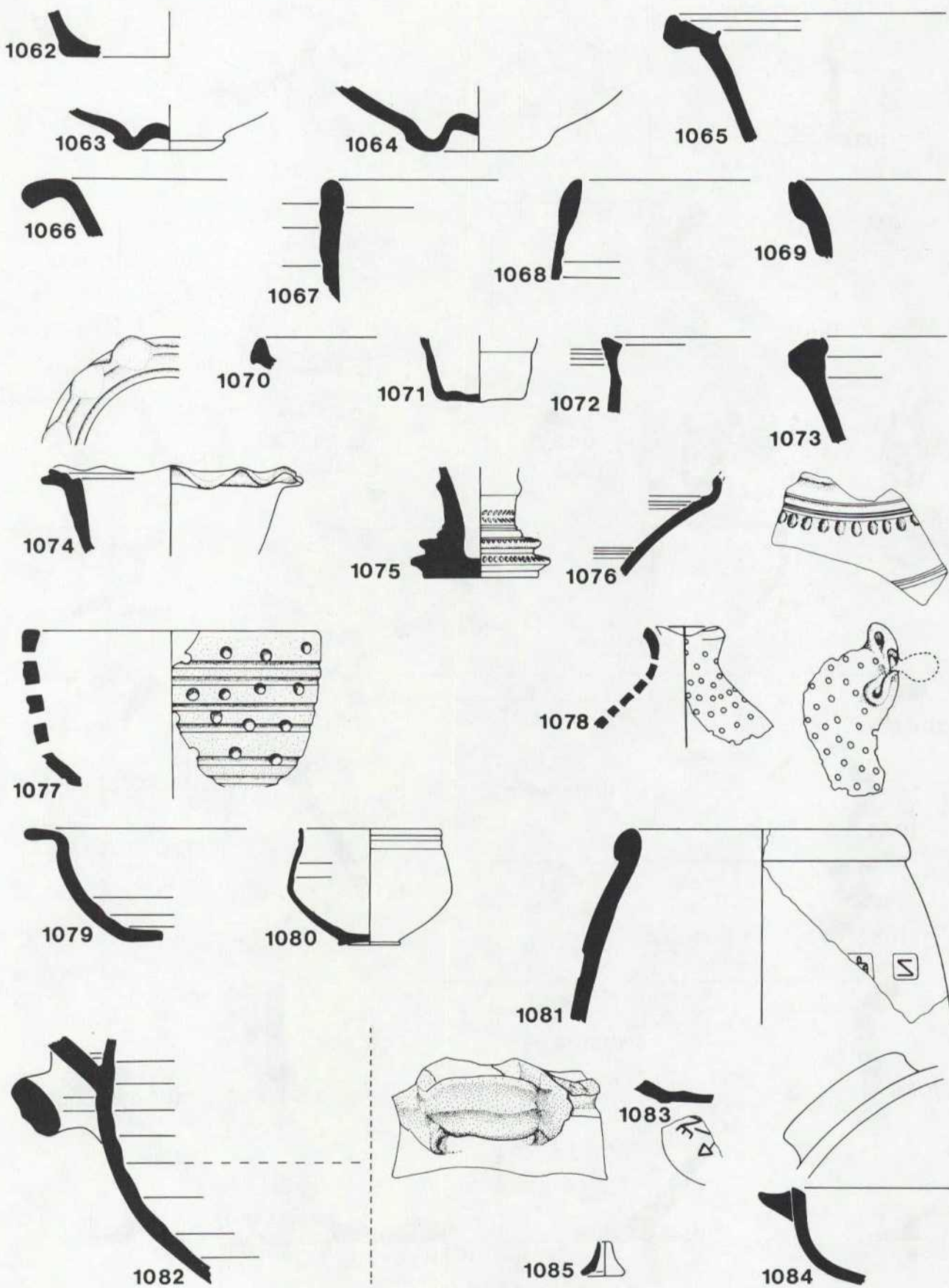


Fig. 133. Miscellaneous Plain Wares. (Scale 1:3).

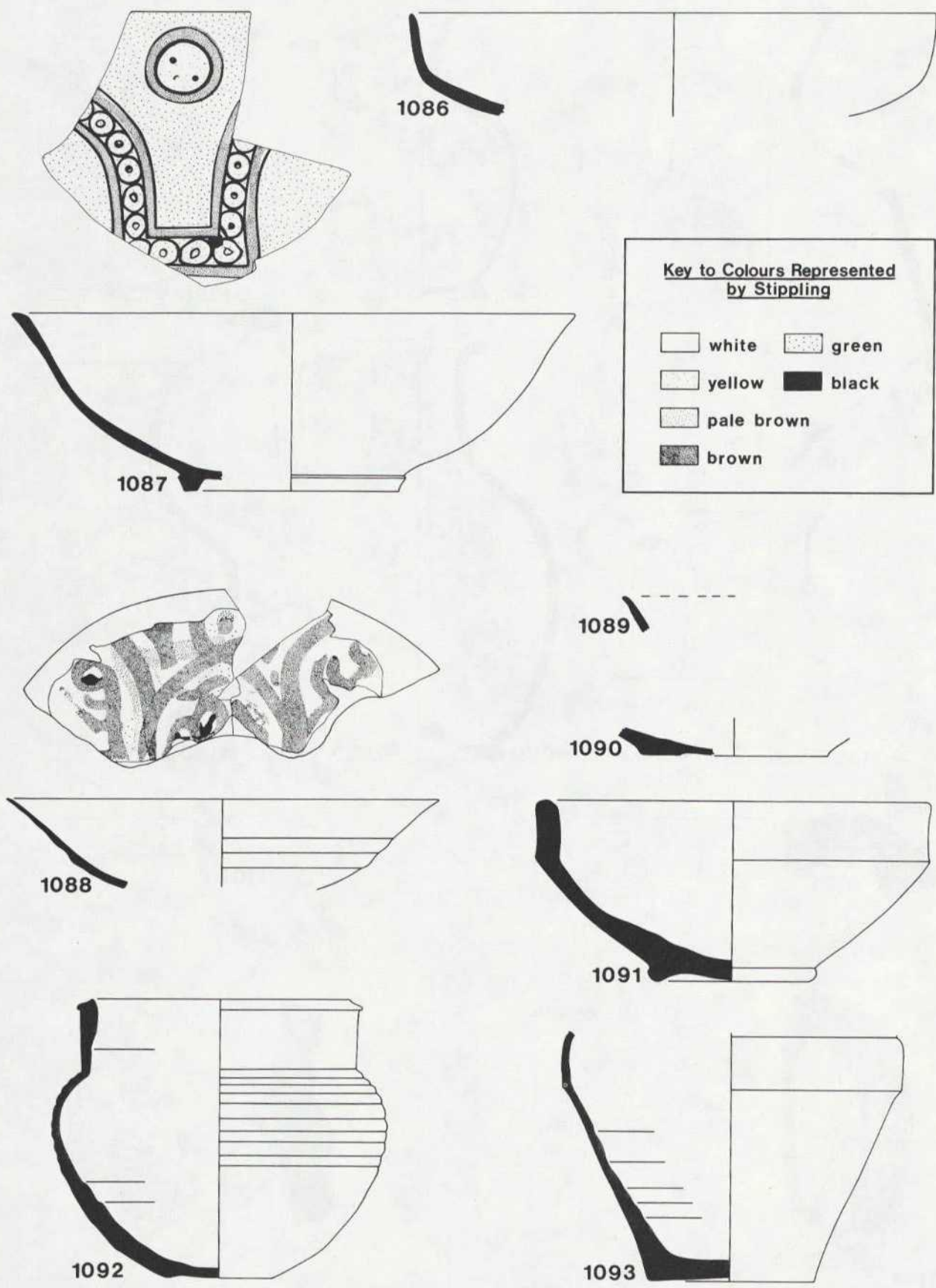


Fig. 134. Islamic Wares. (Scale 1:3).

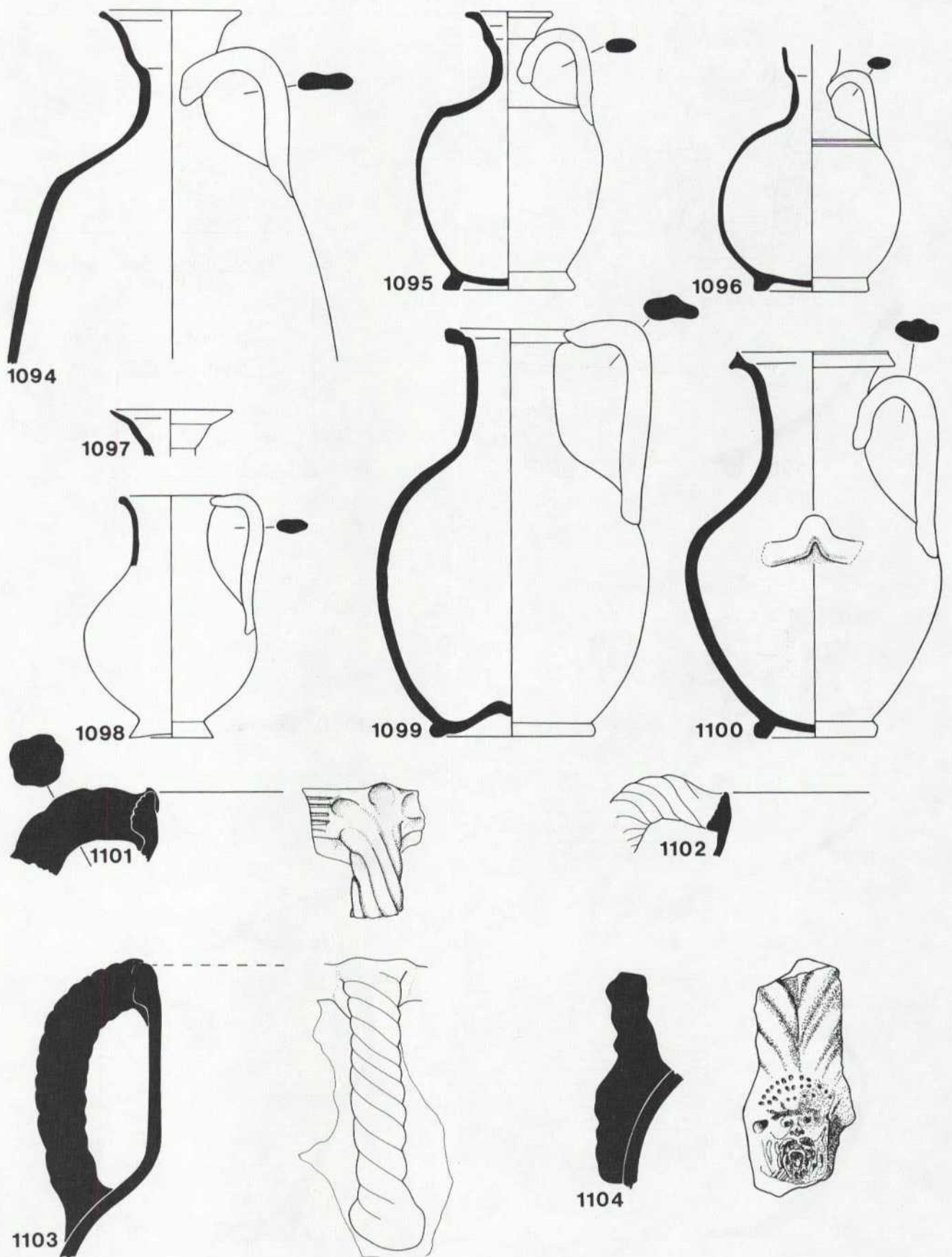


Fig. 135. Hellenistic Jugs. (Scale 1:3).



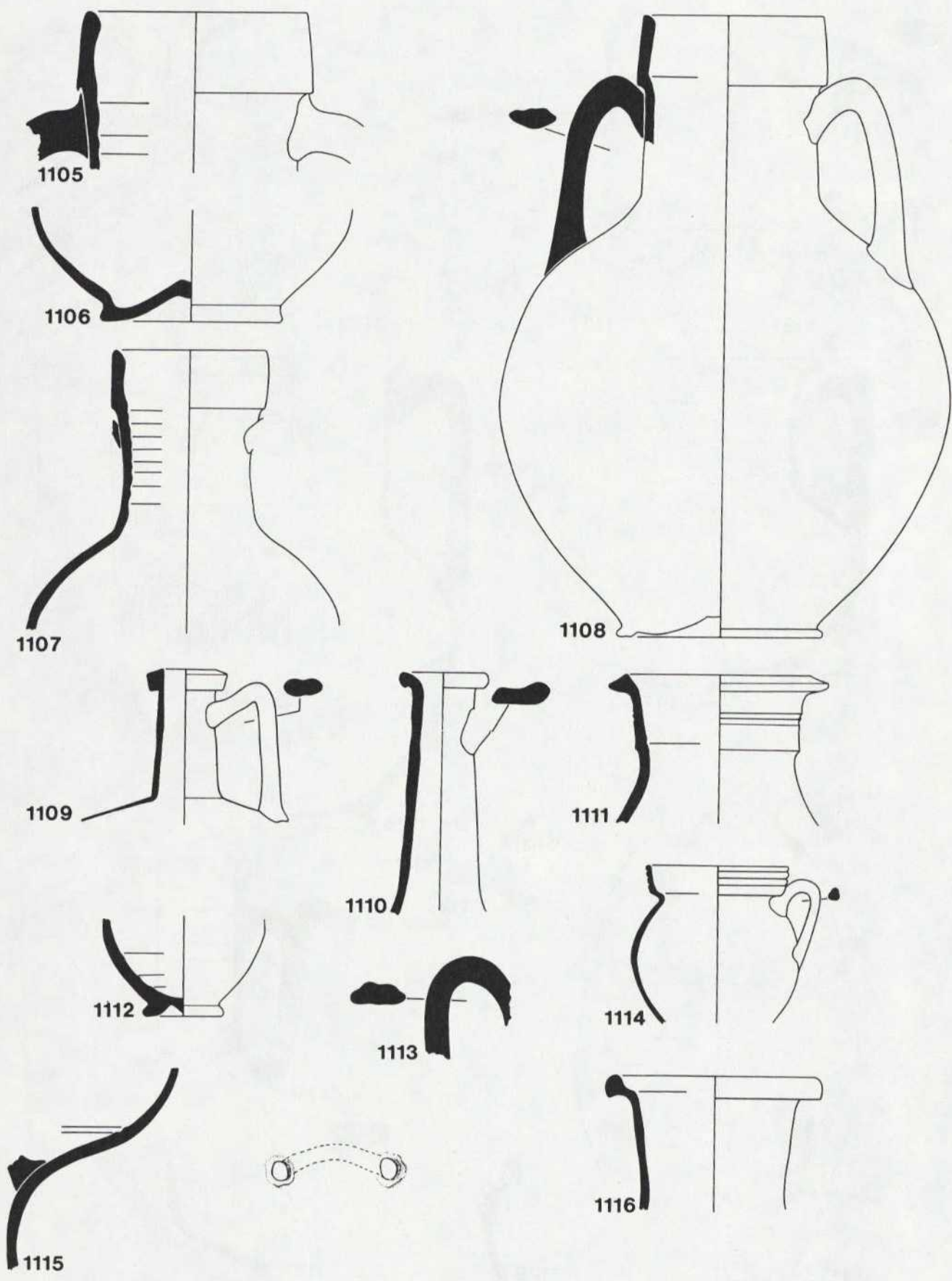


Fig. 136. Hellenistic Jugs. (Scale 1:3).

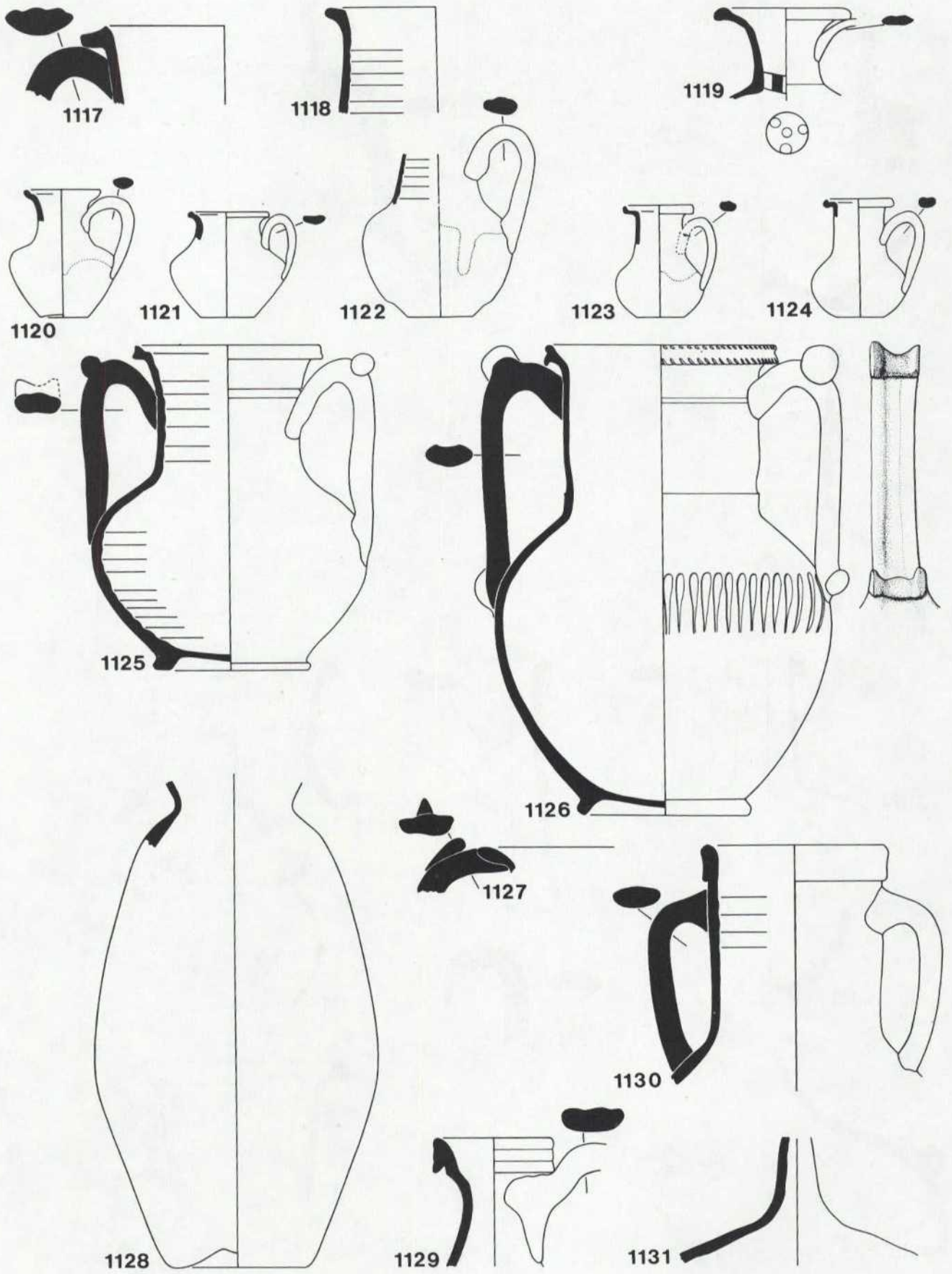


Fig. 137. Hellenistic and Early Roman Jugs. (Scale 1:3).

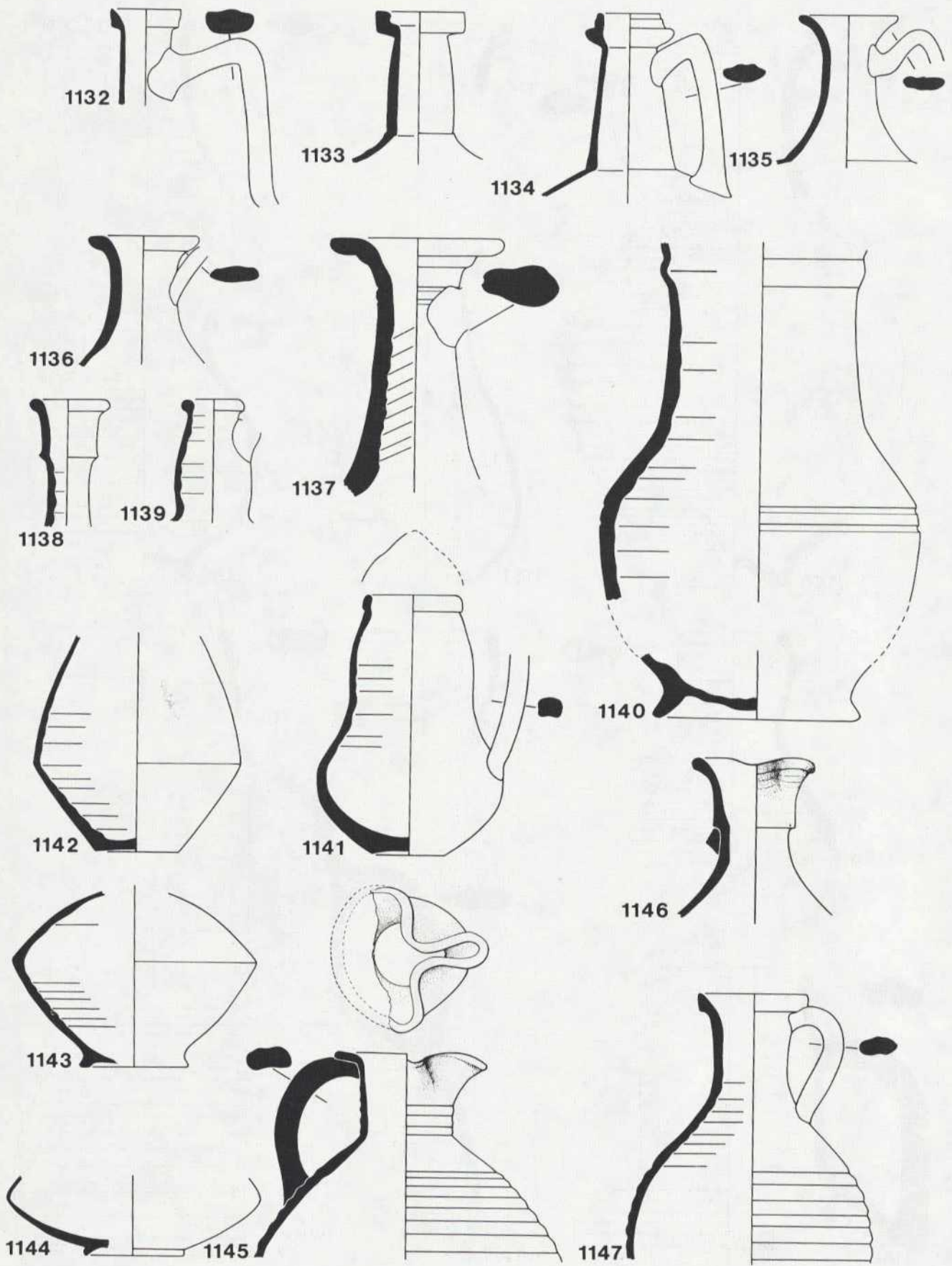


Fig. 138. Early and Mid Roman Jugs. (Scale 1:3).

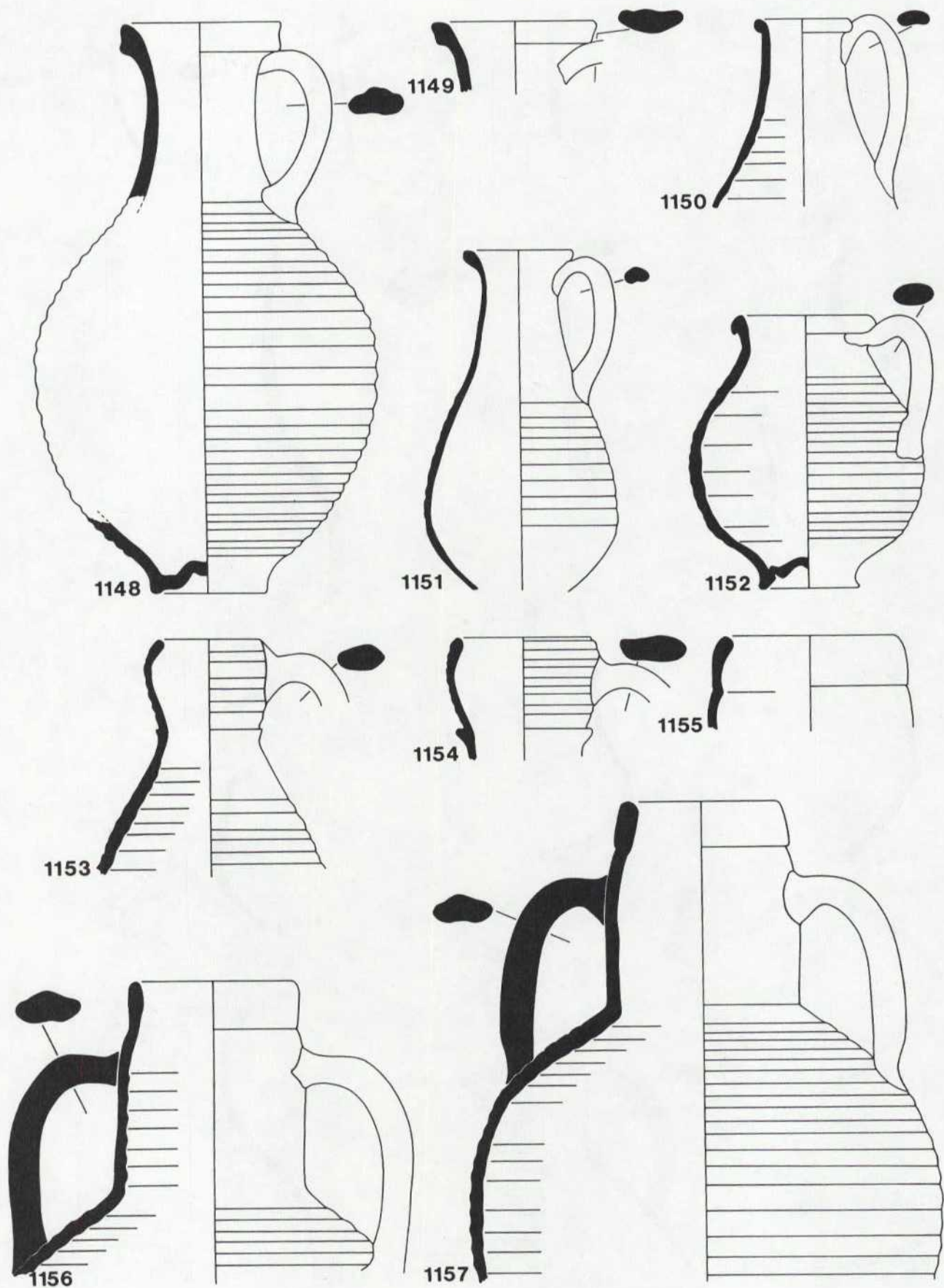
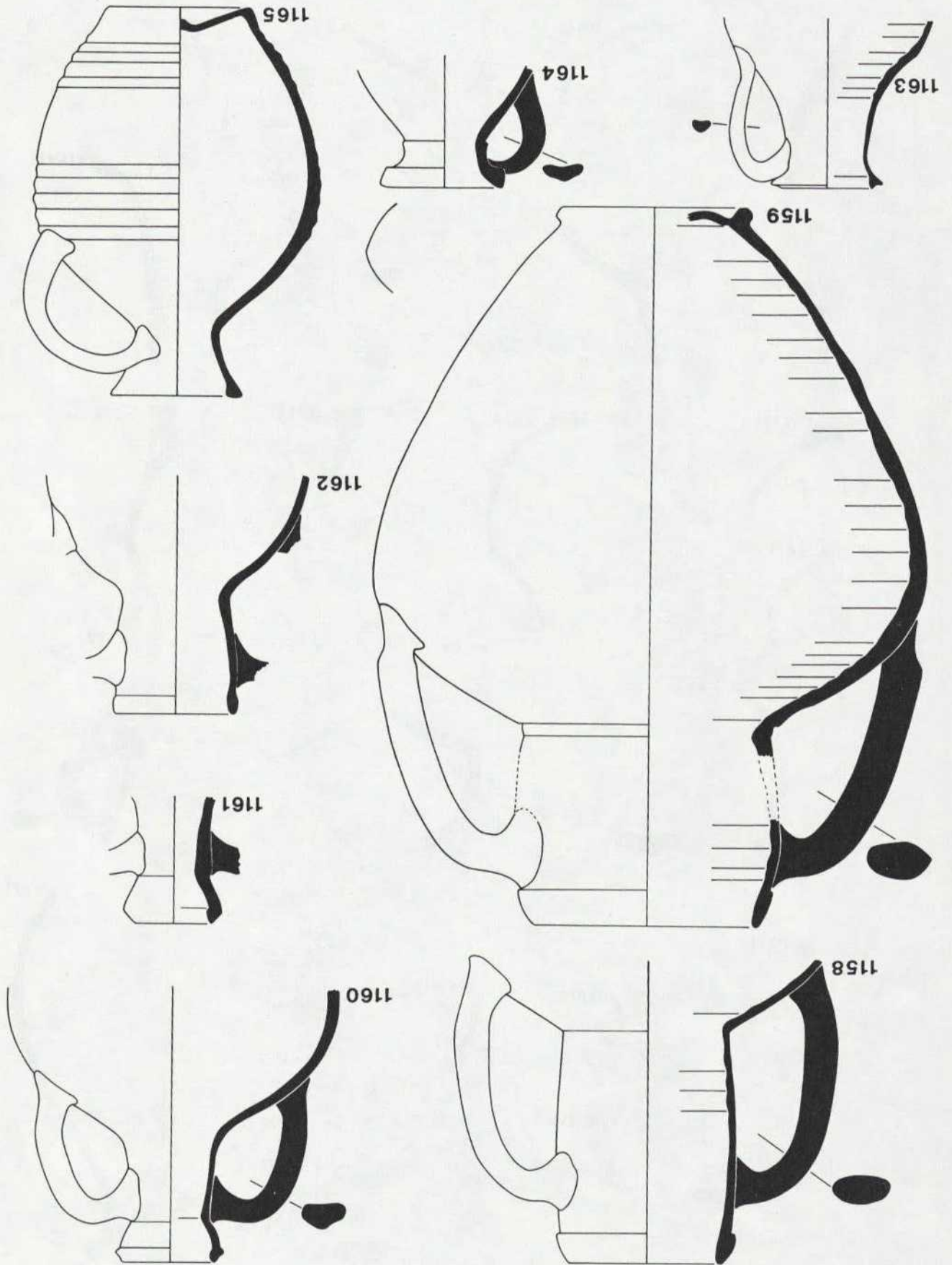


Fig. 139. *Mid Roman Jugs.* (Scale 1:3).

Fig. 140. Mid Roman Jugs. (Scale 1:3).



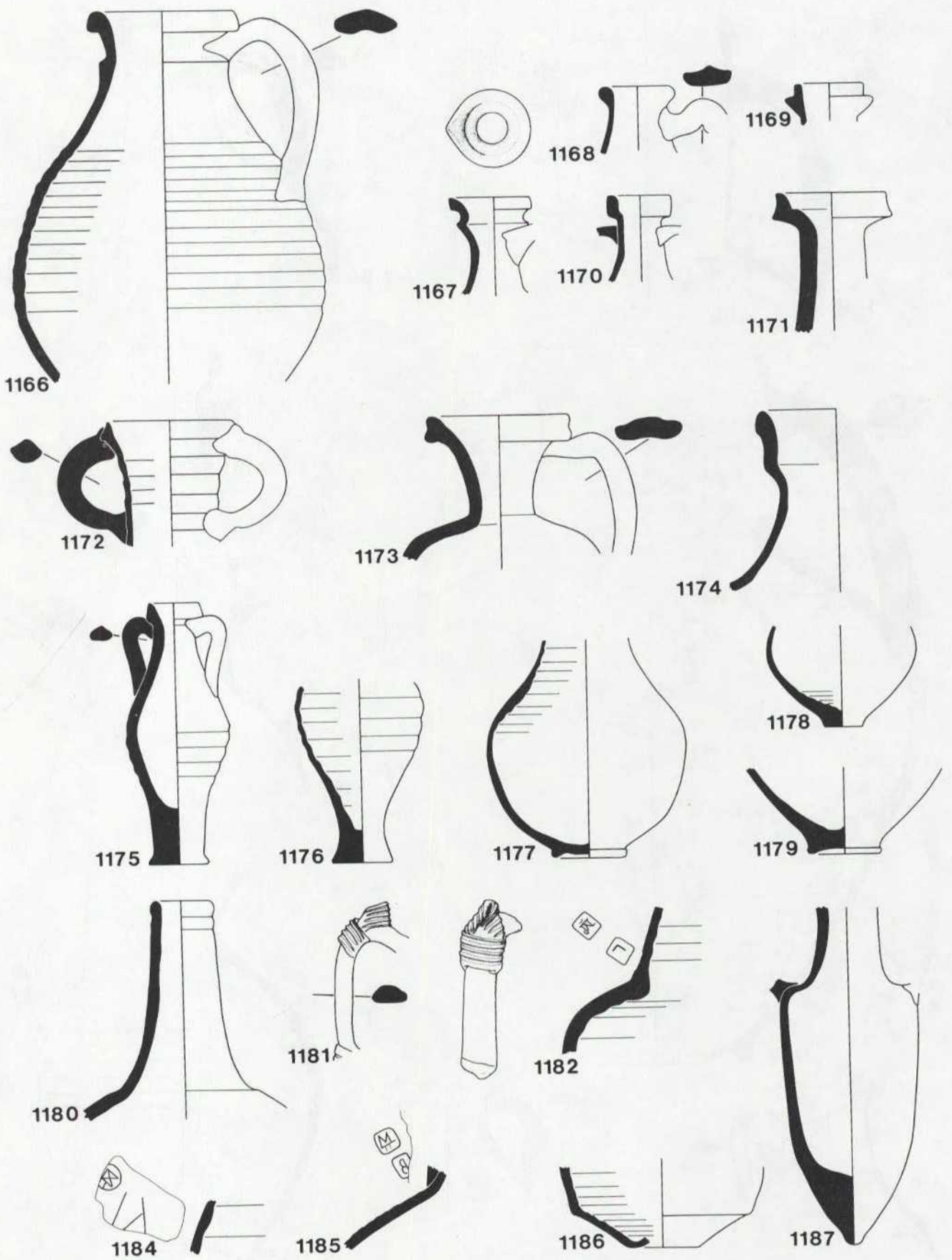


Fig. 141. Mid Roman and Miscellaneous Jugs. (Scale 1:3).

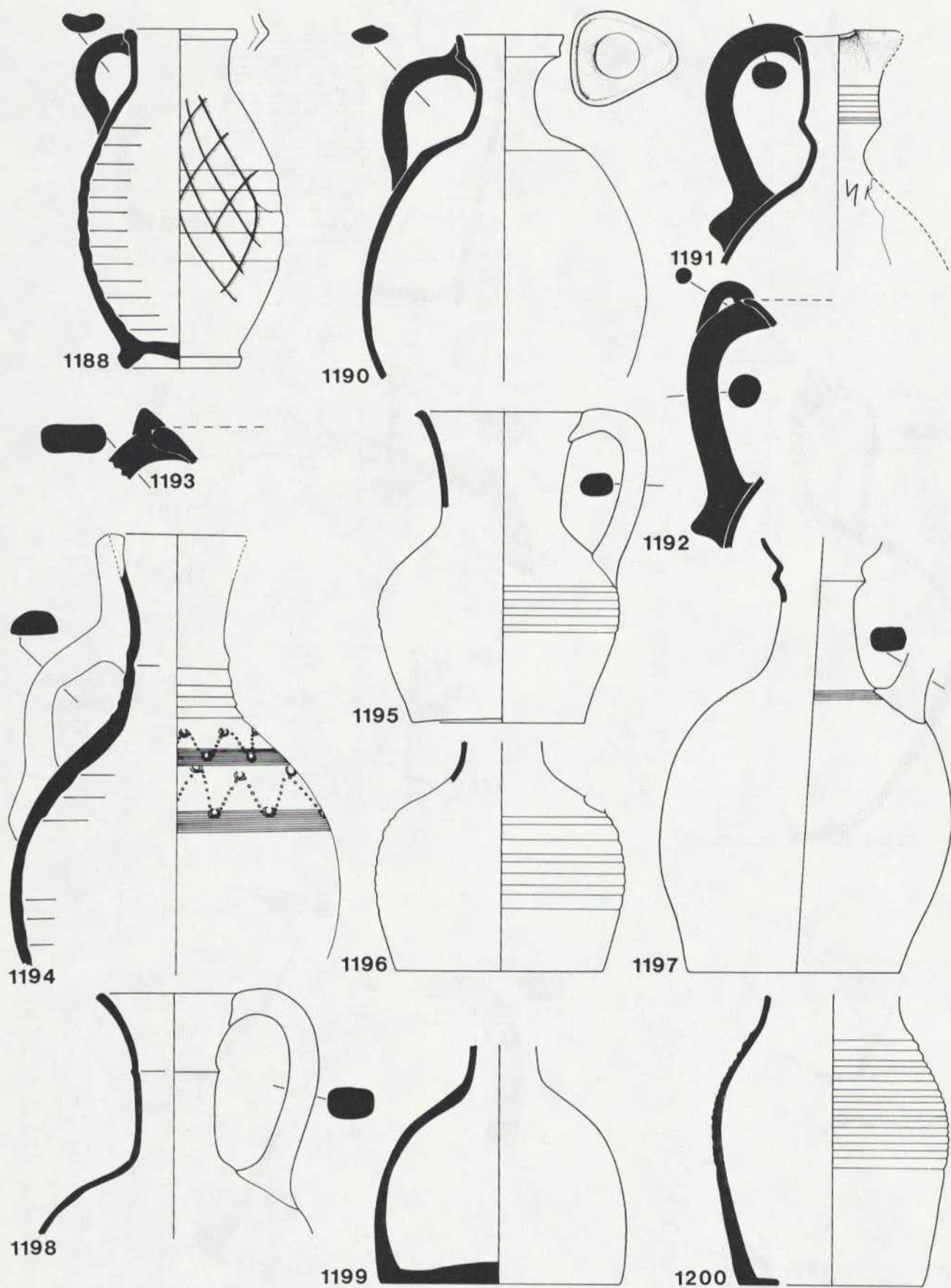


Fig. 142. Late Roman Jugs. (Scale 1:3).

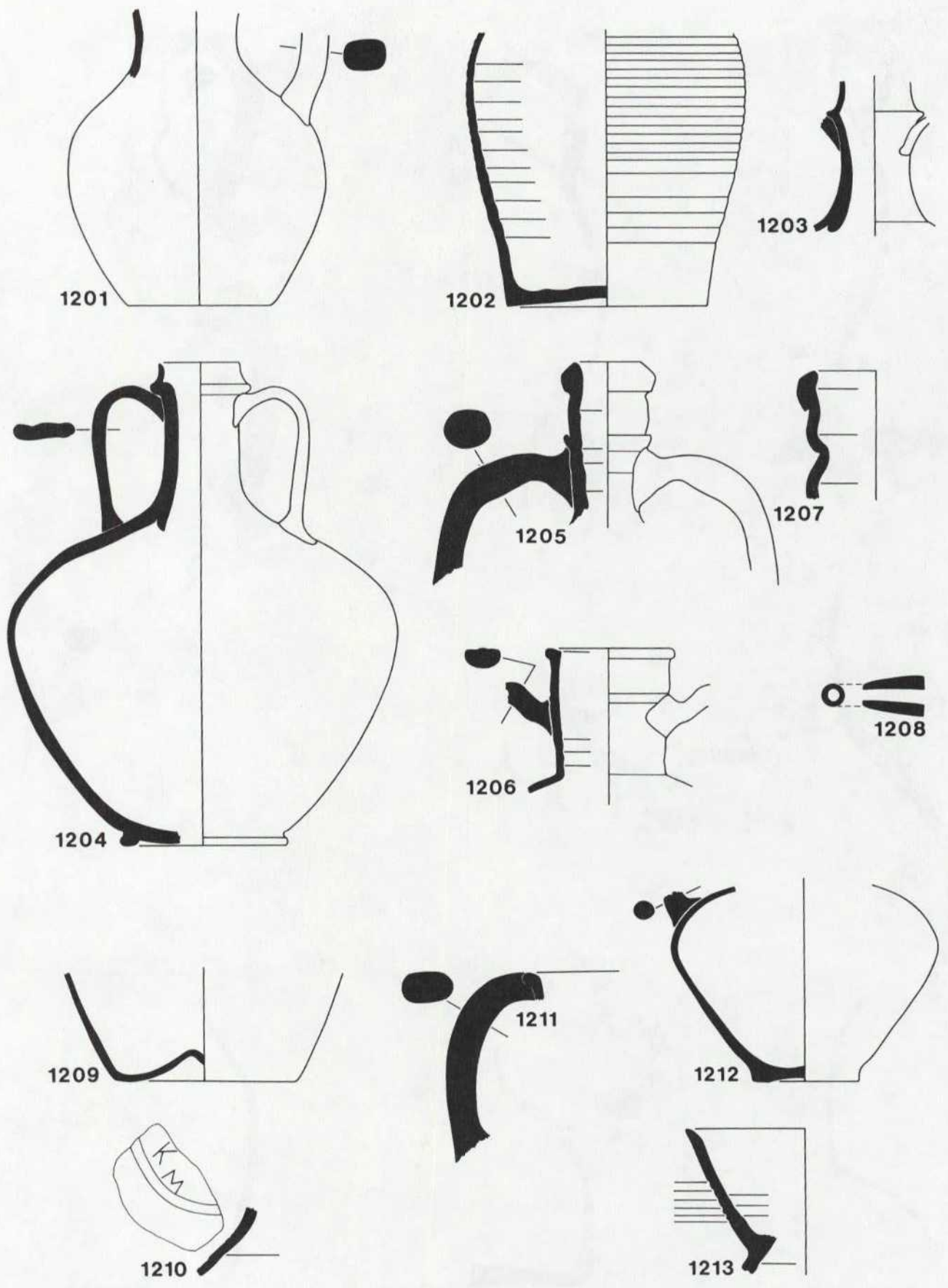


Fig. 143. Late Roman Jugs. (Scale 1:3).



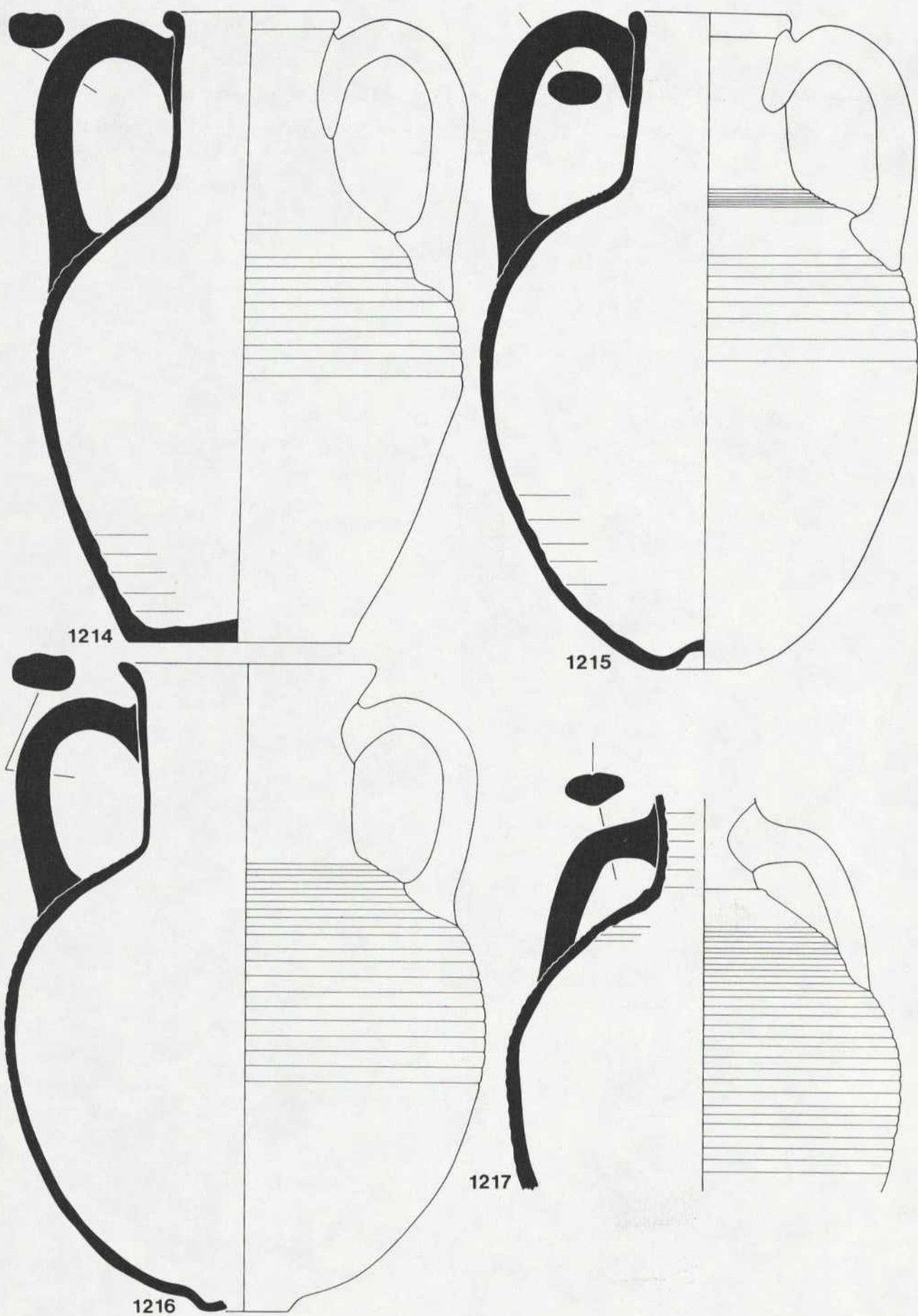


Fig. 144. Late Roman Flagons. (Scale 1:3).



الفخار المحلي ، وكانت العلاقة التجارية محدودة بين المدن القورينائية وبين مصر ومناطق الشرق بصفة عامة ، وعليه فإنه في القرنين الثالث والرابع الميلاديين نجد أن المنتجات السورية من المطاحن قل وجودها في المدن القورينائية في مناطق شرقي البحر الأبيض المتوسط ، وفي نفس الوقت فقد تم تطوير صناعة الفخار الحشن السوري والفلسطيني بطرق تختلف عن فخار برنيق والمدن القورينائية .

### الفترة الرومانية المتأخرة — من القرن الرابع إلى أواسط القرن السابع الميلادي :

إن طبقات القرن الرابع والخامس برنيق لا تحتوي إلا على القليل من الفخار الحشن ، وبناء عليه يتعذر مناقشة هذين القرنين من وجهة نظر الفخار الحشن ، وعلى أية حال فن مناقشة إفادة كوستير (Coster) ، (١٩٦٨ صفحة ٢٥٥) بخصوص إشارة سينيسوس (Synesius) لحركة السفن التجارية بأنها تتضمن حجم تجاري كبير في القرن الرابع الميلادي المتأخر ، هذه الإشارة تحتاج إلى بعض التقييم ، كما أوضح بأن قورينائية أو على الأقل المواني التي يسهل الوصول إليها لم تكن محطات توقف منتظمة لتجارة المسافات الطويلة وكان في الغالب من الصعب وجود سفينة من النوع الملائم .

وفي الحقيقة فإن رجل في مثل شهرة سينيسوس يحجم عن السفر في سفينة غير مريحة يقودها بحار تنقصه الدراية والخبرة ويرمي في هذه الحالة أن التجارة تضمحل وتزداد ركوداً . زد على ذلك فإن عليه أن يحصل على المواد الجيدة المطلوبة ، ولو كانت هذه المواد الضرورية المستوردة كالمسهم الطويلة إلا أن المواد المعينة لم تكن تأتي إلى قورينائية بانتظام .

وقد إزداد حجم تجارة الفخار بوضوح في أوائل القرن السادس الميلادي وفي هذه الفترة إستمر إستيراد الفخار الأحمر المصقول الإفريقي بكميات ضخمة من تونس إلا أن كميات قليلة من الفخار الحشن كانت تستورد من غربي حوض البحر الأبيض المتوسط ، وإستمر إستيراد أواني الطهي من المنطقة الإيجية ، وأواني الطهي الفخارية نوع ٢ ، أرقام (٥٤٧ — ٥٥٧) ، ونوع ٣ ، أرقام (٥٥٨ — ٥٦٤) ، والنوع الرابع ، أرقام (٥٤٧ — ٥٥٧) ونوع ٣ ، أرقام (٥٦٤ — ٥٥٨) والنوع الرابع ، أرقام (١٢٠٢ — ١١٨٨) ، وأرقام (١٢١١ — ١٢١٣) . إلا أننا لا نعرف على وجه الدقة البلاد التي إستوردت منها هذه الأواني الفخارية غير أنه يمكن تحديد أصل عدد قليل من الجرار ، ومعظم الجرار في هذه الفترة (جرار الفترة الرومانية المتأخرة نوع ١ ، أرقام (٣٣٧ — ٣٤٧) مجهولة المصدر ، وبالرغم من ذلك فهي تمثل أكثر من ٤٠٪ من مجموع الجرار ، وهذه بكل تأكيد ليست مصنوعة محلياً (لوجود بعض الخصائص الصخرية بها) ، وربما إستوردت من شمال شرق حوض البحر الأبيض المتوسط . والأنواع الأخرى شائعة الإستعمال في مدينة برنيق (جرار الفترة الرومانية المتأخرة نوع ٢) ، أرقام (٣٤٨ — ٣٥٠) وهي تشكل فقط ٤٪ ، وقد إستوردت من شمال المنطقة الإيجية . وجرار أخرى ربما أحضرت من المنطقة الإيجية في هذه الفترة نوع ٨ ، أرقام (٣٦٢ — ٣٧٤) ، ونوع ١٠ (وهي غير موضحة بالرسم) ونوع ١٣ ، أرقام (٣٧٣ — ٣٧٥) ونوع ١٤ ، رقم ٣٧٦ ، ومن المحتمل نوع ١١ ، أرقام (٣٦٧ — ٣٦٩) ونوع ١٢ ، أرقام (٣٧٠ — ٣٧٢) إلا أننا لا نعرف على وجه التحديد إسم المقاطعة التي جاءت منها هذه الجرار .

ويذكر سينيسوس أنه توجد علاقة تجارية بين مصر وليبيا في القرن الرابع الميلادي ، وهناك دليل على أن أحد رؤساء الكنائس المصرية باع خمراً لأسقف لبي في القرن الخامس أو السادس الميلادي ، ومن الأدلة الواضحة على ذلك العثور على جرة ترجع إلى الفترة الرومانية المتأخرة نوع ٦ ، رقم (٣٥٩) فهي مصنوعة في مصر من طمي نهر النيل ، وهذا النوع من الجرار غير شائع الإستعمال في برنيق حيث تشكل فقط ٠,٥٪ من مجموع الجرار مما يجعلنا نقترح بأن تجارة السوائل وخاصة الخمور كانت إلى حد ما في نطاق ضيق . والشيء الآخر الوحيد الذي عثر عليه في برنيق شظية من قارورة (St. Menas) ، رقم (١٠٣٦ — ١٠٣٧) . وبالرغم من أن البيانات التي تحصلنا عليها من دراسة الفخار الحشن كانت محدودة لكنها على كل حال أكثر من الفترات السابقة . وتدلل دراستنا للفخار الحشن على وجود علاقات تجارية بين برنيق وفلسطين . ومن المحتمل أن الجرار المستوردة من هذه المنطقة والتي أرخت بالعصر الروماني المتأخر كانت تحتوي على الخمور ، أنظر النوع الثالث من هذه الجرار ، أرقام (٣٥١ — ٣٥٦) والنوع الخامس ، أرقام (٣٥٧ — ٣٥٨) ، وهذه تعتبر من الأنواع النادرة ، وعلى كل حال فإنها شائعة الإستعمال في قرطاج بينما يقل تداولها في برنيق .

والدليل الآخر على الإرتباط التجاري بين برنيق وبين فلسطين وجود الصحون الخاصة بالدهون المعروفة بإسم (Unguntaria) ، أرقام (١٠٣٠ — ١٠٣٥) .

السابع ، أرقام ( ٧٨١ — ٧٩٢ ) التي يرجح أنها من أصل إيجي ، ويحتمل أن يكون إناء الروائح الكثرى الشكل (The piriform unguentario) من نفس الأصل ، وفي أثناء الفترة الهلنستية لا يوجد دليل على وجود علاقات تجارية مع مصر أو الشرق .

### العصر الروماني الوسيط (من منتصف القرن الثاني إلى أواخر القرن الثالث الميلادي) :

فما يتعلق بالفخار الحشن فإن هذه الفترة عرفت بانحسار التأثير الإيطالي ، وإستمر الإتصال التجاري بشكل منتظم مع غربي حوض البحر الأبيض المتوسط إلا أنه لم يكن هناك تركيز على نوع بذاته من التجارة ، وقد انخفضت معدلات المواد المستوردة من إيطاليا وإسبانيا بشكل واضح بعد أوائل القرن الثاني الميلادي . وعلى كل حال فقد إكتشف عدد كبير من الجرار المصنوعة في طرابلس وتونس (جرار أواسط العهد الروماني أنواع ١٤ ، ١٧) ، أرقام ( ٢٣٧ — ٢٨٧ ) وفي هذه الفترة تقدر نسبة الفخار المستورد من غرب حوض البحر الأبيض المتوسط حوالي خمسة أوسئة بالمئة من مجموع الجرار المكتشفة في برنيق . وهذه النسبة تتضمن عدداً من الجرار المستوردة من الجزائر ، وأواسط العهد الروماني نوع ١٢ ، أرقام ( ٢٤٩ — ٢٥٥ ) ومن بلاد الغال جرار أواسط العهد الروماني نوع ١١ ، أرقام ( ٢٤٧ — ٢٤٨ ) ومن المحتمل أنها تستعمل لحفظ الخمر ، وجرار غربي حوض البحر الأبيض المتوسط الواسعة الإنتشار وخاصة الأنواع المصنوعة في طرابلس التي وجدت في شرقي حوض البحر الأبيض المتوسط ، بحيث تشمل (Paphos) في قبرص وفي الاسكندرية وفي الشرق .

وقد إزداد حجم التجارة في هذه الفترة مع منطقة البحر الإيجي . جرار من أواسط العهد الروماني من نوع ٢ ، أرقام ( ٢٢٢ — ٢٢٧ ) وقدرت نسبته ٨٪ من مجموع الجرار التي تعود إلى أواسط القرن الثالث الميلادي ، ويعتقد أن أغلب أنواع هذه الجرار قد استوردت من كريت ، ذلك لأن العلاقات السياسية كانت وثيقة بين برنيق وكريت وقد كونتا فيما بعد مقاطعة واحدة ، ويذكر فيلوستراتوس (Philostratus) بأن عدداً كبيراً من الليبيين قد نزع إلى كريت في هذه الآونة ، ويستدل من وجود مثل هذه الجرار في برنيق على انتظام العلاقات الاقتصادية بين البلدين ، والجرار الأخرى يحتمل أنها إستوردت من منطقة البحر الإيجي ، ولكن لا يُعرف بالتحديد اسم البلد التي قامت بتصديرها ، وتشتمل أنواع هذه الجرار على نوع ٣ ، أرقام ( ٢٢٨ — ٢٣٥ ) ونوع ٤ ، أرقام ( ٢٣٦ — ٢٣٩ ) ونوع ٥ ، أرقام ( ٢٤٠ — ٢٤١ ) ونوع ٧ ، رقم ( ٢٤٣ ) ونوع ١٢ ، أرقام ( ٢٤٩ — ٢٥٥ ) ونوع ١٨ ، أرقام ( ٢٨٨ — ٢٨٩ ) .

ومصدر محتويات هذه الجرار غير معروفة فيما عدا الزيت الذي يحتمل أنه إستورد من طرابلس وتونس ، وربما كانت الجرار الإيجية تحتوي على الخمر ومنتجات أخرى .

وخلال القرنين الثاني والثالث الميلاديين صنعت الجرار مرة أخرى محلياً في المدن القورينائية ، وبخاصة في برنيق وتوكرا . أنواع الجرار في الفترة الرومانية المتوسطة ٨ ، ٩ ، ١٠ ، أرقام ( ٢٤٤ — ٢٤٦ ) .

وهذه الأنواع لم تكن شائعة الإستعمال في هذه الفترة وتشكل ٤٪ فقط من المجموع الكلي للجرار . وهي نسبة ضئيلة إذا ما قورنت بما أنتجته المدن الأخرى في البحر الأبيض المتوسط وأن محتويات هذه الجرار أيضاً غير معروفة .

ونستدل من الأمر القانوني ( ١٩ ، ٢ ، ٦١ ) على أنه في القرن الثاني تم تصدير ٣٠٠٠ وحدة قياسية من الزيت و ٦٠٠٠ كيلة من الذرة إلى أجوليا (Aquileia) في شمال شرقي إيطاليا ، وعليه فإن الزيت هو السلعة المناسبة للتصدير .

وعلى أي حال فإن هذه الجرار لم يلاحظ وجودها بكثرة خارج المدن القورينائية ، وبالنسبة الضئيلة الموجودة منها في برنيق يدل على أنها لم تكن هناك تجارة على درجة من الأهمية .

وكما لاحظنا سابقاً فإن صناعة الفخار المحلي في المدن القورينائية أظهرت أنواعاً جيدة من الفخار الحشن ، ويبدو أن صناعة الفخار في هذه الفترة قد تظمت بحيث أصبحت جودة وأشكال الفخار المحلي في كل المدن القورينائية تأخذ معياراً موحداً ، في الفترة الرومانية المتوسطة كانت الأشكال الفخارية نوع (١) ، أرقام ( ٥٠١ — ٥٠٨ ) متأثرة بالأشكال المعاصرة لها في المنطقة الإيجية . وظهرت هذه الأشكال من طبقات الحفرية التي أرخت بأوائل القرن الثاني الميلادي ، وهذه الأشكال ظهرت فقط في الفخار المحلي القورينائي في منتصف القرن الثاني الميلادي ، وكانت كمية قليلة من الفخار الحشن قد إستوردتها مدينة برنيق ، ذلك لأنها كانت مكتفية ذاتياً في مجال صناعة

والأوغسطية ، وهذا يفسر أن المنطقة كانت مكثفية دائماً لإنتاج الزيت والخمور . ويلاحظ أن المنطقة لم تستورد الفخار من مصر ومن البلدان الواقعة في الشرق بل العكس من ذلك فإن الشواهد تدل على أن برنيق أو منطقة المدن القورينائية كانت تصدر الجرار من الطراز رقم (١) إلى مصر ودليلنا هذا مبني على وجود المقابض المحتومة التي تشبه الأرقام (٧ ، ٨ إلى ١٢) بأعداد قليلة في الإسكندرية ، إلا أنه يلاحظ أن عدد المقابض المحتومة التي وجدت في المنطقة كانت لا تتعدى ستة مقابض ، الأمر الذي يجعلنا نشك في مدى صحة الافتراض السابق ، كما أن دراسة المقابض الغير محتومة والتي وجدت في الطبقات الأثرية الهلينستية سوف تبين أن الافتراض السابق غير صحيح .

## أوائل العهد الروماني ، من أوائل القرن الأول ق . م . إلى أوائل القرن الثاني الميلادي :

من الشواهد الأثرية المستنبطة من الفخار الحشن ، تؤيد الإتجاه الرامي بأن العصر الأوغسطي كان عصر إنبلاج إقتصاد المدن القورينائية وقد بني هذا الرأي على ظاهرة إستيراد الفخار الحشن كما سبق أن ذكرنا ، وأن صناعة الفخار المحلي ظلت على حالتها السيئة . وتدل عمليات إستيراد الفخار الحشن على تعدد الدول التي كانت تتعامل معها المدن القورينائية في ميدان التجارة ، وكانت هناك عمليات تجارية متواصلة مع مجموعة دول غربي حوض البحر الأبيض المتوسط ، كما كانت لها علاقات تجارية بدول البحر الإيحي ، وكان هناك أيضاً إتصال تجاري بين المدن القورينائية ذاتها .

وفي أواخر القرن الأول ق . م . وأوائل القرن الأول الميلادي إزداد حجم تجارة الفخار الحشن بنسبة عالية وحتى أواسط القرن الأول الميلادي ، ويمكن إعتبار كل ٥٪ من مجموع فخار برنيق والجرار المكتشفة من هذه المنطقة تقابل ١٠٪ إلى ١٢٪ من مجموع الجرار ، ولا تتضمن تلك الكثرة فقط وإنما تتضمن أيضاً تنوع الفخار الحشن المستورد من غربي حوض البحر الأبيض المتوسط وكانت نسبة ٥٪ من مجموع الجرار المؤرخة بالقرن الأول الميلادي قد تم إستيرادها من كامبانيا (Campania) في إيطاليا ، الجرار الرومانية المصنوعة في الفترة الرومانية المبكرة من الطراز الرابع ، أرقام (١١٨ — ١٢٢) وبعد نهاية القرن الأول الميلادي استوردت برنيق أيضاً صحنون السمك من إسبانيا (الجرار الرومانية المبكرة من الطراز السابع إلى العاشر) ، أرقام (١٣٢ إلى ١٥٤) . ومن المحتمل أنها استوردت الزيت من تونس ، ومن طرابلس الجرار الرومانية المبكرة (الطراز الحادي عشر) ، أرقام (١٥٥ — ١٦٧) كما استوردت أيضاً من إستريا (Estria) في شمال شرقي إيطاليا (الجرار الرومانية المبكرة ، الطراز الخامس) ، أرقام (١٢٣ إلى ١٣١) وبالإضافة إلى ما تستورده برنيق من الجرار فإنها أيضاً تستورد كميات متنوعة من الفخار الحشن من غربي حوض البحر الأبيض المتوسط ، وتشتمل المواد المستوردة على أواني طهي (فخار معد للطهي من العصر الروماني المبكر من الطراز الثالث ، أرقام (٤٤٦ — ٤٥١) وأغطية وأواني من الطراز الثامن ، أرقام (٧٧٧ — ٧٨٠) وهاون ، أرقام (٦٦٧ — ٦٨١) وكل من أعطية الأواني وأواني الطهي قد تم إستيرادها من كامبانيا (Campania) في إيطاليا . فقد كان الطين المحبب الكمباني أنسب الأنواع لصناعة الأواني الفخارية الحشنة . وفي هذه الفترة ربما خالج القادمون من كامبانيا إلى برنيق والمدن الأخرى الشعور بإحتياجهم إلى منتجات بلادهم ، وعلى كل حال فإن هذه المواد المستوردة هي أقل جودة من المصنوعات المحلية التي سخرت الأيدي الإغريقية لصناعتها وبدل على ذلك الأسماء المنقوشة على القوالب ، رقم (٧٠٥) وفي الفترة المتأخرة النقش الموجود على الدوائر المحيطة بقوالب القوارير ، أرقام (٩٦١ إلى ٩٦٣) .

وقد حدث إنحطاط ملحوظ في الإنتاج الوطني لصناعة الفخار في مدينة برنيق في الفترة الهلينستية وبخاصة في الطراز الأول ابتداء من العصر الأوغسطي ، ومحتويات هذه الجرار لم تكن معروفة على وجه التحديد وربما كانت معدة للزيت أو الخمور ، وفي العصور المبكرة كانت تحتوي على نبات السيلقيوم أو على عصير هذا النبات وربما يرجع سبب إنحطاط إنتاج الفخار إلى منافسة الفخار المستورد له .

وفي هذه الفترة كانت الجرار النموذجية المستوردة من منطقة البحر الإيحي والمشملة على الجرار الرومانية المبكرة ذات المقابض التي تشبه القرون (المقابض الجحوفة) الطراز الثالث ، أرقام (١٠٧ — ١١٧) وتلك الجرار ذات المقابض المزدوجة المصنوعة على الطريقة الكوان (Koan tradition) ، أرقام (١٠٦ إلى ١٨٦) بالإضافة إلى الجرار الرومانية من العصر المبكر من الطراز الأول ، أرقام (١٠٤ — ١٠٥) وجميع هذه الأنواع كانت شائعة الإستعمال وتمثل نسبة ١٥٪ من مجموع الجرار .

والعلاقات بين المدن القورينائية وبين منطقة البحر الإيحي يبدو أنها كانت وطيدة ، ومما يدعم هذا الرأي إستيراد أواني الطهي الفخارية من العصر الروماني المبكر ، الطراز الرابع ، أرقام (٤٥٢ — ٤٦١) والطراز السادس ، أرقام (٤٧١ — ٤٨١) والغطاء من الطراز

إجدابيا ، ويبدو جلياً أن هذه الأواني متطورة عن طراز الأواني الفخارية الرومانية رقم (١) وكلاهما صنعا بالطريقة اليدوية ، بينما الأواني البسيطة قد صنعت آلياً .

## المعطيات الاقتصادية لدراسة الفخار الحشن في العهدين الهلينستي والروماني في برنيق

### الفترة الهلينستية من القرن الثالث إلى القرن الأول ق . م . :

تتحدث المصادر القديمة عن وجود علاقة ضئيلة بين برنيق وبين البلدان الراقعة على غربي البحر الأبيض المتوسط . وهذا أول دليل أثري على وجود علاقات بينها وبين تلك البلدان ، ومن المعروف أن الجراز المصنوعة في غربي حوض البحر الأبيض المتوسط تعود إلى القرن الرابع والثالث ق . م . في حين أن الجراز الهلينستية من النوع (١٠) أرقام (٥٣ — ٥٤) التي إستوردت من قرطاجنة ترتقي إلى القرنين الثالث والثاني ق . م . ونجد أيضاً الجراز الهلينستية من طراز (٧) أرقام (٤٠ — ٤٥) كانت قد أحضرت من صقلية في أواخر القرن الثاني وأوائل القرن الأول ق . م . والجراز الهلينستية من طراز (٨) رقم (٤٦) أحضرت من منطقة برينديزي (Brindisi) ، وخلال العهد الهلينستي عموماً فإن الجراز المستوردة من غربي حوض البحر الأبيض المتوسط تشتمل على ٤٪ من مجموع الجراز ، ويستدل على إستيراد هذا النوع من الجراز وجود الحجر الهلينستية من النوع التاسع ، أرقام (٤٧ — ٥٢) المستوردة من إيطاليا ، والجراز الهلينستية الحادي عشر ، رقم (٥٥) والثاني عشر ، أرقام (٥٦ — ٥٨) المستوردة من تونس أو من طرابلس . وقد تضاعف إستيراد هذه الأنواع بعد منتصف القرن الأول ق . م . وعليه فإنه يحتمل أن المدن القورينائية قد ساهمت بفاعليه في الحركة التجارية التي سادت الأمراطورية الرومانية . وفي خلال الفترة الهلينستية تأثرت برنيق بالثقافة والتجارة الايجية .

وقد بني هذا الإفتراض على وجود التشابه الشديد بين مصنوعات الفخار الحشن مثل أواني الطهي والأواني البسيطة الأخرى وبين مثيلاتها المصنعة في المواقع الايجية ، وكذلك الجازم المزخرفة التي عثر عليها في برنيق أرقام (٦٩١ — ٧٢٢) والتي كانت سائدة في المنطقة وتشتمل على الأقل على نسبة ٥٪ من مجموع الفخار الذي كان مصنوعاً محلياً . ومن الواضح على كل حال فإنها كانت متأثرة بصناعة الجازم التي تشبهها ولكنها لا تنتمي إلى الطراز القوريني ، وقد إمتد إستعمالها من شرقي حوض البحر الأبيض المتوسط إلى قرطاجية غرباً . وإذا كان إنتاج الخمور والسوائل الأخرى في المدن الإغريقية والمنطقة الايجية قليلاً فإننا نجد أعداداً هائلة من الجراز في برنيق ، وقد عثر في برنيق على جراز تشكل نسبة ٦٪ من المجموع الكلي كانت مستوردة من رودس وكينيدوس (Knidos) الجراز الهلينستية الطراز الثالث أرقام (١٦ — ٣٣) والطراز الرابع أرقام (٣٤ — ٣٧) والطراز السادس رقم (٣٩) ، وعلى كل فإنه قد لوحظ أن المناقشة السابقة قد ركزت على أنواع مختلفة من الجراز اليونانية ، وخاصة على الأنواع المحتومة ، فكانت النتيجة صورة مشوهة عن حقيقة أنماط التجارة ، وتلك الأنماط لا يمكن معرفتها إلا إذا درست كافة أنواع الجراز بما فيها الجراز المحتومة ، فمثلاً كانت نسبة ٣٥٪ من مجموع الجراز التي تحمل أختاماً على مقابضها كانت مستوردة من روديان (Rhodian) في حين نجد أن كمية حواف الجراز الروديانية وقواعدها ومقابضها المستخرجة من طبقات أثرية ترتقي إلى العصر الهلينستي كانت تشكل نسبة ٦٪ فقط . كذلك نجد أن الجراز الايجية المعروفة أقل شيوعاً على عكس مما كان متوقعاً .

ونلاحظ أن إنتاج غربي حوض البحر الأبيض المتوسط من الجراز مثل اللامبوليا (Lambglia) من الطراز الثاني والجراز الهلينستية من برنديزي (Brindisi) الطراز الثاني رقم (٤٦) ، يوجد في شرقي البحر الأبيض المتوسط ، ولكن يندر وجوده في برنيق والمدن القورينائية ، بالرغم أن هذه الأنواع شائعة الإستعمال في الاسكندرية وديلوس (Delos) وربما يفسر ذلك بالركود التجاري في المدن القورينائية وبلدان البحر الأبيض المتوسط في تلك الفترة .

وفي الواقع أن الشواهد الأثرية التي إستنبطت منها هذه الحقائق كانت قليلة ولم تستكمل دراستها بعد وستلقي الإكتشافات المقبلة في المواقع الهلينستية الضوء على مثل هذه الأمور . إن إنتاج الجراز المحلية في برنيق في هذه الفترة يعتبر أضخم منها في أي فترة ماضية . فالجراز الهلينستية المحلية من الطراز رقم (١) أرقام (١ — ١٢) تقدر بأكثر من ٢٠٪ من مجموع الجراز المكتشفة من الطبقات الأثرية الهلينستية

## صناعة الفخار المحلي في برنيق خلال العهدين الهلينستي والروماني :

في العهد الهلينستي برزت خمسة أنماط لصناعة الفخار الحشن (الفخار المحلي من ١ — ٥) النمط الأول يعتبر أقل جودة من غيره إلا أنه كان أكثر الأنواع إنتشاراً بينما نجد النمط الرابع أجودها وأندرها نسبياً ، وهذا يتعارض مع المعطيات التاريخية الحديثة في برنيق (القرن الرابع ق . م .) حيث يكون العكس هو الصحيح . وبالمقارنة بالفخار الحشن في برنيق نجد أن صناعة الفخار في العصر الهلينستي في هذه المنطقة كان منحطاً بسبب رداءة نوع التربة والقوالب ، وسبب هذا التغيير غير معروف وربما يعزى السبب إلى أن آفاق مصانع جيدة تتطلب تكاليف باهظة كان صناع الفخار الحشن في تلك الفترة في غنى عنها .

وانطلاقاً من هذه المتناقضات فإن الفترة الهلينستية المتأخرة تبدو فيها صناعة الفخار في برنيق كان لها أوسع تأثير في المنطقة ذلك لأن الدلائل تشير إلى أن الجامر أو الأفران المصنوعة في برنيق كانت تباع في المدن القورينائية في هذه الفترة . فنجد أن قالباً نموذجياً لمقبض محجرة (رقم ٧٠٥) كان مصنوعاً من الطين يتكون من حبيبات متحجرة من العصر المايوسيني (الفخار المحلي رقم ٧) وكذلك إنتشار الجامير في برنيق — كل ذلك يؤكد أصالة الفخار البرنيقي ، فمن حين إلى آخر نعث على نفس الفخار في توكره (العقورية) وطمميتة (الدرسية) وفي سوسة وشحات .

إن طبيعة شظاياا (الجامر) تؤكد أنها كانت قد نقلت بواسطة البحر ولم تنقل براً . وعموماً فإن الفخار الهلينستي له عدد محدود من النماذج ، وحتى هذا العدد يتضمن نماذجاً مختلفة ، وهذا يعني أنه كان يوجد نظام معين للصناعة ، ونلاحظ أن هذه الفترة هي الفترة الوحيدة التي أنتجت فيها الجرار المحلية بمقاييس مختلفة .

ويبدو أن صناعة الفخار المحلي إستمرت بعد القرن الأول الميلادي على النمط الهلينستي بالرغم من أنه يوجد ميل إلى تطويرها وإنتاج أنماط جديدة . وبالنظر إلى أن الفخار المحلي الحشن الرديء من النوع رقم (١) كان قد ساد المنطقة من القرن الثالث ق . م . إلى أوائل القرن الثاني بعد الميلاد ، فإن ذلك يدل على إنخفاض مستوى صناعة الفخار المحلي وعلى أي حال فإن تلك الحالة لا تعكس بالضرورة سوء الحالة الإقتصادية وهذا ما توضحه الخلفات الأثرية من حفريات برنيق ، فقد شهد القرن الأول الميلادي عصر إزدهار المدينة ، من حيث التطور ومن حيث العمران في المدن القورينائية ومع ذلك فقد إستمر إنتاج الفخار من أنواع غير جيدة . وربما يكون إستيراد الفخار الممتاز بما في ذلك أواني الطهي من إيطاليا قد أدى إلى طمس مبادرات الصناعة الوطنية في القرن الأول الميلادي .

وقد إكتسحت الصناعة المحلية عندما حدث تغيير في صناعة الفخار في القرن الثاني الميلادي ، حيث أن عدد الصناعات المحلية قد إنخفض من خمسة إلى أربعة ولم يعد ينتج نمط الفخار رقم (٢ ، ٣) بل أضحي إنتاج النمط السادس هو السائد في المنطقة . وعلى كل حال فإنه من الصعب على المرء أن يقرر فيها إذا كان سبب إختفاء نمطي رقم (٢ ، ٣) هو تغيير مصدر الطين وهو أمر مشكوك فيه ، ام أن ذلك يعزى إلى تغيير أسلوب التقنية وهو الإحتمال الأصوب .

ومن خلال دراسة أشكال الفخار التي سادت في هذه الفترة نجد أنه قد أعيد تشكيلها وفن الأنماط القديمة ، كما إقتصرت الإستيراد على الجرار (Amphoras) وارتفعت درجة الوحدة القياسية للفخار بين المدن القورينائية نفسها ، وبينها وبين مدينة كريت وفي هذه الفترة إستمرت صناعة أواني الطهي الفخارية على درجة عالية من الدقة والجودة إذا ما قورنت بصناعات الفترات السابقة ، وكانت هناك مجموعة كبيرة من الفخار المحلي المسطح ، وهذا الفخار المسطح يمتاز بقواعد منبسطة ، وجوانب مستقيمة ، ولكنه ليس في درجة إتقان الأشكال الهلينستية المنحنية . ومما يميز شكل الفخار لهذه الفترة هو رسم الخطوط المتموجة على أجسام الأواني الفخارية ، وبخاصة على أواني الطهي التي إستعملت في أواسط العصر الروماني شكل ٣ ، ٣ أ (أرقام ١١٤٥ إلى ١١٥٨) .

ويبدو أن الطلب كان قليلاً على إنتاج الفخار المحلي الممتاز خلال الفترة الرومانية المتأخرة ، فقد إستوردت أواني الطهي بكميات كبيرة وفي أواخر القرن الخامس وخلال القرن السادس بعد الميلاد إنخفض مستوى إنتاج الفخار المحلي ثلاث مرات ثم إختفت صناعة الفخار من الطراز السادس ، ومرة أخرى تركزت على صناعة الفخار المحلي من الطراز الأول ، حيث أن أواني الطهي كانت تصنع في هذه الفترة وفق هذا الطراز وبالطريقة اليدوية (أرقام ٥٣٨ إلى ٥٤٥) وهناك بعض الشواهد على أن طرازي رقم (١) و(٣) الخاصة بصناعة الأواني الفخارية التي ظهرت في أواسط الفترة الرومانية قد إستمرت صناعتها حتى هذه الفترة ، وعلى كل حال فإنه لا يوجد سبب واضح يدل على إنهيار صناعة الفخار المحلي ، وربما يعزى ذلك إلى إنحطاط المستوى الحضاري في الفترة الرومانية المتأخرة .

ونلاحظ أن البناء الأساسي لصناعة الفخار المحلي قد طرأ عليه تغيير بسيط في إبان الفتح الإسلامي ، فلم يعثر على أي نوع من الفخار المحلي في فترة الحكم العربي وإنما توجد شواهد ندل على إنتاج أواني طهي فخارية إسلامية ترتقي إلى العهد الفاطمي عثر عليها في منطقة

محتويات الطين ، والطريقة الثانية هي تحاليل إشعاعات النيوترون (Neutron) لغرض التعرف ومقارنة عناصر مميزة يحتويها الطين .  
 وطريقة فحص القطاع الصخري (Petrological analysis) تم بوضع عينة صغيرة من مسحوق قطعة من  
 الفخار على شريحة المجهر بسمك ٠,٠٢ ملليمتر ، وبذلك بفحص القطاع الرفيع تحت المجهر وعندئذ يتم التعرف على الحبيبات الخشنة  
 ودراستها ، ففي حالة إحتواء الطين على مواد معدنية مثل السربنتين (Serpentine) أو الأوجيت (augite) الذان لم  
 يعثر عليهما في منطقة المدن الخمس فإنه يمكن التأكد على أن هذا النوع من الفخار كان مستورداً . وبالإضافة إلى ذلك فإنه يمكن تحديد مصدر  
 الفخار إذا ما تعرفنا على المنطقة التي توجد بها مثل هذه المعادن والمثل الذي أخذ على ذلك هي القطعة رقم (٤١٢) التي هي في الواقع حافة  
 وجسم لإناء طهي روماني من نوع رقم (٣) .

وعلى أساس المقارنة النظرية للشكل والبنية فإنه من المعروف أن هذا النوع ينتمي إلى الأنواع المستوردة من غربي البحر الأبيض  
 المتوسط . وعلى كل فإن تحديد مصدرها غير معروف على وجه الدقة فالمعدن المعروف باسم لوسيت (Leucite) الذي ظهر في طينة  
 رقم (٤١٢) يعتبر من المعادن التي تظهر في الحمم البركانية التي تظهر تارة في الفخار الحشن المصنوع في بومبي (Pompei) ، وعلى  
 ضوء هذه التحاليل يمكن أن نحصر منطقة صناعة هذا النوع من الفخار في جنوب إيطاليا .  
 إن الطين المحلي لا يمكن تمييز أحده عن الآخر بإتباع هذه الطريقة لأنه يحتوي على حبيبات دقيقة من الكوارتز الأصلي  
 (Quartz) وجزيئات من الأحجار الجيرية وذرات صغيرة من المايكا (Mica) .

وتعتبر الطريقة الثانية وهي طريقة التحاليل بواسطة إشعاع النيوترون (Neutron) أنجع وسيلة للتمييز بين بنية الفخار المحلي من  
 موقع إلى آخر . وتتضمن هذه الطريقة تسليط أشعة النيوترون على عينة صغيرة داخل مفاعل ذري وبذلك تتمكن على التعرف على كل عنصر  
 في كل عينة في أجزاء من المليون ، وبعد ذلك نقارن نتائج العينات ببعضها ، وبنفس هذه الطريقة تمت مقارنة تسعة شفافات لأواني طهي  
 ترتقي إلى أواسط العصر الروماني ، وجدت في برنيق مع مجموعة من الفخار ، وإستخرجت من فرن في توكرة (العقورية) يماثلها في الشكل  
 والتاريخ . . . . . وإذا كانت المجموعتان تتطابقان في الشكل حسبنا نلاحظها بالعين المجردة ، فإن التحاليل بطريقة إشعاع النيوترون قد مكنتنا  
 من التمييز بينها بوضوح ، وهذه النتيجة تجعلنا نجزم القول بأن كل مدينة من المدن القورينائية كانت تنتج فخارها بنفسها .  
 وتمكنا هذه النتائج العملية مستقبلاً من مقارنة مدى التأثير الإقتصادي وأمطاط التسويق في المراكز المتعددة للفخار في المدن  
 القورينائية ، وبخاصة حركة التجارة مع المستوطنات المجاورة .

### تصنيف الفخار الحشن لمدينة برنيق :

يمكن دراسة كل نوع من الفخار إما في صورة نقاش أو بوضوح كل نوع في بيان تفصيلي ، ويمكن أن نعرف من خلال نقاش الموضوع  
 تفاصيل الملامح العامة لكل نوع من أنواع الفخار وكذلك معرفة معايير شكله وبنيته وبعض الأنواع مثل الجرار والتي تكاد تكون معاييرها  
 موحدة الأمر الذي يساعد على تصنيفها ولكن بعض الأنواع لها أشكال مختلفة من الحواف ، مما يجعلنا نحاول مناقشتها وتوضيحها .  
 لقد حدد تاريخ كل نوع على أساس وفرته في كل المربعات التي تم تحديد تاريخها في حفريات برنيق ، بالإضافة إلى مقارنتها بقرائنها في  
 مواقع أثرية مختلفة في حوض البحر الأبيض المتوسط : وهكذا نتأكد من هذه الأنواع بمقارنتها بالمواقع الأخرى في برنيق وتوزيعها على  
 الخارطة ، ومن هذه المعلومات ومن غيرها من القرائن مثل الأختام والصور والرسومات ، وكذلك من نتائج تحاليل الطين وإكتشاف أفران  
 الفخار ، وتعدد ظهور أنواع هذا الفخار في مواقع مختلفة من البحر الأبيض المتوسط ، كل ذلك يعيننا على معرفة أصل أنواع فخار برنيق ،  
 وبالرغم من توفر هذه الشواهد فإنه من الصعب تحديد موطن صناعة الفخار على وجه الدقة ، ولكنه في أغلب الحالات يمكن تعيين منطقة  
 الإنتاج . وكذلك نوقشت محتويات الجرار وإستعمال ووظائف الأواني الفخارية الخشنة . كذلك يشمل النقاش على ملخص أخصائي كل نوع  
 ومدى علاقته بكل مربع من مربع الحفريات . أو أية مواقع أخرى .

وللتوضيح نذكر أن ظهور كل نوع واختفائه يبدو من خلال الجدول التاريخي الذي يوضح النسبة المثوية لكل نوع مقابل مجموع  
 الفخار المستخرج من كل مربع ، والذي عينت له فترات تاريخية . والقسم الآخر لتقديم ودراسة أصناف الفخار يكون عن طريق  
 البيان (Catalogue) .  
 وهذا النوع من الدراسة يزودنا بنفاصيل عن أمثلة محدودة لكل نوع كانت قد اختيرت للرسم . وكل مادة تجسد تفاصيل عن الأبعاد  
 وصفات البنية وأية معلومات أخرى تطابق هذه العينة بعينها .



البرتقالي القاتم ويحتوي على أصداف متحجرة زرقاء لونها ضارب إلى اللون الرمادي . وقد إستعملت هذه الصناعة في العصر الهلينستي ويتمثل هذا النوع في الجرة نوع (١) أرقام من (١ - ١٢)

### فخار برنيق (٣) :

يتميز هذا النوع بأنه صلب إلى حد ما يتأرجح لونه بين لون الحمرة إلى اللون البرتقالي الأحمر ويحتوي على كميات من الأصداف البيضاء تكون في العادة مميزة بانخفاض مثقوب في الوسط ، ويظهر هذا النوع في العصر الهلينستي .

### فخار برنيق (٤) :

يشتمل على فخار صلب به خطوط متعرجة ، ويكون مدى لونه بين الأصفر البرتقالي إلى اللون الأحمر واللون الرمادي ، ويحتوي على نسبة متوسطة من البقع الجيرية ، ويظهر هذا النوع في كل الفترات وعلى الأخص في القرنين الثاني والثالث الميلاديين .

### فخار برنيق (٥) :

وبنية ولون هذا النوع يشبه إلى حد كبير النوع الرابع ، إلا أنه أقل نعومة ، واللون الغالب عليه هو اللون الأصفر البرتقالي واللون الأحمر ، وبنية هذا النوع من الفخار إستعملت في الغالب في كل أنواع الفخار العادية وفي مختلف الفترات .

### فخار برنيق (٦) :

يتأرجح لون بنية هذا النوع من الفخار بين اللون الأشهب (الرمادي) إلى اللون الأبيض الضارب إلى الإصفرار ويحتوي على بقع جيرية بيضاء وتكون طينته متوسطة الصلابة ، وفي العادة تحرق وتخلف على سطحها لوناً أخضراً ضارباً إلى اللون الأبيض الشاحب . وتعتبر هذه المميزات أنواع الإبريق الفخاري الذي ساد في أواخر القرن الثاني والقرن الثالث الميلاديين ، أباريق العهد الروماني ٢ - ٥ أرقام (١١٤٧ - ١١٦٦) .

### تحليل بنية الفخار المحلي :

يمكن التعرف على الفخار المستورد بالطريقة التي تم بها معرفة بنية فخار منطقة برنيق ، ذلك لأن كلاً منها له خصائص معدنية دقيقة وكلاهما يحتوي إما على الجير أو على بقايا أصداف ، وكلا العنصرين ينتميان إلى الأحجار الجيولوجية الجيرية في منطقة الجبل الأخضر وعليه فإن أية مصنوعات فخارية تحتوي على قطع كبيرة من الكوارتز ونسبة كبيرة من المايكا (مادة تشبه الزجاج) وكذلك على حبيبات خشنة من أحجار بركانية . . . الخ تكون في العادة من المنتجات المستوردة ، وفي محاولة لمعرفة خصائص فخار برنيق بدقة ولتحديد المصدر الأصلي للفخار المستورد كان لا بد من إجراء بعض التحليلات اللازمة على بعض أنواع الفخار . وقد إتبعنا طريقتين لهذا الغرض :  
الطريقة الأولى هي فحص الشرائح الصخرية (Petrological thin section) لغرض التعرف على

أنواع الفخار بنسبة مئوية لمجموع الفخار المكتشف في كل مربع ولكي نقوم بمثل هذا العمل فإنه يجب أن نفحص كل قطعة فخارية في كل مربع ، ثم نصنف كل مجموعة على حدة . وإذا تعذر ذلك فإنه يمكن وضع القطع الغير متشابهة ضمن مجموعة المتفرقات وهذه هي الطريقة التي إستعملت في بنغازي . وعلاوة على ما سبق ذكره فإنه من خلال دراسة الفخار يمكننا معرفة الأنماط التجارية ، كما أن توفر العديد من اللقيات الأثرية الفخارية يساعد على إعطاء تواريخ أدق على نوع الأثر المكتشف في موقع ما ، ويزودنا بدلائل أكيدة على مدى اختلاف الفخار الذي يعود تاريخه إلى فترات مبكرة ، ومثل هذه العملية الضخمة لا يمكن أن تكون نتائجها مرضية قبل أن نصف أنواع الفخار .

## نظام الفخار في برنيق :

بعد أن تمت عملية فرز الفخار الحشن من غيره من المكتشفات وغسله ، رتب كل نوع على حدة طبقاً لتصنيفاته المختلفة ، ثم رتبت بقايا الفخار حسب أشكالها إلى مجموعات . فقد رتبت مثلاً الحواف والقواعد والمقابض وشظايا جذوع الجرار . وهذه الطريقة تمكننا من التعرف على أنواع الفخار بربط خاصة كل منها بالأخرى . ثم يمحصر ويدون كل نوع ، كما أن وزن المقتنيات من كل مربع له أهمية كبرى ، إذ يمكننا من معرفة أية شظية أكبر من الأخرى وبعد ذلك يحصى عدد الشظايا من كل نوع مضافاً إليه الأعداد الغير معينة ، ومن المجموع الكلي تؤخذ النسبة المئوية ، وحيث أنه قد طبقت هذه العملية في كل مربع ، وربما تدمج محتويات المربعات الأخرى مع بعضها ، وقد يستعمل برنامج العقل الآلي لإضافة هذه الأعداد ودمجها مع بعضها ، وقد ثبت بأن مثل هذه العملية تكون أسرع وأدق من أن تجري يدوياً ، وعند دراسة كل نوع على حدة تقدر النتائج في كل المربعات وتصحح في رسم بياني ، ومن خلاله نتعرف على الفروق بين كل نوع وبين كل فترة .

## أنماط صناعة الفخار المحلي في برنيق :

عند فحص بنية شظية من الفخار يجب مراعاة عدة عوامل . فاللون مثلاً عامل هام ، ولكنه يجب أن نلاحظ بأن ألوان المصنوعات الفخارية لها مجال محدود وفق ظروف الحرق المختلفة . فعندما يتوفر الأكسجين داخل الفرن يكون لون الإناء أحمر ، وعندما يحتوي الفرن على ثاني أكسيد الكربون (Carbon dioxide) (دخان) يصبح لون الفخار أشهب (رمادي اللون) وقد تم التركيز على محتويات الطين ومدى صلابته أكثر من التركيز على عامل اللون . ويلاحظ على فخار برنيق أنه متوسط الحشونة ويحتوي على نسبة من الأصداف أو محتويات جيرية . أو الميكا Mica وعلى هذا الأساس صنفت المصنوعات الفخارية في برنيق .

### فخار برنيق (١) :

هذا النوع المميز من الفخار يكون في الغالب لونه برتقالي ضارباً إلى اللون الرمادي ، وله سطح أملس يمكن كشطه بالسكين ويحتوي على عدد كبير من الشظايا الخشنة المسطحة على هيئة دوائر يتراوح قطرها بين مليمترين إلى أربعة مليمترات وهي عبارة عن شظايا لأصداف زرقاء ضاربة إلى اللون الرمادي إذا ما فتحت يبدو منها جزء لبقايا متحجرة . وهذه البقايا المتحجرة ترتقي إلى العصر المايوسيني ، في الوقت الذي لا تظهر فيه مخلفات هذا العصر في المدن الخمس ، وهذا يعني أن الطين المستعمل كان مصدره من منطقة بنغازي وهذه البنية قد تكررت في كل الفترات .

### فخار برنيق (٢) :

بنية هذا النوع من الفخار يرتبط إلى حد كبير ببنية فخار النوع الأول غير أنه أكثر نعومة ولونه يشبه لون النوع الأول ويغلب عليه اللون

تعط حقها من الدراسة حتى وقت قريب . فمثلا الجرار ذات الحجم الكبير في العادة مصنوعة من نوع الفخار الحشن للتخزين وحفظ السوائل أو لتسويقها إلى أماكن بعيدة جداً ، وعليه فإن الدراسة الدقيقة للجرار تعدت الدراسة التخصصية للفخار لوحده . بحيث تشمل تجارة الزيت والفخار والخمر . وعلى كل حال فإن الدراسة التي نحن بصددتها تخص الفخار الحشن الذي وجد في برنيق وهو فخار لغرض الإستعمال اليومي مثل أواني القلي والطهي وغيرها من الأواني التي كانت تستورد من المناطق البعيدة وفي فترات مختلفة ، ولذلك فإنه من الضروري تتبع الأسباب والأغراض الإجتماعية والإقتصادية المترتبة على صناعة الفخار . إن الفخار المصنع محلياً لا يساعدنا على تحديد الفترة الزمنية لإستعماله فحسب بل يمكننا من معرفة التأثيرات الحضارية والإزدهار النسبي للمنطقة في مختلف الفترات .

وفي المرحلة الأولى لدراسة الفخار الحشن تتخذ إجراءات تصنيفية ، وبالفعل فقد تم ذلك تحت دراسة دقيقة لمحتويات الموقع الأثري الذي يحتوي على كميات كبيرة من الفخار ، وقد أظهرت الحفريات العديد من الصهاريج والمرحلة التالية قد تركزت على تمييز الفخار الحشن المستورد من الفخار المحلي . وذلك بدراسة أشكال القدور وفي بعض الحالات تحليل الطين الذي صنع منه الفخار .

وكان من المهم أن نحدد الموطن الأصلي المستورد منه الفخار الحشن حتى نتمكن من أخذ صورة متكاملة على العلاقات التجارية التي كانت تجري بين برنيق وبلدان البحر الأبيض المتوسط .

وليس من السهل تحديد أصل أنواع الفخار ولكنه هام جداً لدراسة النواحي الإقتصادية والتجارية القديمة ، كما أنه ضروري لمعرفة كمية كل نوع في كل فترة على حدة . وفي حالة ما لا يمكننا من معرفة ذلك فإنه يمكن تقدير حجم تجارة السوائل في الأواني المصنوعة من الفخار الحشن بين برنيق وبلدان البحر الأبيض المتوسط ، وتتضمن هذه الدراسة طريقة تسجيل كميات مختلفة من كل نوع من أنواع الفخار المكتشف في كل حفرة ثم إستخلاص النتائج وربطها بتاريخ إقتصاد المدن القورينائية في العهدين الهلينستي والروماني .

### تصنيف فخار برنيق :

قسم الفخار الذي عثر عليه في كل الحفريات إلى أربع مجموعات وظيفية عامة على النحو التالي :

- ١ — الجرار من الحجم الكبير إستعملت لنقل السوائل .
- ٢ — أواني الطبخ صنعت خصيصاً للطهي والتي تكون في العادة جوانبها رفيعة ، وقد ترك عليها لهب النار لونها أسوداً .
- ٣ — أواني فخارية بسيطة مثل : الجرار الصغيرة الخاصة بالخمور وغيرها من السوائل ، وأطباق لتحضير الأكل وهي من النوع الذي لا يصل إليه لهب النار أثناء صناعته .

٤ — الأباريق : والتي تكون في العادة أوعية ضيقة مصنوعة بمقبض واحد وكانت وظيفتها سكب السوائل .

ومن خلال المجموعات الأربع يمكننا أن ندرس أنواع الفخار كما يمكننا معرفة حوالي ٦٠ — ٧٠٪ من الفخار الذي عثر عليه في كل مربع وأغلبها يقع في نطاق المجموعات الأربع السابقة ، كما أن بعض النماذج المدروسة والمعاصرة لها في أماكن أخرى (وبخاصة أنواع الجرار) تتضمنها هذه المجموعات الأربع مع أنها تظهر نسبة قليلة ، كما توجد أنواع غير معاصرة لهذه الأنواع ولكنها أنواع متميزة . والأنواع التي لا تقع تصنيفاتها ضمن هذه المجموعة تعتبر من الأنواع المختلفة ، وأن صناعة كل نوع من هذه الأنواع يجب أن يراعى بدقة ، وبالإضافة إلى ذلك فقد رتب الفخار الحشن من تسلسله الزمني والذي حددت تواريخه على إفراد وفق الشواهد الأثرية الأخرى مثل العملة والمصابيح والفخار الرفيع . وهذه الفترات تشتمل على العهد الهلينستي (وبخاصة الزمن الثاني والأول قبل الميلاد) والعهد الروماني المبكر (أو آخر القرن الأول قبل الميلاد إلى أوائل القرن الثاني بعد الميلاد) ثم الفترة الرومانية المتوسطة (ومن منتصف القرن الثاني إلى أواخر القرن الثالث بعد الميلاد ، ثم الفترة الرومانية المتأخرة من القرن الرابع إلى منتصف القرن السابع) . والمعيار الذي إتخذ في الدراسة تصنيف كل نوع كان الشكل والصناعة والوظيفة والتاريخ .

ويجب أن نأخذ في إعتبارنا عند دراسة الفخار الحشن بأنه صنع من قبل عدد من الفخاريين وهو السبب في صعوبة دراسته بعكس الفخار الرفيع الذي صنع في العادة في قوالب متعارف عليها . وعليه فإن ترتيب تسلسلها الزمني يجب أن يحدد بعناية فائقة لأن أي تغيير بسيط في حافة الإناء مثلاً أو أي تغييرات أخرى في نوع الفخار تؤثر بالطبع على تاريخه .

وعموماً فإن دراسة الفخار لا تكون شاهداً أثرياً كاملاً إلا إذا درس ضمن مجموعة من الفخار . وفي هذا التقرير نقدم كل نوع من

إن هذه المكتشفات وفق التسلسل الزمني غطت فترة طويلة من عمر المدينة ، ففي الحقيقة كان أقدمها بعض التماثيل النسائية (رقم ٣٠٢) ترجع إلى أواخر القرن الثالث قبل الميلاد ، بينما نلاحظ أن أحدث تماثل وهو على ما يظهر على هيئة قناع للإله (Faun) رقم (٤٣) يرجع إلى القرن الثالث الميلادي . وما يلاحظ أنه بين هذين التاريخين أن المجسمات التاناغرية والأعضاء المقدسة (Votive limbs) قد استعملت طول القرن الثاني والأول قبل الميلاد . وقدر تاريخ تماثل الحيوان الأسطوري (Grotesque) والرؤوس الخفيفة في القرنين الأولين قبل الميلاد وبعده الميلاد .

ولم يعثر على أي مخلفات بكميات مميزة من الطين المحروق بموقع سيدي اخربيش ، وعلى كل حال فإن التقديرات الإحصائية أسفرت عن وفرة أشكال الطين المحروق داخل المبنى الديني (X) وفي المنطقة المحيطة به ، وقد عثر على عدة أشكال أكثر دقة في المبنى (B1) الذي يقع شمال غرب المنزل (A1) ، وفي الطبقات السفلى رقم (X) وقد عثر على الأعضاء المقدسة في المبنى (X) باستثناء عضو واحد وجد في المبنى (B1) ، أما التماثيل النسائية فكانت موزعة في ثلاثة جهات وأغلبها كان في المبنى (B) وعظام الحيوانات وجدت في المبنى (A) و (B) ولم يعثر على شيء منها في المبنى (X) . ويبدو من هذه المعطيات بأن المبنى (X) كان يؤدي وظيفة دينية لوجود الأعضاء المقدسة به ، ولوجود علاقة بينه وبين المبنى (A) و (B) في العصر الهلينستي ، وهذا الافتراض يعتبر صحيحاً ما لم تتأكد بأن الأشياء المقدسة كانت قد قدمت خارج المبنى في فترات صيانة المبنى .

إن الغالبية العظمى من الدمى المصنوعة من الطين المحروق سواء كانت لآدميات من أصل (Tanagra) أو لحيوانات ، أو على هيئة أعضاء مقدسة تعتبر من إنتاج محلي قورينائي ، وذلك نتيجة لخصائص الطين المميز . فيكون في بعض الحالات منقي وصلب ، ولكنه عموماً خشن حتى ولو أضيفت إليه طبقة من الملاط . أما اللون فهو بنسبة لون الآجر الأحمر ومظلل بألوان أرجوانية وبرتقالية وقشدية ، وألوان الأجزاء التي تعتبر أكثر خشونة تكون في الغالب زرقاء تميل للون الرمادي ، ويلاحظ بصعوبة وجود المايكا (Mica) المادة الزجاجية ، ويقع من الحجر الجيري على سطح الطين المحروق ، وتظهر هذه على هيئة فقائيع دقيقة ، ومما يؤكد إنتاج الطين المحروق في برنيق وجود عدد قليل من القوالب رقم (١٠٤-١٠٨) ، وجدت في الموقع ومع ذلك فإن علامات القوالب نفسها تكون في بعض الحالات أجنبية رقم (١٠٦-١٠٧) . ومما لا شك فيه أن بعض القطع المستوردة موجودة أيضاً . منها قطع الطين الرمادي المزجج باللون الأسود رقم (٤٥-٤٦) ، قطعة هاربوكرتيس رقم (٣٨) ورأس الحيوان الأسطوري (Grotesque) رقم (٣٩) .

ومن الناحية التصميمية يبدو على مظهر الطين المحروق التأثير الآسيوي الأمر الذي يجعلنا نقترح وجود إرتباطات تجارية قوية مع آسيا الصغرى ، في حين أن العلاقات مع مصر قد تردت في القرن الثاني قبل الميلاد وما بعده ، وذلك وفق ما أورده الكاتب هيغينا (Higgins) كما يرى هذا الكاتب بأن لباس الكلاتوس (Calathus) الذي كانت ترتديه القورينيات الذي لم يظهر في أي من محتويات حفرياتنا هو من أصل مصري .

## الفخار الخشن برنيق

### مقدمة :

بالرغم مما شهدته السنوات العشرين الأخيرة من توسع سريع في دراسة الفخار الروماني بالبلاد الأوربية وبعض بلدان حوض البحر الأبيض المتوسط ، إلا أنه إلى حد الآن لم نجد إلا القليل مما نشر عن فخار شمال أفريقيا . وعليه فإن الحفريات التي أجريت في برنيق ذات أهمية كبرى في دراسة فخار شمال أفريقيا بوجه عام ، لما توفره من كميات كبيرة من الفخار وجدت في طبقات أثرية متتالية تغطي الفترة الزمنية الواقعة بين العصر الهلينستي والعصر الإسلامي .

ويمكن تصنيف فخار برنيق إلى قسمين : الفخار الخشن والفخار الرفيع وكل منهما درس على حدة . فالفخار الرفيع يعتبر من أجود أنواع الفخار ، وفي العادة يكون مصقولاً من الداخل والخارج ، وكان يصنع بكميات كبيرة بطريقة القوالب في أماكن محدود وبخاصة في العهد الروماني وهو من النوع الذي يمكن تحديد تاريخه بدقة ، أما الفخار الخشن فلم يصنع كأدوات زينة وإنما صنع لغرض الإستعمال . وعليه فإنه لا نستطيع إعطاؤه رمزاً محدداً كقرينه الفخار الرفيع ، ومع ذلك فإنه على درجة من الأهمية لدراسة تاريخ الإقتصاد ، وهذه الناحية لم

## الطين المحروق

الاستنتاجات التي تحصلنا عليها من خلال دراستنا للطين المحروق الذي وجد في سيدي اخريبيش ، أكثر عدداً واهميةً ووضوحاً من تلك التي تظهرها المنحوتات ، فقد أسفرت الحفريات التي أجريت في المنطقة على إكتشاف أكثر من مائة وستين قطعة من الطين المحروق المشكل ، إلا أن جميع هذه القطع في الحقيقة عبارة عن شظايا عدا نسبة ضئيلة منها بقيت سليمة ، فنجد حوالي خمسين من الشظايا تمثل بعض القطع المزخرفة ، والقواعر ، وهناك أجزاء أخرى من قطع غير معروفة ، أما الباقي فقد تضمن عدداً من الرؤوس المهشمة جزئياً أو كلياً ، وعدداً قليلاً من التماثيل منزوعة الرؤوس ، وعليه فإنه من المؤسف ألا نجد أي قطعة سليمة غير أنه يوجد عدد كبير من الرؤوس والشظايا المزخرفة و أجزاء كبيرة أصلية لقطع بيضاء ، وبعض آثار أصلية لزخارف ملونة ، والتي رمت وحفظت من التلف ، ومن أجمل ما ظهر من بقايا دمي الطين المحروق الذي وجد في بنغازي لرؤوس وأجزاء لدمى من نوع التناغرا (Tanagra)<sup>(١)</sup> منها رأس لإمرأة فاتنة مستعملة التسيحة المعروفة بإسم ميلون (Melon) متوجة بورق العنب رقم (٢) ، وبالنظر إلى ارتفاع هذا الرأس (٥ ر ٥ سم) يمكننا القول بأنه ينتمي إلى تماثيل صغير جداً من حجم الدمى .

ويوجد بنفس الحجم سبعة رؤوس نسائية أخرى من رقم (٣-٩) وهي متقنة الصنع وتسرحتها مختلفة وقد لاحظنا من بينها رأسين متوجين باكليلين بينما يحمل الرأس الثالث إكليلاً من نوع ستيفانة (Stephane)<sup>(٢)</sup> سميكة الحجم . وعلى ما يبدو من مظهر الرأس الأول فإنه ليس من نوع التناغرا المنحدر من النموذج الأصلي . وأغلب هذه الرؤوس قد احتفظت بالوانها . وبالإضافة إلى الرؤوس السابقة . توجد رؤوس أخرى من نفس النوع إلا أنها أصغر حجماً وأقل دقة في الصنع من رقم (١٢-٢١) فنجد تماثيل من نفس النوع منزوعي الرأس ، الأول لإمرأة جالسة ، والثاني لفتاة تعانق أمها رقمي (٤٧ ، ٤٨) ومن التماثيل ذات الأحجام الكبيرة النسائية يوجد تماثيل شبه كامل في وضع الوقوف وبكامل ملابسه رقم (٤٩) ونلاحظ على جزء علوي لتمثال آخر رقم (٥٠) لباس غريب على شكل أقراص مسطحة وبه شرايات مزخرفة متدلّية على الصدر .

وفيما يتعلق بالأشكال الحيوانية فقد وجدت بعض القطع تخص بقرة رقم (٩٥) ، وأخرى لحصانين رقم (٩٦ ، ٩٧) ولخنزير رقم (٩٨) ، ومخلب لحيوان خرافي (Griffin)<sup>(٣)</sup> رقم (١٠٠) وقطعة أخرى يعتقد أنها تخص خروف رقم (٩٩) وشكلان لطائرين رقمي (١٠٢ ، ١٠٣) ، وشكل لديدك رقم (١٠١) ، هذا بالإضافة إلى رأس قرد متوج بستيفانة (Stephane) سميكة رقم (٣١) ، وهو كما يبدو على شكل هزلي من أصل تاناغري ، وفي أعلى الجذع يلاحظ رأس الحيوان الأسطوري (Grottesque)<sup>(٤)</sup> رقم (٣٩) وثلاث قطع لأقنعة مخيفة رقمي (٤٠-٤٨) ، ويوجد جزء من تمثال رقم (٣٨) ، للإله هاربوكراتيس (Harpocrates) يظهر فيه جزء من وجهه ، ويلاحظ أن سبابه يده اليسرى موضوعة على شفتيه ، ومما يستحق الذكر أنه يوجد ثلاثة أجزاء من تماثيل بأوجه مستديرة الشكل رقم (٣٤-٦) ، كما يوجد تمثال لسليينوس (Silenus) راکعاً رقم (٣٧) ، وتوجد قطع أخرى تميل إلى السواد لشخص زنجي نائم وقطعتان (لديونيسوس) ، وأغلب شظايا القوالب الستة يرجع تاريخها إلى العصر الإمبراطوري التي يرجح أن تكون من القرن الثاني قبل الميلاد .

وبالإضافة إلى ما ذكر فقد عثر بالموقع المعني على نوع مهم جداً من أشكال مصنوعة من الطين المحروق تحتوي على أطراف جسم مثل أيدي وأرجل لغرض مقدس ، أو تقديمها كقربانين من الرقم (٨٠ إلى ٨٣) ، ويبدو أنها صنعت أصلاً منفردة لتوضع على أرفف خاصة لعدم وجود علاقة تدل على أن هذه الأطراف كانت متصلة بأي تماثيل آخر ، وعموماً فإن هذه الأعضاء على درجة من الأهمية لأنها تعتبر الدليل الوحيد على هذا النوع الخاص من الطقوس الدينية التي إنتشرت في مدينة برنيق القديمة .

- (١) التناغرا : (Tanagra) قرية يونانية اشتهرت في مجال صناعة التماثيل الصغيرة ولا سيما تماثيل الأطفال والفتيات من الطين المحروق حتى أصبح لها أسلوباً مميزاً يتبع ويقلد .
- (٢) (Stephane) نوع من الزهور .
- (٣) جريفن : تمثال حيوان خرافي نصفه نسر ونصفه أسد .
- (٤) كراتوسيك : تمثال خرافي نصفه إنسان ونصفه حيوان .

قطعة غربية لجزء علوي لتمثال وهي صغيرة جداً من المحتمل أنها خاصة برجل رقم (٥) حيث نلاحظ الرأس مرفوع إلى الخلف واليدين مرفوعتين إلى الرقبة ، والساعدان مسنودان على الصدر في إيماة الصلاة ، ولسوء الحظ نجد أن هذه القطعة بالية لدرجة لا يمكننا معرفة طرازها ، وإلى جانبها توجد قطعتان لنحت بارز على الحجر الجيري الأبيض ، ولكنها غير معروفتين وفي حالة غير جيدة . الأولى إما أنها تمثل السنتاور (Centaur) <sup>(١)</sup> في شكل جانبي أو لقربان بالقرب من موضع مستطيل الشكل ربما يكون مذبحاً (٤٠) أما القطعة الثانية فهي تمثل الجزء الخلفي لحصان يمتطيه رجل ، رقم (٣٩) . وهاتان القطعتان كانتا في الأصل من نفس الحجم وكلاهما من المعبد الصغير المشار إليه بحرف (X) ، ومن المحتمل أن تكون هاتان القطعتان إستخداماً كزينة لإفريز ، وعلى كلٍ فلم يعثر على بقايا الحلية المعمارية بها . وقد عثرنا على أربع قطع لتمثال صغيرة تمثل الإلهة (أفروديث) العارية أحدها تمثل الجذع رقم (١٣) ، وإثنتان تمثلان الجزء العلوي فقط رقم (١٤ ، ١٥) ، والقطعة الرابعة تمثل الجزء الأسفل لنفس التمثال (رقم ١٦) ، ويمتاز هذا التمثال بدقة في الصنع وجودة في الإبداع خصوصاً بالنسبة للقطعة الثانية والثالثة .

ومما عثر عليه بهذا الموقع رأس لإمرأة مع جزء من اليد اليمنى ماسكة ربطة الشعر العليا رقم (٣) ، ويرجح أن يكون هذا الرأس (لأفروديث) أثناء الإستحمام . وبالرغم من التآكل الذي حدث به إلا أنه لا يزال أثر المثقاب واضحاً ، ويمكن تأريخ هذا التمثال بالقرن الثاني الميلادي . التمثال نفسه جيد ويلاحظ أن العينين مفتوحتان قليلاً في نظرة حادة (٥) ، أما عن طرازه فإنه من النوع الذي يطابق أسلوب الفنان براكستاليز (Praxitele) ، وبصرف النظر عن جذع تمثال لإمرأة مغطاة من نوع النحت القديم (Archiastic style) رقم (١٢) . هناك عدة قطع خاصة لتمثال لم تعرف هويتها بعد رقم (٢٩—٣٧) ، وفي بعض الحالات تظهر لنا مقدرة فنية رائعة توحى بوجود نحت أصيل .

وفي الختام يجب أن نذكر وجود عدد مختلف من الشظايا لأرجل وأيدي تماثيل بعضها من الحجم الطبيعي والبعض الآخر من الأحجام الضخمة رقم (٨—٢١) ، ويمكننا أن نلاحظ جودة فن النحت من القطع السليمة ، فإن مظهرها لا يكون في رداءة مظهر اللقيات الأثرية الأخرى .

هذا وتوجد مجموعة جيدة من المنحوتات تم العثور عليها في الأفران الجيرية ، وذلك في فترات زمنية متأخرة نسبياً ، وفي الحقيقة أن بعض القطع الموجودة على ما يبدو أنها تعرضت للحرق ، هذا بالإضافة إلى اعتبار آخر يمكن الإشارة إليه ، وهو أنه من المرجح عندما تم عمل سور جديد للمدينة لم تدخل هذه المنطقة التي نحن بصدددها ، داخل السور المعني وقد تم نقل بعض هذه المنحوتات إلى أماكن أخرى داخل السور .

وفيما يخص تحديد التواريخ فإنه ليس من السهل تحديد طراز النحت ، وفي بعض الحالات يستحيل معرفته نظراً إلى رداءة القطع ، كما أنه توجد أساليب وطرز غير محددة التاريخ ، ومن ناحية النوع فإن معظم القطع المحتفظة بسماها إنحدرت من الطراز الهلنستي الأصلي ، مثل القطع المتنوعة الخاصة بأفروديث رقم (٣ ، ١٣ ، ٧) واسكلابيوس رقم (٨—١٠) وسبيلي رقم (١) وتمثال اللاجي الصغير رقم (٦) ، ومع هذا فإن التاريخ الحقيقي الخاص بإنجازها والذي يعتمد على طراز صنعها ، والعمل التقني الذي تمت بواسطته نادراً ما نستطيع تحديده ، وهكذا فإن رأس أفروديث رقم (٣) ، يمكن أن يعود إلى العهد الأنطوني ، وذلك بسبب الإستعمال الكثير للمثقاب ، ونفس الأمر ينطبق على أعمال النحت الأخرى مثل تمثال الهارب الصغير رقم (٦) ، حيث يعود إلى القرن الثاني بعد الميلاد ، أو فيما بعد . ومن خصائص النحت في القرنين الثاني والثالث الميلاديين ، هو صقل السطح المنحوت حتى يبدو وكأنه خزف وتظهر هذه الخصائص على نحت إصبعي أرجل تمثال (٢٢) .

وفي بعض الحالات النادرة تكون الطبقات عاملاً مساعداً لتحديد التاريخ عندما نجد بعض القطع المنحوتة أو نعثر على طبقات ذات شواهد تاريخية ، وهذا يتجسد لنا على سبيل المثال في الجزء العلوي لتمثال أفروديث رقم (١٤) لايتعدى القرن الثالث الميلادي وكذلك الأمر بالنسبة لجذع المرأة العاري رقم (٦) فإن تاريخه لا يتجاوز منتصف القرن الثالث الميلادي ، وكما هو الحال أيضاً بالنسبة لتاريخ تمثال اسكلابيوس المتزوج الرأس الذي يعود إلى أوائل القرن الثاني الميلادي .

وعلى كل حال فإن معظم القطع الممتازة قد عثر عليها أثناء تنظيف الموقع أو عند تسويته بآلة البلدوزر ، وقد لحق بالموقع أضرار جسيمة .

السنتاور (Centaur)

(١) القنطور : كائن خرافي نصفه رجل ونصفه فرس — (المترجم) .

إن علم الآثار لا يزال يساهم بفاعلية في التعرف على تاريخ السكان الأصليين في المدن القورينائية ، وأعتقد أن الدراسات الاقتصادية كهذه التي بين أيدينا ، وخاصة بحفائر سيدي إخریبیش ستلعب دوراً هاماً فيما سنتناوله بالدراسة مستقبلاً .

### منحوتات سيدي إخریبیش

إن المنحوتات التي تم إكتشافها خلال الحفريات التي أجريت بمقبرة سيدي إخریبیش فقيرة إلى حد ما ، من ناحية عددها ونوعيتها ، وذلك إذا ما قورنت بما تم إكتشافه في مواقع أخرى من المدن القورينائية ، فجميع هذه القطع هي في الواقع عبارة عن شظايا مصنوعة من الرخام عدا خمس أو ست قطع وجدت منحوتة من الحجر الجيري أو الحجر الرملي المحلي .

ونلاحظ أن أجمل قطعة تم العثور عليها هي عبارة عن تمثال صغير منزوع الرأس لإله الطب اسكلابيوس (Asklepios) رقم (٩) فهذه القطعة تعتبر من أحسن النماذج التي أحضرت سواء في الأجزاء المكشوفة أو المغطاة ، وتحتل أنها من الطراز الاتيكي الحديث المتداول في العصر الهلينستي إبان القرن الأول ق . م . وهي نسخة طبق الأصل لتمثال اسكلابيوس الموجود بمسرح شحات والذي ذكره الأثري باريبيني (Baribeni) رقم (٢١٤) . وهذا الطراز يطابق ما أشار إليه (Neugebauer) في مجموعته الأصلية من النحاس والتي ترجع إلى النصف الثاني من القرن الخامس ق . م . كما وجد جذع لاسكلابيوس يتكون من قطعة أو قطعتين ترجعان إلى أصل واحد بالرغم من إكتشافنا لها في طبقات مختلفة ، ونلاحظ أن السطح الخارجي متآكل ، وعلى كل حال فإنه يمكن أن ينسب جذع التمثال الصغير إلى النوع السائد في المدن القورينائية (باريبيني (Baribeni) من رقم (١٩٧—٢٠٧) . وفي الموقع وجد عدد قليل من المنحوتات غير جيدة الصنع ولكنها ذات أهمية من الناحية الأثرية ، منها جذع لتمثال عار يشد على صدره حيواناً كث الشعر رقم (٩) ومن الصعب تحديد ماهية هذا التمثال عما إذا كان يخص صبياً من النوع المعروف بإستدارة الوجه أو لإمرأة عارية بدنية وقد عينت هذه المجموعة بطريقة مقارنتها بتمثال طفل صغير يحمل بين يديه كلباً والذي يشبهه (اللاجيء الصغير) (Little refugee) الموجود بمتحف الآثار الوطنية في أثينا ، وهو نسخة رومانية من أصل هيلينستي ، ومن المحتمل أنها ترجع إلى أواخر القرنين الثاني أو الثالث الميلاديين . أما بخصوص القطعة الثانية فهي عبارة عن نصب تذكاري من الحجر الجيري على هيئة مشكاة رقم (٣٨) تتألق بداخلها قطعة منحوتة نحتاً بارزاً لإله الشمس هيلوس (Helios) ركباً عربة يجرها أربعة خيول ، مع ملاحظة أن المنظر بأكمله في مواجهة المشاهد ، إذ أن كلاً من الخيول ووجه الإله تواجه المشاهد ، وهذا المنظر يشبه إلى حد كبير ذلك المنظر الذي يظهر على الفسحة الفاصلة بين الواجهتين والتي تعرف بإسم ميتوب (Metope) <sup>(١)</sup> الواقعة في المعبد (C.) في مدينة سيلينوت (Selimute) بصقلية . كلا المنظرين متشابهين شكلاً وموضوعاً ، إلا أن نحت صقلية أقدم من نحت إخریبیش خاصة وأن صناعة القطعة الأخيرة تعتبر بدائية جداً بحيث يصعب معه تحديد زمنها بدقة ، ومع ذلك فإن موضع العثور عليها كان في أحد الطبقات الأثرية التي ترجع إلى قبيل منتصف القرن الأول الميلادي .

وقد تم العثور على تمثال صغير من الحجر الرملي رقم (١) لسابيل (Cybele) في طبقة غير معروفة ، وهو ذو أهمية حيث وجد الكثير من نسخه بشحات (باريبيني من رقم ٢٣٢ إلى ٢٣٦) وهي كالعادة تظهر جالسة على عرش ذو مسند مرتفع وعلى جانبها الأيمن والأيسر أسدان ومتحلية بأقراط ورداء يعرف بإسم البولوس (Polos) ممسكة بصحن الباتيرا (Patera) <sup>(٢)</sup> وطبل (Tympanum) ، وهذه القطعة تظهر مهارة الناح ، إذا ما أخذنا في إعتبارنا المادة المستعمله ، وعلى كل حال فإننا لا نستطيع إستنتاج تاريخ هذه القطعة من طراز نحتها ، ومن حيث طريقة صنعها ، ولكن يبدو أن فكرة الموضوع مستوحاة من أصل هيلينستي ، وتوجد

E. Baribeni, Catalogo delle Sculture di Cirene: Statue e Rilievi di Carattere Riligioso (Roma, 1959).

K. A. Newgebauer, Asklepios, ein Beitrag zur Kritik Romischer Statuen Ropien BWP. 78 (1921).

(١) الميتوب : الفسحة الفاصلة بين الواجهتين في إفريز أو صنف مشيد وفق فن الدوري (وتكون عادة مزدانة بصور منحوتة) — (المترجم) .

(٢) الباتيرا (Patera) إناء أو صحن واسع يستعمل لسكب الجمر على القرايين — (المترجم) .

وإن هذين العنصرين ثبت وجودهما في العينة ، فالنتيجة واضحة وهي أن محصول الشعير كان ضعيفاً نتيجة لنموه في تربة ذات نسبة من الأحماض .

## (٦) الزراعة في المدينة القورينائية في العهد الهلنستي والروماني

إن المصادر التاريخية القديمة لتاريخ المدن القورينائية تشير بأنها أرض خصبة إذ تعتبر أحد مستودعات حبوب الأمبراطورية الرومانية ولكن الصورة التي إستشفت من واقع الشواهد الأثرية المتعلقة ببعض المواد الغذائية اليومية في برنيق كانت مختلفة تماماً . فالمحصولات كانت قليلة لأنها نبتت في تربة ضعيفة ، فكانت الأغنام والماعز هي الدعامة الأساسية للبيتان الإقتصادي مع القليل من الأسماك والمحار ، وبالرغم من ضخامة المعمار الهندسي في مدينة برنيق القديمة ، فإن غذاء معظم المواطنين على ما يبدو كان كبير الشبه للغذاء التقليدي في عصور متأخرة ، ولهذا فإن المرء لأول وهلة يلاحظ أن الكتابات التاريخية القديمة والدلائل المادية الأثرية على شكلي تقيض ، ولكن أعتقد أن كلا الأمرين صحيحان . فبرنيق كان ميناؤها مهماً غير أن مصادرها المحلية كانت بسيطة ، في حين أن الثروة الزراعية الفعلية كان مصدرها الجبل الأخضر ، ومن الممكن دمج المعطيات الإقتصادية الناتجة عن حفريات سيدي إخربيش ، ومن الشواهد التاريخية لإقتصاد المدن القورينائية في إطار التطور الزراعي وإستغلال الأرض بحيث تستطيع إستخلاص العلاقة بين السكان الأصليين والمدن الهلنستية والرومانية (شكل ٩) . وتظهر من خلال وصف الكتاب الإغريق للسكان الأصليين في قورينائية وذلك بأن القبائل الرعوية كانت تستغل الجبل الأخضر والشريط الساحلي ، وذلك في الفترات الأولى للإستيطان ، حيث كانوا يقومون بزراعة القمح والشعير وتربية الأغنام والماعز (شكل ٩ : ١) وكان من الأيسر على المستوطنين الأوائل أن يتبنوا نظامي الرعي والزراعة في الدواخل بدلاً من إعتادهم على الشريط الساحلي ذات الإحتياطي المحدود (شكل ٩ : ٢) . وبالرغم من أن المستوطنين الإغريق استولوا على أجود الأراضي الزراعية بين قورينا وبنغازي فقد بقيت أراضي شاسعة بين هاتين المدينتين لم تستغل من قبل القبائل الرعوية ، كما كان الأمر من قبل . ويبدو أن الصراع بين الغزاة الذين إستوطنوا في المدن وبين المواطنين الأصليين في العصر الهلنستي كان صراعاً متقطعاً ، وعلى كل حال فقد بلغ التوسع الزراعي أقصى مداه في الجبل الأخضر في القرنين الأول والثاني الميلاديين (شكل ٩ : ٣) ، وكانت المستوطنات الزراعية محمية بسلسلة من القلاع الدفاعية كما أقيمت قلاع ضخمة على السفوح الجنوبية للجبل عند حافة الصحراء وبدأت هذه المزارع الجديدة تصدر فائض القمح إلى روما التي كانت في أمس الحاجة إليه عن طريق الموانئ مثل ميناء برنيق (شكل ٩ : ٣) .

وفي ذات الوقت كانت إجراءات الاستيلاء على الأراضي لغرض إقامة المستوطنات الزراعية في دواخل المدن القورينائية يدفع القبائل الرعوية إلى التزاحم على منطقة الشريط الساحلي وقد أدى هذا الإجراء إلى إنقطاع العلاقات بين المزارع وسكان الدواخل في القرن الثالث للميلاد (شكل ٩ : ٤) وهذا الوضع إنعكس على برنيق إذ إنحط فيها كلا المستويين الإجتماعي والإقتصادي . وبعد إستكمال عملية الإستيلاء على أراضي الجبل الأخضر لغرض الزراعة في القرنين الرابع والخامس الميلاديين ، أجبرت القبائل الليبية على تغيير قواعد معيشتها حيث تركت تربية الأغنام والماعز واصبحت تربي الإبل لتمكّنها من الوصول إلى السهول القاحلة البعيدة التي لم تكن مأهولة بالسكان من قبل (شكل ٩ : ٥) وقد كان تحركها الحر في هذه السهول مصدر تهديد كبير لأمن المدن الساحلية .

إن هذا العرض من الضروري أن يكون مبسطاً في هذه المرحلة وهذا مرده إلى أن البحوث الأثرية تركزت في المدن الساحلية وعلى السكان المستعمرين فقط : فالعلاقات بين المدينة والريف والساحل والجبل الأخضر والمزارع والمراعي تعتبر مشكلة عويصة في العصرين الهلنستي والروماني في المدن القورينائية ولكن في الوقت الحاضر لانستطيع أن نفعل شيئاً أكثر من التخمين في طبيعة تلك العلاقات ، نظراً لندرة آثار المستوطنات وقلة الحفريات الحديثة في دواخل المدن القورينائية ، بصرف النظر عن حفريات جوتشابلد النموذجية . ولهذا فإننا في حاجة ماسة لدراسة مستوطنات هذه المنطقة . فالحفريات التي أجريت في المستوطنات الخاصة بالمستعمرين والمواطنين لغرض دراستها دراسة تحليلية محدودة جداً ، إذا ما قيست بالمساحات الشاسعة التي تحتويها المدن الساحلية مثل برنيق .

لقد كانت الفترة الكلاسيكية في المدن القورينائية تعتبر فترة حاسمة في تاريخ الليبيين ، نتيجة لدمج المجتمع الليبي في مجتمع إستعماري جديد ، ولقد أعطانا تاريخ البحث الأثري نتائج غير طيبة ذلك لأنها مدتنا بمعلومات أوفر عن المدن الإغريقية والرومانية منها عن السكان الليبيين في هذه الفترة .



## الحيوانات المتوحشة البرية :

لقد كان الغزال الحيوان الوحيد الذي إصطيد وفق ما أظهرته العينات وإن كان وجوده قليلاً ، وهذا ربما يرجع إلى سببين ، الأول هو المرعى الطبيعي لهذا الحيوان بالجبل الأخضر أكثر من وجوده بالمناطق الساحلية ، والسبب الثاني هو ربما كان أهالي المنطقة يصطادون الغزال حتى لا ينافس الماعز والضأن في المرعى .

## ( ٤ ) عظام السمك والرخويات البحرية

بقايا السمك : لقد تضمنت عظام السمك في برنيق على عينات لأسماك كانت تعيش في المياه العذبة ، مثل سمك الصلور (Cat fish) وأربع عينات لأسماك بحرية ، وثلاثة أنواع من الأبراميس (Bream) (لوحة ٦) ، ومن المحتمل أن تكون أسماك الصلور قد تم إستيرادها من الخارج نظراً لعدم وجود مثل هذا السمك في المياه اللبية في الوقت الحاضر ، إلا أنه يتبادر لنا إحتمال آخر وهو أنها كانت تعيش في المياه الساحلية التي تقع بالقرب من بنغازي في العصور القديمة ، ويلاحظ أن جميع العينات لأسماك البحر والعينات الأخرى كانت تصطاد عن طريق القصبه (الصنارة) بإستعمال القوارب في المياه الضحلة القريبة من شاطئ برنيق .

## الرخويات البحرية :

لقد إستخلص عدد (١٤٠٠) جزئية من العينات الرخوية من عدد ٢٨ عينة في لوحة (٧) ، وأغلب العينات جمعت من جوانب البحر أو من المياه الضحلة (شكل ٨) وأكثرها إنتشاراً الكوكل (cockle) والبطلينوس (Limpet) ، والأخير كان يصطاد لغرض الأكل . أما بخصوص المريق (Murex) فإنه كان يصطاد لأجل عمل الأصباغ .

## تعليق :

تعتبر أهمية غياب بعض الأنواع السمكية والمحار كأهمية وجودها في العينات المدونة في اللوحة ٦ ، ٧ ، ومن المستغرب أن لا تظهر في العينات بقايا المحار والبوري ، وغيرها من الأسماك الغذائية ، والتي تعتبر وجبة غذائية فاخرة لدا الرومان ، ومن المحتمل أنها كانت متوفرة في البحر بالقرب من برنيق . ويبدو أن الصيد في أعماق البحر كان ضرورياً لغرض صيد سمك البوري الأحمر ، وذئب البحر ، في حين أن بقايا عظام الأسماك التي وجدت في العينات كانت قد إصطيدت من المياه الضحلة ، وقد مورست عمليات الصيد في أعماق البحر من أجل أغراض صناعية للحصول على الإسفنج ، والأصباغ الأرجوانية ولم يكن من أجل الحصول على الطعام الفاخر من المحار مثلاً ، وعليه فإن مجموعة الأسماك والمحار التي وجدت في الموقع تؤكد الإفتراض الذي يرمي إلى نوع المصدر الإقتصادي للمدينة ، والذي قد إستنتج من بقايا الحيوانات .

## ( ٥ ) البقايا النباتية

لقد إستخلصت الحبوب المتفحمة والتي جمعت من الجزء الأعلى للحفرية رقم (C. C.) بطريقة الطفو ، ويرجع تاريخها إلى نهاية القرن الأول الميلادي ، وقد تم إدراج العينات المعروفة في (اللوحة ٨) ويمكن تصنيف هذه الحبوب على أنها من الشعير ، ونلاحظ أن نصف عينة حبوب الشعير لم يكتمل نموها ، وهذا يجعلنا نفترض بأن الإنتاج كان ضعيفاً وأن العشب والشوفان قد سدا الفراغات التي لم ينمو فيها نبات الشعير ، ولما كان هذا النوع من النبات يتأثر بالتربة الحمضية وأعشاب الأسبرغولة الحقلية (Spurrey) والتي تنمو في بيئة حمضية ،

ويمكن إستنتاج مراحل إستخدام اللحوم من نوعين من البيانات :

١ — إتصال نهاية العظام الرئيسية بمفاصل الأطراف .

٢ — مراحل ظهور الأسنان وتآكلها ( لوحة ٤ ) .

إن الأغنام والماعز تذبح في السنة الأولى أو الثانية من عمرها وتشير البيانات الناتجة عن إستخدام وحدة القياس المترية ومن تحليل قرون الماعز والضأن (شكل ٤ — ٥) إلى أن لحم الماعز كان يستهلك أكثر من لحم الضأن في هذا الموقع ، وأن وجود هذين النوعين من الحيوانات أي الماعز والأغنام يوحي بأن إقتصاد المنطقة كان مبنياً عليها وذلك بإستغلالها بالطريقة المتبعة في مناطق حوض البحر الأبيض المتوسط حيث إستعمل الحليب في إنتاج الجبن كما إستعملت المنتجات الأخرى في شتى الأغراض ، إذ لم يقتصر إستعمالها على اللحم والصوف فقط ، وكان يجلب صغار الذكور إلى المدينة وذلك عندما يصبح عمرها سنة واحدة ، وتكون قابلة للتذبح في حالة الحصول على كمية من اللحم تناسب مع جثتها ، بينما يحتفظ ببقية القطيع من أجل الحصول على منتجات الألبان ومن أجل التكاثر ، وكنتيجة لهذا النظام قد وجدت عظام الحيوانات الكبيرة في العينات التي إختيرت من قورينائية .

وهكذا كان إقتصاد المدن القورينائية يعتمد على النظام التقليدي في رعي القطعان من الماعز والضأن ، وليس من المستغرب بأن تسود هذه المنطقة تربية الضأن والماعز وذلك لأنهما أنسب نوعاً لظروف البيئة المحلية الرعوية من غيرهما من الحيوانات الأليفة ، وقد رُبيت أعداد قليلة من الخنازير ، وكل ما ظهر من مخلفاتها في العينات يدل على أن أغلبها لم تكن كاملة النمو ، وكذلك كانت تذبح العجول في سن مبكر ، وفي ذات الوقت كانت توجد أبقار في سن متقدمة جداً إستخدمت في الحرث ويبدو أنها كانت تذبح عندما كانت تعجز عن أداء وظيفتها ، وهذا الإفتراض بوجود هذين النوعين من الأبقار في برنيق قد دعمه بالبيانات القياسية المستقاة من العينة التي تتكون من عظام الأبقار (شكل ٧) .

## الجمال :

لقد كانت عظام الإبل نادرة الوجود في العينة ، وفي الحقيقة أن العظام التي عثر عليها متكاملة مما يدل على أن لحم الجمل لم يؤكل في برنيق ، وتشير إلى أن ظهور هذا الحيوان في هذا الموقع في عصر الأباطورية الرومانية يدعم رأي السيدة بروجان المستند على الوثائق والنقوس ، وهو أن الجمل لم يكن شائع الإستعمال في المدن القورينائية حتى القرن الثاني أو الثالث للميلاد .

## الخيول ، الحمير ، البغال :

وما قيل عن الجمل يمكن أن يقال عن الحمير والبغال فلم تستعمل في العادة لغرض اللحم ، وتذكر لنا الأدلة الوثائقية سلالات الخيول اللببية الممتازة ، ومن المعلومات القليلة المتيسرة والتي أخذت من العينات تشير إلى أن خيول برنيق كانت أصيلة ، أما بخصوص الحمار فإنه من المحتمل أن يكون قد إستعمل في المنطقة المحيطة بالمدينة القديمة ، وذلك بإستعماله في جر المحراث وحمل البضاعة كما يظهر في العينات عظام متوسطة الحجم ربما تكون عظام البغال ، وقد إنتشر إستعمال هذا الحيوان في العالم الروماني لجر العربات .

## القطط والكلاب :

قد ظهرت في العينات عدة شواهد لهما كل عظمية للقطط على أن الهياكل العظمية للكلاب كانت أكثر عدداً ، فلا يقل عن عشرين هيكلًا عظميةً ألقيت في الصهريج رقم (H22) ، وأغلب هذه الكلاب كبيرة ، وعلى ما يظهر أنها ذات حجم وشكل واحد كما هو الحال في الكلاب الحالية التي تجوب شوارع المدن لإلتقاط ما يصادفها من بقايا مواد غذائية .

## (٢) الظواهر الطبيعية

إن البيانات الأثرية للمدن القديمة يجب أن تفهم من خلال الدليل الأثري أكثر من فهمنا لها على ضوء البيئة الحديثة ، وعلى كل حال فبالرغم من عاملي الترسيب والتعرية اللذان أثرا في طبيعة قورينائية عموماً ، إلا أنه من المحتمل أنها لم تغير شيئاً في المنطقة المحيطة بينغازي (شكل ٢) ولهذا فإن الشيء الأساسي الذي فرض على الإنسان ، الإستقرار في هذه المنطقة ، السمات الطبيعية ، والمناخ ، وسقوط الأمطار ، والتربة (شكل ١) وهذه العوامل لم تتغير تغيراً يذكر منذ العصور القديمة ، ومن المرجح أن التلال الجيرية في الجبل الأخضر كانت في أغلب الأحوال رعوية أكثر من كونها صالحة للزراعة والحراث ، ونلاحظ أن إنجراف التربة من هذه المساحات إلى الأودية ومنخفضات الجبل الأخضر سوف لن يغير من الدور الأخير كأراضي خصبة . إن التربة المتحركة في الأودية التي بين الجبل الأخضر والشريط الساحلي صالحة للزراعة ، وأن تكوينها كنتيجة لتفتت التلال يجعلها مورداً خصباً للزراعة ، ومع هذا فلا تتوفر لدينا معلومات على أن الطمي قد سبب تغيراً في التربة عند سهل بنغازي بعد الفترة الجليدية **Post glacial** وبعبارة أخرى فإننا نستبعد أن التربة التي حول بنغازي كانت ذات مميزات مختلفة في الفترات القديمة عما هي عليه الآن .

إن شكل (٣) يوضح لنا نموذجاً لإستغلال الأرض بالطريقة التقليدية في قورينائية ، وكذلك معظم الجبل الأخضر بالإضافة إلى الشريط الساحلي حيث كان يستخدم تارة للزراعة وتارة أخرى للرعي ، فكان الماعز يرعى في المناطق الساحلية بينما قطعان الماعز ترعى في مناطق الجبل الأخضر في حين إستعملت السهول الداخلية لرعاية الإبل . هذا وتدل وثائق المؤرخين اليونانيين بأن هذا النمط المعتاد في غلال الأرض كان معروفاً منذ الإستعمار الهلينستي باستثناء رعي الإبل . وذلك لأن الجمل أدخل إلى المنطقة في فترات متأخرة وبأعداد قليلة إلى المدن القورينائية ، وبدون إستعمال الجمل فإن الوصول إلى مصادر المياه والرعي في الدواخل كان متعذراً .

## (٣) عظام الحيوانات والطيور

لقد أمكن التعرف على (٥٧٣٣) قطعة من عظام الحيوانات من مجموع العينة التي تحتوي على (١٤,٠٥٥) قطعة أي بنسبة ٤٠٪ . وتوضح لنا اللوحة (١) بأن التحاليل الأساسية للعينات تنقسم إلى ثلاث مجموعات : المجموعة السابقة لسنة ١٩٧٥ ، وهي تمثل أربع حقبات ، وهذه المجموعة وجدت في المجلس (C. C.) والصهريج (H) ، ويمكن تقسيم العظام إلى نوعين : النوع الأول هو مخلفات طعام الحيوانات التي تبدو على هيئة عظام دقيقة ، والنوع الثاني الهياكل العظمية التامة ، وتشتمل على نسبة كبيرة من العظام الكاملة . هذا ويلاحظ أن معظم القطع من العظام لحيوانات أليفة مثل القطط والكلاب مع وجود أيضاً عظام للحمير والخيول والجمال .

### الحيوانات الرئيسية المألوفة :

بالرغم من أن عظام الدجاج شائعة بكثرة فإن القيمة الغذائية لهذه الطيور محدودة جداً ، إذا ما قورنت بكمية اللحوم المتوفرة من الحيوانات الأخرى ، والتي تجعل من الأغذية الأخرى غير ذات قيمة كبيرة . وفي الحقيقة أن جميع اللحوم التي كانت تؤكل في برنيق مستمدة من الحيوانات المستأنسة وخاصة (Ovicaprid) الضأن والماعز والأبقار والخنزير . (إن مصطلح (Ovicaprid) إستعمل في هذا التقرير وذلك لأن معظم قطع العظام الصغيرة لا يمكن تحديدها بإطمئنان فيما إذا كانت تخص ماعز أو ضأن ولهذا يجب علينا معالجتها معاً) وبناء على العدد الكلي فإن القطع المختلفة (لوحة ٢) والعدد الأدي في القطع المفردة تتمثل في العينات الخاصة (لوحة ٣) نلاحظ أن الأغنام والماعز كانت هي الحيوانات الرئيسية التي كانت تؤكل في برنيق ، وعلينا أن نأخذ في الحسبان النقاط التي ناقشناها في الفصل الأول وهي أن الأغنام والماعز تربو عن ٨٠٪ و ٩٠٪ من الحيوانات التي كانت تؤكل في أغلب الأحيان من قبل المستوطنين ، وأن الزمن الوحيد الذي تغيرت فيه هذه القاعدة هو النصف الأول من القرن الثالث الميلادي .

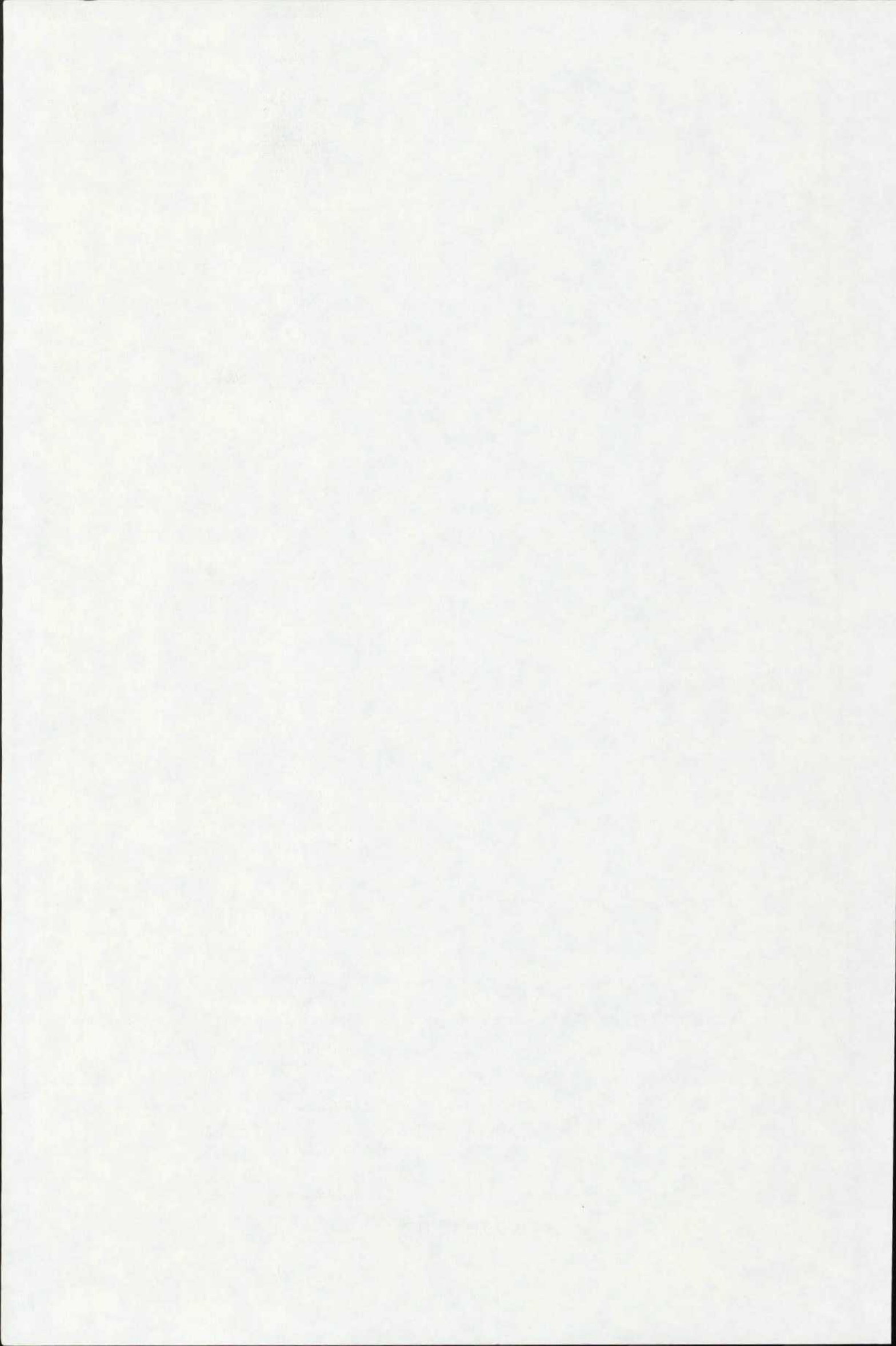
## الحياة الاقتصادية في برنيق

### (١) مقدمة

إن موضوع بحثي هذا مركز على إعادة بناء الحياة الاقتصادية في برنيق ، ومستخلصة من تحاليل النباتات الاقتصادية التي وجدت في حفريات سيدي إخربيش ، والتي تتمثل في عظام الحيوانات والأسماك والرخويات وبقايا النباتات ، هذا البحث الأولي على أي حال قد أجري في المدن القورينائية (المدن الخمس) ، وأعتقد أن فرص البحث مستقبلاً ستكون وافية ، وفي الجزء الأخير من البحث ناقشت التطور الزراعي في العهد الهلينستي والروماني على أساس التحاليل التي أجريت في برنيق القديمة وكذلك تكيف الليبيين ومقاومتهم للغزاة . هذا وقد أنهيت بحثي بأن دراسة المستوطنات القديمة في دواخل قورينائية مرتبطة تاريخياً مع الحفريات الحديثة للمواقع الرئيسية وتحاليل الشواهد الاقتصادية لهذه المواقع ، والتي يجب أن تمدنا بالمعلومات التي نحتاج إليها عن تكوين الليبيين القدماء في الفترة الهامة من تاريخهم .

لقد أوضحت التجارب في العديد من البلدان أن طرق الحفريات العادية التي إستعمل فيها الطلبة والعمال نتائجها الغير سليمة تشتمل على وجود عينات لبقايا حيوانات كبيرة فقط ، وقد فقدت العظام الصغيرة وكذلك الحيوانات الصغيرة ، مثل الكلب والخنزير والضأن والماغز ، ولم تظهر في العينات إذا ما قورنت بالحيوانات الأكبر حجماً مثل البقر والخنيل .

إنه من الضروري إستعمال غربال دقيق كطريقة حديثة ومركزة لنضمن الحصول على عينة كافية ذات أحجام صغيرة ، وهذه الطريقة الوحيدة التي إستعملت في حفريات سيدي إخربيش بينغازي سنة ١٩٧٥ م ، وكذلك الموقع (C. C.) ومحتويات الصهريج (H) ، وعليه فإن تحليلاتي إستخدمت فيها هذه الطريقة كوسيلة ضابطة للعينات . إذ أن عينات الحيوانات التي جمعت في مواسم سابقة لا يربو عددها عن (٦٠٠٠) عينة معروفة بينما أسفرت المواقع المشابهة المكتشفة حديثاً في بريطانيا عن (١٠٠,٠٠٠) عينة ، ومع ذلك فإني أعتقد بأن هذه البيانات عن برنيق لا تؤكد ما عرفناه من الكتاب القدامى عن إقتصادها القديم فحسب بل إنها تضيف معلومات ذات دلالة وأهمية عن الحياة في المدن الخمس (المدن القورينائية) في هذه الفترة ، وعليه فإن المعلومات التي تحصلنا عليها من برنيق تعتبر شاهداً قوياً عن الدور الهام الذي لعبه الإقتصاد في العصور القديمة .



## المحتويات

- ١ — الحياة الإقتصادية في برنيق . . . . . غوايم باركر
- ٨ — النحت والطين المحروق (الدمى المصنوعة من الطين) . . . . . أ. بونانو
- ٩ — الفخار الخشن . . . . . ج. أ. رايلي

انجمن

الدار العربیة للكتاب

طباعة انتربرينت مالطایمتد

الملحق الخامس مجلة

# ليبيا القديمة

## حفريات مقبرة سيدي اخريبيش

المجلد الثاني

أعدّها للنشر

ج . أ . لويد

أشرف على الحفريات

غرايم باركر — أ . بونانو — ج . أ . رايلي

عبد الحميد عبد السيد مسعود شقلوف

ترجمة

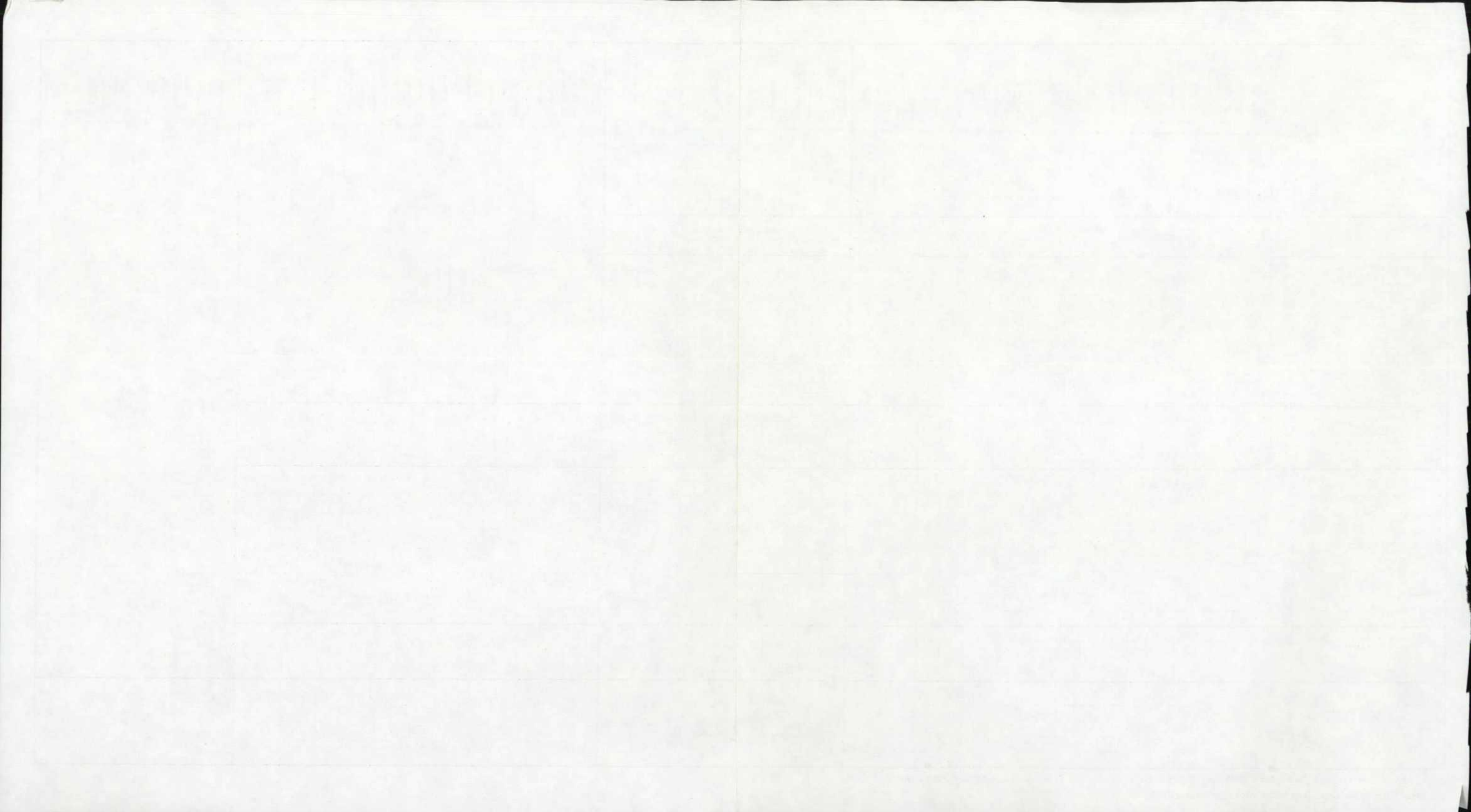
رمضان أحمد قديدة محمود الصديق أبو حامد مصطفى عبد الله الترجمان

نشر  
مصلحة الآثار . أمانة التعليم .

طرابلس ١٩٧٩







التوصيات المتعلقة بشراء نسخ من هذا الملحق توجه إلى الإدارة العامة للبحوث الأثرية والمخفوظات التاريخية بمصلحة الآثار في الجماهيرية العربية الليبية الشعبية الاشتراكية — طرابلس — السراي الحمراء .

ثمن النسخة ١٥ دينار لبي

الملحق الخامس مجلة

# ليبيا القديمة

## حفريات مقبرة سيدي اخريبيش

المجلد الثاني

أعدّها للنشر

ج . أ . لويد

أشرف على الحفريات

غرايم باركر — أ . بونانو — ج . أ . رايلي

عبد الحميد عبد السيد مسعود شقلوف

ترجمة

رمضان أحمد قديدة محمود الصديق أبو حامد مصطفى عبد الله الترجمان

نشر

مصلحة الآثار . أمانة التعليم .

طرابلس ١٩٧٩