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HISTRIA 100 DE ANI DE CERCETĂRI ARHEOLOGICE

HISTRIA 100 ANS DE RECHERCHES ARCHEOLOGIQUES

HISTRIA 100 YEARS OF ARCHAEOLOGICAL RESEARCH

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ORIENTAL AMPHORAE DISCOVERED AT HISTRIA IN THE CENTRAL-NORTH SECTOR (CAMPAIGN 2012)

ALEXANDRU BĂDESCU*, LAURENȚIU CLIANTE**

Keywords: Late Antiquity, Roman period, *Scythia*, *Histria*, pottery, amphorae.
Abstract: The 41 fragments of oriental amphorae presented in this study belong to a series including 143 fragments discovered at Histria, in the Central-North Sector, in a 26/2 m trench opened in 2012. The ceramic material is divided in nine types of amphorae and one type of amphora lids. The studied material can be divided as follows: 52.45 % amphorae, 43.36 % kitchen pottery, 2.80 % lamps and 1.40 % other items. The statistics based on the entire pottery assemblage show that the amphorae are still the most important ceramic category (77.60 %), followed by the kitchen pottery (20.40 %) and other items (2 %).

Cuvinte-cheie: Antichitatea târzie, epoca romană, Scythia, Histria, ceramică, amfore.
Rezumat: Cele 41 de fragmente de amfore orientale prezentate în acest studiu aparţin unui grup care cuprinde 143 fragmente descoperite la Histria, în Sectorul Centru-Nord, într-o secţiune cu dimensiunile 26/2 m deschisă în 2012. Materialul ceramic este clasificat în nouă tipuri de amfore şi un tip de capac de amforă. Tipologia ceramicii analizate este următoarea: 52,45% amfore, 43,36% ceramică de bucătărie, 2,80% opaiţe şi 1,40% alte obiecte. Statisticile bazate pe întreaga serie a complexului ceramic descoperit arată că cea mai importantă categorie ceramică este reprezentată de amfore (77,60%), urmată de ceramica de bucătărie (20,40%) şi diverse obiecte (2%).

In the summer of 2011, two new members[1] were added to the research team at Histria, both archaeologists from the Museum of National History and Archaeology in Constanța. The place where we began the archaeological excavation is named conventionally the Centre-North Sector (CN) and is located in the area north of the Bishopric Basilica (Fig. 1). The archaeological research aims to obtain as much information as possible about the living conditions in the area north of the basilica in the 6th c. AD. One of our priorities was to open a stratigraphic control trench, oriented on SW–NE, in the *insula* located north of the of the Bishopric Basilica's atrium. The trench, called S2, is 26 m long and was divided into 2 m squares, numbered starting from the western part of the trench. It must be mentioned here that another stratigraphic control trench, S1, was opened in 2011 in the island located north of the basilica (Fig. 2). At present, the material recovered after the archaeological research is still under study.

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The amphorae produced in the oriental basin of the Mediterranean Sea reached the provinces in the Lower Danube area through the port towns on the western coast of the Black Sea. Their numbers increased continuously during the Roman period, especially in the 4th c. AD, when the Empire's capital was moved to Constantinople and, as a consequence, Scythia established a direct economic link with the oriental region.

I. AMPHORAE – *Amphorae*

I.1. Berenice LRA 1; Carthage LRA 1; British B II; Rădulescu 1976, type 10; Scorpan 1976, type VIII B; Eglof 1977, no. 169, 164, 166; Böttger 1982, type II/1; Peacock 1984 shape 2; Keay 1984, type LIII; Kuzmanov 1985, type XIII–XIV; Peacock, Williams 1986, type 44; Hayes 1992, type 5; Kuzmanov, Salkin 1992, type 26; Sazanov 1997, type 1; Opaiț 1991, D I; Papadopoulos 1989, type 2.

[1] Laurențiu Cliante and Irina Nastasi.

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General description of the type. If, between the 4th and the middle of the 5th c., the amphorae have a narrow mouth, a cylindrical neck, an ovoidal body, a rounded bottom and handles with an oval, asymetrical section, by the first decades of the 7th c., the amphorae displayed a wider mouth with ridge under the rim in most cases – and at times a very splayed mouth and a narrower neck, as well as a smaller body diameter. The items from the 4th and 5th c. have the body and the neck decorated with grooves placed in a spiral, made during wheel-turning, while those from the 6th and 7th centuries have carinations, starting in the area of the lower attachment of the handles. Many of them have on their bodies or on their necks *tituli picti* – Christian invocations or symbols, or, more rarely – information referring to their volume. Most of the items uncovered at Argamum have a circle on their neck – red *dipinto* that probably represents a control stamp. The dimensions of the vessels are as follows: H=45–55 cm; Dg=7–8 cm for the items dated to the 4th and 5th c. and 8–12 cm for the amphorae dated from the 5th to the 7th c. The volume of the vessels from the 4th to 5th c. is 25–30 litres, the volume of the vessels from the 5th to 6th c. is 15–20 litres, and the volume of the vessels from the first half of the 7th c. is under 10 litres. The average volume for the 120 items from the ecclesiastic storehouse discovered in Samos is ca. 8 litres[2]. Some items, insignificant in number and dated between the beginning of the 5th and the first decades of the 7th c. AD, have a very protruding rim and a very narrow neck[3].

Area of diffusion: LR 1 is attested in all excavated settlements of the Roman-Byzantine age. In Scythia, we find it at Argamum[4], Histria[5], Fântânele[6] (in the Histrian territory), Tomis[7], Acrae[8], Bizone[9], Halmyris[10], Aegyssus[11], Noviodunum[12], Dinogetia[13], Troesmis[14], Beroe[15], Capidava[16], Axiopolis[17], Tropaeum Traiani[18], Altinum[19], Sacidava[20], Libida[21], Babadag-Topraichioi[22], as well as at the monachal complex from Slava Rusă[23]. It is one of the types discovered in almost all the excavated settlements, including the rural ones.

In Moesia Secunda, LR 1 was documented at Odessos[24], Iatrus[25], Abritus[26], Nicopolis ad Istrum[27], Vojvoda[28], Madara[29] and Sadovec[30], on habitation levels dated between the middle of the 4th – beginning of the 7th c. AD.

[2] Steckner 1989, p. 58.

[3] They are probably products specific for a certain workshop.

[4] Paraschiv 2006a, p. 89–92, 113, cat. no. 44, pl. 23/44–45; Paraschiv 2006b, p. 314–317, pl. IV/55.

[5] Suceveanu 2007, p. 214, pl. LXXVII/66–67, pl. LXXVIII/68–75; Condurachi *et alii* 1960, p. 240, fig. 11/6; Bădescu 2012, p. 312–316, pl. 1–5.

[6] Angelescu 1998, p. 231, cat. no. 144, pl. XV/155.

[7] Paraschiv 2006a, p. 89–92, 113–114, cat. no. 46–48, pl. 24/46–48

[8] Kuzmanov 1978, p. 22, fig. 2; Kuzmanov 1985, p. 18–20/cat. no. 82–89, pl. 9 (4th – beginning of the 7th c. AD); Kuzmanov, Salkin 1992, p. 44–47/cat. no. 63–65, 67–68, 70–73, 75–80, 83–84, 86–88, 90–94, pl. V–VII.

[9] Kuzmanov, Salkin 1992, p. 44–47/cat. no. 66, 69, 74, 82, 85, 89, 95–96, pl. V–VII.

[10] Opaiţ 1984, p. 319, pl. 14/3–4; Opaiţ 1991a, p. 145–146/cat. no. 101–108, p. 146–147/cat. no. 111–112, pl. 17–19; Topoleanu 2000, p. 134–136/cat. no. 336–343, pl. XLI–XLII, p. 154/cat. no. 408, pl. LI; Paraschiv 2006a, p. 89–92, 112, cat. no. 39, pl. 22/39.

[11] Opaiţ 1984, pl. XIII/3; Paraschiv 2006a, p. 89–92, 113, cat. no. 43, pl. 23/43.

[12] Paraschiv 2006a, p. 90, note 174.

[13] Rădulescu 1976, p. 109; Opaiţ 1984, p. 318, pl. XIII/5; Opaiţ 1996, pl. 7/2.

[14] Opaiţ 1984, p. 319, pl. XV/5; Paraschiv 2006a, p. 89–92, 113, cat. no. 42, pl. 23/42.

[15] Paraschiv 2006a, p. 90, note 177.

[16] Covacef 1980, pl. IV/1, V/2–3; Opriş 2003, p. 53–59/cat. no. 8–60, pl. XVII–XIX.

[17] Rădulescu 1976, p. 109, pl. XI/1; Opaiţ 1984, p. 319; Paraschiv 2006a, p. 89–92, 112, cat. no. 38, pl. 22/38.

[18] Bogdan-Cătăniciu, Barnea 1979, p. 190, fig. 167, 170/3(5), fig. 168/3(6); the authors remember the fact that "there are numerous items in all sectors".

[19] Irimia 1968, p. 388, fig. 14, 20, 21; Rădulescu 1976, p. 109; Opaiţ 1984, p. 319.

[20] Scorpan 1973, fig. 34; Scorpan 1975, p. 274–275, pl. III/5–8, X/3–6; Scorpan 1976, p. 109, 163, pl. VIII/1–3; Scorpan 1977, p. 277–278, pl. fig. 12/I, 3.

[21] Opaiţ 1991c, p. 30/cat. no. 38–39, fig. 7, p. 33, 35/cat. no. 53–56, 58. fig. 8, p. 37/cat. no. 71–80, fig. 9–10, 12.

[22] Opaiţ 1984, p. 317–320, pl. XIII/4, XIV/1–2; Opaiţ 1991b, p. 255, cat. no. 38–39, PI. 21/2–3; Opaiţ 1996, pl. 7/1; Paraschiv 2006a, p. 89–92, 112, cat. no. 36, pl. 21/36.

[23] Opaiţ *et alii* 1990, p. 26/cat. no. 10.

[24] Kuzmanov 1985, p. 18/cat. No. 70, pl. 8; Böttger 1982, p. 46.

[25] Böttger 1980, p. 431, pl. 1/7; Böttger 1982, p. 45–47, p. 106–107 /cat. no. 136–148, p. 115–117/ cat. no. 254–275, p. 139/cat. no. 540–544, pl. 11/ d, 22; Böttger 1991, p. 163/cat. no. 684–686, p. 166/cat. no. 735–736, pl. 47; Bülow 2000, p. 212, fig. 1/II–1.

[26] Böttger 1982, p. 46.

[27] Falkner 1999, p. 252, 254/cat. no. 1064, 1066–1068, fig. 9.52, 9.53.

[28] Böttger 1982, p. 46.

[29] Böttger 1982, p. 46.

[30] Mackensen 1992, p. 243–244, pl. 51/8–11, 52/1–2.

Berenice type LR 1 has the first position in the series of amphorae on the Roman-Byzantine levels. Thus, at Halmyris, it represents 26.7 %[31], at Capidava 30.1 %[32], at Libida 44.1%[33], at Babadag-Topraichioi 18.2 %[34], and at Acrae and Bizone 34 %[35]. At Iatrus, the Berenice LR1 type is exceeded by the Berenice LRA 2 type, with 6.5 %, but its percentage increases in the 4th to 7th c. AD to 16 %[36]. They are, among the oriental amphora types, the most spread in the whole empire during the 5th to 7th c. At Carthage, Berenice also represented more than 50 % of the amphorae from the beginning of the 6th c. and ca. 25 % of those from the middle of the same century[37]. At Marseille, it represented ca. 20 % of the amphorae dated to the middle of the 5th c.[38]

It is the most frequent type of amphorae on the site at Murighiol – 197 items – representing almost a quarter of the identified amphorae and almost 37% of the oriental products. It represented 17.3% in the levels dated to the 5th c. AD, but the percentage increased continuously during the 6th c. AD, reaching almost 45% in the last habitation level[39].

Contents: They were used mainly for wine transportation, and the majority of the vessels were tarred. The vessels with a wide mouth were also used for transporting olive oil or vinegar produced in Antiochia. In fact, any goods could have been transported in such a vessel, as during the Roman-Byzantine age[40] there was no longer a close connection between the vessel shape and their content.

Origin: The discoveries indicate a large area of production covering the eastern part of the Mediterranean Sea, Cyprus[41] and the northern the Black Sea[42]. Generally, they have a similar area of diffusion as the Berenice LR 2 type, and they occur in high numbers throughout the empire. The characteristics of the paste and the large area of diffusion suggest the existence of many workshops. J.Y. Empereur and M. Picon discovered 15 kilns – one in Rhodes, one north of this island, on the coast of Asia Minor, two in Cyprus and 11 in the north-eastern Mediterranean, seven of which were in the area of the Alexandretta Bay, between Magarsos and Seleucia[43]. M. Sciallano and P. Sibella stated that the LR 1 amphorae could also have been produced in the Pontic basin[44].

Date: 5th c. and the first decades of the 7th c. AD.

CATALOGUE

1. Amphora (fragmentary, mouth and handle). Primary, even, firing; pink semi-fine paste (7.5YR7/4) with pebbles (max. 4 mm), sand and small porosities; small calcite and iron oxide particles. Dimensions: DMG=120 mm, DMP=120 mm, H=99 mm. Histria 2012, sector CN, S 2, c 1, – 0.40 / – 0.60 m, no. 13, Fig. 3/1.
2. Amphora (fragmentary, neck and partial handle). Primary, even, oxidizing firing, light yellowish-brown semi-fine paste (10YR6/4); small elongated porosities; very frequent medium sized calcite particles, rarely mica. The paste has a mosaic aspect and the oxides represent ca. 50 %. Dimensions: DMG=120 mm, DMP=166 mm, H=113 mm. Histria 2012, sector CN, S 2, c 12, – 0.70 m, no. 142, Fig. 3/2.
3. Amphora (fragmentary, neck and partial handle). Primary, even, oxidizing firing, reddish-yellow semi-fine paste (5YR6/6), cream-coloured slip with medium and small size porosities (up to 5×1 mm), sand and pebbles (up to 3 mm); small calcite and iron oxide particles. Dimensions: DMG=100 mm, DMP=100 mm, H=80 mm. Histria 2012, sector CN, S 2, c 3, – 1.40 m, no. 30, Fig. 3/3.
4. Amphora (fragmentary, mouth and partial handle). Primary, even, oxidizing firing, reddish-yellow, semi-fine paste (7.5YR6/6), with small calcite and iron oxide porosities. Dimensions: DMG=118 mm, DMP=122 mm, H=118 mm. Histria 2012, sector CN, S 2, c 3, – 0.45 m, no. 20, Fig. 3/4.
5. Amphora (fragmentary, mouth and partial handle). Primary, even, oxidizing firing; sandy, low quality, dark brown semi-fine paste with a raw external aspect (7,5YR5/6); small and rare porosities; small calcite particles. Dimensions: DMG=118 mm, DMP=118 mm, H=85 mm. Histria 2012, sector CN, S 2, c 5, – 0.65 / – 0.75 m, no. 128, Fig. 3/5.
6. Amphora (fragmentary, mouth). Primary, even, oxidizing firing; compact, dark brown semi-fine paste (7.5YR5/6);

[31] Topoleanu 2000, p. 132.
[32] Opriş 2003, p. 177–178.
[33] Opaiţ 1991a (Catalog); Paraschiv 2006a, p. 91, note 94.
[34] Calculations *apud* Opaiţ 1991a, p. 240/table I; Paraschiv 2006a, p. 91, note 195 (the authors also included the DI and DII type amphorae).
[35] Paraschiv 2006a, p. 91.
[36] Böttger 1991, p. 157/table 1.
[37] Riley 1976, M6; Egloff 1977, no. 164, 166, 169; Riley 1979, p. 212–213, fig. 41; Peacock 1984, p. 119, 121, fig. 34/1–2; Ballet, Picon 1987, p. 21–26, fig. 2/1; Ballet 1993, p. 18. fig. 39; Opaiţ 1998, p. 25/cat. no. 48, pl. 3.
[38] Bonifay 1986, p. 279, fig. 7/20–21; 290, fig. 13/56, p. 294; Bonifay, Villedieu 1989, p. 23, 25, fig. 1, 4, 5/1–2; Congrès, Leguilloux 1991, p. 220; Bonifay, Piéri 1995, p. 108–109, fig. 6–7.
[39] Topoleanu 2000, p. 135.
[40] Steckner 1989, p. 64–65.
[41] Empereur, Picon 1989, p. 236–237, 241–243, fig. 18, 19.
[42] Böttger 1982, p. 90–92.
[43] Empereur, Picon 1989, p. 237, 241–242, fig. 18–19; Ballet, Picon 1987, p. 24.
[44] Sciallano, Sibella 1991, p. 100.

medium size calcite particles (max. 2 mm) and iron oxide. Dimensions: DMG=110 mm, DMP=110 mm, H=80 mm. Histria 2012, sector CN, S 2, c 1, – 0.25 m, no. 1, Fig. 3/6.

7. Amphora (fragmentary, mouth). Rough external aspect. Primary, even, oxidant firing, reddish yellow semi-fine paste (7.5YR6/6); small and medium paste porosities on the external surface, small calcite and iron oxide particles, rarely mica. Dimensions: DMG=108 mm, DMP=108 mm, H=65 mm. Histria 2012, sector CN, S 2, c 8, – 0.20 m, no. 94, Fig. 3/7.
8. Amphora (fragmentary, neck and partial handle). Primary, even, oxidizing firing, semi-rough red paste (2.5YR5/6); small and medium size porosities (3×1 mm); small calcite and iron oxide particles. Dimensions: DMG=110 mm, DMP=110 mm, H=85 mm. Histria 2012, sector CN, S 2, c 5, – 0.15 m, no. 63, Fig. 3/8.
9. Amphora (fragmentary, mouth). Primary, even, oxidizing firing, yellowish-red semi-fine paste (5YR5/8); small and medium size porosities; very small calcite, iron oxide and mica particles. Rough external aspect, undulated rim. Dimensions: DMG=88 mm, DMP=88 mm, H=55 mm. Histria 2012, sector CN, S 2, c 5–6, – 0.25 m, no. 80, Fig. 3/9.
10. Amphora (fragmentary, mouth). Primary, even, oxidizing firing, compact semi-fine pink paste (7.5YR7/3), slip matching paste colour; small calcite and iron oxide particles. Dimensions: DMG=100 mm, DMP=100 mm, H=52 mm. Histria 2012, sector CN, S 2, c 1, – 0.40 m, no. 11, Fig. 3/10.
11. Amphora (fragmentary, mouth). Primary, even, oxidizing firing, red semi-fine paste (2.5YR4/8); very small porosities; very small and small calcite particles, green particles (maximum 1.5×1 mm), rarely mica. Dimensions: DMG=142 mm, DMP=142 mm, H=52 mm. Histria 2012, sector CN, S 2, c 11, – 0.80 m, no. 147, Fig. 3/11.
12. Amphora (fragmentary, base). Primary, even, oxidizing firing, red on the outside, semi-fine paste (2.5YR5/8), greenish grey on the inside (GLEY1–6.10Y); very small porosities; very fine mica particles. Dimensions: DB=40 mm, DMP=130 mm, H=44 mm. Histria 2012, sector CN, S 2, c 5–6, – 0.25 m, no. 81, Fig. 3/12.
13. Amphora (fragmentary, base). Primary, even, oxidizing firing, light red semi-fine paste (2.5YR6/8), with small porosities; calcite and iron oxide small particles. Dimensions: DB=20 mm, DMP=88 mm, H=44 mm. Histria 2012, sector CN, S 2, c 4, – 0.25 / – 0.50 m, no. 48, Fig. 3/13.
14. Amphora (fragmentary, fragment of the upper half, base). Primary, even, oxidizing firing; red semi-fine paste (2.5YR5/6); small porosities; small and very small calcite particles, very small iron oxide particles, very fine mica particles. *Dipinti*: letter M or Σ. Dimensions: DMP=aprox. 286 mm, H=113 mm, l=87 mm. Histria 2012, sector CN, S 2, c 5, – 0.70 / – 1.25 m, no. 77, Fig. 3/14.

I.2. Berenice LRA 2; Carthage LRA 2; British B I; Keay 1984, type LXV; Dimitriu *et alii* 1954, type 4; Rădulescu 1976, type 8; Scorpan 1976, type VII–A; Böttger 1982, type I, shape 1; Peacock 1984, shape 1; Kuzmanov 1985, type I; Peacock, Williams 1986, type 43; Hayes 1992, type 9; Kuzmanov, Salkin 1992, type 28; Krapivina 1993, type 18; Sazanov 1997, type 2; Papadopoulos 1989, type 1.

General description of the type: the mouth is wide, with a pronounced splay, the neck is truncated, the body is pear-shaped ending with a small button[45] and the handles are oval in section. The upper part of the body is decorated with horizontal or undulated grooves located under the lower part of the handle attachment area and many items have inscriptions – *graffiti* or *dipinti* – with indications about the volume, Christian invocations, people's names or information on the contents. The volume is of ca. 30–35 litres (the average values for more than 20 amphorae discovered in a storehouse in Samos[46] and more than 600 items from the Yassi Ada shipwreck[47]). The inscriptions on the 29 items discovered at the Roman Marble Edifice in Tomis indicated similar values (the majority of them had between 50 and 60 sextarii)[48]. The inscriptions from Tomis mentioned the volume both in Latin letters – *graffiti*, and Greek letters – *dipinti*, on the same vessels. A. Rădulescu considered that the *graffito* indicated the amphora's conventional volume, while the *dipinto* indicated the content of the product at a certain time. At Halmyris[49] and Capidava[50] the inscriptions indicated the same volume, but the majority of the complete amphorae hold over 50 litres. The big amphorae hold more than 60 litres (some discovered at Novae, on a level dated to the second half of the 4th c., hold almost 65 litres)[51], and the small ones hold 5 litres (one discovered at Halmyris could contain ca. 5 litres – 10 sextarii – and one amphora from Capidava about 12 litres – 22 sextarii or 0.5 amphora)[52]. The vessel's dimensions are the following: H=ca. 60–65 cm; Dg=10–14 cm; Dm=38–45 cm.

Area of diffusion: in the Istro-Pontic area, the LRA 2 amphorae occurred in almost similar numbers with those of type LR 1. In Scythia they are attested at Argamum[53], Histria[54], Tomis[55],

[45] This did not occur in the case of amphorae dated to the end of the 6th – beginning of the 7th c. AD.

[46] Steckner 1989, p. 58.

[47] Bass, Doorninck Jr. 1982, p. 161–163.

[48] Rădulescu 1973, p. 202–203: Opaiț 1984, p. 320–321/table 1.

[49] Topoleanu 2000, p. 132, 160–162/cat. no. 418–421, 430, 432–433, 330, pl. LII–LIV.

[50] Opriș 2003, p. 59, 60.

[51] Gacuta, Sarnowski 1981, p. 122–123/cat. no. 1. fig. 54.

[52] Opaiț 1991a, p. 140/cat. no. 63, pl. 10; Opaiț 1996, p. 49; Topoleanu 2000, p. 133/cat. no. 332, pl. XL; Opriș 2003, p. 59, 60, 64/cat. no. 100, pl. XXII.

[53] Rădulescu 1976, p. 107, type 8, PI. VIII/1, at, IX/1, at (end of the 4th c. – 6th c. AD); Opaiț 1984, p. 315. pl. XI/I; Paraschiv 2006b, p. 306–308, pl. III/42–52.

Callatis[56], Acrae[57], Bizone[58], Halmyris[59], Aegyssus[60], Noviodunum[61], Dinogetia[62], Troesmis[63], Beroe[64], Capidava[65], Sacidava[66], Altinum[67], Ulmetum[68], Tropaeum Traiani[69], Libida[70], Babadag-Topraichioi[71], Medgidia[72], Telița-La Pod and Niculițel[73], at the monachal complex in Slava Rusă[74] and Odărci[75]. In Moesia Secunda, they are documented at Odessos[76], Iatrus[77], Novae[78], Abritus[79], Nicopolis ad Istrum[80], Vojvoda[81] Madara[82] and Sadovec[83], in archaeological contexts dated between the beginning of the 4th c. and the beginning of the 7th c. AD.

At Iatrus, they represented 22.4 %[84], as they were the most numerous group among the amphorae used for transportation. At Capidava, they represented 23.1 %[85] of the total number of amphorae discovered there, at Libida 23.5 %, at Halmyris 22.6 %[86], at Babadag-Topraichioi 16 %, and at Acrae and Bizone 31 %[87]. As in the case of LRA 1, they were found throughout the Empire, but in smaller numbers. Despite the fact that on sites in the Orient and in the northern Black Sea area the number of the LRA 2 vessels can be compared to that of the LRA 1 type[88] in northern Africa[89], Gallia[90], Hispania[91], Italy[92] and Dalmatia[93], they were mainly attested within contexts dated to the 6th c. and the beginning of the 7th c. AD and they represented under 5 % of the total number of discovered amphorae[94].

[54] Dimitriu *et alii* 1954, p. 455, 458, fig. 382–384; Condurachi *et alii* 1960, p. 240, fig. 11/8; Scorpan 1976, p. 159–163, type VII–A, pl. VII/2–4, 8; Scorpan 1977, p. 274, fig. 7/6, 10/3; Opaiț 1984, p. 312, 315, pl. 1/3, 2/5; Suceveanu 1982a, N IV B, p. 97/cat. no. 68–74, fig. 13; Suceveanu 1982b, p. 98, pl. 4/3–4; Suceveanu 2007, p. 213–214, pl. LXXVII/61–65; Bădescu 2012, p. 316–322, pl. 6–10.

[55] Rădulescu 1973; Rădulescu 1976, p. 107; Scorpan 1976, p. 159–160, pl. VII/8; Scorpan 1977, p. 274. fig. 10/7–8; Opaiț 1984, p. 314–315, pl. II/3–4; Bucovală, Paşca 1989, p. 146, pl. 9/d, e, 12/e; Paraschiv 2006a, p. 92–95, 115, cat. no. 58, pl. 25/58–60.

[56] Rădulescu 1976, p. 107.

[57] Kuzmanov 1978, p. 21–22. fig. I; Kuzmanov 1985, p. 9–11/cat. no. 11–13, 18–20, 23, 26, pl. 1–3; Kuzmanov, Salkin 1992, p. 47–50/cat. no. 100–114, 116–119, 122–129, pl. VII–X.

[58] Kuzmanov 1985, p. 9, type I, cat. A 1–26, PI. 1–3; Kuzmanov, Salkin 1992, p. 47–50/cat. no. 115. 120–121, 130, pl. IX–X.

[59] Opaiț 1991a, p. 139–140/cat. no. 51–63, pl. 8–10; Opaiț 1996, pl. 8/2–3, 5–8; Topoleanu 2000, p. 132–134/cat. no. 324–332, pl. XXXIX–XL; Paraschiv 2006a, p. 92–95, 114, cat. no. 49–50, pl. 24/49–50.

[60] Opaiț 1984, p. 313, pl. IX/I; Opaiț 1996, pl. 8/1; Paraschiv 2006a, p. 92–95, 115, cat. no. 55, 57, pl. 25/55–57 (cat. no. 55 is discovered in northern Dobruja, probably in Tulcea).

[61] Barnea, Barnea 1984, p. 102, pl. VIII/3.

[62] Barnea 1966, p. 244, fig. 5/7, p. 244–245, fig. 8/7, p. 250, fig. 12, 7 (6th c. AD); Opaiț 1984, p. 313–315.

[63] Opaiț 1980a, p. 296, 298, pl. IV/4, XI/3 (variant from the middle of the 2nd c. AD.); Opaiț 1996, p. 51, pl. 9/4; Paraschiv 2006a, p. 92–95, cat. no. 42.

[64] Paraschiv 2002, p. 150, 152, 155/cat. no. 1, 2, fig. 1.

[65] Rădulescu 1976, p. 107; Scorpan 1976, p. 158–159, pl. V/5; Covacef 1983, p. 361, fig. 6/2; Opaiț 1984, p. 315, pl. II/6; Opriș 2003, p. 59–64/cat. no. 61–100, pl. XX–XXII.

[66] Scorpan 1973, fig. 36/3. 4; Scorpan 1975, p. 272–274, pl. II/10. IX/8; Scorpan 1976, p. 159–160, pl. VII/4; Scorpan 1977, p. 274, fig. 10/4.

[67] Rădulescu 1976, p. 107.

[68] Rădulescu 1976, p. 107.

[69] Bogdan-Cătăniciu, Barnea 1979, fig. 161/3.1, fig. 167/3.2.

[70] Opaiț 1991c, p. 28/cat. No7. 24. fig. 5, p. 37/cat. no. 70, fig. 10.

[71] Opaiț 1984, p. 312–313, pl. III–VIII, IX 12–5; Opaiț 1991a, p. 212. pl. 14/1–8; Opaiț 1996, pl. 8/4.

[72] Ocheşanu, Dumitraşcu 1972, p. 538, fig. 1.

[73] Baumann 1977, pl. 1/1; Baumann 1984b, p. 54, pl. XII/2; Opaiț 1996, p. 51.

[74] Opaiț *et alii* 1990, p. 26/cat. no. 1–3.

[75] Dončeva-Petkova 1989, p. 44. pl. 111/10.

[76] Kuzmanov 1985, p. 9–10/cat. no. 5, 9, pl. 2; Böttger 1982, p. 40–41; Opaiț 1984, p. 314, pl. 11/2.

[77] Böttger 1980, p. 429, pl. 1/1; Böttger 1982, p. 38–42, 95/cat. no. 1–4, p. 103–104/cat. no. 99–110, p. 113/cat. no. 220–228, p. 138–139/cat. no. 529–538, pl. 11/1 a, 17–18; Kuzmanov 1985, p. 9–10/cat. no. 4, pl. 1; Böttger 1990, p. 925–926, fig. 1; Böttger 1991, p. 162/cat. no. 663, 163, cat. no. 677–678, p. 165–166/cat. no. 731–732, pl. 46; Bülow 2000, p. 212, fig. 1/1–1.

[78] Gacuta, Sarnowski 1981, p. 122–123/cat. no. I. 127/cat. no. 3–4, fig. 54, 59; Kuzmanov 1985, p. 9, 11/cat. no. 10, 22. pl. I, 2; Böttger 1982, p. 40.

[79] Böttger 1982, p. 40.

[80] Falkner 1999, p. 252/cat. no. 1056–1062, fig. 9.52.

[81] Böttger 1982, p. 39–40.

[82] Böttger 1982, p. 40.

[83] Mackensen 1992, p. 239–242, fig. 1–2, pl. 51/1–7.

[84] Böttger 1991, 157/table 1.

[85] Opriș 2003, p. 177–178.

[86] Topoleanu 2000, p. 132.

[87] Paraschiv 2006a, p. 94 for Iatrus, Libida, Babadag-Topraichioi, Acrae and Bizone, calculations *apud* Böttger 1991, p. 157/table 1, Opaiț 1991a catalogue and Kuzmanov, Salkin 1992).

[88] Yakobson 1979, p. 16, fig. 2/7–8, 3/2, 3; Krapivina 1993, p. 96–96, fig. 29/35; Sazanov 1997, p. 88, fig. 1/2.

[89] Riley 1976, p. 116; Riley 1979, p. 217–219/cat. no. 348–350, fig. 91, 92; Peacock 1984, p. 119. fig. 34/3; Opaiț 1998, p. 23/cal. no. 16, pl. 1.

[90] Bonifay 1986, p. 290, 292, fig. 13/57–58, p. 294; Bonifay, Villedieu 1989, p. 25, 27, fig. 5/3, 6; Laubenheimer 1990, p. 144; Bonifay, Piéri 1995, p. 109–111, fig. 8/53–55.

[91] Ramallo Asensio *et alii* 1996, p. 162/cat. no. 99, fig. 6.

[92] Kapitän 1972, p. 250, 252, fig. 11; Arthur 1989, p. 82; Verreyke 2005, p. 106; Pasquinucci *et alii* 2005, p. 123. fig. 7; Martin 2005, p. 127.

[93] Reynolds 2004, passim; Topić 2004, p. 29/cat. no. 69–71, pl. XII.

[94] Paraschiv 2006a, p. 94–95.

Contents: C. Steckner considered they were used for wine transportation mainly, but also for oil[95]. The fact that the majority of the amphorae discovered were tarred and that wine production was important in the areas where this type was produced suggest wine as the main product that was transported in them. The analyses of the 120 LR 2 amphorae discovered at the Roman Marble Edifice at Tomis showed that these were also used to transport organic substances such as colophonium, pine resin, turpentine, mastix (Chios resine), stirax, incense, myrrh, as well as anchors, nails and iron ore blocks[96].

Origin: the concentration of the discoveries in the Black Sea area suggests that one must search for the production centres[97] here, although the only discovered kiln was in Chios[98]. D. Paraschiv noticed that part of the LR 2 items in the custody of the Museum of Archaeology in Tulcea have a paste similar to some amphorae considered to be definitely of Pontic origin. Such information is important for at least two reasons: first, we have one more argument suggesting that these two amphorae were produced in the Pontic area, and secondly we can therefore explain the continuous decrease in the percentage of the number of amphorae from the "Pontic" area in the sites of Moesia Secunda and Scythia, where statistics are available[99].

Dating: 4th–7th c. AD.

CATALOGUE

15. Amphora (fragmentary, mouth). Primary, even, oxidizing firing, red semi-fine paste (2.5YR5/8); small and very small porosities; very small calcite particles and rarely small ones. Dimensions: DMG=120 mm, DMP=120 mm, H=50 mm. Histria 2012, sector CN, S 2, c 6, – 0.45 / – 0.60 m, no. 131, Fig. 4/1.
16. Amphora (fragmentary, handle). Primary, even, oxidizing firing, semi-fine compact paste, with pebbles and sand (2.5YR4/8) red on the outside and bluish-black (GLEY 2.5/1–5b) on the inside; small and medium size calcite and iron oxide particles, rarely mica. Dimensions: GrM=56 mm, H=109 mm. Histria 2012, sector CN, S 2, c 1, – 0.25 m, no. 7, Fig. 4/2.
17. Amphora (fragmentary, handle). Primary, even oxidizing firing, red fine compact paste (2.5YR5/8); small mica particles. Dimensions: GrM=43 mm, H=85 mm. Histria 2012, sector CN, S 2, c 1, – 0.25 m, no. 8, Fig. 4/3.
18. Amphora (fragmentary, base). Primary, even, oxidizing firing; reddish-yellow, semi-fine particles (5YR6/6) with small and medium size porosities (maximum 4x1 mm); small and medium size calcite particles. Dimensions: DB=29 mm, DMP=180 mm, H=33 mm. Histria 2012, sector CN, S 2, c 4–5, – 0.70 / –1 m, no. 59, Fig. 4/4.
19. Amphora (fragmentary, mouth). Primary, even, oxidizing firing, red semi-fine paste (2.5YR5/6) with small and frequent porosities (up to 1 mm); small and medium size calcite and iron oxide particles. Dimensions: DMG= 128 mm, DMP=128 mm, H=56 mm. Histria 2012, sector CN, S 2, c 4, – 0.15 m, no. 34, Fig. 4/5.
20. Amphora (fragmentary, mouth). Primary, even, oxidizing firing, reddish-yellow semi-fine paste (7.5YR6/6); small and very small porosities; medium size calcite particles. Dimensions: DMG=145 mm, DMP=145 mm, H=45 mm. Histria 2012, sector CN, S 2, c 5, – 0.65 / –0.75 m, no. 126, Fig. 4/6.
21. Amphora (fragmentary, neck). Primary, even, oxidizing firing; red semi-fine paste (2.5YR4/8); small and medium size calcite particles, small iron oxide particles. Dimensions: DMG=110 mm, DMP=110 mm, H=37 mm. Histria 2012, sector CN, S 2, c 4–5, – 0.70 / –1 m, no. 58, Fig. 4/7.
22. Amphora (fragmentary, neck). Primary, even, oxidizing firing; yellowish-red semi-fine paste (5YR5/6) with small porosities (maximum 1 mm); small calcite and iron oxide particles; sand used for tempering. Dimensions: DMG=110 mm, DMP=110 mm, H=40 mm. Histria 2012, sector CN, S 2, c 2–3, – 0.30 m, no. 17, Fig. 4/8.
23. Amphora (fragmentary, mouth). Primary, even, oxidizing firing, light yellowish-brown semi-fine paste (10YR6/4); small iron oxide particles. Dimensions: DMG=80 mm, DMP=80 mm, H=21 mm. Histria 2012, sector CN, S 2, c 3, – 0.45 m, no. 23, Fig. 4/9.

I.3. "Bellows" amphorae; Robinson 1959, M 273; Rădulescu 1976, type 7; Scorpan 1976, type III–I; Kuzmanov 1985, type II; Papadopoulos 1989, types III–VII; Baumann 1995, type IV; Opaiț 1996, type C–II

General description of the type: bellows-shaped body, with the maximum diameter towards the lower part ending with a massive conical foot. The mouth is wide, the neck is cylindrical, the rim is rounded or beveled outwards, and thickened on both sides. The rim is triangular or rectangular in section and the shoulder forms an obtuse angle with the neck, starting abruptly towards the body. The external surface is grooved. In time, the distinction between neck and shoulder gradually disappeared, so during the 5th c. it was no longer visible. The paste is beige-brown or reddish-brown,

[95] Steckner 1989, p. 64–65.
[96] Rădulescu 1973, p. 197–198.
[97] Peacock, Williams 1986, p. 182; Bonifay, Villedieu 1989, p. 25; Sciallano, Sibella 1991, p. 101.
[98] Bonifay, Villedieu 1989, p. 25, note 12.
[99] Paraschiv 2006a, p. 95.

frequently with pyroxene and rare spangles of golden mica. The external area has a yellowish-green slip. The general dimensions are as follows: H=50–60 cm; Dg=10–12 cm; Dm=40–45 cm. The volume varies between 17 and 50 litres. Mathematical calculations indicate that the amphora discovered at Dinogetia holds 52 litres.

Area of diffusion: in Scythia they are attested at Tomis[100], Callatis[101], Halmyris[102], Noviodunum[103], Telița-Amza[104], Dinogetia[105], Capidava[106], Libida[107] and Babadag-Topraichioi[108], Sucidava[109], and in Moesia Secunda at Odessos[110], Iatrus[111] and Novae[112]. For the eastern area of the Empire, there were also discoveries in Greece[113], dated to the 4th–6th c., at Yassi Ada[114], Samos[115], Tiras[116], in Dalmatia[117], on habitation levels dated to the 5th to 7th c., and in southern Moldavia (Lunca)[118], in a context dated to the 4th c. For the western area of the Empire they are attested in Gallia[119], but their number is limited. Five fragments dated to the 4th c. AD and to the first half of the following century were found during the 1981–1986 excavations at Halmyris, while an almost complete amphora was discovered at Dinogetia[120].

At Babadag-Topraichioi, the percentages vary between 1.3–1.7 % for the first half of the 5th c. There is a similar percentage at Halmyris, for the period between the second half of the 4th and the first half of the 5th c. AD. At Halmyris, if we take into consideration the amphora bases published by A. Opaiț as belonging to this type, they represented 3.6 % of the total number of amphorae from the 5th c. AD.[121]

Contents: the main transported product was wine, as the majority of the studied items have a tarred interior.

Origin: the area of diffusion suggests that probably the production centres were on the Aegean coast.

Date: 4th to 7th centuries AD; the only item discovered at Babadag dates to the second quarter of the 5th c. AD.

[100] Rădulescu 1976, p. 107, pl. VII/2–3; Scorpan 1976, p. 158, pl. III; Scorpan 1977, p. 272, fig. 5/4; Popescu 1976, p. 119–120, no. 70; Opaiț 1996, p. 62–63, pl. 12/4, 13/ 1–2, 14/2.4.

[101] Preda 1980, p. 29, 101–102/M 208, pl. LXXIII/M 208, 2; Opaiț 1996, p. 62, pl. 14/5; Preda 2000, p. 242, fig. 2/1.

[102] Opaiț 1991a, p. 144, 145 /cat. no. 93, 96–98, pl. 16; Opaiț 1996, p. 59–62, pl.ll/5, 13/3; Topoleanu 2000, p. 142–143/cat. no. 364–365; 146/cat. no. 374, pl. XLV–XLVI.

[103] Barnea 1979, pl. 38/1; Barnea, Barnea 1984, pl. IX/1–2; Opaiț 1996, p. 61.

[104] Baumann 1995, p. 423, pl. X/2; Baumann 1996, p. 48, fig. 8/9; Opaiț 1996, p. 61; Baumann 1997, p. 47–48, pl. XII/2.

[105] Opaiț 1996, p. 59, pl. II/4.

[106] Opriș 2003, p. 72/cat. no. 121, pl. XXV.

[107] Paraschiv 2006a, p. 104, note 380.

[108] Opaiț 1991a, p. 216–217, pl. 17/2–6, 18, 19; Opaiț 1996, p. 59–62, pl. 11/5, 13/3.

[109] Tudor 1948, p. 174, fig. 24/7 (6th century AD).

[110] Kuzmanov 1985, p. 11–12/cat. no. 28, pl. 3.

[111] Kuzmanov 1985, p. 11–12/cat. no. 27, pl. 3; Bülow 2000, p. 212. fig. 1/1–4.

[112] Gacuta, Sarnowski 1981, p. 123/cat. no. 2, fig. 54.

[113] Robinson 1959, M 273, p. 109–110, pl. 29, 58; Isler 1969, p. 212–213, pl. 85–88; Williams, Zervos 1983, p. 15/cat. no. 28, 29/cat. no. 76, pl. 7.11; Papadopoulos 1991, p. 98–100, type VII, cat. no. 13, fig. 17 (Toroni; 5th c. AD.); Opaiț 1991b, 217, note 54 (W. Hautumm discovered this type of amphora in the Eupalinos tunnel; 7th c. AD).

[114] Bass, Doorninck Jr. 1971, p. 34, Pl. 2/8 (second half of the 4th c. AD).

[115] Isler 1969, pl. 86–87 (6th c. AD).

[116] Kravchenko, Korpusova 1975, fig. 5/4.

[117] Topić 2004, p. 38–39/cat. no. 109–113. pl. XVII–XVIII.

[118] Dragomir 2001, p. 90, fig. 34/2, 36/1–2, 42/3, 46/1.

[119] Bonifay, Villedieu 1989, p. 35, fig. 11/13, p. 36, fig. 14/16–17.

[120] Opaiț 1991a, p. 144–145, pl. 16/A.

[121] Opaiț 1991a, p. 145/97–98, pl. 16/97–98 (very likely there were amphorae of this type, even though they had features in common with other types).

CATALOGUE

24. Amphora (two fragments from the upper half of the profile; one complete handle and 50 % of the second one). Primary, even, oxidizing firing; semi-fine, red paste (2.5YR5/8); very small porosities; rare and medium calcite particles (maximum 5 mm); medium size iron-oxide particles; round brown particles (2.5–3 mm). Dimensions: DMG=80 mm, DMP=242 mm, H=139 mm. Histria 2012, sector CN, S 2, c 5, – 0.70 / –1.25 m, no. 75, Fig. 4/10.
25. Amphora (fragmentary, neck and partial handle). Primary, even, oxidizing firing; light yellowish-brown semi-fine paste (10YR6/4); small elongated porosities; very frequent medium sized calcite particles, rarely mica. The paste has the aspect of a mosaic, the oxides representing ca 50 %. Dimensions: DMG=122 mm, DMP=133 mm, H=75 mm. Histria 2012, sector CN, S 2, c 8, – 0.15 / – 0.35 m, no. 95, Fig. 4/11.
26. Amphora (fragmentary, neck and partial handle). Primary, even, oxidizing firing; very pale paste (10YR7/4), with rare small and medium size porosities; small calcite and iron oxide particles. Dimensions: DMG=106 mm, DMP=106 mm, H=59 mm. Histria 2012, sector CN, S 2, c 4, – 0.25 / – 0.50 m, no. 45, Fig. 4/12.
27. Amphora (fragmentary, neck, and partial handle). Primary, even, oxidizing firing, reddish-yellow semi-fine paste (7.5YR6/6), with small and medium size porosities (up to 5x1 mm), sand and pebbles (up to 3 mm); small calcite and iron oxide particles. Dimensions: DMG=120 mm,

DMP=134 mm, H=96 mm. Histria 2012, sector CN, S 2, c 4, – 0.15 m, no. 33, Fig. 4/13.

I.4. Berenice LRA 3; Carthage LRA 4; Dimitriu *et alii* 1954, type 7, variant c; Almagro 1955, type 54; Almagro 1960, type 54; Scorpan 1976, type XIV –J; Eglof 1977, no. 182–183; Yakobson 1979, fig. 3/10; Böttger 1982, type II varia; Peacock 1984, shape 5; Keay 1984, type LIV; Kuzmanov 1985, type IV; Peacock, Williams 1986, types 48–49; Papadopoulos 1989, type 4; Hayes 1992, type 6; Kuzmanov, Salkin 1992, type 30; Kelemen 1993, type 26; Majcherek 1995, shapes 2, 3 and 4; Sazanov 1997, type 4.

General description of the type: the body is cylindrical, with an unseparated shoulder, the mouth is wide (ca. 10—11 cm), the rim is slightly splayed and vertical (on the early items, dated to the second half of the 3rd c. and in the 4th c.) or oblique (on the late variant of the amphorae, dated from the 4th to the 7th c.), the body is cylindrical, getting narrower towards the base, the base is rounded or conical. The handles were ear-shaped, small and oval in section. They were attached to the shoulders and retained only a decorative role. The late variant items had barbotine around their mouth. Later variant dimensions: H=70–80 cm; Dg=10–12 cm; Dm=25–28 cm[122].

Their development began in the 1st and lasted up to the 6th c. Their profile changed, with handles getting narrower and elongated[123]. The early variant (dated from the second half of the 2nd c. and up to the 4th c.) had a vertical rim, while the late variant (dated from the 4th c. up to the end of the 6th c. or beginning of the following one) had an oblique rim. The volumes varied between 30 and 12 l, decreasing as the items became narrower and more elongated.

Area of diffusion of the early type: in Scythia at Tomis[124], Acrae[125] and Halmyris[126], and in Moesia at Nicopolis and Istrum[127].

Area of diffusion of the late type: in Scythia they were attested on most of the sites: Argamum[128], Histria[129], Tomis[130], Acrae[131], Halmyris[132], Aegyssus[133], Noviodunum[134], Tropaeum Traiani[135], Telița[136], Dinogetia[137], Troesmis[138], Sacidava[139], Capidava[140], Libida[141] and Babadag-Topraichioi[142], Fântânele[143], and in Moesia at Odessos[144], Iatrus[145] and Nicopolis ad Istrum[146]. They rarely occurred in the western area[147], but they represented one of the most widely distributed amphora types (together with the Berenice LRA 1, 2 and 10 types) in the eastern Mediterranean, the Black Sea basin and the northern Africa.

At Ibida they were the most frequent vessels for transportation, representing 13.2 %[148] of the total. At Capidava, they represented 3.5 % of the total number of amphorae[149], while at Halmyris they reached 3 %[150].

[122] The dimensions of the early variant are H=cca. 60 cm; Dg=cca. 12 cm; Dm=cca. 30 cm.

[123] Majcherek 1995.

[124] Opaiț 1996, p. 54, pl. 9/11.

[125] Kuzmanov, Salkin 1992, p. 51/cat. no. 33, pl. X.

[126] Opaiț 1991a, p. 143/cat. no. 80, 82, pl. 13; Opaiț 1996, p. 54. pl. 9/8.

[127] Falkner 1999, p. 251/cat. no. 1046–1047, fig. 9.52.

[128] Unpublished items.

[129] Dimitriu *et alii* 1954, p. 460, fig. 389; Condurachi *et alii* 1960, p. 240, fig. 11/3; Scorpan 1976, p. 165, pl. XIII/4, XXI/4; Scorpan 1977, p. 279–281, fig. 19/4; Suceveanu 1982b, pl. 9/26, pl. 14/34, pl. 16/9, 63–64, pl. 18/68; Opaiț 1996, p. 53; Paraschiv 2006a, p. 97–99, 117, cat. no. 69, pl. 26/69; Suceveanu 2007, p. 216, pl. LXXVIII/76–80.

[130] Bucovală, Paşca 1989, p. 146, 149, pl. 9/b; Opaiț 1996, Pl. 9/11; Paraschiv 2006a, p. 97–99, 116, cat. no. 67, pl. 26/67, 117, cat. no. 71, pl. 27/71–73.

[131] Kuzmanov 1978, p. 22, fig. 3; Kuzmanov 1985, p. 12–13, cal. no. 34, pl. 4.

[132] Opaiț 1991a, p. 143, cat. no. 78, pl. 14/78–83; Opaiț 1996, pl. 9/7A, B; Topoleanu 2000, p. 137, cat. no. 348–349, 335, pl. XLIII/346, 348; Paraschiv 2006a, p. 97–99, 116–117, cat. no. 68, pl. 26/68.

[133] Opaiț 1996, p. 53.

[134] Barnea, Barnea 1984, p. 102, pl. VIII/2; Opaiț 1996, p. 53.

[135] Bogdan-Cătăniciu, Barnea 1979, p. 187, fig. 161, 164/3(5), 190, fig. 170/3(10).

[136] Baumann 1984a, pl. XIII/2; Opaiț 1996, p. 53.

[137] Opaiț 1996, p. 53.

[138] Baumann 1980, p. 184, pl. 17/2, 21/1; Opaiț 1996, p. 53.

[139] Scorpan 1975, p. 268–269, pl. I/5.

[140] Covacef 1983, p. 361, fig. 6/1, Opriș 2003, p. 66–68/cat. no. 103–108, pl. XXIII.

[141] Opaiț 1991c, p. 30/cat. no. 27–35, fig. 6; Opaiț 1996, p. 53.

[142] Opaiț 1991a, p. 214, pl. 16/1. 2; Opaiț 1996, p. 53, pl. 9/9–10.

[143] Angelescu 1998, p. 231, cat. no. 144, pl. XV/144.

[144] Kuzmanov 1985, p. 32–13, cat. no. 35, pl. 4.

[145] Böttger 1982, p. 140/cat. no. 554, pl. 24; Bülow 2000, p. 212, fig. 1/III–6.

[146] Falkner 1999, p. 251 /cat. no. 1048–1049, fig. 9.52.

[147] Paraschiv 2006a, p. 98–99.

[148] Paraschiv 2006a, p. 98, note 303 (calculations *apud* Opaiț catalogue 1991a).

[149] Paraschiv 2006a, p. 98, note 304 (calculations *apud* Opriș catalogue 2003, p. 67–68).

[150] Paraschiv 2006a, p. 98, note 303 (calculations *apud* Topoleanu 2000, p. 166/table XX, p. 169/table XXIII). The 24 amphorae represent 2.7% of the total in the second half of the

Contents: the wine originating in Gaza used to be the main product transported, and the majority of the amphorae were tarred. They were also used for oil transportation[151], as showed by the analyses on the untarred amphorae from Gallia, and for carrying fish products[152], since the shape and large diameter at the mouth allowed for the transportation of such goods.

Origin: the production area is more extensive than initially thought: Gaza – where workshops were identified – and the Nile Delta – where storage houses[153] were uncovered. It is very likely that there were two production centres – one south of Lake Mariut, east of the Nile Delta, and another one west of it.

Dating: 1st – 6th c. AD.

CATALOGUE

28. Amphora (fragmentary, base). Primary, even, firing, red semi-fine paste (2.5YR5/8); very small and rare porosities; very small calcite and iron oxide particles, and rarely very small mica fragments. Dimensions: DB=33 mm, DMP=59 mm, H=45 mm. Histria 2012, sector CN, S 2, c 10, – 0.50 m, no. 106, Fig. 5/1.
29. Amphora (fragmentary, base). Primary, even, oxidizing firing, reddish-brown semi-fine paste (2.5YR5/4) on the outside, grey (GLEY1–5N) on the inside, with small and medium porosities (up to 5 × 0,5 mm); small iron-oxide particles. Dimensions: DB=32 mm, DMP=70 mm, H=75 mm. Histria 2012, sector CN, S 2, c 3, – 0.45 m, no. 26, Fig. 5/2.

I.5. Berenice LRA 4; Carthage LRA 5; Dimitriu *et alii* 1954, type 5; Scorpan 1976, type VI–H; Eglof 1977, no. 186; Peacock 1984, Shape 4; Kuzmanov 1985, type III; Peacock, Williams 1986, type 46 "Palestinian"; Hayes 1992, type 8; Kuzmanov, Salkin 1992, type 31; Sazanov 1997, type 5.

General description of the type: the mouth is wide, the rim is oblique or vertical, and the body is spherical or bag-shaped. The handles are oval in section, attached to the shoulders, very small and ear-shaped, similar to those of type Berenice LR 3. The paste is beige, sandy, fine, with white particles (probably limestone) and white mica. The medium dimensions of the vessels are the following: H=40–45 cm; Dg=10–12 cm; Dm=35 cm. Their volume is of ca. 30 litres. The mathematical calculation for the only item of this type known up to the present moment indicates a volume of 23 litres, very close to the value of 42 sextarii[154].

Area of diffusion: in Scythia there were few Berenice LR 4 type amphorae and these were discovered at Histria[155], Tomis[156], Halmyris[157], Capidava[158] Libida[159], Sacidava[160] and Tropaeum Traiani[161], in contexts to be dated to the 5th to 6th c. AD. We are not aware of the number of items discovered at Tropaeum Traiani, but the authors of the excavations mention "numerous fragments on this level (VI A, AN/N) in all sectors and, partly on the following level (VI B, A/N.); some items have traces of a yellowish-white slip"[162].

Although they were documented from the beginning of the 5th c. up to the beginning of the 7th c. AD in northern Africa[163], Gallia[164], Italy[165], Dalmatia[166], Hispania[167], Greece[168], the north of the Black Sea[169] and Constantinople[170], their distribution is much more limited when compared to other types of oriental amphorae. The situation is different in

5th c. AD, 6% in the 6th c. AD and 4.3% at the end of the same century.

[151] Bonifay, Piéri 1995, p. 53; Keay 1984, p. 280.

[152] Riley 1979, p. 222 (those discovered in Egypt had fish remains on the bottom).

[153] Empereur, Picon 1989, p. 243, fig. 25.

[154] Opaiț 1996, p. 55.

[155] Dimitriu *et alii* 1954, p. 458, fig. 385; Scorpan 1976, p. 159, pl. VI/4; Scorpan 1977, p. 273, fig. 9; Opaiț 1996, p. 55.

[156] Unpublished item.

[157] Opaiț 1991a, p. 145/cat. no. 99, pl. 16; Opaiț 1996, p. 55, pl. 10/2; Topoleanu 2000, p. l38–139/cat. no. 350. pl. XLIII.

[158] Covacef 1983, p. 362, fig. 4/1; Opaiț 1996, p. 55, pl. 10/1; Opriș 2003, p. 68/cat. no. 109, pl. XXIII.

[159] Opaiț 1991c, p. 37/cat. no. 83, fig. 10.

[160] Scorpan 1975, p. 271, pl. II/6.

[161] Bogdan-Cătăniciu, Barnea 1979, p. 190, fig. 170/3(11).

[162] Bogdan-Cătăniciu, Barnea 1979, p. 190

[163] Riley 1976, p. 117; Egloff 1977, no. 186; Riley 1979, p. 223; Peacock 1984, p. 121, fig. 35/6–11; Ballet, Picon 1987, p. 33–34, fig. 4/2; Ballet 1993, p. 17, fig. 13; Opaiț 1998, p. 23/cat. no. 17, pl. 1.

[164] Bonifay 1986, p. 292, fig. 13/61–65; 295; Bonifay, Villedieu 1989, p. 29, 31, fig. 8/8–9, 10; Laubenheimer 1990, p. 144–145; Bonifay, Piéri 1995, p. 112–113, fig. 10/66–71.

[165] Mackensen 1987, p. 248, fig. 41/7–8; Arthur 1989, p. 85, fig. 6; Pasquinucci *et alii* 2005, p. 123, fig. 7; Martin 2005, p. 127.

[166] Reynolds 2004, passim.

[167] Rosselló Mesquida, Ribera i Lacomba 2005, p. 156, fig. 3/4.

[168] Williams, Zervos 1983, p. 30/cat. no. 81, pl. 11; Peacock, Williams 1986, p. 191; Abadie-Reynal, Sodini 1992, p. 57–58/cat. no. CC 328, fig. 25.

[169] Yakobson 1979, p. 16, fig. 3/11; Sazanov 1997, p. 88, fig. 1/5.

[170] Hayes 1992, p. 65–66.

Palestine, at Caesarea, where they represent over 50 % of the transport vessels[171].

Contents: white wine from Palestine.

Origin: as with the Berenice LR 3 amphora type, analyses of the paste showed that, besides the workshops in Gaza, this type of amphora was also produced in Abu Mina (western Nile Delta)[172], as well as in the Middle Egypt[173], in *officinae* producing mainly the Carthage LR 7type [174].

Dating: 5th – beginning of the 6th c. AD.

CATALOGUE

30. Amphora (fragmentary, neck). Primary, even oxidizing firing, yellowish-red semi-fine paste (5YR5/6); small porosities; small calcite particles. Dimensions: DMG=118 mm, DMP=140 mm, H=53 mm. Histria 2012, sector CN, S 2, c 5, – 0.40 m, no. 64, Fig. 5/3.
31. Amphora (fragmentary, mouth). Primary, even, oxidizing firing, dark brown semi-fine paste (7.5YR4/6); very small porosities; small size calcite and mica particles. Dimensions: DMG=120 mm, DMP=188 mm, H=64 mm. Histria 2012, sector CN, S 2, c 5, – 0.70 / – 0.90 m, no. 69, Fig. 5/4.
32. Amphora (fragmentary, neck). Primary, even, oxidizing firing, dark brown semi-fine paste (7.5YR5/6); small and medium porosities; small calcite particles. Dimensions: DMG=136 mm, DMP=200 mm, H=55 mm. Histria 2012, sector CN, S 2, c 5, – 0.40 m, no. 65, Fig. 5/5.
33. Amphora (fragmentary, mouth). Primary, even, oxidizing firing, red semi-fine paste (2.5YR4/6); small and medium porosities; rare medium and large size calcite particles, pebbles (maximum 4×3 mm), rarely mica. Dimensions: DMG=134 mm, DMP=168 mm, H=56 mm. Histria 2012, sector CN, S 2, c 7, – 0.40 / – 0.60 m, no. 134, Fig. 5/6.
34. Amphora (fragmentary, mouth and part of shoulder). Primary, even, oxidizing firing, compact, yellowish-red semi-fine paste (5YR4/6); small and medium porosities; medium size calcite particles, rarely mica. Dimensions: DMG=124 mm, DMP=238 mm, H=73 mm. Histria 2012, sector CN, S 2, c 7, – 0.40 / – 0.60 m, no. 133, Fig. 5/7.
35. Amphora (fragmentary, basis). Primary, even oxidizing firing, dark brown semi-fine paste (7.5YR4/6); small porosities; very small calcite particles. Size: DB=23 mm, DMP=57 mm, H=41 mm. Histria 2012, sector CN, S 2, c 5, – 0.70 / –0.90 m, no. 71, Fig. 5/8.
36. Amphoretta (fragmentary, base). Primary, even, oxidizing firing, yellowish-red semi-fine paste (5YR5/6), with rare small porosities (up to la 5×0.5 mm); small and medium calcite particles. Dimensions: DB=20 mm, DMP=74 mm, H=52 mm. Histria 2012, sector CN, S 2, c 3, – 1.40 m, no. 31, Fig. 5/9.

[171] Riley 1979, p. 223; Peacock, Williams 1986, p. 191; Kinsley, Raveh 1996, p. 43–54, fig. 36, 39; Rosselló Mesquida, Ribera i Lacomba 2005, p. 156.
[172] Ballet, Picon 1987, p. 33–34; Ballet 1993, p. 17.
[173] Empereur, Picon 1989, p. 243, fig. 26.
[174] Empereur, Picon 1989, p. 244, fig. 28.

I.6. Berenice LRA 14; Dimitriu *et alii* 1954, type 7, variant a; Opaiț E VIII.

General description of the type: the body is conical, ending in a small button, a very narrow slightly funnel-shaped mouth, and a short cylindrical neck. The paste is soft, fine, cream coloured with few white particles, mica like, with a beige-yellowish slip on the external side. The medium dimensions for this type are the following: H=ca. 50 cm; Dg=5–6 cm; Dm=12–14 cm. The average volume is of 3–4 litres. The only amphora for which the volume was calculated holds 4.28 litres (a value close to 8 sextarii=1 semimodius, unity used for the solid merchandise)[175].

Diffusion: they are attested at Argamum[176], Histria[177], Tomis[178], Capidava[179], Axiopolis[180] and Halmyris[181], on habitation levels dated to the 6th and beginning of the 7th c. Regarding the dating of such amphorae from Scythia, there are three items discovered at Halmyris, all discovered in a layer that provides an *ante quem* limit – the beginning of the 7th c. AD.[182], and three other items from Capidava that provide the earliest known date for the province, contemporary to the discoveries at Berenice[183]. At the moment of the discovery, the only such item found at Berenice was not included by the author in the category of the local amphorae[184]. Amphorae with similar paste and shape were also discovered in the Athenian agora[185], in Constantinople[186] and also in southern Crete[187]; they represent this type's "southern variant".

[175] Opriș 2003, p. 69.
[176] Unpublished items.
[177] Dimitriu *et alii* 1954, p. 460, fig. 387.
[178] Unpublished items.
[179] Opriș 2003, p. 69/cat. no. 110–112, pl. XXIII–XXIV.
[180] Barnea 1968, p. 489–490, 536, fig. 47/2.
[181] Opaiț 1991a, p. 150/cat. no. 125–126, pl. 22; Opaiț 1996, p. 66, pl. 17 only 1–2; Topoleanu 2000, p. 141/cat. no. 357, pl. XLIV.
[182] Opaiț 1991a, p. 150, cat. no. 125–126, 132, pl. 22/125–126, 132; Opaiț 1996, pl. 17/1–3; Topoleanu 2000, p. 141, cat. no. 357, 336, pl. XLIV/357; Paraschiv 2006a, p. 102, 118, pl. 28/79.
[183] Riley 1979, p. 232, fig. 94/376 (dated to the 6th c. AD).
[184] Riley 1979, p. 232/cat. no. 376, fig. 94 (the author does not have analogies, as this was the only discovered item).
[185] Robinson 1959, M 372, p. 118–119, pl. 34, 58.
[186] Hayes 1992, type 22, p. 104, fig. 49/195–196.
[187] Portale, Romero 2000, p. 422, fig. 5/41, 42.

Content: very likely Cretan wine.

Origin: Their diffusion and structure of the paste (both similar to those of the Zeest 99 type that was produced in Crete[188]) are arguments to consider them as being produced either in Crete or in the Aegean area.

Date: 6th to 7th c. AD

CATALOGUE

37. Amphora (fragmentary, neck and partial handle). Primary, even, oxidizing firing, red semi-fine paste (2.5YR4/8); very small and rare porosities; very small calcite particles. Dimensions: DMG=56 mm, DMP=56 mm, H=41 mm. Histria 2012, sector CN, S 2, c 2, – 0.40 m, no. 85, Fig. 5/10.

I.7. Berenice MRA 4; Robinson 1959, G 199; Kuzmanov 1985, type V.

General description of the type: the mouth is vertical; the rim slightly rounded or triangular in section and the neck is cylindrical. The body is ovoid, with deep grooves, getting narrower towards the lower part, continuing with a massive foot, also narrower towards the lower part and ending with a button. Average dimensions: H=50–70 cm; Dg=10–12 cm; Dm=20–25 cm (the late items reach up to 35–40 cm). The volume is ca. 40 litres. This type of amphorae from the 1st c. AD still circulated up to the beginning of the 4th c.; during this time, their profile changed slightly[189].

Area of diffusion: in Scythia there is only one published item discovered at Tomis in an unknown context. According to analogies, this item can be dated to the 4th c.[190]. The closest analogies are at Novae, where they represent 0.8 % of the early Roman amphorae[191]. They are attested, in small numbers, in the Eastern Mediterranean and the Athenian agora[192], at Apollonia Pontica[193], Paphos (Cyprus)[194], Atlit and Beiriut (Palestine)[195], Anemurium (Cilicia)[196], Pompei (Italy)[197] and Tanais (northern Black Sea)[198].

Contents: wine was probably the main merchandise to be transported in these amphorae; the areas where the amphorae were produced are well known for wine production.

Origin: probably the early variant of these amphorae was produced in the workshops discovered at Anemurium[199] and Beiriut[200], dated to the 1st c. AD; for the following period, the emergence of a workshop in the Aegean area is a possible hypothesis. This is supported by the fact that in the 4th c. amphorae of this type are attested only in Athens, Appolonia Pontica and Tomis.

Dating: 1st c. – beginning of the 4th c. AD.

CATALOGUE

38. Amphora (fragmentary, mouth). Primary, even, oxidizing firing, semi-fine paste, yellowish-red (5YR5/6) on the outside, dark grey (5YR4/1) on the inside; small particles of iron oxide and calcite. Dimensions: DMG=140 mm, DMP=140 mm, H=50 mm. Histria 2012, sector CN, S 2, c 3, – 0.45 m, no. 21, Fig. 5/11.

I.8. Berenice MRA 5; Robinson 1959, K 115; Zeest 1960, type 80; Burakov 1976, tip 10–11; Hayes 1992, type 4; Krapivina 1993, type 32; Opaiț 1991, A I.

In an article dedicated to the large volume amphorae, Andrei Opaiț divided the Berenice MR 5 type amphorae in seven variants[201], according to the date and the evolution of the shape. This type of amphorae circulated between the 1st c. BC and the 6th c. AD.

General description of the type: the mouth is wide, the rim is truncated in section, usually bevelled inwards or sometimes flat with a small groove on the inner side; the rim is not separated from the neck, which is truncated; the handles are massive and ovoid in section and they have 7–8 longitudinal grooves in the arched zone. No such

[188] Portale, Romero 2000, p. 422.

[189] Robinson 1959, G 199, p. 43, pl. 8; L 11, p. 75, pl. 16; M 239, p. 106, pl. 28; Sciallano, Sibella 1991, p. 97.

[190] Opaiț 1987, p. 255, 256 /cat. no. 15. fig. 6/4; Opaiț 1996, p. 57–58, pl. 10/9.

[191] Paraschiv 2006a, p. 82.

[192] Robinson 1959, G 199, p. 43, pl. 8; L 11, p. 75, pl. 16; M 239, p. 106, pl. 28. It is the only place where all variants are attested.

[193] Kuzmanov 1985, p. 13/cat. no 36 a, pl. 4 (variant dated to the 3rd – 4th c.)

[194] Riley 1979, p. 186.

[195] Sciallano, Sibella 1991, p. 97; Hayes 2000, p. 285–286, fig. 3.

[196] Lemaître 2000, p. 473, fig. 2, 3.

[197] Tchernia 1986, p. 241–242, 244; Romito 1989, fig. 9.

[198] Košelenko *et alii* 1984, pl. LXXIV/24.

[199] Lemaître 2000, p. 473.

[200] Hayes 2000, p. 285–286.

[201] Opaiț 1987, p. 247–250.

vessel was found complete. But the body was ovoid, ending in a massive foot. In many cases, the amphorae had a deep groove on the neck and large grooves on the body. The paste, usually brown, sometimes with a grey core covered with a slip, is very hard; it contains crushed quartz, black and violet particles. The dimensions of the late vessels are as follows: Dg=14–16 cm; Dm=60–70 cm[202]. Their volumes vary between 60 and 100 litres.

The "classic" amphora variant, dated to the 2nd – 4th c., had a very wide mouth, a massive rim – straight or bevelled outwards– and a long neck with two deep grooves immediately under the rim. The body is pear-shaped, with the maximum diameter in the upper part, ending in a massive foot. The vessel had large handles, grooved on the upper side. The late amphorae, dated to the 4th to 6th c., had a narrower mouth, a thinner rim and a shorter neck without grooves.

Area of diffusion of the early type: Callatis[203], Halmyris[204], Dinogetia, Agighiol[205], Telița-Amza[206], Sacidava[207], Slava Cercheză[208], Constantinople[209], Acrae[210], Bizone[211], Ostia[212] and Berenice[213].

The earliest variant of the type is represented by an amphora discovered at Poiana-Tecuci[214], dated to the end of the 1st c. BC or beginning of the 1st c. AD[215]. Two amphorae from the collection of the Museum of National History and Archaeology in Constanța are included in the second variant[216]. The archaeological context of the discovery was dated to the 2nd – 3rd c., but A. Opaiț dated them in the 1st c. AD.[217]. Another variant attested in Scythia[218] and dated to the second half of the 2nd c. AD or beginning of the following century is represented by an amphora discovered at Callatis[219]. The following variant, dated to the second half of the 3rd c. AD, is frequent in the Roman world both in the Eastern Mediterranean and in the Black Sea. In Dobrudja, amphorae of this type were discovered at Agighiol[220], Slava Cercheză[221] and Halmyris[222].

Area of diffusion of the late type: Histria[223], Sacidava[224], Dinogetia[225], Halmyris[226], Tropaeum Traiani[227], Babadag-Topraichioi[228], Odessos[229] and Odărci[230].

The last variant of this type, which is of the outmost interest for us, is common in Dobrudja. This type of amphora is large, with a wide mouth, a rim with a truncated section, bevelled inwards and, if flat, it has a small carina on the upper part. The neck is long, truncated; the handles are arched and massive, with median and longitudinal grooves on the upper surface. The ovoid body ends in a massive foot. A ridge in the maximum diameter zone probably indicates the area where the two initially separated parts were later united. Vessels of this variant type were discovered on archaeological levels dated to the second half of the 4th c. and the first half of the 5th c. AD at Babadag-Topraichioi[231], some vessels from the second half of the 5th c. at Halmyris[232] and Sacidava[233] and the

[202] The early variant has the following dimensions: H=cca 100 cm; Dg=17–20 cm.

[203] Iconomu 1968, p. 247, fig. 12, 13.

[204] Opaiț 1991a, p. 156/cat. no 39, pl. 4; Opaiț 1996, p. 68; Topoleanu 2000, p. 139/ cat. no. 352–353, pl. XLIII.

[205] Opaiț 1980a, p. 308, 310, pl. X/4, XV/3; Opaiț 1996, p. 68.

[206] Baumann 1995, p. 105/cat. no. 79, pl. LXX/2, 8; Opaiț 1996, p.68, pl. 18/5.

[207] Scorpan 1976, pl. X/3.

[208] Opaiț 1996, p. 68 (inv. no. 38685).

[209] Hayes 1992, p. 63.

[210] Kuzmanov, Salkin 1992, p. 37–38/cat. no. 41–42, pl. IV.

[211] Kuzmanov, Salkin 1992, p. 37–38/cat. no. 43, pl. IV.

[212] Riley 1979, p. 188, fig. 33.

[213] Fo other analogies, see also: Zeest 1960, p. 114–115, pl. XXXIII; Burakov 1976, p. 72, pl. 111/8, 9; Riley 1979, p. 188, fig. 33; Krapivina 1993, p. 99, fig. 30/22–24 (northern and northeastern Black Sea); Robinson 1959, K 115, p. 69, pl. 14; Eiwanger 1981, II, p. 78–89/cat. no. III 502–507, pl. 60; Williams, Zervos 1983, p. 15/cat. no. 27, pl. 7 (Aegean area).

[214] Opaiț 1987, p. 247, fig. 2/2 a–b.

[215] Uncertain date as the discovery context is not known.

[216] Rădulescu 1976, p. 103–104, pl. III/3, 3 a; Opaiț 1987, p. 247, fig. 3/1, a, b; 3/2.

[217] A. Opaiț considered that they were put in the Tomitan tomb in the next century, probably as a consequence of ther extended use.

[218] The fifth variant at A. Opaiț.

[219] Iconomu 1968, p. 247, 250, fig. 12, 13; Opaiț 1987, p. 248, fig. 4/1 a–b.

[220] Opaiț 1980b, p. 308–310, pl. X/4, XV/3.

[221] Opaiț 1987, p. 248.

[222] Opaiț 1987, p. 249.

[223] Opaiț 1987, p. 248, fig. 3/4; Opaiț 1996, 68, pl. 18/4.

[224] Scorpan 1973, p. 288, fig. 36/4; Opaiț 1996, p. 68.

[225] Barnea 1966, p. 244, fig. 8/6, 13 /1, p. 250, 257, fig. 15/6–7; Opaiț 1996, p. 68.

[226] Opaiț 1991a, p. 139/cat. no. 51, pl. 8; Opaiț 1996, p. 68; Topoleanu 2000, p. 139–140/cat. no. 354, pl. XLIII.

[227] Bogdan-Cătăniciu, Barnea 1979, p. 190, fig. 168/3.7; Opaiț 1996, p. 68.

[228] Opaiț 1991a, p. 212, pl. 13/1–3; Opaiț 1996, p. 68, pl. 18/6.

[229] Opaiț 1996, p. 68.

[230] Dončeva-Petkova 1989, pl. III/11.

[231] Opaiț 1987, p. 250.

[232] Opaiț 1991a, p. 139/cat. no. 51, pl. 8; Opaiț 1996, p. 68; Topoleanu 2000, p. 139–140/cat. no. 354, pl. XLIII.

[233] Scorpan 1973, p. 288, fig. 36/4.

items from the 6th c. at Dinogetia[234] and Tropaeum Traiani[235]. For an almost complete item found at Histria, the discovery conditions are not clear[236]. At Topraichioi, such amphorae appeared on all the levels, but their number is unimportant[237].

Contents: there is no clear answer for this problem yet.

Origin: A. Riley considered that the MR 5 Berenice type originated in the northern Aegean or in the Pontic basin[238]. Based on its presence solely in the latter mentioned area, A. Opaiț considered that the late variant was actually produced in the Black Sea basin[239]. Still, the characteristics of the paste and the area of diffusion suggest mainly the northern Aegean coast as the production area.

Dating: 4th to 6th c. AD.

CATALOGUE

39. Amphora (fragmentary, mouth). Primary, even, oxidizing firing, semi-fine paste, yellowish red (5YR5/6); rare and small porosities; very small iron oxide particles and, rarely mica. Dimensions: DMG=100 mm, DMP=100 mm, H=51 mm. Histria 2012, sector CN, S 2, c 2, – 0.40 m, no. 83, Fig. 5/12.

I.9. Kabakčieva 1986, type VII

General description of the type: it has a cylindrical neck, a protruding rim and has an almost rectangular section. The two mouth fragments discovered at Halmyris had a similar profile with that of an amphora discovered at Demetrias.

Area of diffusion: Halmyris[240], Demetrias[241], Ivajlovgrad[242].

Contents: unknown.

Origin: probably an Aegean product.

Dating: at Ivajlovgrad, they were dated to the 4th to 6th c. AD, and at Demetrias the fragment emerged on a level with coins dated to the 4th c. AD. The fragments from Halmyris were discovered in an archaeological context from the second half of the 4th c. AD.[243]

CATALOGUE

40. Amphora (fragmentary, mouth). Primary, even, oxidizing firing, semi-fine paste, yellowish-red on the outside (5YR5/8), bluish-black on the inside (GLEY 2.5/10b); rare medium size calcite particles (maximum 2×1 mm) and many fine mica particles. Dimensions: DMG=140 mm, DMP=140 mm, H=26 mm. Histria 2012, sector CN, S 2, c 5, – 0.65 / – 0.75 m, no. 129, Fig. 5/13.

II. AMPHORAE LIDS – *Opercula*

The amphora lids – made on purpose or cut from the walls of some broken amphorae or bricks – were used to seal the amphorae in order to transport oil, salted fish or sauces. They were sealed with lime cement, and in some situations, the contents made necessary the use of cork stoppers for a tight seal[244].

Because of their small size, the majority of the amphora lids were complete when found. Despite the fact they were not important chronologically, as their shape did not change in time, their number is a good indicator for the quantity of a certain type of amphorae found on a particular site or archaeological level.

The majority of the lids discovered in Scythia are to be included in a type common for all the area covering the basins of the Mediterranean and Black Seas. They were produced for sealing the Berenice LR 1 and Berenice LR 2 type amphorae, between the 1st c. BC and the beginning of the 7th c. AD.[245]

The most important published amphorae lids come from Halmyris[246] and Capidava[247].

II.1. Amphorae lids with sealing sleeves; Kuzmanov 1985, type 1

General description of the type: their body is cylindrical and short, with a cylindrical high foot

[234] Barnea 1966, p. 244, 257, fig. 8/6; 13/1, 15/6–7.
[235] Bogdan-Cătăniciu, Barnea 1979, p. 190, fig. 168/3.7
[236] Opaiț 1987, p. 250, fig. 3/4 a–b (item at the Museum of Histria, inv. no. V35141).
[237] Opaiț 1996, p. 67–68; the width of the edge and the mouth diameter can vary from 14/10 cm in N II and 16/10 cm in N IV. An amphora discovered on the N VI (inv. 23933), with the mouth diameter of 16.6/11.3 cm, can indicate a wider mouth at the middle of the 5th c.
[238] Riley 1979, p. 188.
[239] Opaiț 1996, p. 67–68.
[240] Topoleanu 2000, p. 145.
[241] Eiwanger 1981, II, p. 27, type VII, cat. no. 331, fig. 27/331.
[242] Kabakčieva 1986, p. 21.
[243] Topoleanu 2000, p. 145.
[244] Opriș 2003, p. 88.
[245] Opriș 2003, p. 88.
[246] Topoleanu 2000, p. 162–164, pl. LV.
[247] Opriș 2003, p. 88–91, Pl. XXXI.

and conical handle, empty inside. The foot fitted into the vessel's mouth like a "sealing sleeve". The early items are made of a fine paste, having a hemispherical body with fine grooves. The edge has two protuberances in order to be better fixed on the amphora mouth, the handle is round and short. The items, dated to the 6th c. AD, are made of a rougher paste[248].

Area of diffusion: up to the present moment, such items are attested in Scythia, at Halmyris[249], Capidava[250] and Telița-Valea Morilor[251]. The closest analogies, dated to the 2nd to 3rd c. AD, are to be found in the Danube area[252]. For the Late Roman period, there are analogies at Sadovec[253]. They are attested even es early as the Republican period in the Empire and they were produced up to the beginning of the 7th c. AD.

Origin: they were produced in the same area with the Berenice LRA 1 and Berenice LRA 2 types amphorae[254].

Dating: 4th to 6th c. AD

CATALOGUE

41. Amphora lid (fragmentary, complete profile; for the type of amphora no. 1). Primary, even, oxidizing firing, semi-fine paste, reddish yellow (7.5YR6/8); calcite medium size particles (max. 2 mm), iron oxide and mica small particles. Dimensions: DMS=56 mm, DMP=104 mm, H=51 mm. Histria 2012, sector CN, S 2, c 1, – 0.25 m, no. 2, Fig. 5/14.

The 41 ceramic fragments presented above are to be included in a larger series of ceramics discovered in S2, in the Central North sector in 2012[255]. The studied lot can be divided as following: 52.45 % amphorae[256], 43.36 % kitchen pottery[257], 2.80 % lamps and 1.40 % other items[258].

[248] Topoleanu 2000, p. 162.

[249] Topoleanu 2000, p. 162–163, cat. no. 443–444, pl. LV/443–444.

[250] Opriș 2003, p. 119, cat. no. 248, pl. XXXVII/248.

[251] Opaiț 1996, p. 143, Pl. 62/7.

[252] Bichir 1984, p. 36, type 9 a, pI. XVI/3, 5 (2nd – 3rd c. AD).

[253] Kuzmanov 1992, p. 217, pl. 109/13–24 (4th to 6th c. AD).

[254] See the origin of the Berenice LRA 1 and Berenice LRA 2 types, the first amphora types presented in this article.

[255] The series includes 143 ceramic fragments.

[256] The diference between 41 and 75 is represented by the provincial or unidentified amphorae.

[257] *Vasa conquina(to)ria*, *vasa pota(to)ria*, *vasa escaria*, *dolia.*

[258] Two spindle whorls.

The statistics on the entire pottery lot from S2[259] show that the amphorae are still the most important category of ceramic discoveries (77.60 %), followed by kitchen pottery (20.40 %) and other items (2 %)[260].

ABBREVIATIONS

CN = Central North
c = square
DB = basis diameter
DM = maximum diameter (for ceramic objects other than vessels)
DMG = maximum mouth diameter
DMP = maximum preserved diameter
DMS = maximum upper diameter
GrM = maximum breadth (for ceramic objects other than vessels)
H = preserved height of ceramic fragment
l = preserved breadth of ceramic fragment
S = trench

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[259] The series include 1,437 ceramic fragments, but 1,294 fragments were used only for the statistics.

[260] Building materials, lamps and fragmens not to be included into a category.

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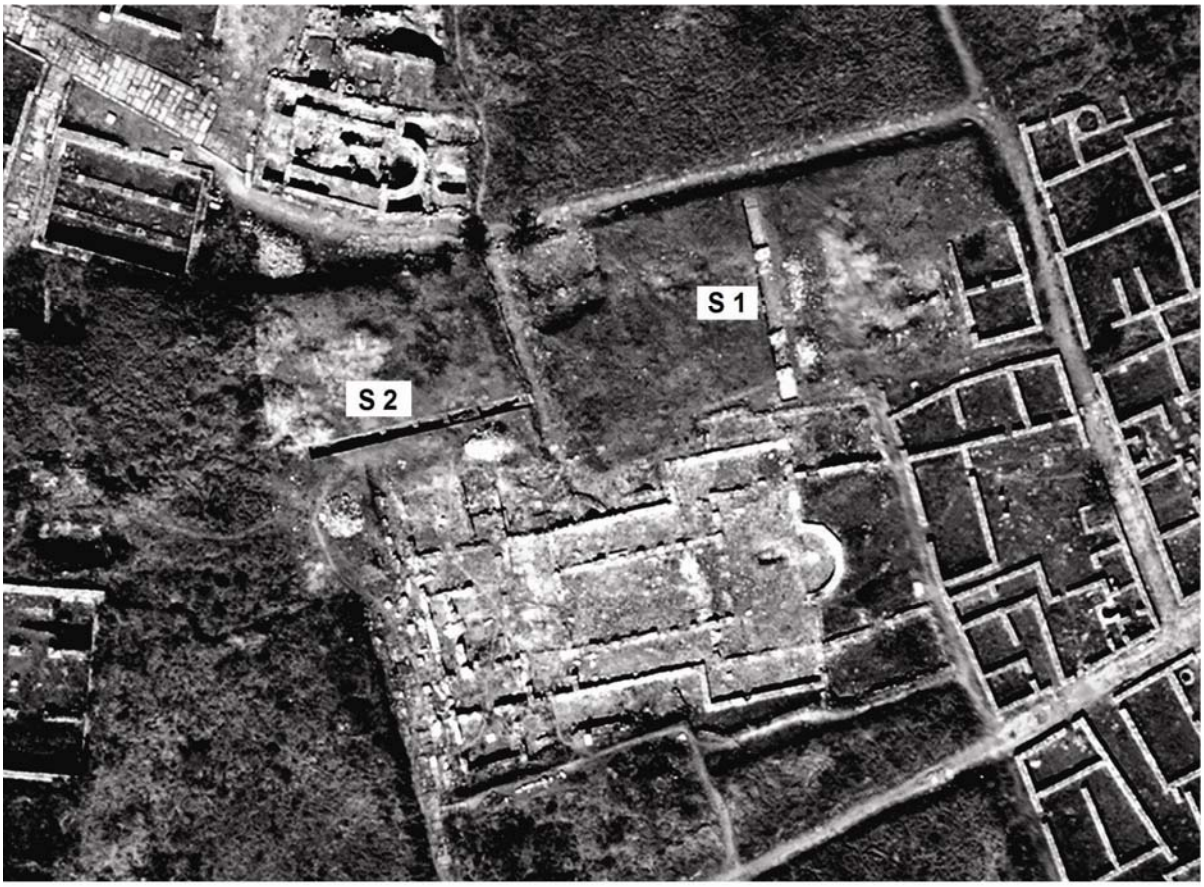

Fig. 1

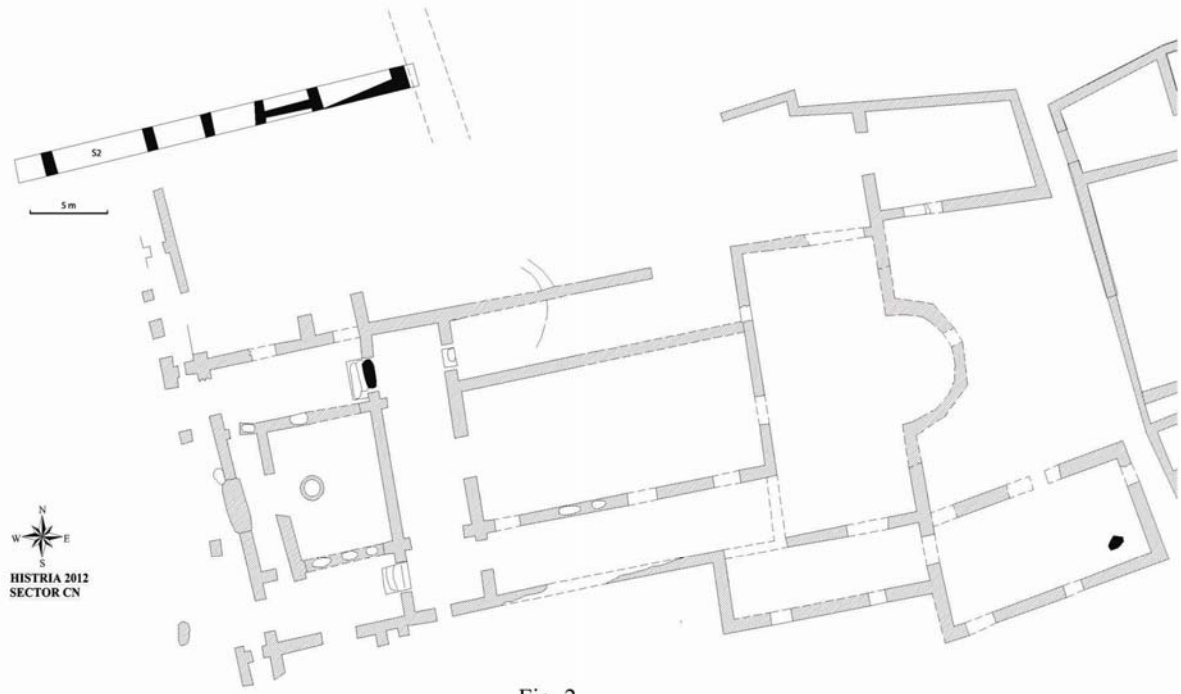

Fig. 2

Fig. 1. Aerial photography with the location of the two sections in the Central-North Sector;
Fig. 2. General plan of the Central-North Sector.

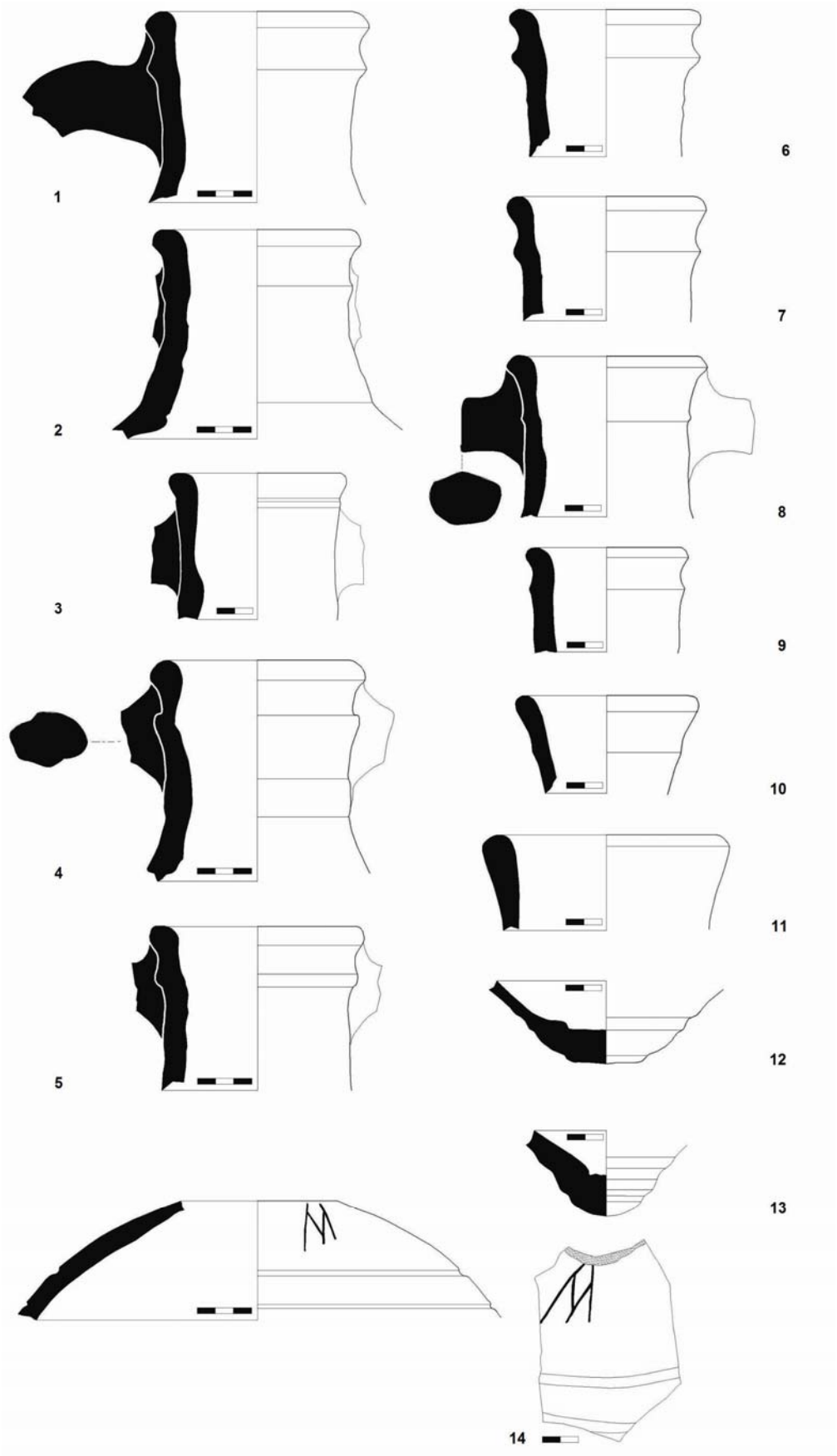

Fig. 3. Berenice LRA1type amphorae.

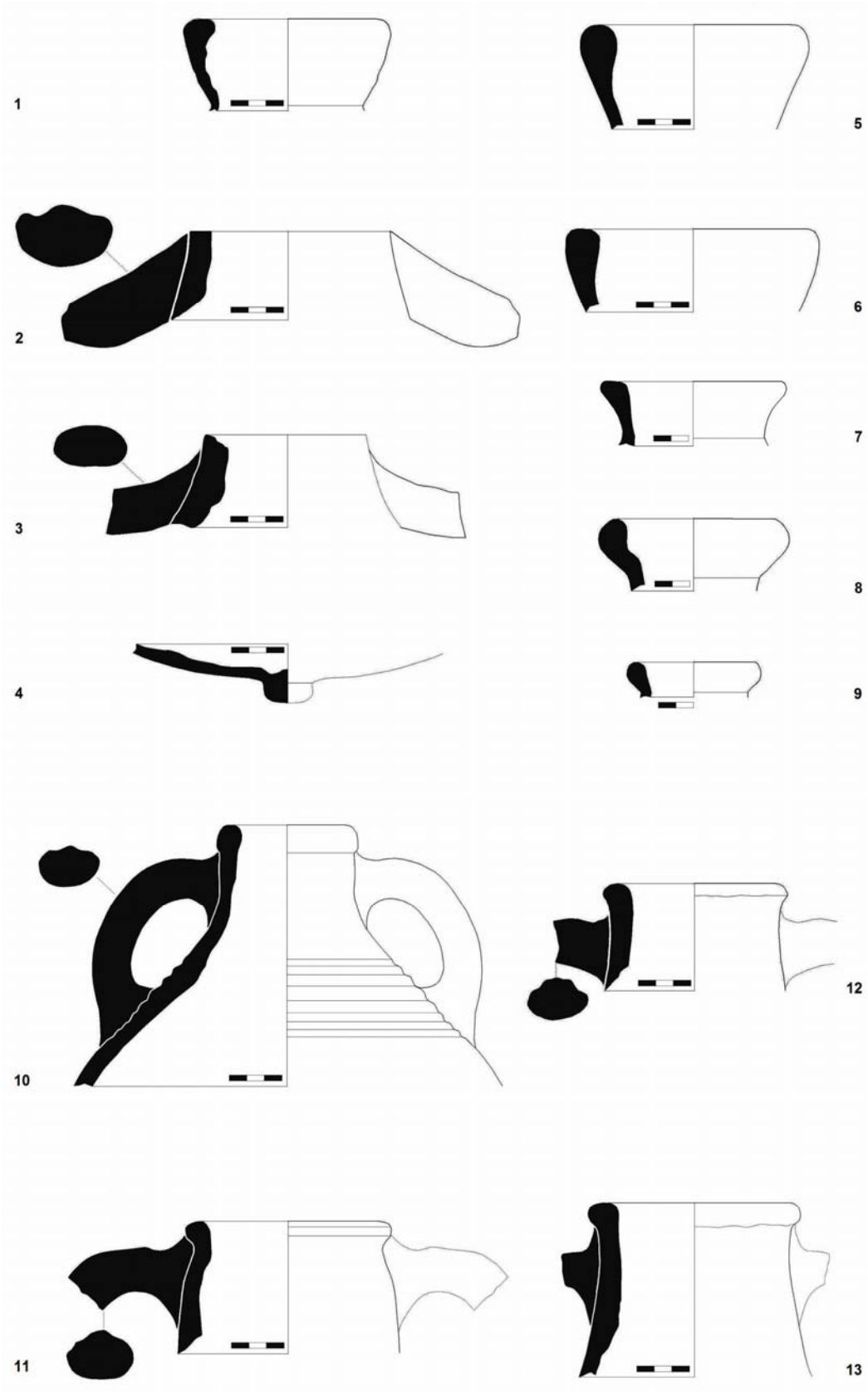

Fig. 4. Berenice type amphorae LRA 2 (1-9) and "belly" amphorae (9-13).

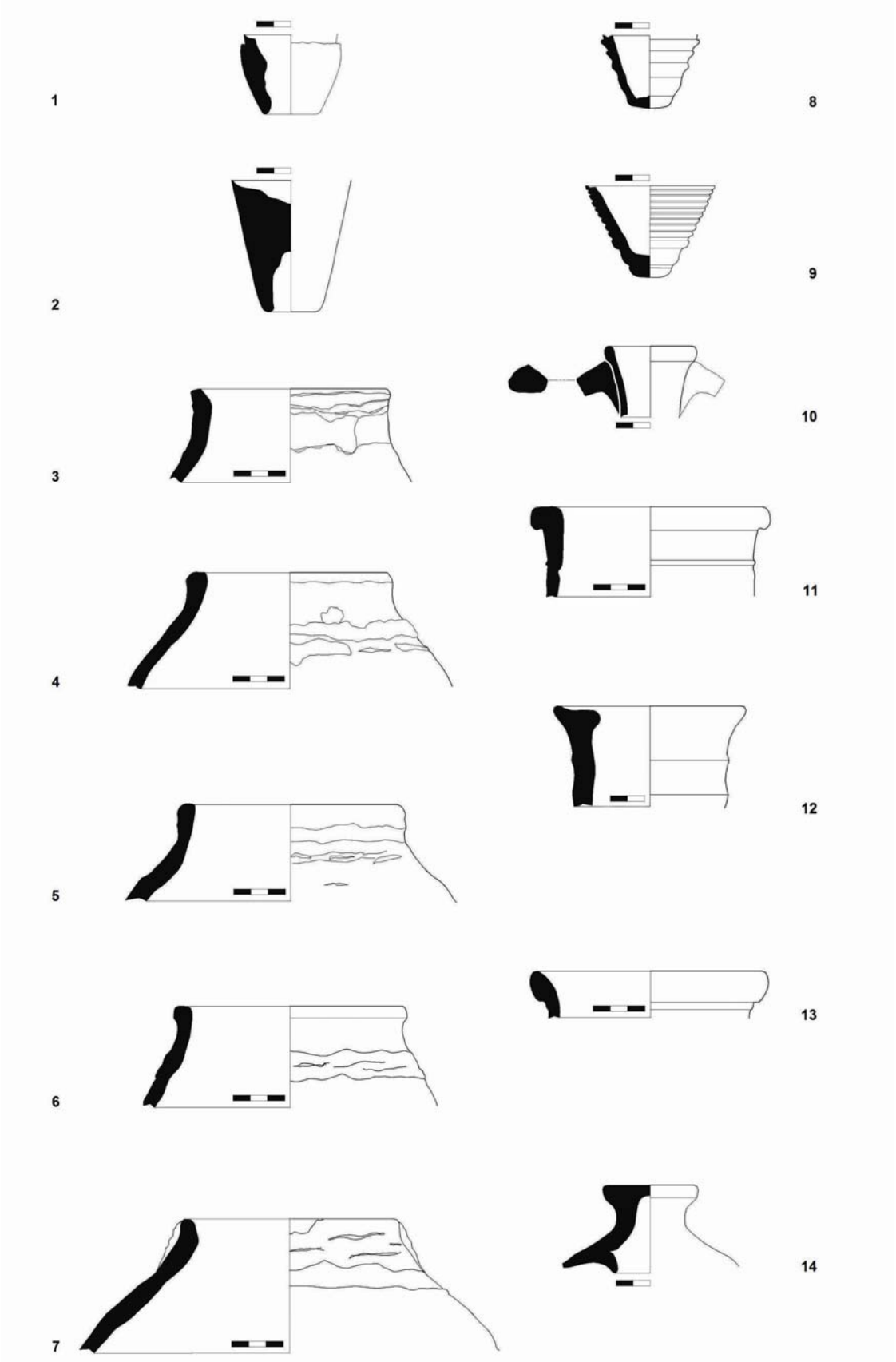

Fig. 5. Berenice type amphorae LRA 3 (1-2); Berenice LRA 4 (3-9); Berenice LRA 14 (10); Berenice MRA 4 (11); Berenice MRA 5 (12); Kabakčieva VII (13); Kuzmanov 1 type amphora lid (14).