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DEFINING MORE ROMAN AMPHORA TYPES FROM THE ATHENIAN AGORA: TOO MUCH HISTORY, TOO LITTLE TYPOLOGY (I)

Pontic and eastern Mediterranean sites have been excavated according to a strong art historical tradition, with investigators giving priority to monumental political and religious buildings, imposing mosaics and painted or relief decorated vessels. Although amphora studies have made good advances in these areas over the past few decades, we badly need to clarify the huge number of manufactured types, especially those of the late Hellenistic and Roman periods in the eastern Mediterranean area, giving a clear morphological and fabric definition of these vessels.[1] In spite of the lack of excavation of production sites, a careful analysis of increasing information derived from consumption sites can help to elucidate the huge number of amphora types manufactured during these periods. We are still far from Keay's desire "to select and address particular questions" and not to "become merely technicians who amass data."[2]

The aim of this paper is to describe the morphological evolution of three amphora types that occur at Athens but are scarcely found in the Mediterranean and Pontic world.[3] Two fragmentary amphora types, Agora M 235/M 327 and M 236, were published by H. S. Robinson,[4] while the third type has yet to be published. The occurrence of pitch on interior walls suggests that wine was the main product carried by these containers. In this paper I propose a complete seriation of these types, from the early Roman period to late Roman times.

Agora M 235/M 327

This amphora type had mainly a provincial distribution, although it enjoyed a certain popularity during late Roman times when it reached several important harbour cities, such as Tarragona, Marseilles, Genoa, Caesarea Maritima, Thessaloniki, and, of course, Rome. It was briefly described for the first time by H. S. Robinson in his milestone book, *The Athenian Agora V. Pottery of the Roman Period*.[5]

A close look at the amphora collection in the Athenian Agora suggests the evolution of this type from the early 1st century AD to the 6th century. Some trends over the course of its evolution can be pointed out: a constant reduction of dimensions (**fig. 1**)[6] in terms of capacity; a persistent care in the manufacturing process as evidenced by the use of the same pottery techniques; a continuous use of the same clay source; and the presence of *dipinti* rendered in black on many late Roman examples.

The series probably begins with Amphora P 4130[7] (**figs. 2–3**).It has a tall neck, a flaring rim with a deep finger indentation inside the neck at the point of upper handle attachment; the attachments cover only a small area; and the handles are ovoid in cross section. The surface is covered by a skin with a color that varies between light reddish-brown (2.5YR 6/8) to dark-reddish-grey (2.5YR 4/1). It might have parallels at Ephesus.[8]

The subtype of the 2nd–first half of the 3rd centuries may be represented by some amphorae discovered at Argos and published by Pieri.[9] These vessels continue to be tall with a flaring rim, and an ovoid, grooved body.

The second half of the 3rd century is epitomized by the Athenian find P 25617 (**figs. 4–5**).[10] This subtype already

1 None of those almost 200 amphora kilns identified by J.-Y. Empereur and M. Picon (J.-Y. Empereur/M. Picon, Les régions de production d'amphores impériales en Méditerranée orientale. In: Amphores romaines et histoire économique: Dix ans de recherche. Actes du colloque de Sienne (22–24 mai 1986). Collect. École Française Rome 114 [Rome 1989] 223–248) has been systematically excavated.

2 S. J. Keay, The Siena Amphora Conference 1. Amphorae and the Roman Economy. Journal Roman Arch. 5, 1992, 360.

3 The study of these amphorae has been facilitated by a Kress Fellowship that allowed me to work in the *Stoa of Attalos* at Athens. I would like to express my gratitude to Professor J. Mck. Camp II and his team for all the generous support. My participation in the RCRF congress (Catania 2012), and the drafting of this text was supported by a grant from the Romanian National Authority for Scientific Research, CNCS – UEFISCDI, project number PN-II-ID-PCE-2011-3-0054. All the Agora amphorae were drawn by the author and inked by O. Malinovskaya and J. Efimov. The close up pictures of the fabrics were taken by the author.

4 Robinson 1959, 106 M 235, M 236 pl. 28.

5 Robinson 1959, 106 M 235 pl. 28; 115 M 327 pls. 32, 58.

6 The following abbreviations are used: H (height), PH (preserved height), MD (maximum diameter), W (weight), and C (capacity). The dimensions are indicated in centimeters; the unit of the scale used for the color pictures of the fabrics is 0.5 mm.

7 The Athenian Agora excavations, section K #954; 29/k, in shaft; dimensions: RD 15, MD 40, H 84, W 14 kg, C *c*.52 litres.

8 T. Bezeczky, Early Roman Food Import in Ephesus: Amphorae from the Tetragonos Agora. In: J. Lund/J. Eiring, (eds.) Transport Amphorae and Trade in the Eastern Mediterranean. International Colloquium at the Danish Institute (Athens 2002). Monogr. Danish Inst. Athens 5 (Aarhus 2004) 87 fig. 3,30 (probably Augustan).

9 Pieri 2005, 85 fig. 44 (dated 4th century at Argos and considered as predecessors of LRA 2).

10 Agora Context: section IIII #1021, south house; dimensions: RD 13.8, MD 37.5, H 66, W 7 kg, C*c*.29 l.

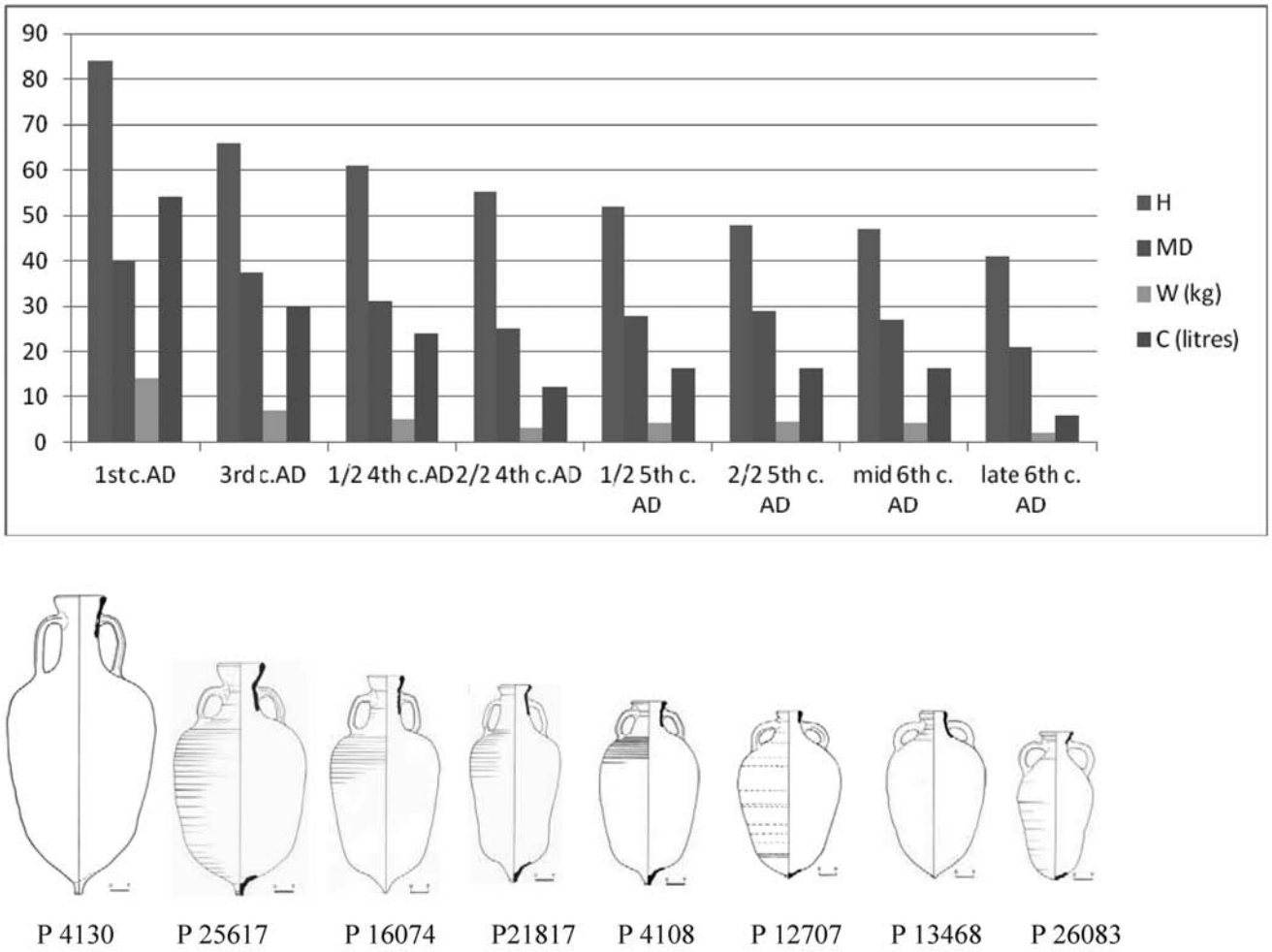

Fig. 1. Schematic evolution of the Amphora Agora M 235/M 327.

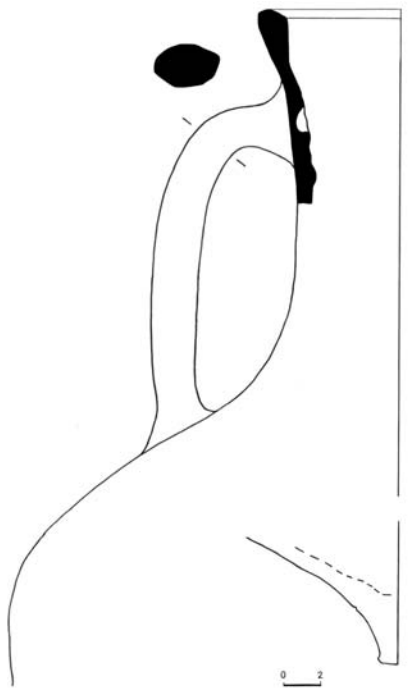

Fig. 2. Agora amphora P 4130. – Scale 1:4.

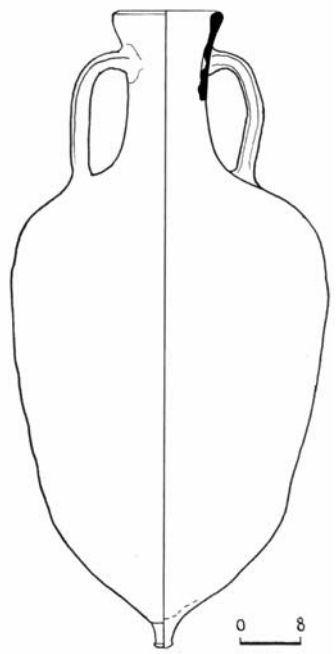

Fig. 3. Agora amphora P 4130. – Scale 1:10.

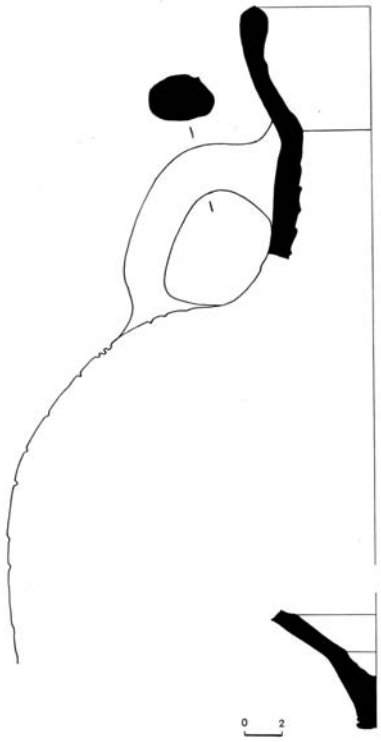

Fig. 4. Agora amphora P 25617. – Scale 1:4.

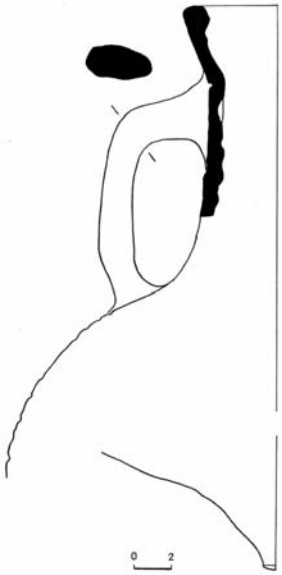

Fig. 6. Agora amphora P 16074. – Scale 1:4.

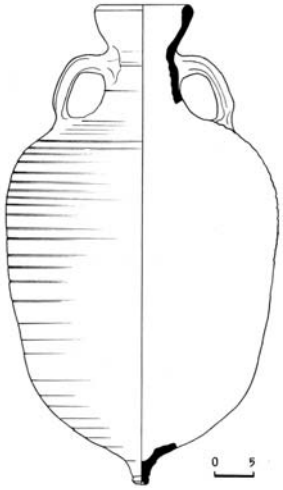

Fig. 5. Agora amphora P 25617. – Scale 1:10

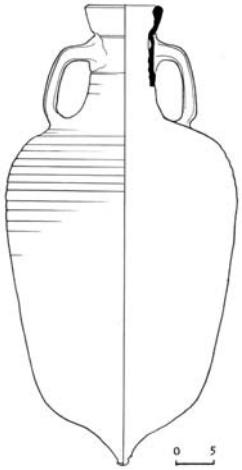

Fig. 7. Agora amphora P 16074. – Scale 1:5.

has a cup-shaped mouth that will characterize the subtypes of the following centuries. The body becomes more ovoid, ends in a short, conical base with a pointed toe; this type of base will be typical for the subtypes of the next centuries. It is covered by deep striations which also will be typical for the next subtypes. Most likely these are the traces left by a string that wrapped the different luted segments of the body during the drying process.[11]

The subtypes of the 4th century, P 16074[12] (**figs. 6–7**) and P 21817[13], have a medium height neck, a more elongated body ending in a conical spike, while the striations are restricted to the upper part of the body. A finger indentation occurs inside the neck. This is a period when this type was widely exported.[14]

[11] I have seen the same technique at *Leptiminus*, cf. A. Opaţ, Early Roman amphorae from Leptiminus. RCRF Acta 36, 2000, 439–441.

[12] Robinson 1959, 106 pl.40 under M 235; Context F 15; dimensions: RD 10.4, MD 31, H 61, W 5 kg, C *c.*18 litres.

[13] Athenian Agora, context Q18:1; dimensions: RD 9.6, MD 25, H55, W 2.8 kg, C *c.*12.3 l.

[14] **Iatrus**: S. Conrad, Die Gefäßkeramik. In: G. von Bülow/B. Böttger (eds.), Iatrus-Krivina VI. Ergebnisse der Ausgrabungen 1992–2000. Limesforschungen 28 (Mainz 2007) 256 fig. 54,752 (dated to the

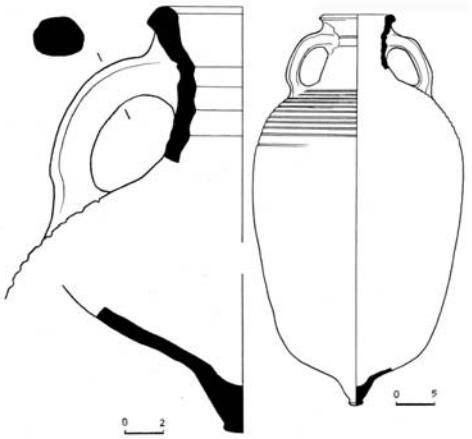

Fig. 8. Agora amphora P 4108. – Scale 1:4 & 1:10.

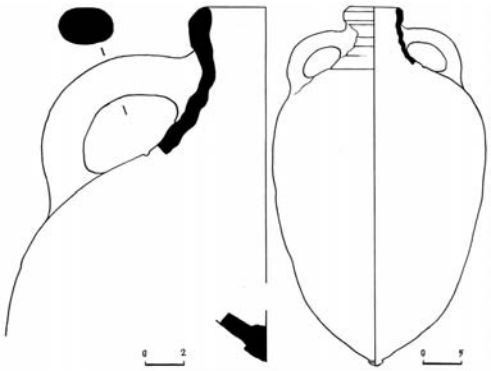

Fig. 9. Agora amphora P 13468. – Scale 1:4 & 1:10.

During the first half of the 5th century, the potters struggle to keep a slim body that ends in a conic spike with a narrow button. However the neck becomes shorter, the handles more ovoid than flat in cross section, and the striations are restricted only in the shoulder area. A good example is the amphora P 4108[15] (**fig. 8**). Parallels for this subtype exist in Spain.[16]

The subtypes of the second half of the 5th–6th centuries AD, have a tendency for a more ovoid body, the neck becomes shorter and wider while the conical toe changes in a vestigial knob. Two amphorae from the Athenian Agora, P 12707,[17] and P 13468[18] exemplify these subtypes (**fig. 9**). These subtypes are present in the Peloponnese, Attica, and Spain.[19]

Probably the last subtype is the Athenian find P 26083[20] (**figs. 10–11**) dated to the end of the 6th–beginning of the 7th c AD. The shape is drastically changed as the rim is not cup-shaped but flaring, the body is narrowing and that makes the shoulder more steep, the maximum diameter is still at the upper part and the base is rounded ending only in a very flat knob, delineated from the body by an incised line.

Another peculiarity of this type, suggesting the complexity of the industry that manufactured vessels not only for exporting wine to foreign markets but also for the local and provincial markets is demonstrated by two table amphorae discovered in the Athenian Agora: P 16344 and P 16349. The former has morphological characteristics typical for the second half of the 3rd –beginning of the 4th centuries AD: cup-shaped mouth separated from the tronconical neck by a set of striations, and an almost globular wheel-ridged body set on a low ring foot[21] (**figs. 12–13**). The latter example typifies the shapes of the 4th century also with a cup-shaped mouth, but a more elongated neck and body that is set similarly on a low ring foot. A band of striations separates the mouth from the neck.[22] Their fabric is identical to that of the transport amphora version.

The extraordinary skill of the potters who manufactured this type is shown by the 1:4 ratio of weight (kg.) to capacity (litres), and the near constant 2:1 ratio of height to maximum diameter. An anomaly is observed only during the late Roman period when the latter ratio varies between 1.85:1 and 1.66:1 due to a reduced height and an increase maximum diameter, part of an effort to preserve the early Roman weight-capacity ratio of 1:4; it is remarkable that a 16 litre capacity was

end of the 3rd century–beginning of the 4th century); **Argos**: Abadie-Reynal 2007 pl. 70,444.1; Ivantchik 2002, 126 fig.17,120. – **Messene (Peloponnese)**: A. Yangali in press. – **Sparta**: Scoufopoulos-Stavrolakes 1985, 56 fig.5; I. Spondylis, Νομός Λακωνίας. *Α*ρχαιολγικὸνΔελτίον 43, 1988, 681 pl. 400b. – **Corinth**: Biers 1985, 81 fig. 7,30. – **Thessaloniki**: P. Petsas, Αρχαιότητες και μνημεία κεντρικής Μακεδονίας. Αρχαιολογικὸν Δελτίον 21, 1966, 334 pl. 343d; D. Papanikola-Bakirtzi, Ceramics in late antique Thessalonike. In: L. Nasrallah/Ch. Bakirtzis/S. J. Friesen (eds.), From Roman to Early Christian Thessalonike. Studies in religion and archaeology. Harvard Theol. Stud. 64 (Boston/London 2010) 263–297 fig.13. – **Crete**: Portale/ Romeo 2001, 351 pl. 70 a.c fig.166. – **Salona**: J. Mardesic, Anfore. In: Salona Cristiana. Split. Exhibition catalogue (Split 1994) 294 no. 3. – **Malta**: B.Bruno/N. Cutajar, Archeologia byzantina a Malta: Primi risultati e prospettive di indagine. In: M. G.Amadasi/M. Liverani/P. Matthiae (eds.) Da Pyrgi a Mozia. Studi sull'archeologia del Mediterraneo in memoria di Antonia Ciasca (Roma 2002) 124 pl. 2,1. – **Dalmatia**: N. Cambi, Anfore romane in Dalmazia. In: Amphores romaines et histoire économique: Dix ans de recherche. Actes du colloque de Sienne (22–24 mai 1986). Collect. École Française Rome 114 (Rome 1989) 332–333 fig. 37 middle. – **Spain**: Remolà Vallverdú 2000, 234–236, ánfora tardia tipa A fig. 71,9; 87–88. – **Marseille**: M. Bonifay, Observations sur les amphores tardives à Marseille d'après les fouilles de la Bourse (1980–1984). Rev. Arch. Narbonnaise 19, 1987, 284 fig. 9,35. – **Rome**: C. Panella/ L. Saguì, /F. Coletti, Contesti tardoantichi di Roma. Una rilettura alla luce di nuovi dati. In: LRCW 3, 64 fig. 4,45. – **Genoa**: B. Bruno, Il commercio delle anfore a Genova in epoca Tardo Antica. In: P. Mellli (ed.), La città ritrovata. Archeologia urbana a Genova 1984–1994 (Genova 1996) 326 nos. 10.17; 10.18. – **Caesarea**: R. Tomber, Pottery from the Sediments of the Inner Harbour (Area I14). In: K. G. Holum/A. Raban/J. Patrich (eds.), Caesarea Papers 2. Herod's Temple, the Provincial Governor's Praetorium and Granaries, the Later Harbour. A Gold Coin Hoard and Other Studies. Journal Roman Arch. Suppl. 35 (Portsmouth 1999) 315 no. 95 fig. 6,95; 320 no.137 fig. 8,137.

15 Agora, context I 15:1; dimensions: RD 10.2, H 52, MD 28, W 4 kg, C *c.*16 l.

16 Remolà Vallverdú 2000, 234 fig. 88,1–2.

17 Agora context O 19:1; dimensions: RD 7.4, H 48.4, MD 29.4, BD 2.8, W 4.5 kg, C *c.*16.6 l.

18 Agora context P 19:1; dimensions: RD 8, H 47, MD 27.6, BD 2.7, W 4 kg, C *c.*16 l.

19 Abadie-Reynal 2007 pl. 72,454.1; Ivantchik 2002 fig. 22,137; Böttger 1992 fig. 3,5.

20 Agora, context Q 19:1; dimensions: RD 9.5, H 41.5, MD 21; W 2 kg, C *c.*5.6 l.

21 Robinson 1959, 77 L 30 pl.16; dimensions: RD 10, H 38.8, MD 23.4, BD 10, W 2.373 kg, C *c.*7.2 l

22 Robinson 1959, 79 L 54 pl.17; dimensions: RD 8, H 40.3, MD 19.8, BD 9.6, W 2.756 kg, C *c.*4.7 l.

maintained consistently during the 5th and the 6th centuries (**fig. 2**). All of these characteristics point to the existence of a continuity not only in the activity of skilled potters over the course of six centuries, but also in the wine production of a certain viticultural area.

Epigraphy

Some late Roman–early Byzantine examples preserve *dipinti* in black, seldom in red, written on the shoulder. These are either Christian inscriptions or notations of taxes in kind indicating the estate name, the indiction date, and the capacity.[23]

Contents

Taking into account the frequent occurrence of pitch on the internal side of the walls, wine appears to have been the main product carried.

Fabric

The earlier subtypes have a hard, compact, very fine fabric with no visible inclusions; some examples have abundant gold mica visible on the surface and a laminated break that provokes occasional exfoliations of some parts of the body. Colour: light red (2.5YR 6/8); the surface is covered by a skin with a color that varies between light reddish brown (2.5YR 6/4) to dark reddish-grey (2.5YR 4/1). The table amphorae have pale yellow-yellow colour (2.5Y 7/4-7/6) (**fig. 14**).The fabric is somewhat micaceous (mostly muscovite) and contains scattered, irregularly-shaped pieces of cryptocrystalline limestone, a groundmass of quartz grains, silt-sized and slightly above in size, together with some red iron oxide.[24]

The examples of the 4th and the 5th century preserve only a self-slip in a light red (2.5YR 6/6) colour while the fabric is reddish yellow (5YR 6/6-6/8) (**fig. 15**). The latest subtype, P 26083, has a fine, micaceous fabric in a brown color (7.5YR 5/4 to 7.5YR 5/6).

Origin

In some cases scholars consider this type a predecessor or a derivative of LRA 2.[25] Recently P. Reynolds suggested a Cretan origin.[26] However, this type is poorly represented in Crete,[27] while it seems to be far better represented in the Peloponnese[28] and at Athens.[29] A Peloponnesian origin may be suggested by the recent discoveries of pot wasters made at Messene in the same fabric as this amphora type.[30] However, as reported by D. F. Williams, "in order to show

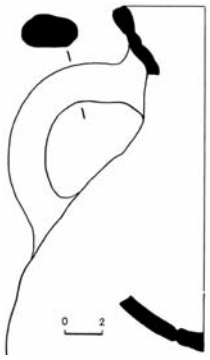

Fig. 10. Agora amphora P 26083. – Scale 1:4.

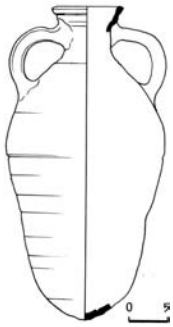

Fig. 11. Agora amphora P 26083. – Scale 1:10.

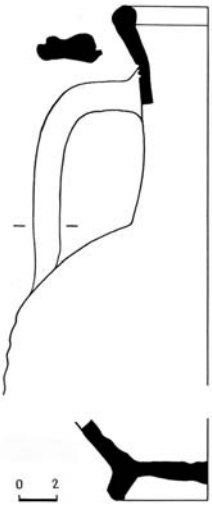

Fig. 12. Agora amphora P 16344. – Scale 1:4.

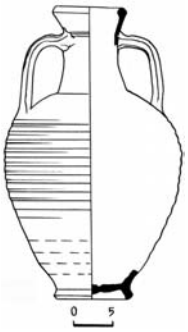

Fig. 13. Agora amphora P 16344. – Scale 1:10.

[23] See Lang 1976, 81 He 41 pl.47; 83 I 2 pl. 48; 85 I 21 pl.50; 87 I 43 pl. 53; Abadie-Reynal 2007, 251 Form 29 no. 454 pl. 72.

[24] I am in debt to D. Williams for these petrographic observations.

[25] Pieri 2005, 85.

[26] P.Reynolds, Trade relations of the east, 3rd to 7th centuries: the view from Beirut (Lebanon) and Butrint (Albania) (fine wares, amphorae and kitchen wares). In: LRCW 3, 96 fig. 5c.

[27] Only a few examples from Gortyn have been published: Portale/Romeo 2001, 351–352 pl. 70,a.c fig. 166.

[28] Biers 1985, 81 no. 130 fig. 7 (considered as African); Scoufopoulos-Stavrolakes 1985, 56,fig. 5; Abadie-Reynal 2007, 245 pl. 70 fig. 444,1; 251 form 29 no. 454; Ivantchik 2002, 379 no. 120 figs. 17,21; 388 no. 137 figs. 21–22.

[29] Robinson 1959, 106 M 235; 115 M 327; Böttger 1992, 372 no. 70 fig. 3,5 pl. 100,3.

[30] Yangaki 2014.

Fig. 14. Agora amphora P 16349, close-up of fabric.

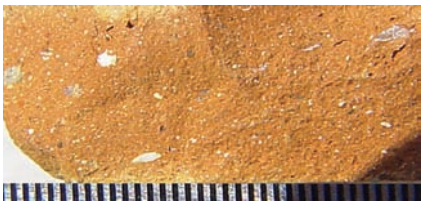

Fig. 15. Agora amphora, context F:16, close-up of fabric.

Fig. 16. Agora amphora P 14108. – Scale 1:10 & 1:4.

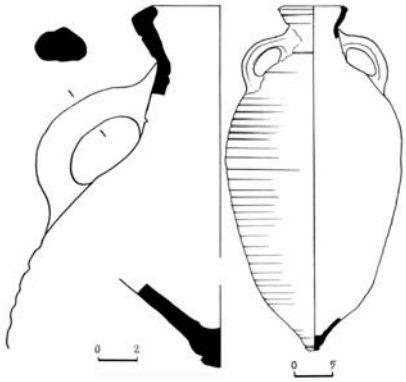

Fig. 17. Agora amphora P 13510. – Scale 1:4 & 1:10.

a direct connection with Messene we need some local amphora samples for comparison or a petrological report on the Messene material that we can use for comparison with the above samples" (pers. comm.).

Agora P 14108, subtype of Agora M 235

This amphora (**fig. 16**) bears a strong similarity to Agora M 235, especially in the shape of the flaring rim with its beveled lip on the exterior, its slightly curbed interior, and its short, arched handles that are ovoid in section. The body, however, is more elongated, has a steep shoulder, and ends in a short, profiled toe; narrow grooves cover the neck and the whole body. Amphora P 14108 is dated in the 4th century AD.[31] The ratio of height to maximum diameter is 2.2:1, while the ratio of weight to capacity is c. 1:3.66..

During the 5th century this type follows the same tendency as M 235. Its body becomes more ovoid with a shorter neck, ending in a short tipped toe, as is showed by amphora P 13510[32] (**fig. 17**). However, the consistency in manufacturing is preserved as the ratio of height to maximum diameter is 1.99:1, and the ratio of weight to capacity c. 1:4.4. It is quite well represented in the Athenian contexts.

Epigraphy
No *dipinti* or *graffiti* are known from these examples.

Contents
Traces of pitch on the interior walls suggest wine as the main content. It occurs in both fabrics of Agora M 235.

Fabric
There are at least two fabrics that point to two different workshop areas. The first is similar to Agora M 235. The second lacks the calcareous inclusions present in the previous fabric and has instead a more fine-grained compact micaceous fabric (both muscovite and biotite), containing a scatter of silt-sized quartz grains and some red iron oxide.[33] The colour is reddish yellow (7.5YR 6/6 to 5YR 6/6: **fig. 18**).The production of Agora M 235 and this subtype in the same area is not to be ruled out.

Agora M 236

Morphologically, this type shares many similarities with the previous type. For this reason it has sometimes been considered as a single type, Agora M 235-M 236;[34] it paralleled either Agora K 114[35] or Agora M 274 *similis*.[36] However, the rim and handle profile, which continued to be unchanged from

[31] Context O 19:1; in the same context other amphora fragments of the same type have been found. Similar fragmentary examples occur in context F 16:2. The dimensions are also similar to the previous type: H 53.7, RD 7.8, MD 23.8, W 3 kg, and C*c*.11 litres.
[32] Dimensions: H 45.4, R 9.4, MD 22.8, and W 2 kg.
[33] I am indebted to D. Williams for these petrographic observations.
[34] Abadie-Reynal 2007, 245.
[35] Oikonomou-Laniado 2003, 37.
[36] AA.VV. 2010a, 8; AA.VV. 2010b, 6.

the 1st to 4th century AD, and the consistency of the ratios of height to maximum diameter and of weight to capacity, define this vessel as a distinct type.

Morphology

The archetype of this amphora is perhaps a fragmentary amphora discovered at Knossos in an Augustan context (**fig. 19**). The mouth is narrow, the rim is rolled toward the exterior, the neck is tronconic and slightly swollen, the handles are ovoid in section and arched (a characteristic that was maintained during the whole evolution of this type), and the nearly flat shoulders make a sharp angle at the junction with the nearly cylindrical body that ends in a conical toe. The greyish white clay and the self-slip prompted Sackett to ask whether this was not a local production.[37] The ratio of height to maximum diameter is 2.25:1.

The next in line may be an almost complete amphora discovered off the Palestinian shore (**fig. 20**).[38] All dimensions are reduced, but the mouth maintains a 6 cm diameter. Again the ratio height to maximum diameter is 2.25:1. These metric data suggest a mid-Imperial date. It has parallels at Salentum,[39] Berenice[40] and Caesarea Maritima.[41]

The 4th century subtype is well attested by two whole amphorae discovered in the Athenian Agora, P 25170[42] (**figs. 21–22**) and P 29077[43]. The vessel, although more elongated, has its maximum diameter at the shoulder-body junction, an almost cylindrical wheel-ridged neck and a narrow mouth that was deformed when the potter attached the handles under the rim. Ratios in this subtype have changed: weight to capacity is 1:2, and height to maximum diameter is *c.* 3:1. It has parallels in Argos,[44] Syracusa (Sicily),[45] in a shipwreck near Karaburun Peninsula (Albania),[46] and a shipwreck found near the Croatian island of Mljet.[47]

Contents

Traces of pitch inside the walls of all the examples suggest wine as the principal product carried by this amphora type.

Epigraphy

Two amphorae from the Agora, P 25195 and P 25170, bear *dipinti* in black on their shoulder: the former indicates

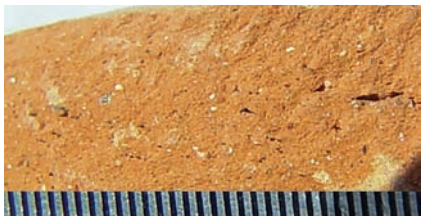

Fig. 18. Agora amphora, context F:16, close-up of fabric.

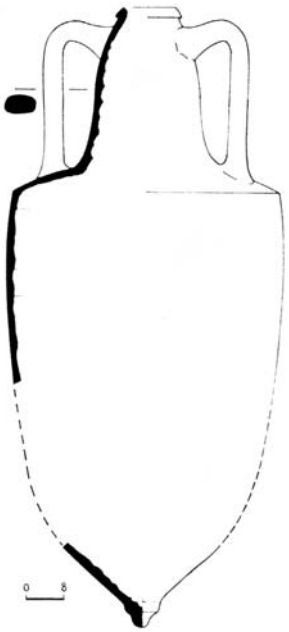

Fig. 19. Knossos, after Sackett 1992, pl.127.29.

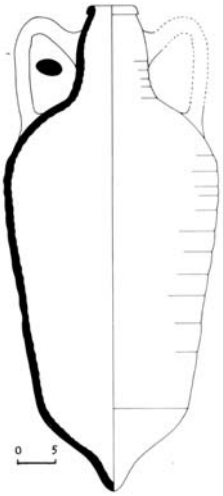

Fig. 20. Palestine, after Zemer 1978, pl. XXI.57.

37 Sackett 1992, 183 no. A1.29 – Augustan, pl.127,29; 183 fig. 6,1; dimensions: H *c.* 65, RD 6, and MD 28.

38 Zemer 1978, 70 type 57 pl. 21,57; dimensions: H 64.25, MD 28.5, and the capacity is *c.*18.5 litres.

39 R. Auriemma. Salentum a Salo. Forma Maris Antiqui 2. (Lecce 2004) 122 no. 374 fig. 4,SRI 374.

40 J. A. Riley, The Coarse Pottery from Benghazi. In: J. A. Lloyd (ed.), Excavations at Sidi Khrebish, Benghazi (Berenice) II. Libya Ant. Suppl. 5,2 (Tripoli 1979) fig. 87,384.

41 J. P. Oleson et al., The Harbour of Caesarea Maritima. Results of the Caesarea Ancient Harbour Excavation Project 1980–1985. Vol. 2: The Finds and the Ship. BAR Internat. Ser. 594 (Oxford 1994) fig.4.

42 Agora context Q 17:4; RD 5.2/5.7 (deformed when the handles were attached), H 53.5, MD 19, W 2.875 kg, C *c.*7.5 l.

43 Agora context Q 6:4; RD 4.9/6.1 (deformed when the handles were attached), H 57, MD 18.6, W 4 kg, C *c.*8 l.

44 Oikonomou-Laniado 2003, 37 fig. 65.

45 Amphora on display in the Archaeological Museum of Syracusa (pers. observation).

46 AA.VV. 2010a, 8; AA.VV. 2010b, 6.

47 Information from I. Mihajlovi .

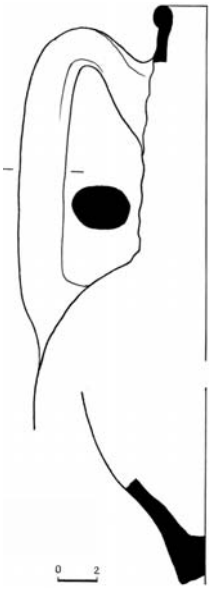

Fig. 21. Agora amphora P 25170. – Scale 1:4.

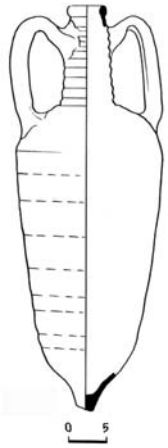

Fig. 22. Agora amphora P 25170. – Scale 1:10.

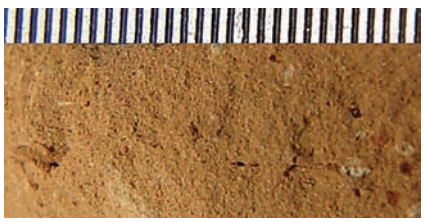

Fig. 23. Agora amphora, context C:10, close-up of fabric.

"Pramnian wine",[48] while the latter the weight of the empty amphora.[49]

Fabric

The principal inclusions consist of moderately frequent silt-sized quartz grains and small pieces of limestone, together with flecks of mica and several pieces of chert. However, although some of the pieces of limestone are cryptocrystalline, there are a number of noticeable fossils scattered throughout the fabric of this sample, mainly foraminifera.[50] The colour is light-red (2.5YR 6/8; self-slip) (**fig. 23**).

Origin

The origin is unknown but Sackett's suggestion is worth taking into account. Crete, perhaps a limited area around Knossos that cultivated the Pramnian vine, might be a possible source.

Cylindrical Aegean 1/Athenian Agora P 8164

This name was coined by P. Arthur to label an amphora of cylindrical shape discovered in the Sinai Peninsula.[51] I designate this type as no. 1, for there are other cylindrical amphorae that might also be Aegean, which we intend to present in another paper.

Morphology

It is difficult to seriate this type since only a few amphorae have been found preserved whole. However, if we consider that this type followed the same trend as many others, i.e., the dimensions and the capacity decrease from the early to late Roman period, the earliest seems to be an amphora discovered at Quseir Al-Quadim[52] (**fig. 24**), while a rim and handle fragment is attested from Callatis.[53]

The mouth is slightly flaring and exhibits a thick, trapezoidal-shaped rim, grooved on the top; the rim is separated from the short neck either by an incised line or by a small offset. The handles are short and ear-shaped with two longitudinal ribs. The shoulder is not very steep, and the body is not completely cylindrical but widens toward the lower part and ends in a spike with a mushroom-like tip. The shape of the body and spike resemble the Cilician cylindrical "pinched handle" amphora type, which might have been a possible source of inspiration, but not an origin.[54] Similar amphora mouths occur at Mons Claudianus between the mid-1st century AD and the Antonine period. Their mouth diameters vary between 16.4 and 12 cm.[55]

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48 Lang 1976, 75 Hd 17 pl.41.
49 Ibid. 67 Hb 12 pl.37.
50 The fabric description belongs to D. F. Williams.
51 Arthur/Oren 1998, 201.
52 Whitcomb 1982, 57 pl.15.a. The Roman villa is largely dated from the turn of the millennium to the very beginning of the 3rd century, cf. Whitcomb 1982, 52.
53 Personal observation in the museum storeroom.
54 Although the spike is missing, the amphora has PH *c.* 80, RD 16, MD 50, and C. *c.* 94 litres.
55 Tomber 2006, 171 fig. 1,66 type 59.

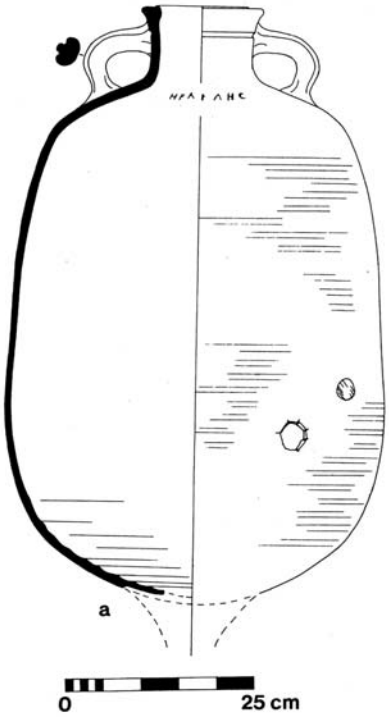

Fig. 24. Quseir Al-Quadim, after Whitcomb 1982, pl. 15.a.

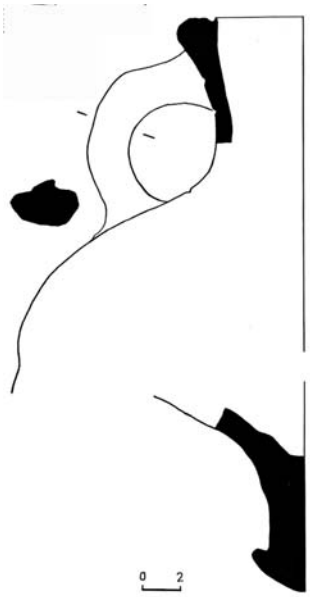

Fig. 25. Agora amphora P 8164. – Scale 1:4.

The Athenian amphora P 8164 occurs in a context dated AD 140–170[56] (**figs. 25–26**). The dimensions also indicate a ratio of H to MD of 2:1, while the ratio of weight to capacity is 1:4. These ratios are comparable to those of the Agora M 235 type. A similar amphora, which occurs in necropolis Sovhoz No.10 near Crimean Chersonesos,[57] has almost identical dimensions but a smaller capacity.

During early Roman times this type had a wide diffusion, especially in the eastern Mediterranean. It is present in Italy at Ostia[58], Monte Testaccio[59], Milan,[60] and Alba,[61] in Egypt,[62] the Sinai Peninsula,[63] and on the Red Sea shore along the

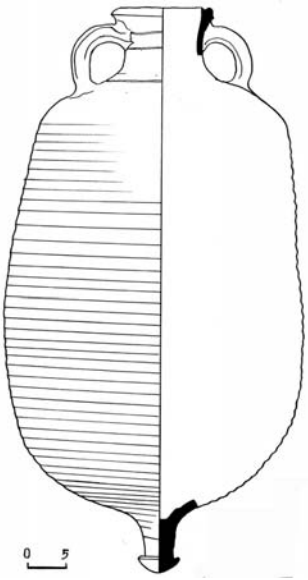

Fig. 26. Agora amphora P 8164. – Scale 1:10.

56 Context C 9:1; H 74, RD 13.4, MD 38, W 11 kg, C*c.*46 litres.

57 Strjeletskiiy et al. 2005, urn 46 pl. 40; PH 67.5, RD 13, MD 38, C *c.*36 litres.

58 B. Palma/C. Panella, Anfore. In: A. Carandini (a cura di), Ostia I. Le Terme del Nuotatore. Scavo dell'ambiente IV. Ostia I. Stud. Miscellanei 13 (Roma 1968) 97–116 figs. 568–569.

59 C. Carreras Monfort, Miscelánea: las otras ánforas del Monte Testaccio. In: J. M. Blázquez Martínez/J. Remesal Rodriguez (eds.) Estudios sobre el Monte Testaccio (Roma) 1 (Barcelona 1999) 91–98 fig. 94,dated by *dipinti* in AD 222; F. Coletti/E.G.Lorenzetti, Anfore orientali a Roma. Nuovi dati dagli scavi della Soprintendenza Archeologica di Roma nell'area del Testaccio. RCRF Acta 41, 2010, 160 fig. 4,3.

60 B. Bruno/S. Bocchio, Anfore. In: D. Caporusso (ed.), Scavi MM3. Richerche di archeologia urbana a Milano durante la construzione della linea 3 della metropolitana 1982–1990 (Milano 1991) 286 pl. 124,266.

61 B. Bruno, Contenitori da transporto: i consumi di olio, vino e di altre derrate. In: F. Filippi (ed.), Alba Pompeia, Archaeologia della città dalla fondazione alla tarda antichità (Alba 1997) 526 no. 41 fig. 6,41.

62 G. Majcherek, Aegean and Asia Minor amphorae from Marina el-Alamein. In: Marchand/Marangou 2007, 24–25 fig. 6,39–41; J. Bourriau/P. French, Imported amphorae from Buto dating from c. 750 BC to the Early 6th century AD. In: Marchand/ Marangou 2007, 128–129 fig. 3,3; Tomber 2006, 142–217.

63 Arthur/Oren 1998, 201 fig. 5,8.

route to India.[64] It was also exported to the northern shores of the Black Sea at Chersonesos,[65] in a Scythian necropolis - Barabanskaya Balka,[66] Tanais,[67] Gorgipija,[68] to Pannonia at Aquincum,[69] and to the Lower Danube.[70]

Significant morphological changes occur over the course of the 3rd century. An amphora with a complete profile discovered at Brescia (**fig. 27)** has a body that narrows into a more cylindrical shape and ends in a tubular spike with a flat tip. Although the neck and the rim retain their previous shape, the body heralds the form of the next century.[71] The capacity is *c*. 60 litres. Similar examples were discovered at Novae.[72]

During the 4th century this cylindrical amphora is still exported, as some discoveries made at Iatrus[73] (**fig. 28**), and Yassi Ada[74] (**fig. 29**) attest to. The body continues to be cylindrical with wheel-traces, but the upper part and the base suffer significant changes. If the rim of the Iatrus find had a slightly rounded top, the Yassi Ada example has a flat top. The neck, the body and the spike are cylindrical, and the grooves of the body go down to the spike. Their dimensions are almost identical, the latter example being a little bit slimmer with a capacity of *c*. 52 litres. Whereas the latter example can be dated to the end of the 4th century or even the beginning of the 5th century, the Iatrus find is dated to the middle or the second half of the 4th century AD. The cylindrical shape correlated with the increased capacity of this container suggest a considerable improvement of its utility during this period.

Contents

As some amphorae preserve traces of pitch on the interior walls, wine is a possible product carried by these vessels.

Epigraphy

This type seems to be devoid of any painted inscriptions. Only the amphora discovered at Quseir Al-Qadim has a *graffito* in Greek (*Herakles*) that perhaps indicates the owner's name.

Fabric

Both Bruno[75] and Tomber[76] indicate the presence of three fabrics ranging from pink (5YR 7/4-7/6) (**fig. 30**) to yellow-cream (10YR 8/4), dull orange (2.5YR 6/6), yellow (2.5YR 7/6) (**fig. 31**), or pale yellow (5Y 8/3-8/4) (**fig. 32**) sometimes with a cream (10YR 8/3) surface. The fabric is hard, with an irregular fracture, although one variant has a smooth fracture with sparse, ill-sorted inclusions of quartz, red rocks and sometimes limestone and foraminifera.[77]

Origin

An Aegean source is commonly accepted by scholars.

In conclusion, I want to point out that the large number of eastern Mediterranean amphorae still await intensive and detailed studies. As it is, we can only rely on a careful analysis of information accumulated from consumption areas. Our understanding of the economic connections between the production areas and consumption sites will continue to be superficial as long as we refrain from excavating amphora workshops. Only by understanding amphora evolutions, the contents they carried, and their origins can future economic studies gain weight and reliability.

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64 Whitcomb 1982, 51–115 pl.15.a; A. V. Sedov, Quana' (Yemen) and the Indian Ocean. The Archaeological Evidence. In: H. P. Ray/J.-F. Salles (eds.), Tradition and Archaeology – Early Maritime Contacts in the Indian Ocean (New Delhi 1996) 20 fig.5.

65 Strjeletskiy et al. 2005, urn 46 pl. 40.

66 I. N. Khrapunov et al., Poselenie v Barabanovskoy Balke (po rezul'tatam raskopok 2007 i 2008 gg.)(Simferopol 2009) 16,fig. 43,1–2.

67 T. M. Arseneva/B. Böttger, Griechen am Don. Die Grabungen in Tanais 1996. Eurasia Ant. 3, 1997, 451 fig. 11,5.

68 E. M. Alekseeva, Antichnyiiy gorod Gorgippij (Moscow 1997) pl. 110,6.

69 Information from P. Harshegyi.

70 *Viminacium*: L. Bjelajac, Amfore gornjo mezijskog Podunavlja. Posebna Izdanja 30 (Belgrade 1996) 33–35 fig. 9,43–45; G. Popilian, Ceramica romană din Oltenia (Craiova 1976) 172 no. 212 pl. 16,212. – Cioroiul Nou (information from D. Bondoc). – Unpublished examples come from Histria, Ibida, Troesmis, and Callatis in Dobrudja.

71 Bruno 2002, 286-287, nos.72-74; RD 13.6, MD 36, H *c*. 90.

72 A. B. Biernacki/E. J.Klenina, Trade relations between the lower Danube Region and Mediterranean in the late Roman period: the ceramic evidence from Novae (Moesia Secunda*)*. In: LRCW 3, 984 fig. 3,8-9.

73 Böttger 1982, 42–43 type I 3 pl. 11c; RD 12.4, H 67, MD 32.

74 Bass/van Doorninck 1971, 34 fig. 9; H 67.5; MD 29. I am in debt to F.H. van Doorninck and D. Carlson for sending me an excellent drawing of this amphora.

75 Bruno 2002, 287.

76 Tomber 2006, 171.

77 Ibid.

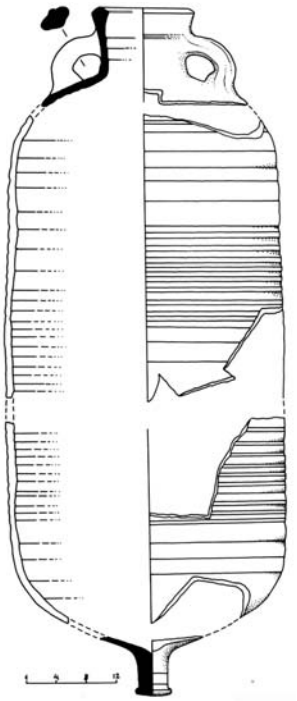

Fig. 27. Brescia, after Bruno 2002, nos.72. – Scale 1:10.

Fig. 28. Iatrus, after Böttger 1982, pl. 11c. – Not to scale.

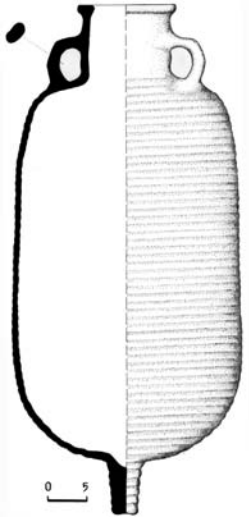

Fig. 29. Yassi Ada, after Bass/van Doorninck 1971, fig. 9.

Fig. 31. Agora amphora, P 8164, close-up of fabric.

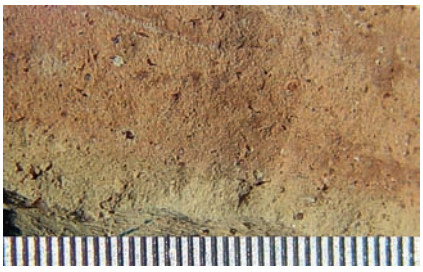

Fig. 30. Histria, close-up of fabric.

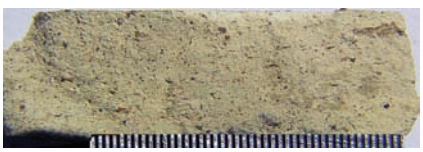

Fig. 32. Orlea, close-up of fabric.

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