
SUPPLYING WINE, OLIVE OIL, AND FISH PRODUCTS AT MĂLĂIEȘTI ROMAN FORT AND BATHS

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ABSTRACT:

Archaeological research conducted at the Mălăiești Roman Fort between 2011 and 2019 uncovered almost 90 fragments of amphorae. These fragments have been categorized based on their contents: wine, oil, and fish products. Aside from table pitchers and some amphorae likely used for local wine, most of the specimens originated from various Roman provincial exporting centers. The well-known wine exporting centers in the South Pontic region include Heraclea and Sinope. In contrast, the Troesmis X amphorae from the western Black Sea come from an unidentified center. Notably, expensive East Mediterranean wines produced in centers such as Rhodes, Kos, and Chios, as well as those from the western coast of Asia Minor, are also significant. However, only two types of amphorae provide a limited representation of Western Mediterranean centers. Regarding olive oil, it reached Mălăiești in two of the most common amphora types used in military contexts: Dressel 24 and its variant, Dressel 24 *Similis*, as well as Dressel 25 amphorae. Additionally, amphorae exporting fish products, primarily from the Pontic area, are important to mention. The variety of amphora types and their contents further demonstrate the Roman administration's commitment to ensuring adequate supplies for the troops.

REZUMAT: APROVIZIONAREA CU VIN, ULEI DE MĂSLINE ȘI PRODUSE DIN PEȘTE ÎN CASTRUL ȘI BĂILE ROMANE DE LA MĂLĂIEȘTI

Cercetările arheologice din castrul Roman de la Mălăiești, în perioada 2011-2019, au dus la descoperirea a aproape 90 de fragmente de amfore. Acestea au fost împărțite pe categorii în funcție de conținutul lor: vin, ulei și produse din pește. Cu excepția ulcioarelor amforoidale și a amforelor e masă care ar putea fi pentru vinul local, celelalte exemplare provin din multiple centre exportatoare provinciale romane. Din zona Sud Pontică cele mai cunoscute centre exportatoare de vin sunt Heraclea și Sinope, în timp ce din vestul Mării Negre, dintr-un centru necunoscut, provin amforele Troesmis X. Important de menționat sunt vinurile scumpe est mediteraneene produse în multiple centre cum ar fi: Rhodes, Cos, Chios dar și cele de pe coasta vestică a Asiei Mici reprezentate prin tipul Zemer 57. Centrele vest mediteraneene sunt slab reprezentate prin doar două tipuri de amfore. Uleiul de măsline a ajuns la Mălăiești în două dintre cele mai des întâlnite recipiente în mediul militar Dressel 24 și 24 *Similis*, dar și în amforele Dressel 25. Important de menționat sunt și amforele care au exportat produsele piscicole, provenite mai ales din zona Pontică. Diversitatea acestor tipuri amforice și a conținutului lor denotă încă o dată grija administrației romane în aprovizionarea trupelor.

KEY WORDS: Mălăiești; Roman fort; amphora; trade; Roman economy

CUVINTE CHEIE: Mălăiești; castru roman; amforă; comerț; economie

The Roman forts raised in north-western Wallachia drew the attention of many researchers both due to the short timespan in which they were used as well as their locations (**Fig. 1**). These Roman fortifications functioned for a short period, between the end of Trajan's Dacian campaigns and the beginning of Hadrian's reign.¹

Mălăiești Roman fort is located at the southern end of a terrace placed at the confluence of the rivers Teleajen and Vârbilău, at the point called "La Cetate".² Recent archaeological research was carried out between 2011-2019,³ the baths

¹ Țenea and Matei-Popescu 2015.

² For the analysis of the archaeological landscape, see Țenea and Călina 2019.

³ The preliminary results of this research were published in the form of short reports: Țenea *et alii* 2012, 127-130; Țenea *et alii* 2013, 117-118; Țenea *et alii* 2014, 126-127; Țenea *et alii* 2015, 102-103; Țenea, Rațiu, Cîmpeanu 2016, 84-85; Țenea *et alii* 2017, 129-130; Țenea *et alii* 2018, 123-124; Țenea *et alii* 2019, 181-182; Țenea *et alii* 2020, 330-332.

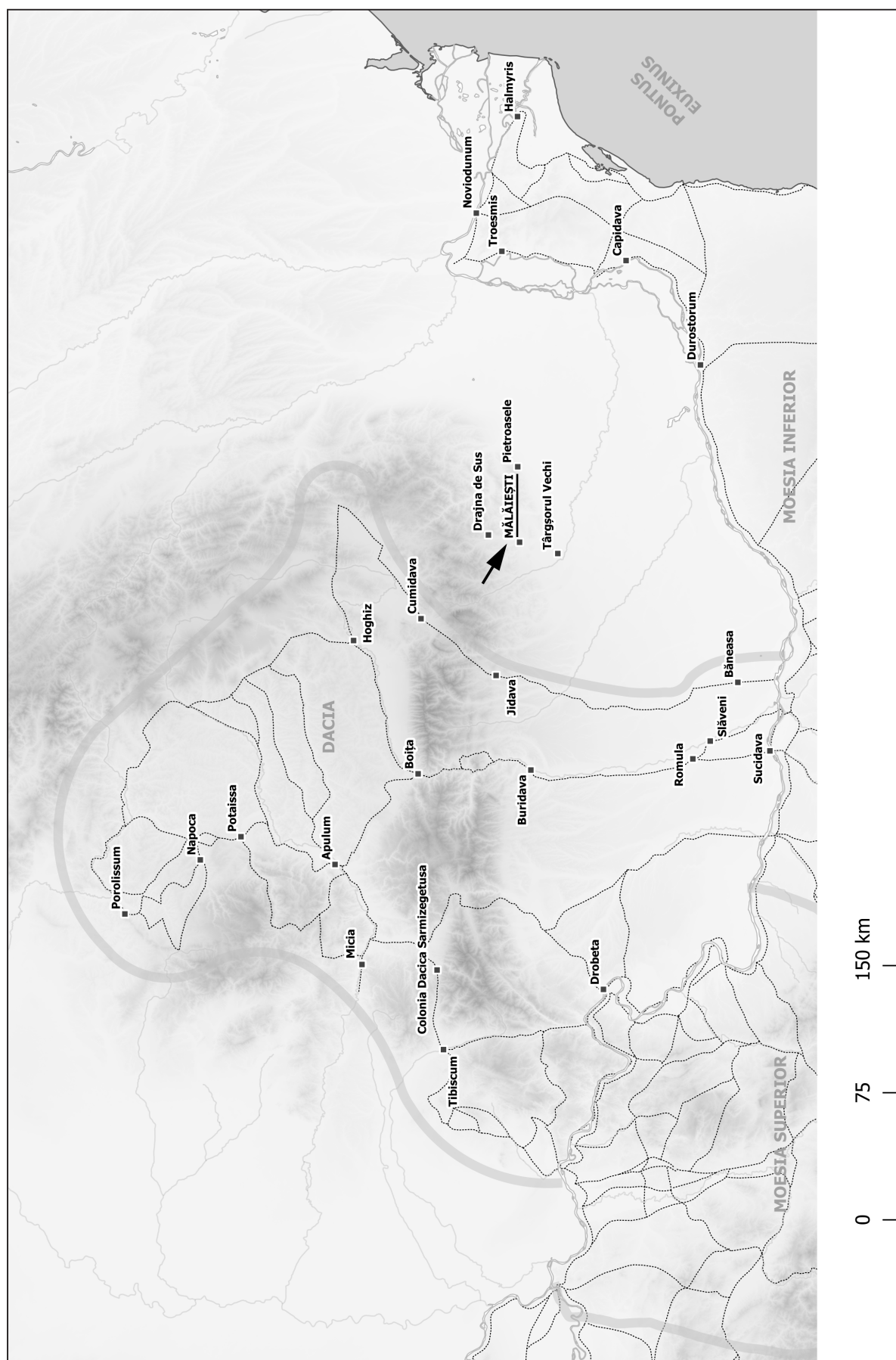


Fig. 1. Location of the Mălăiești fort

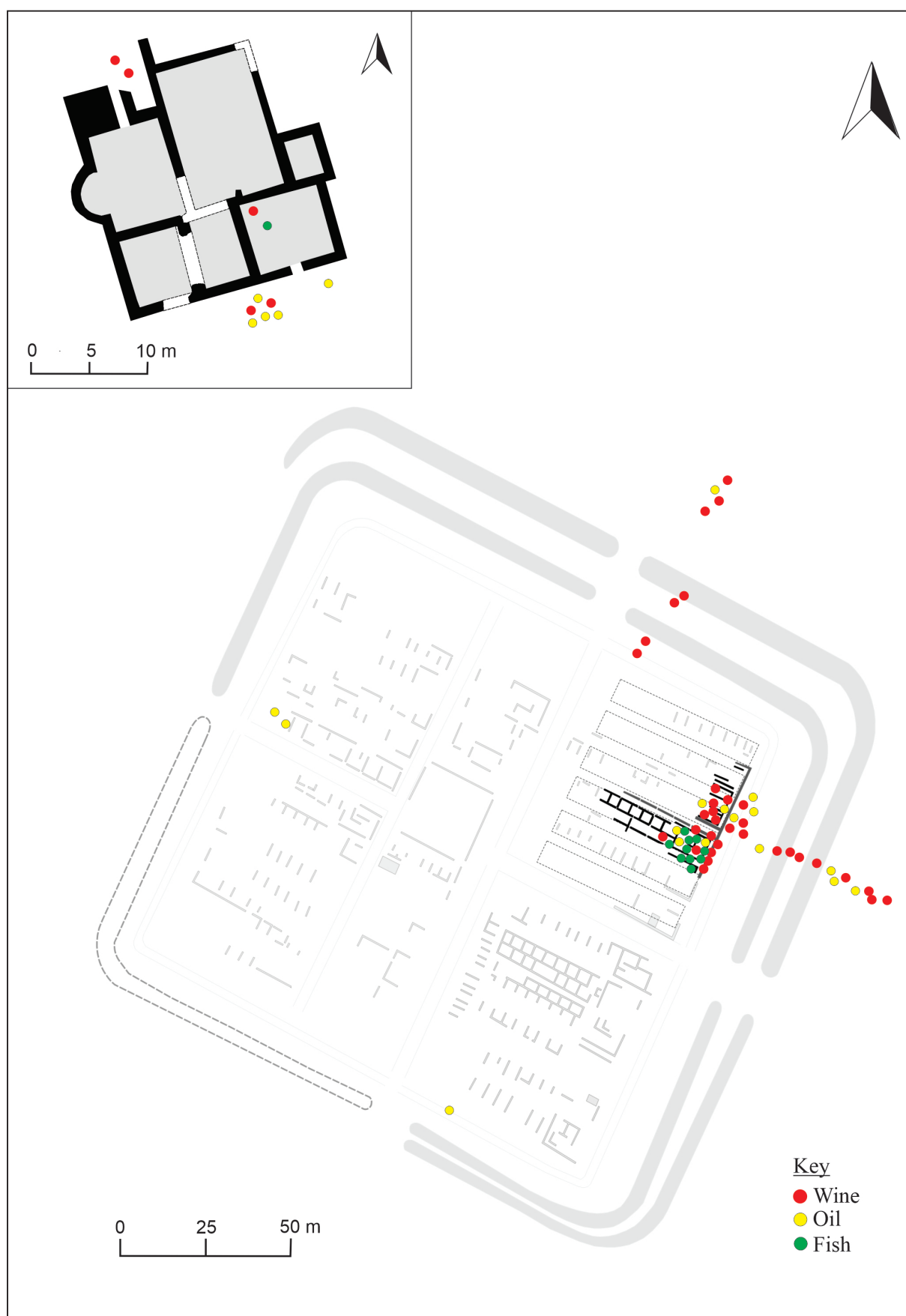


Fig. 2. Distribution of the amphora finds in the Mălăiești fort and baths

being completely excavated.⁴ During the same period, the excavations carried out in the fort uncovered the system of fortification and two barracks from the *praetentura*. The name of the unit that garrisoned the fort remains unknown.

Recent research has revealed that the fort ($180 \times 160\text{m} = 28800\text{ sq.m.}$) had twenty-four barracks, more visible in the eastern part (*praetentura*), and that it must have hosted a considerable number of soldiers⁵ *i.e.* a complete garrison of a *cohors milliaria* or *ala quingenaria*, between 600 and 800 soldiers.⁶

The barracks had eight *contubernia*, each occupying a space of approximately 12 sqm. Each of the officers' chambers, identified at the eastern end of the barracks in the *praetentura*, occupied a space of about 80 sqm, having several rooms. In two cases, underground outbuildings were identified, which seem to have different functionalities (Fig. 2). In one case, we were able to locate the access way into a cellar by several steps through the artifacts which were predominantly amphorae (Barrack V, cpl. 2 – cellar of the Officer's Quarters).

The bathhouse is on the lower terrace, next to the plateau on which the fort was built (Fig. 3). The complete archaeological research of the baths of Mălăiești, located 50 m west of the fort, provided us with the opportunity to acquire true skiagrams of certain historical sequences.⁷

Some of the discovered materials have been published,⁸ while others are in an advanced processing stage. All the archaeological material discovered in the barracks (coins, glass, amphorae or pottery) cannot be dated later than the beginning of the 2nd century AD. The bricks and tiles were manufactured and fired locally.⁹

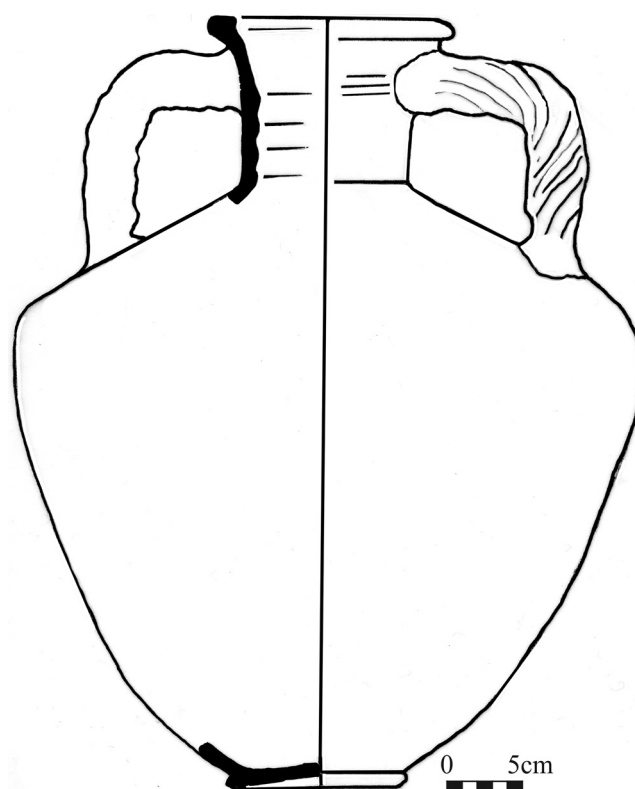
The amphorae discovered at Mălăiești have been divided assuming that the function and morphology of a vessel are associated with the physical characteristics of that vessel and included into a functional category.¹⁰ For our study, we have selected only rims, handles, and bases and assigned them to specific amphora types, for the transport of wine, olive oil, and fish products. Although reduced in quantitative terms, these vessels impose through their large variety, and, of course, their excellent dating. Despite their fragmentary preservation, it was possible to identify many wine centres such as Heraclea and Sinope and some famous Aegean production areas, for instance, Coan, Crete, Ephesus, Cilician, and Chios. The olive oil amphorae arrived in amphorae of type Dr 24, Dr 24 similis, and Dr 25. Considering the large volume of amphorae, this merchandise seems to prevail among imported products. The fish product amphorae, mainly of a Pontic origin, is not of minor importance, although some western products are also present.

Local wine amphorae

Local wine is suggested only by a few amphorae tables and perhaps table pitchers, although some of the latter might have a Pontic origin. However, we should not be misled by their reduced quantities as the local/provincial wine must have been in much larger amounts as it could have arrived here in barrels. The large number of barrels discovered in the Roman camps of Britain and on the Raetian and Danubian limes fully document the presence of this kind of wine, vinegar, and beer in the military use.¹¹

Table amphora

These vessels have a globular body and a ring base with two sturdy handles. One upper part (450), two



⁴ Țentea 2018, 134-135.

⁵ Țentea and Rațiu 2023.

⁶ Țentea, Popa and Cîmpeanu 2018, 227-240.

⁷ Țentea 2018, 134, fig. 4, 135.

⁸ Țentea, Popa and Cîmpeanu 2018, 227-240; Țentea and Călina 2019, 169-196; Țentea, Manea and Rațiu 2023, 145-162; Mustață and Țentea 2023, 351-369; Angheluță *et alii* 2022, 185-198; Țentea and Rațiu 2023.

⁹ Moldovan *et alii* 2018, 375.

¹⁰ Opaț 2007; 2021.

¹¹ Marlière 2002, 174-185.

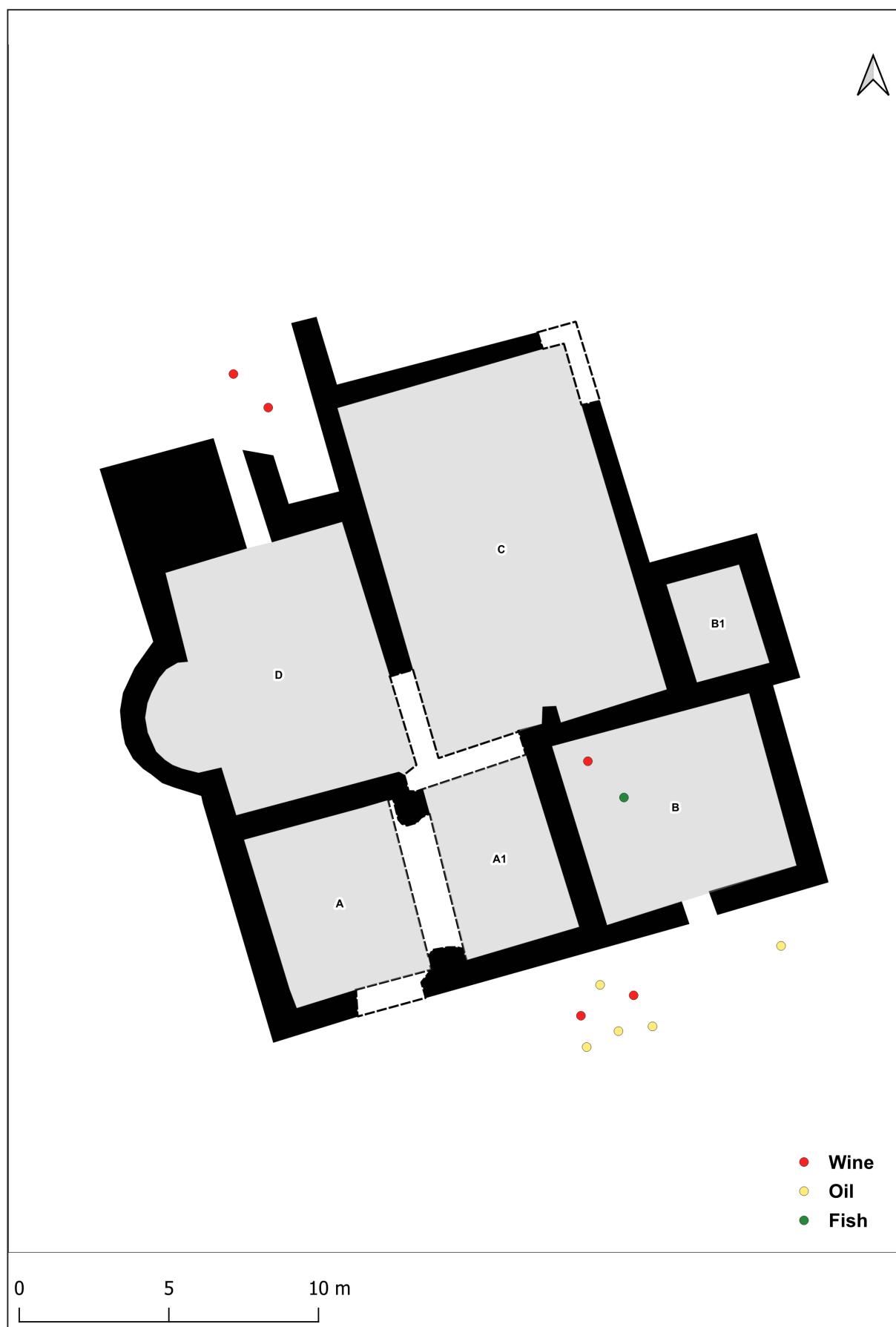
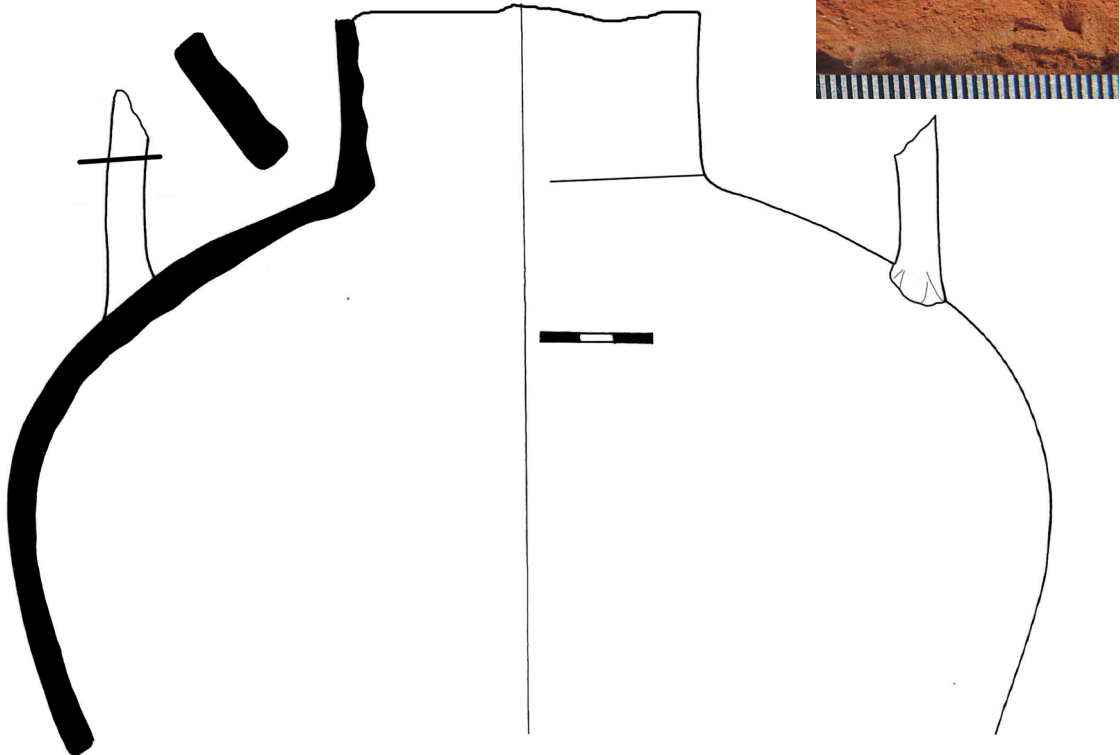


Fig. 3. Distribution of the amphora finds in the Mălăiești baths

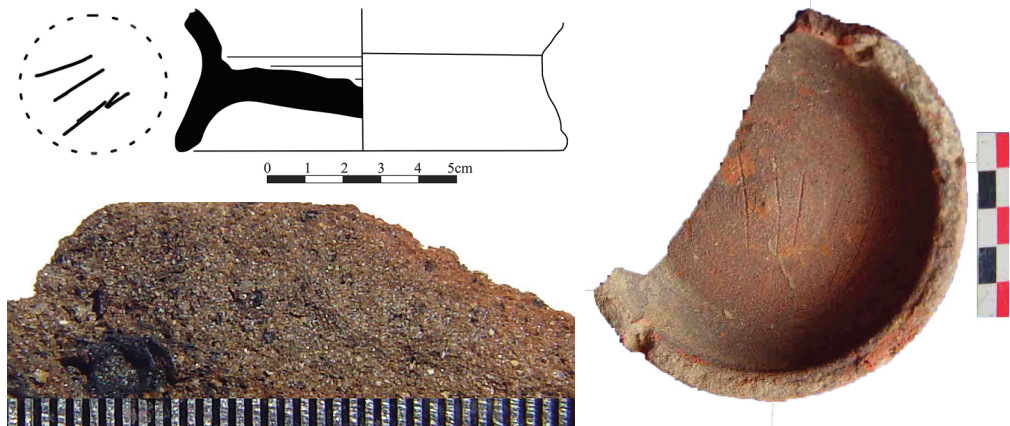
bases (**287**, **1010**), and one rim might belong to this type of container. **253** might have arrived here from the middle of the Danube as it has good parallels at Sirmium.¹² The fabric of **287** is compact, hard, tiny, abundant, rounded, and sub-rounded opaque quartz and tiny brownish, black inclusions (iron minerals?). Colour: weak red (2.5YR 5/2) to reddish brown (2.5YR 5/4). The fabric of **450** is finer than **287** but less compact as it has some voids, no visible inclusions with the naked eye, tiny particles of translucent quartz, sparse foraminifera, and rounded yellowish quartz. The colour is close to light red (2.5YR 6/8). This fine, sedimentary clay, brought down by a river, suggests a local production, similar to other drinking and eating vessels that were nearby made. These vessels are frequently found in military sites such as Troesmis¹³ and civilian locations such as Niculițel.¹⁴

Catalogue

1. Upper part. Inv. no. **450**. MALB 2014-93. HD 2.8 cm¹⁵; PH 20 cm.



2. Base. Inv. no. **287**. MALB 2013-S4-Room B. BD 10 cm; PH 3.7 cm. Three parallel strokes on the internal side of the base.

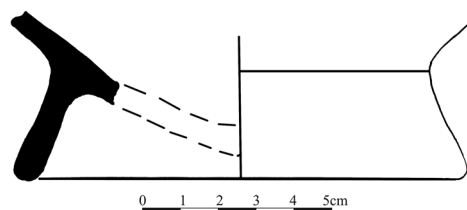


¹² Brukner 1981, 126, pl. 167.109-110.

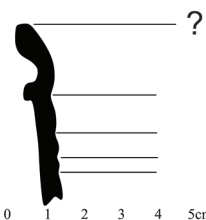
¹³ Opaît 1980a, 291-294, pls. 1-2.

¹⁴ Nuțu, Stanc and Paraschiv 2014, 58-61, pls.12-14.

¹⁵ The following abbreviations were used: RD = rim diameter; BD = base diameter; PH = preserved height; HD = handle diameter; ND = neck diameter.



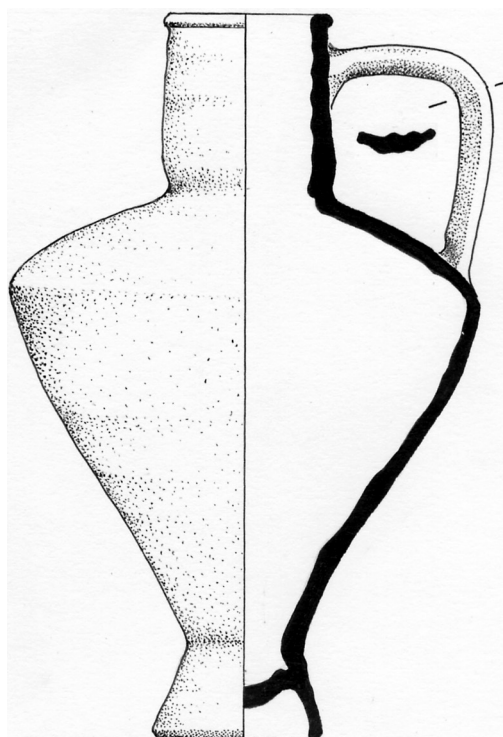
3. Base. Inv. no. **1010**.
MALC 2019-32-B1.
BD 12 cm; PH 5 cm.



4. Rim. Inv. no. **253**.
MALC 2022-6. RD?

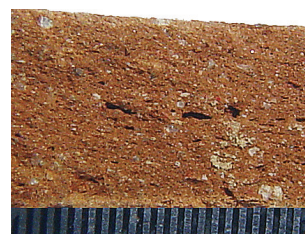
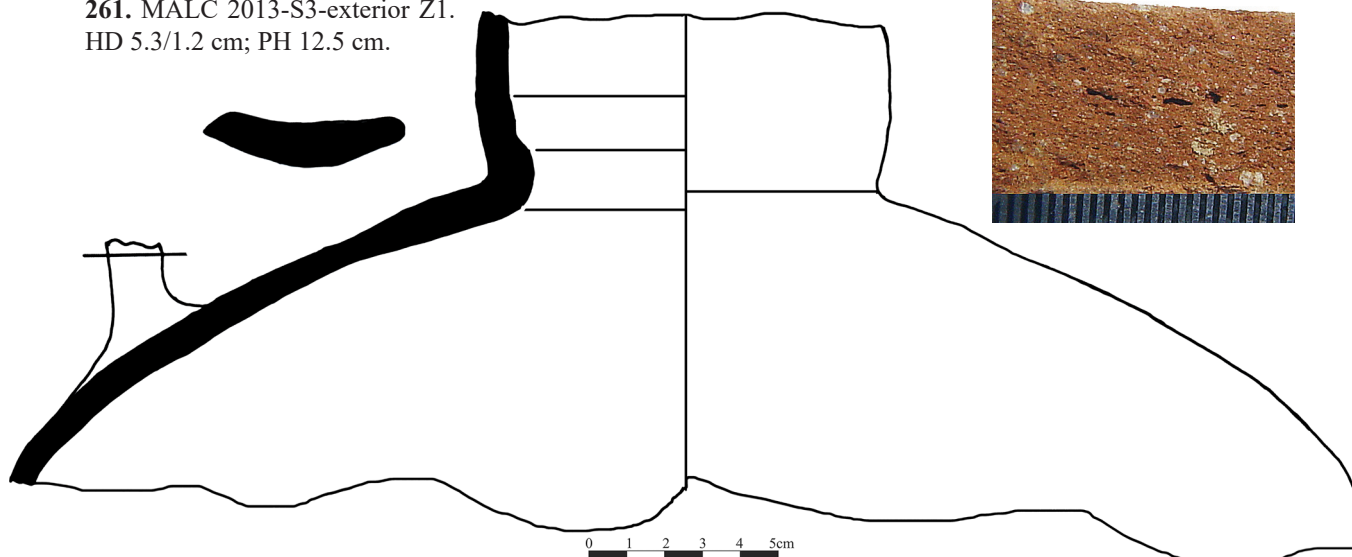
Table pitcher

The table pitchers have a cylindrical neck, a strap-like handle, and a conical body that ends in a trapezoidal, tubular base. The volume of the table pitchers varies between 10 and 15 liters. Only six fragmentary examples have been found at this site. Remarkably are the traces of pitch preserved on the inner side of the walls of **261**. The fabrics of these examples show a great variety, and that of a fragment also discovered at Ibida, even suggests a South Pontic, probably Heracleean, origin. The vessel appears at Poșta/Frecăței,¹⁶ Troesmis,¹⁷ Niculițel,¹⁸ Enisala,¹⁹ or Ibida.²⁰ This vessel is also well represented in Greek coastal cities at Tomis,²¹ Histria,²² Callatis.²³ The fabric of **261** is hard, has an irregular texture, no inclusion visible to the naked eye, abundant sub-angular opaque quartz and brownish inclusions (iron minerals?), and sparse gold mica. The colour is red (2.5YR 5/6-6/6). The fabric of **281** is hard, with irregular fracture, common brownish inclusions, and sparse quartz sand. The colour of the core is reddish yellow (5YR 6/8), and the exterior is reddish yellow (5YR 7/8).



Catalogue

5. Shoulder, neck, handle Inv. no. **261**. MALC 2013-S3-exterior Z1.
HD 5.3/1.2 cm; PH 12.5 cm.



¹⁶ Mocanu 2018, 248, cat. no. 687.

¹⁷ Unpublished findings from the 1977 excavations; Waldner 2016, 305, 329, pls. 28. K 676, 677; 41. K 989, K 990.

¹⁸ Nuțu, Stanc and Paraschiv 2014, pls. 14.92; 15.101-103.

¹⁹ Mănușu-Adameșteanu 1984, 32-33, pl. III.

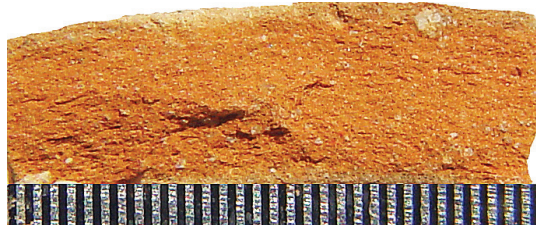
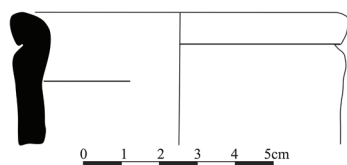
²⁰ Personal observations in the site storeroom.

²¹ Rusu-Bolindeț and Botiș 2018, 223, no. 611, 612.

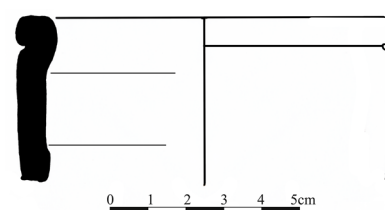
²² Suceveanu 2000, 158-159, pls. 75.1; 76.

²³ Opaît and Ionescu 2016, 65, pls. VIII.46; IX.47.

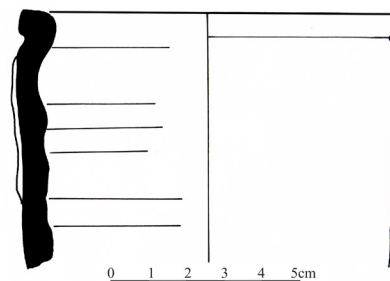
6. Rim. Inv. no. **281**.
MALB 2014-
69. RD 8.8 cm;
PH 3.4 cm.



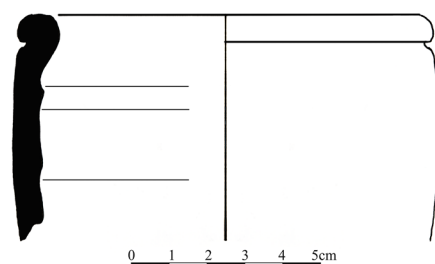
7. Rim. Inv. no. **1002**. MALC-
2019-71A-CPL 2.
RD 10 cm; PH 4.5
cm.



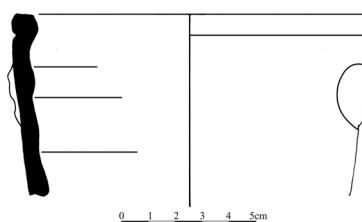
8. Rim. Inv. no. **1030**. MALC-
2018-71A-CPL
2. RD 9.5 cm;
PH 7 cm.



9. Rim. Inv. no. **1031**. MALC-2019-71A-CPL 2.
RD 11 cm; PH 6 cm.



10. Rim. Inv. no. **1034**. MALC-2019-CPL 2-71A. RD 10 cm;
PH 7 cm.



Pontic wine amphorae

Troesmis X

Two amphora rims (**170, 246**) belong to a very frequent type that circulated in the Lower Danube area. Their fabrics are similar.

They have a rounded rim, slightly overhanging, and a cylindrical neck. The fabric has a hard, irregular texture, harsh surface, abundant brownish inclusions, tiny nuclei (iron minerals, ferruginous quartz sand?), white particles (calcareous material, foraminifera), and common rounded and sub-rounded yellowish quartz. Colour: core light red (2.5YR 6/8), margins light brown (7.5YR 6/4) to reddish yellow (7.5YR 6/6). It has good parallels in Moesia Inferior and the western part of Crimea. It has good parallels at Dinogetia,²⁴ Brad,²⁵ Poiana-Tecuci,²⁶ Aegyssus,²⁷ Ibida,²⁸ Histria,²⁹ Troesmis,³⁰ Kalos Liman,³¹ and Kara Tobe.³² It is important to note the appearance of this amphora in Athens.³³

I assume a west Pontic origin for this amphora type on distributional grounds.

²⁴ Opaît and Grigoraş 2022, 63, pls. 14-15.

²⁵ Ursachi 1995, pl. 175 (4), 182 (1, 3), 183 (17), 184 (18, 22-23).

²⁶ Vulpe and Teodor 2003, fig. 243.10.

²⁷ Unpublished material.

²⁸ Unpublished material.

²⁹ Unpublished material.

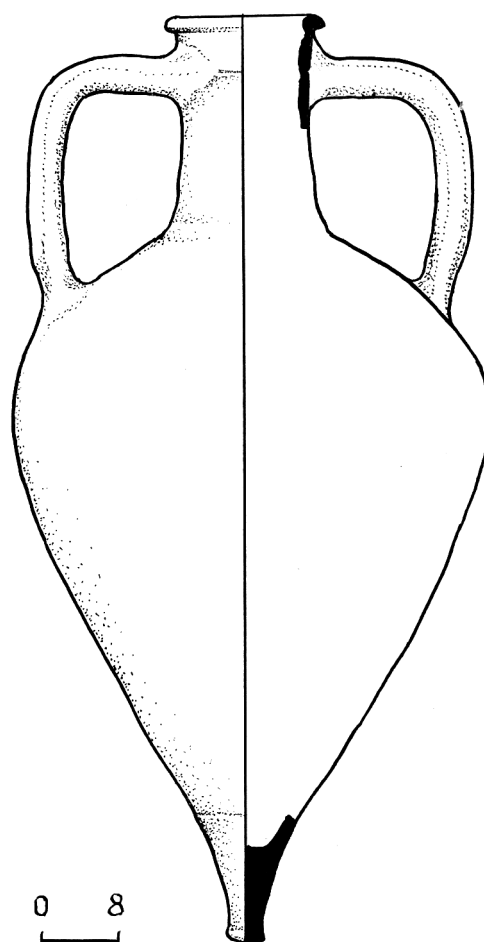
³⁰ Opaît 1980a, 308, type X, pl. X.2, XV.2; Waldner 2016, 324, pl.

38. K 925-930.

³¹ Uzhentsev 2001, 166, fig. 6 (7-8).

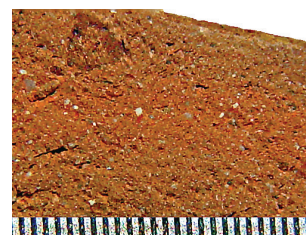
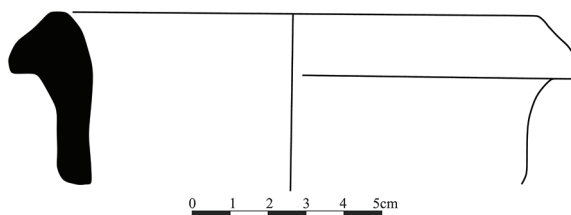
³² Vnukov 2013, fig. 11B.

³³ Opaît 2015, 328, pl. 2.

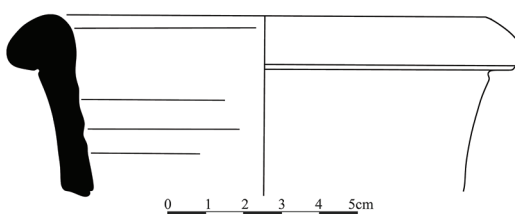


Catalogue

11. Rim. Inv. no. **170**.
MALC 2011-71. RD 15
cm; PH 5 cm.



12. Rim. Inv. no. **246**.
MALC 2011-35. RD 16.6 cm;
PH 8 cm.



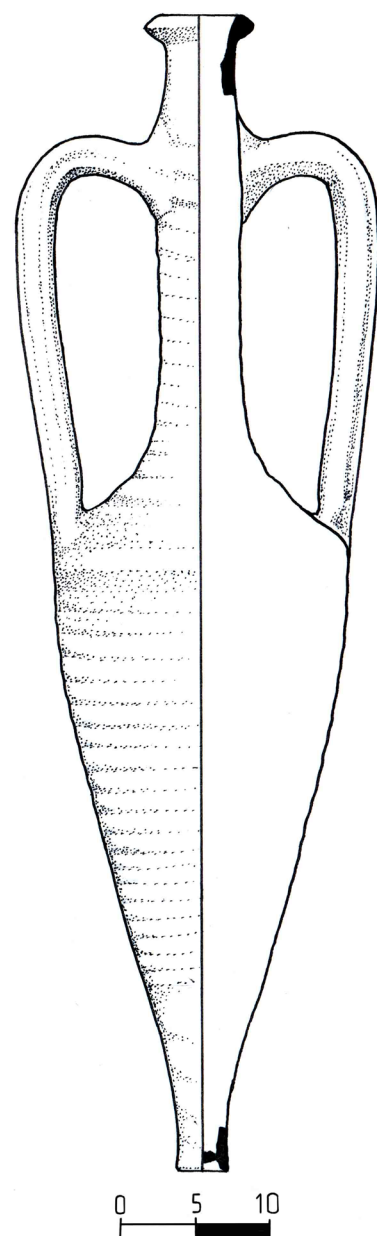
Heraclea

The Heracleian region has had a long and lasting connection with the Lower Danube since Hellenistic times, becoming even more intensive in the 1st century BC - 1st century AD. The Heracleian amphorae, usually known as amphorae of Shelov B type, are abundant not only in the southern but also in the northern Danube area.

The Heracleian amphora subtype of the early 2nd century is mainly characterized by a narrow mouth with either a discoid or thickened rim, an elongated neck while the body is spindle-shaped and ends in a narrow, hollow bas.³⁴ It is usually known in the archaeological literature as Shelov type B.³⁵ The usual Heracleian fabric has a reddish-yellow (Munsell 7.5YR 6/6-7/6) to strong brown (7.5YR 5/6) colour. The temper is ill-sorted with common to abundant rounded and sub-rounded pyroxenes (<0.5mm) and light brownish inclusions, some of them reaching 6-7mm (sandstone with ferruginous cement?), dark brownish inclusions, nuclei (iron ore and minerals, volcanic rocks), and sub-rounded opaque and yellowish quartz.

A complete Shelov B amphora discovered at Noviodunum has a capacity of 5 litres.

This amphora is one of the most frequently container found not only between the Carpathians and the Lower Danube at Troesmis,³⁶ Histria,³⁷ Aegyssus,³⁸ Ibida,³⁹ Carsium,⁴⁰ Vetrișoia,⁴¹ Răcătau,⁴² Brad,⁴³ Barboși,⁴⁴ but also in the northern Black Sea at Scythian Neapolis,⁴⁵ Olbia,⁴⁶ Kalos Limen,⁴⁷ Kara Tobe,⁴⁸ Tanais,⁴⁹ and the Lower Don.⁵⁰



³⁴ Opaît 2011, 457, figs. 16-17.

³⁵ Shelov 1978; Shelov 1986; see also Vnukov 2003, 118-128, fig. 45, type S IV A, for a more detailed typology.

³⁶ Opaît 1980a, 302, pl. VII.3.

³⁷ Alexandrescu 1966, 204, 206, tumulus XVI, pl. 79.

³⁸ Opaît, Sion and Vasiliu 1980, 268, fig. 7.1.

³⁹ Unpublished material.

⁴⁰ Buzdugan *et alii* 1998/2000, 440, fig. 9/7.

⁴¹ Sanie 1973, 427, pl. 9; Sanie 1981, 133, pl. 28.1-3.

⁴² Căpitanu 1976, 60, fig. 36.2-4.

⁴³ Ursachi 1995, pls. 173.6; 178.7; 180.2-3, 7; 181.1-2; 184.6.

⁴⁴ Sanie and Sanie 2011, pl. XLIV.2,5.

⁴⁵ Puzdrovskiiy 2001, 130, fig. 7.1.

⁴⁶ Krapivina 1993, fig. 29.3.

⁴⁷ Ujentsev 2001, 166, fig. 7.1-4.

⁴⁸ Vnukov 2013, 49, fig. 14B.

⁴⁹ Naumenko 2008, 269, fig. 2.1-3,5-6; Naumenko 2012, 64, fig. 2.1-6; 9.

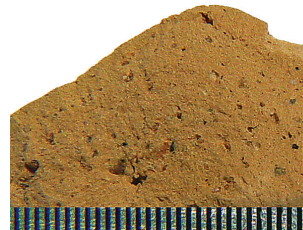
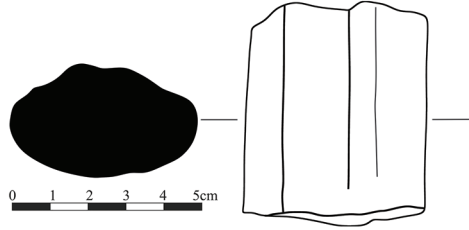
⁵⁰ Kamenetskiiy 1963, 30, fig. 6.1, 4.

Therefore, their presence in this garrison is not a surprise. Although four handles (**151**, **174**, **1037**, and **331**- not illustrated), one rim (**156**), and one base (**178**) perhaps do not represent a massive presence of the Heracleian wine, they attest to preserving regular contact with this regional centre. It is also worth pointing out that these amphorae have been found in the fortification and not in the bath area.

Catalogue

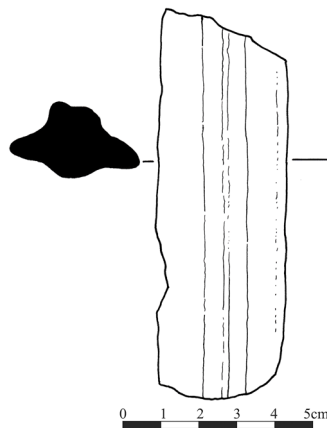
13. Handle.
Inv. no. **174**.

MALC-2011-
133. HD
4.9/2.8 cm;
PH 5 cm.

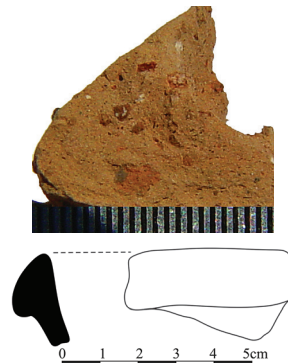


17. Handle Inv.
no. **1037**. MALC
2017-S8.3. Cx 7.
PH 20 cm; HD
4.5/2.2 cm.

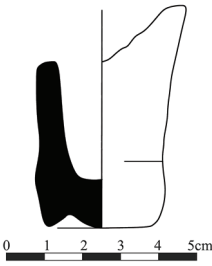
14. Handle. Inv. no. **151**.
MALC-2011-77.
HD 3.6/2 cm; PH 10 cm.



15. Rim. Inv. no. **156**.
MALC-2011-3. PH 1 cm.



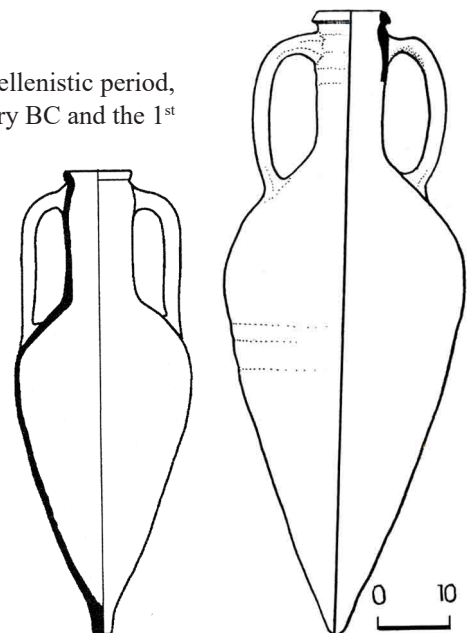
16. Base. Inv. no. **178**.
MALC-2011-79.
BD 3.2 cm; PH 5.8 cm.



Sinope

Although known in the Lower Danube area at the beginning of the Hellenistic period, this production centre was eclipsed by Heraclea between the 1st century BC and the 1st century AD. However, as the discoveries from Mălăiești attest, it recovered its importance, perhaps after the integration of this area into the Roman Empire. Except a fragmentary upper amphora part, the Sinopean discoveries consist of fragments of bases and handles.

The Sinopean amphora production of the 1st century AD is represented by two types, Sin I and II, according to Vnukov's typology.⁵¹ The first type represents the last phase of the typical Hellenistic amphora; it has medium to small dimensions, a large mouth, a rounded rim, a flattened exterior, and a conic body ending in a small, cylindrical toe. A complete example has been found at Barboși.⁵² The second type, of larger dimensions, is a Sinopean creation of the 1st century AD. It also has a large mouth, an out-turned triangular rim separated by a deep groove from the tall,



⁵¹ Vnukov 2003, 130-141, figs. 51-52.

⁵² Sanie and Sanie 2011, 134, pls. XLI.2; XLIII, 2.

cylindrical neck, heavy handles, ovoid in cross-section, a wide shoulder, and a conic body ending in a conic base. The main inclusions of Sinopean amphora fabrics have a volcanic origin (rock fragments, plagioclase, and pyroxene).⁵³ All these inclusions can be found not only in the so-called “black-sand” present on many beaches of the Pontic shore in the Sinopean area, but also in the clay beds. During the Early Roman period the fabric was changed from a light gray (5YR 7/1) or pink (5YR 7/3), frequent in the previous amphorae, to a yellow-greenish colour (5Y 8/1-8/3).

Although Vnukov is reluctant to prolong the life of Sin I into the 1st century AD, the discoveries from Mălăiești confirm the contemporaneity of these two types. The same contemporaneity is proved by the discoveries made in a shipwreck discovered off Sinope and dated to the same time.⁵⁴ A similar example has been found at Tekija.⁵⁵

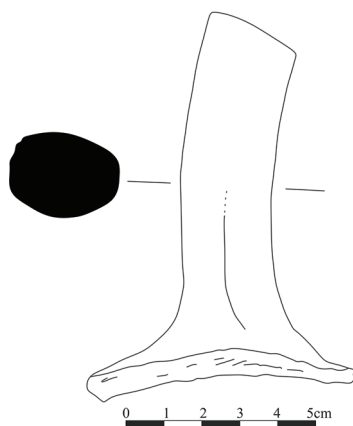
From a statistical point of view the predominant type is Sin II, which is represented by one mouth (401), one handle (169), and two bases (158, 179), while one handle (186) and another base (166) belong to Sin I.

Catalogue

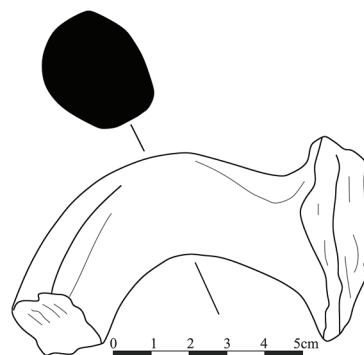
18. Handle. Inv. no. **169**.

MALC 2011-43.

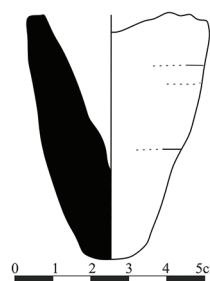
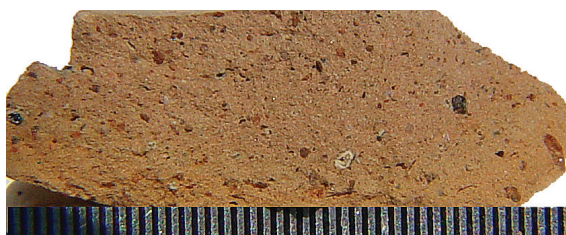
HD 3/3.2 cm; PH 10.1 cm.



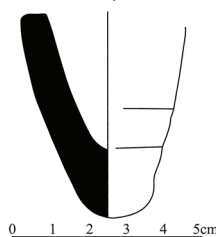
19. Handle. Inv. no. **186**. MALC 2011-97. HD 3/3.2 cm.



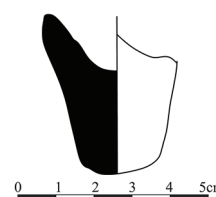
20. Base. Inv. no. **158**. MALC2011-82. BD 1.1 cm; PH 6.5 cm.



21. Base. Inv. no. **179**. MALC 2011-136. PH 5.4 cm; BD 2 cm.



22. Base. Inv. no. **166**. MALC 2011-27. PH 4.1 cm; BD 2 cm.

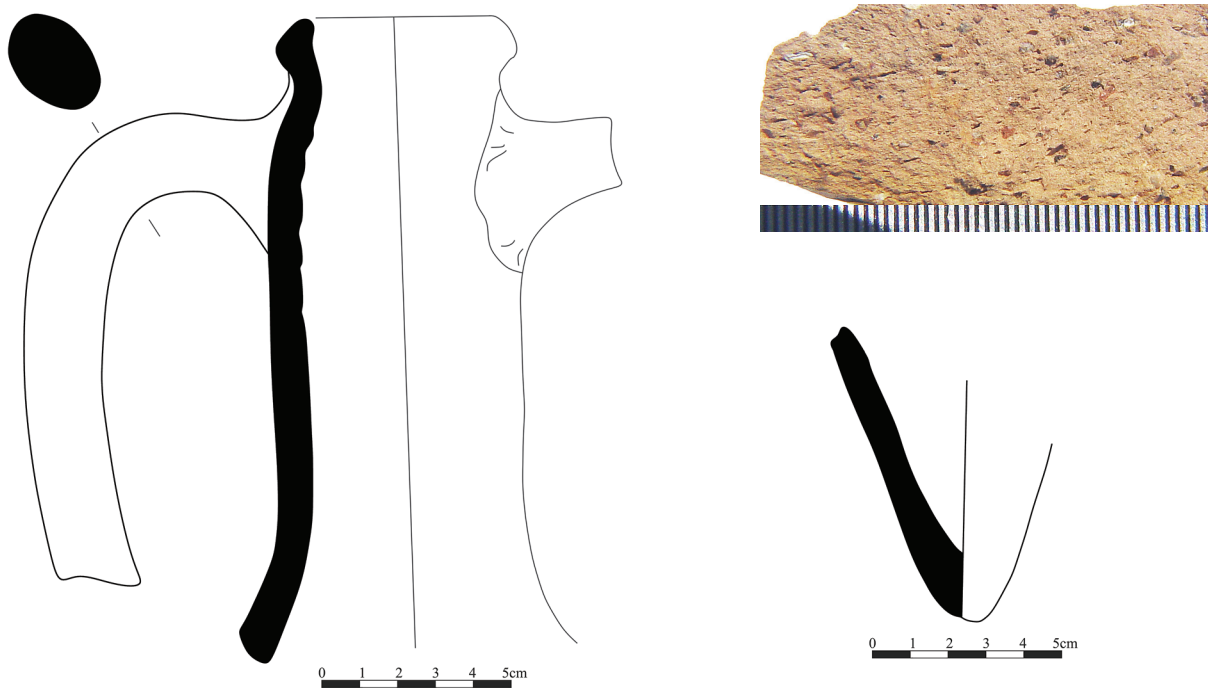


⁵³ Whitbread 1995, 238.

⁵⁴ Sinope I, cf. Opaïț, Davis and Brennan 2022.

⁵⁵ Cermanović-Kuzmanović and Jovanović 2004, 157, Kat. no. 21.

23. Rim, neck and handle. Inv. no. **401**. MALB 2014-136. RD 6.4 cm; HD 2.8/2 cm; PH 17 cm.



East Mediterranean wine amphorae

This group includes amphorae with a very fine fabric that might suggest an East Mediterranean origin. We witnessed many wine-producing centers beginning with the 1st century BC and the 1st century AD. Their workshops either created their types or, more frequently, imitated some famous amphorae such as Koan, Rhodes, or Crete. Most likely, these were not simple imitations of shapes. Probably, their form was intended to suggest a wine made of Koan, Rhodian, or Cretan vine, which was transplanted in a certain region, or, as is the case with Rhodian amphorae, they were made in the Rhodian Perea.

Samos?

This amphora has a large mouth and a bulbous neck separated from the truncated conical shoulder by an incised line; the body is ovoid, with a sharp angle between the shoulder and body that ends in a profiled toe. It was discovered at Kara Tobe,⁵⁶ Kalos Limen,⁵⁷ Olbia,⁵⁸ Skadovska,⁵⁹ Artyuschenko-2 (Taman peninsula),⁶⁰ Gorgipija,⁶¹ Histria,⁶² Ibida,⁶³ Barboși,⁶⁴ Troesmis,⁶⁵ and Novae.⁶⁶ The frequent appearance in the eastern Mediterranean suggests a possible area of production. Examples have been found in Crete,⁶⁷ Delos,⁶⁸ and off shores at Laconia.⁶⁹ In the western Mediterranean it occurs in the La Tradelière shipwreck, dated at the end of the 1st century BC.⁷⁰ It seems to be in use at least until Hadrianic times as the

⁵⁶ Vnukov 2013, fig. 11D.

⁵⁷ Uzhentsev 2001, 160, fig. 4.2; 2006, fig. 82.2.

⁵⁸ Lejpunskaja 2010, 68, pl. 35.8-9.

⁵⁹ Simonenko 2011, 142, fig. 85.6.

⁶⁰ Pers. comm. V. Kashaev.

⁶¹ Alekseeva 1997, pl. 69.1,5,7.

⁶² Personal observation in the museum's store room.

⁶³ Personal observation on the site.

⁶⁴ Unpublished example.

⁶⁵ Waldner 2016, 329, pl. 41, K991, 992.

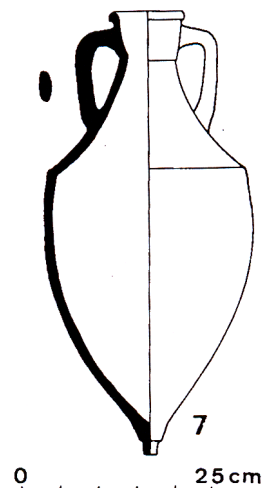
⁶⁶ Pers. comm. L. Kovalevskaya.

⁶⁷ Sackett 1992, 239, deposit D4, pl. 181.68-Hadrianic.

⁶⁸ Χατζηδάκης 1997, p. 294-295, fig. 216b (centre).

⁶⁹ Spondylis 1993, pl. 406.b.

⁷⁰ Fiori and Joncheray 1975, 61, pl. I.7, considered as « type 'en toupie' ou 'Kos ancienne' de petite taille; it is probably a fractionary amphora as its height is c. 59 cm.



Cretan find suggests. Its dimensions and capacities vary between a height of 98 cm, a maximum diameter 38 cm versus a height of 30 cm, a maximum diameter of 14 cm as demonstrated by those amphorae discovered at Kalos Liman and La Tradelière. Two amphorae from Novae and La Tradelière have capacities of 11 and 13 litres.

One toe (**181**) attest to the circulation of this wine at the beginning of the 2nd century AD. The fabric of is extremely fine, with no visible inclusions to the naked eye, sparse to common white inclusions, some elongated voids, and sparse quartz sand. Colour: reddish-yellow (7.5YR 7/8).

Catalogue

24. Toe. Inv. no. **181**. MALC 2011-143.
BD 2.4 cm; PH 5 cm.

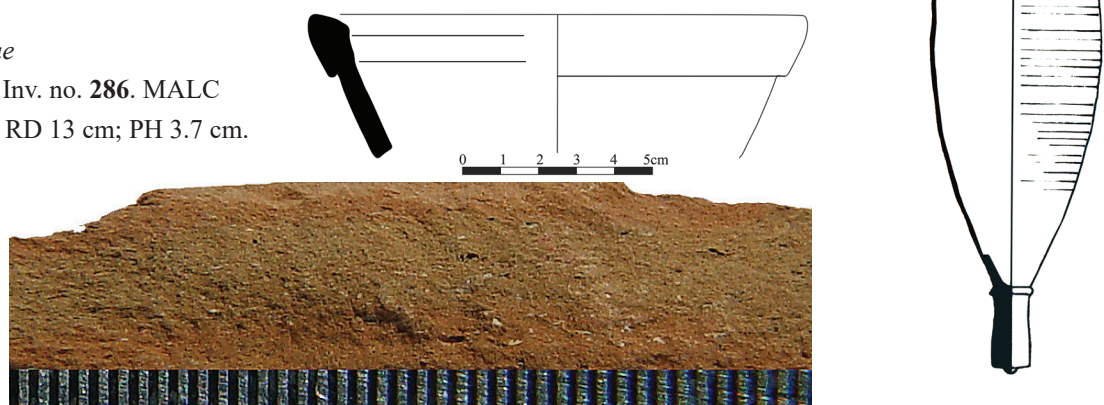


Unknown, Aegean?

This amphora type has been known in the Lower Danube area since the Augustan time as a fragmentary example occurs in a depot at Aegyssus.⁷¹ The mouth is flaring wide with a small, rectangular rim; the elongated, conical neck is continued by a fusiform body that ends in a peg spike that is separated by a prominent rib from the body. The handles are almost rounded in cross-section and are attached to the rim and at the shoulder-body connection; wheel-ridges are on the body. The fabric is very fine and compact, with a few tiny white inclusions. Colour: the exterior is reddish yellow (5YR 6/6-7/6), and the core varies between light red (2.5YR 6/6) and pale red (2.5YR 6/2). It occurs at Chersonesus,⁷² Troesmis,⁷³ Viminacium and Transdierna.⁷⁴

Catalogue

25. Rim. Inv. no. **286**. MALC
2014-78. RD 13 cm; PH 3.7 cm.



Rhodian amphora imitations (?)

This type of late Rhodian amphora is known in the literature as Camulodunum 184, Augst 6, and Peacock and Williams 9. This amphora is distinguished by an elegant tapering body with a pronounced conical spike and a less rounded rim. This cylindrical neck flares to meet slim shoulders, and rounded handles in section of a single rod of clay, which are slightly curved in profile, and raised to a peak under the amphora rim. Some variants may have a small nipple at the peak. However, as the discoveries from Histria, dated to the end of the 1st century and the first half of the 2nd century, show, the peak on the top of the handle disappears. The height varies between 80 and 100 cm, and the maximum diameter between 24 and 34 cm. Its capacities vary between 11, 12, 14, 22-23, and 26 liters.⁷⁵ A recently published shipwreck near Knidos illustrates this amphora capacity variation.⁷⁶

Seven handle fragments (**1039**, **1042**, **1044**, **1045**, **1050** are illustrated, while **1040** and **1043** are not) are illustrated. Based on their morphology and fabrics, they could belong to an imitation of a Rhodian production and suggest the existence of at least four Rhodian amphorae. The handle dimensions vary between 2.9/1.8 cm and 3.6/2.7 cm,

⁷¹ Opaît 1987, 153, type VII, fig. 6.1.

⁷² Opaît 2004, 14; Strjeletskiiy *et alii* 2005, 72, pl. 8.3.

⁷³ Opaît 1980a, 306, pl. 8.4.

⁷⁴ Bjelajac 1996, 31, fig. 7.38-39, 41.

⁷⁵ Şenol 2003, 28-30; 2009, 205; 2018, 393-394.

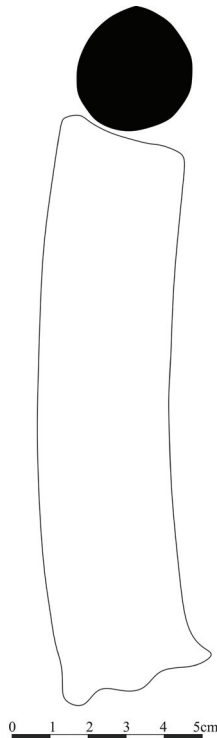
⁷⁶ Opaît *et alii* 2021.

suggesting the existence of different amphora capacities. For our estimative calculus, we will consider a median capacity of c. 20 litres.

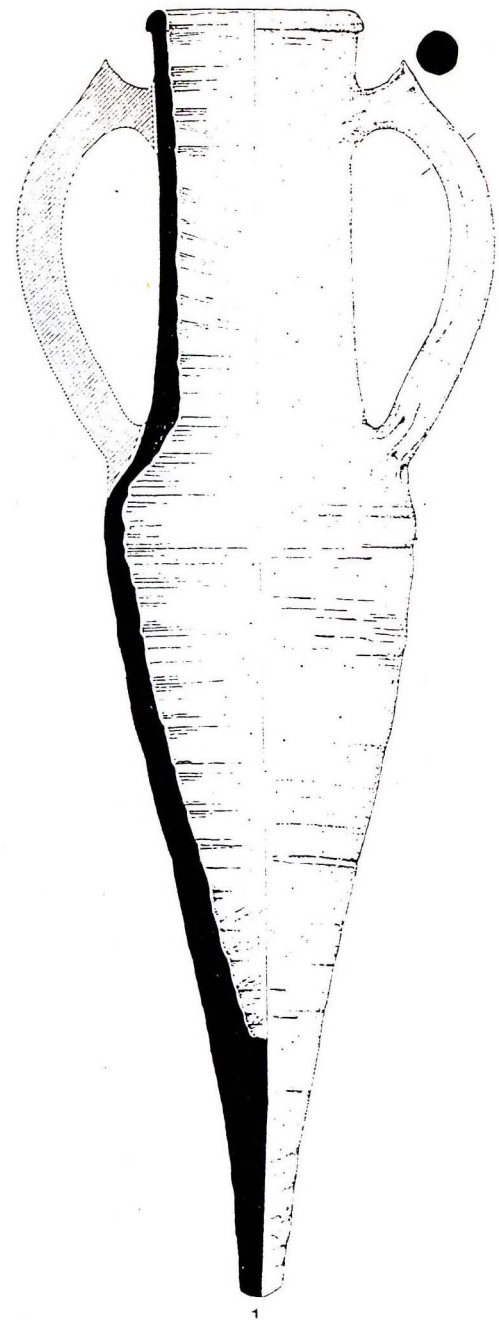
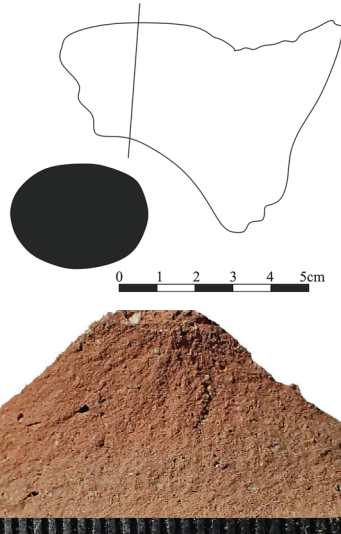
Peacock identified six fabric groups for its fabrics. In contrast, Williams identified a seventh,⁷⁷ thus suggesting multiple production centers both on the island of Rhodes and in the Rhodian zone of influence. In the hand specimen, we can tentatively assign sample **1050** to Fabric Peacock Fabric 3, of a reddish-brown color, a fine fabric that contain a very fine quartz; sample **1044** might be assigned to Peacock Fabric 4 with dark ferro-magnesian minerals and a buff-brown colour (2.5YR 6/6); samples **1045** might belong to Peacock Fabric 5 with fine quartz sand and very few quartzes sand grains; samples **1039**, **1040** and **1043**, belong most likely to Peacock Fabric 6, which is rich in fossiliferous limestones and a light red colour (2.5YR 6/6). Regarding the origin of these fabrics, Peacock suggests that only Fabric 4 might be Aegean, while fabrics 3, 5, and 6 are unknown. It is difficult to know if the lack of a sharp peak on the top of the single rod of the handle is due to a date in the Trajanic time or it is due to an unknown centre that imitated the Rhodian amphorae. This type of handle, without a sharp peak, also occurs in the context of the first half of the 2nd century at Histria.⁷⁸

Catalogue

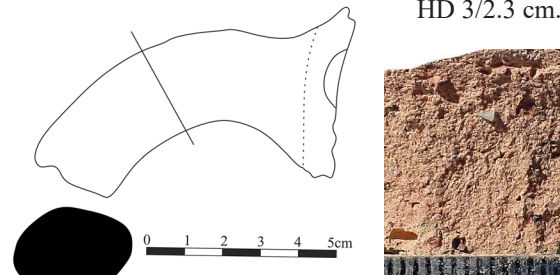
26. Handle part. Inv. no. **1039**. MALC 2017, S8.1. HD 3.2/3.3 cm.



27. Handle part. Inv. no. **1042**. MALC 2017, S7.2. HD 3.6/2.7 cm.



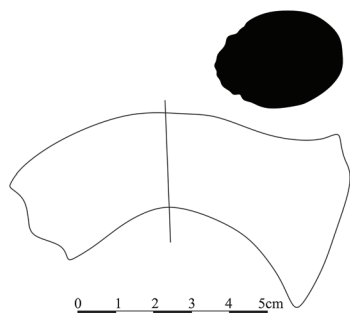
28. Handle part. Inv. no. **1044**. MALC 2017, S8.6. HD 3/2.3 cm.



⁷⁷ Peacock 1977, 266-269; Williams 1985, 162. See also Whitbread 1995, 54, 62-63; Sealey 1985, 56; Sauer 2013, 46-50.

⁷⁸ Personal observations in the Histria depot.

29. Handle part. Inv. no. **1045**.
MALC 2017, S2. HD 3.2/2.6 cm.



30. Handle
part. Inv. no.
1050. MALC
2017, S4.P1,
M8. HD
2.9/1.8 cm.



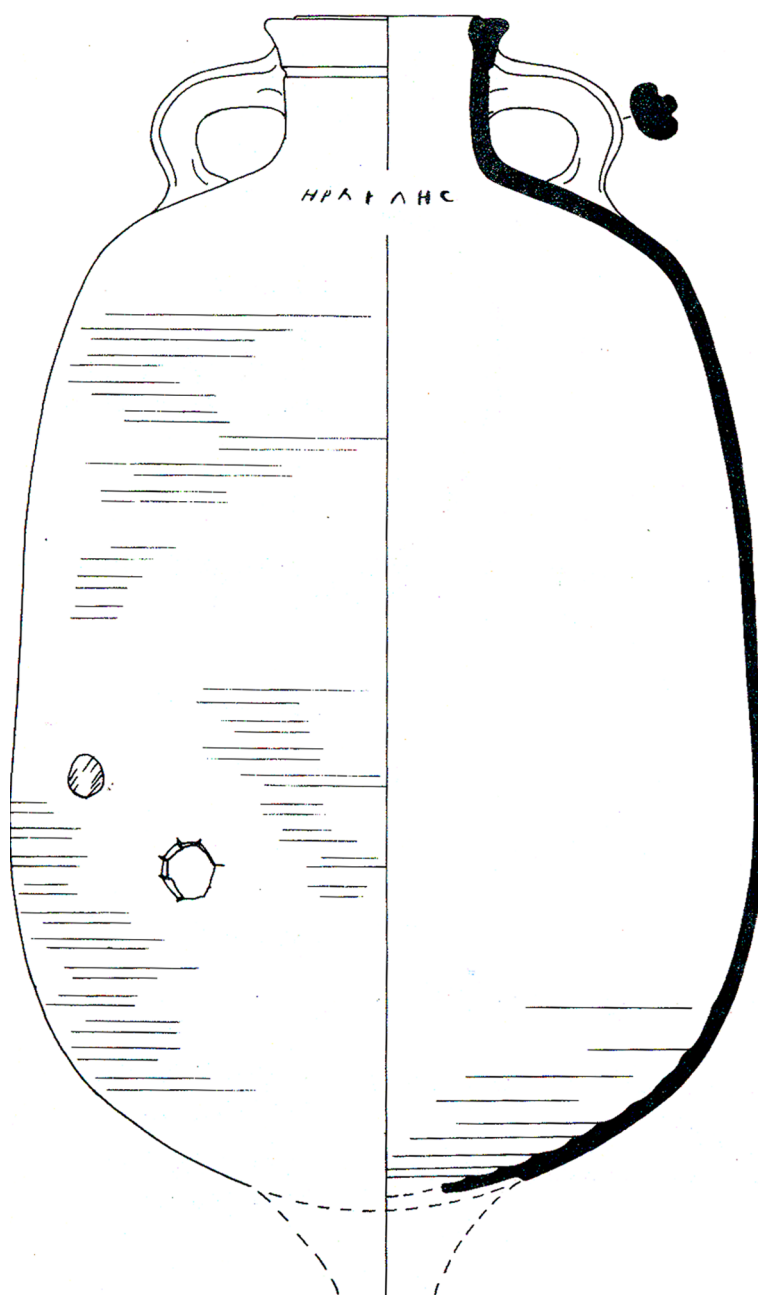
Cilician amphora

A fragmentary amphora that preserves part of the neck and one handle belongs to an amphora type published by me and assigned to an unknown Aegean centre.⁷⁹ However, recently, we studied a shipwreck that contained this type together with amphorae of type Agora G 199, certainly originating in Cilicia. That makes us consider that our amphora was also made in a Cilician workshop.

The rim is slightly flaring and trapezoidal-shaped, grooved on the top. 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. A similar spike also has the amphora of type Agora G 199.

The fabric is hard, with a smooth fracture and sparse inclusions of quartz, sometimes limestone, and foraminifera, which are not visible to the naked eye.⁸⁰ The colour is yellow-cream (10YR 8/4) to pale yellow (2.5Y 8/4), with a cream (10YR 8/3) surface.

This type was widely used during early Roman times, especially in the eastern Mediterranean. It is present in Italy at Ostia,⁸¹ Monte Testaccio,⁸²



⁷⁹ Opaît 2014.

⁸⁰ *Ibid.*

⁸¹ Palma and Panella, 1968, 97-116, figs. 568-569.

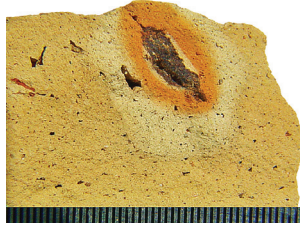
⁸² Carreras Monfort 1999, 91-98, fig. 94, dated by *dipinti* in AD 222; Coletti and Lorensetti 2010, 160, fig. 4.3.

Milan,⁸³ and Alba,⁸⁴ in Egypt,⁸⁵ and the Sinai Peninsula.⁸⁶ It was also exported to the northern shores of the Black Sea at Chersonesus,⁸⁷ in a Scythian necropolis - Barabanskaya Balka,⁸⁸ Tanais,⁸⁹ Gorgipija,⁹⁰ in Pannonia at Aquincum,⁹¹ in Dacia at Brețcu,⁹² Histria,⁹³ and to the Lower Danube.⁹⁴ The preserved dimensions of our fragmentary example suggest a very large amphora similar to the discoveries made on the Red Sea shore along the route to India,⁹⁵ an amphora that has c. 93 litres.

Catalogue

31. Neck and handle. **No Inv. no.**

Passim civilian settlement.



Cretan imitation (?)

However, much more popular is an amphora type that seems to imitate a Cretan amphora,⁹⁶ also with horned handles, but with a narrow, cylindrical neck, and an ovoid body that ends in a long peg spike expanded at the end with a central nipple. During the 3rd century the handles were hornless.

The fabric varies between fine, with a smooth texture, sparse grayish angular quartz, common gray inclusions (crushed shell?), and a very pale brown (10YR 7/4) (153, 164, 175, 176, 177, 1000) to a much coarser fabric with a hackly texture, common voids left by foraminifera, common opaque sub-rounded and rounded quartz, and a pink colour (5YR 7/4) (148, 157).

This seems to be a favorite vintage in the military milieu as it occurs at Vindobona,⁹⁷ Viminacium, Singidunum, Pontes, Mala Vrbica, Kurvingrad,⁹⁸ Drobeta,⁹⁹ Sarmizegetusa, Romula,¹⁰⁰ Cioroiul Nou,¹⁰¹ Barboși,¹⁰² Troesmis, Nifon,¹⁰³ Ibida,¹⁰⁴ Tyras,¹⁰⁵ Tanais,¹⁰⁶ and the Roman fort from Gonio-Apsarus.¹⁰⁷

⁸³ Bruno and Bocchio 1991, 286, pl. CXXIV.266.

⁸⁴ Bruno 1997, 526, no.41; fig. 6.41.

⁸⁵ Majcherek 2007, 24-25, fig. 6. 39-41; Bourriau and French 2007, 128-29, fig. 3.3; Tomber 2006, 142-217.

⁸⁶ Arthur and Oren 1998, 201, fig. 5.8.

⁸⁷ Strjeletskiiy *et alii* 2005, urn 46, pl. 40.

⁸⁸ Khrapunov *et alii* 2009, 16, fig. 43.1-2.

⁸⁹ Arseneva and Böttger 1997, 451, fig. 11.5.

⁹⁰ Alekseeva 1997, pl. 110.6.

⁹¹ Information P. Harshegyi.

⁹² Gudea 1980, 307, fig. 38.1.

⁹³ Opaît 2024, 35-36.

⁹⁴ Bjelajac 1996, 33-35, fig. IX.43-45; Popilian 1976, 172, no. 212, pl. XVI.212; Niculițel, Nuțu, Stanc and Paraschiv 2014, 58, pl. 12.73, Cioroiul Nou (information D. Bondoc); unpublished examples come from Ibida, Troesmis, and Callatis in Dobrudja.

⁹⁵ Whitecomb 1982, 51-115, pl.15.a; Sedov 1996, 20, fig. 5.

⁹⁶ Hayes 1983, 143-45, fig. 21.26-27, Knossos type 3.

⁹⁷ Bezeczeky 2005, pl. 4.21.

⁹⁸ Bjelajac 1996, 39-41, type XI.

⁹⁹ Unpublished example.

¹⁰⁰ Ardeț 2006, 124-25, pl. 15.201-203.

¹⁰¹ Bondoc 2014, 105, fig. 7.

¹⁰² Sanie 1981, 137, pls. 32.1; 33.5.

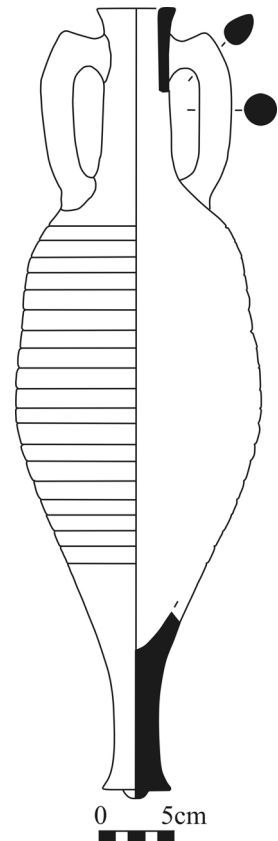
¹⁰³ Opaît 1980a, 304-306, pl. 8. 3-5; 12.3; 14.3-4.

¹⁰⁴ Unpublished examples.

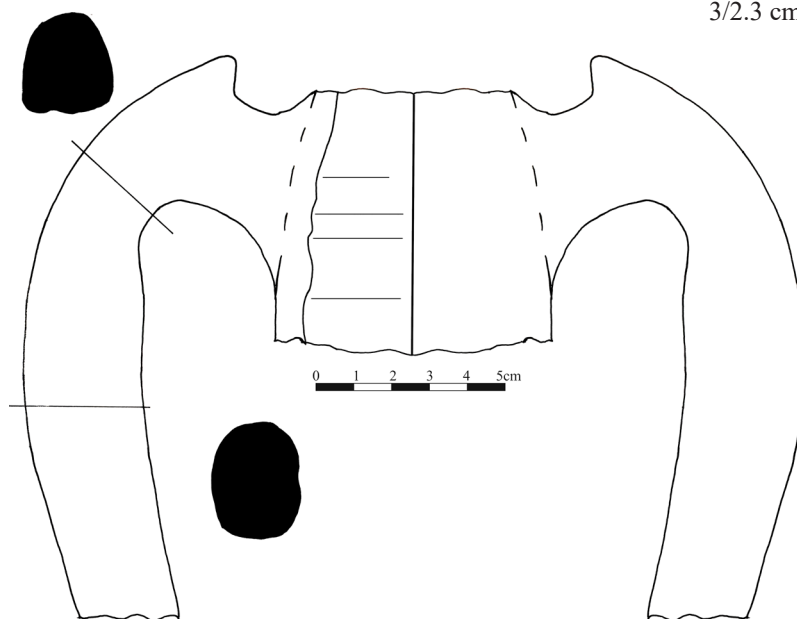
¹⁰⁵ Samoilova 1978, 255, fig. 1.1.

¹⁰⁶ Naumenko 2021, 37, fig. 5.

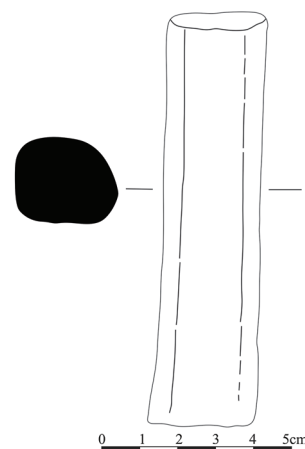
¹⁰⁷ Khalvashi 2002, 24, figs. 17-19, pl. 6; Khalvashi 2010, 33, pl. 17.2b.



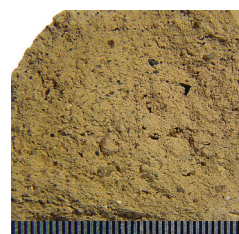
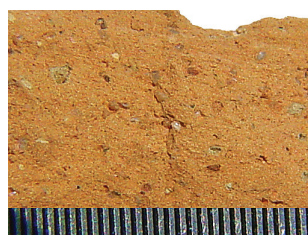
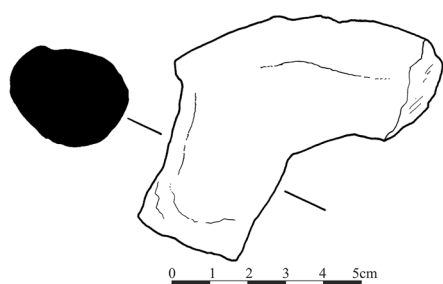
32. Upper part. Inv. no. **1000**. *Passim castrum*. PH 14.8 cm; HD 2.5/2.8; 3/2.3 cm.



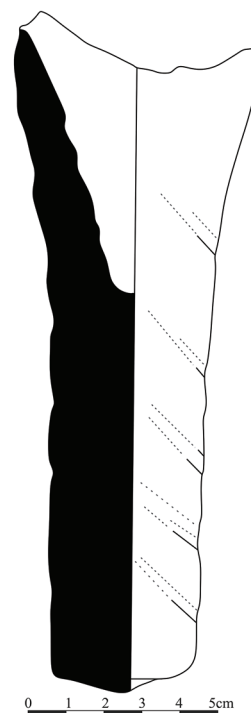
33. Handle part. Inv. no. **149**. MALC 2011-77. HD 2.5 cm; PH 10.9 cm.



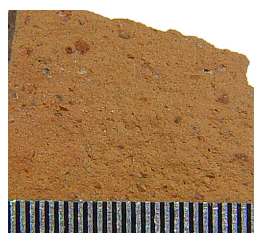
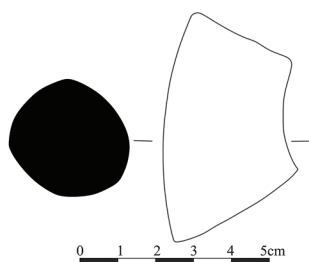
34. Handle part. Inv. no. **148**. MALC 2011-91. HD 3.4/2.7 cm; PH 6.5 cm.



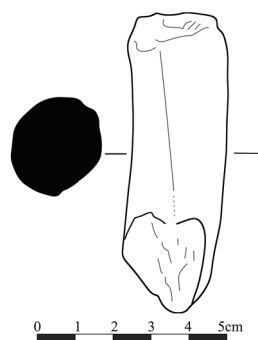
38. Base.
Inv. no. **157**. MALC 2011-91.
BD. 3.5 cm;
PH 18 cm.



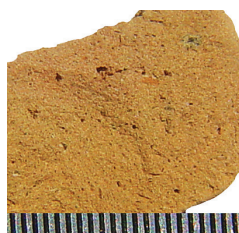
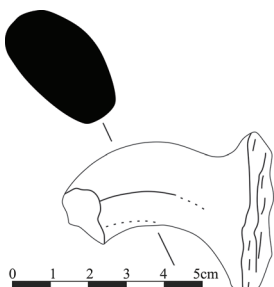
35. Handle part. Inv. no. **153**. MALC 2011-79. HD 3.3 cm; PH 6.2 cm.



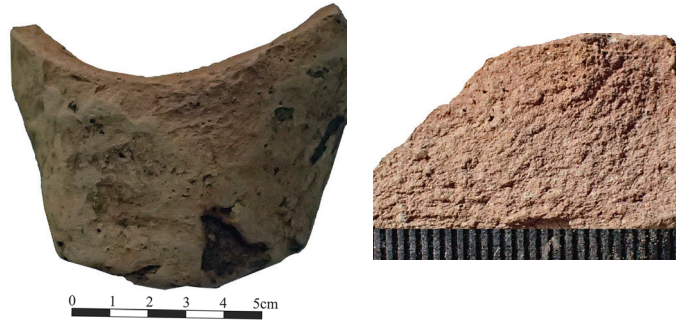
37. Handle part. Inv. no. **176**. MALC 2011-122.
HD 2.1/2.4 cm; PH 8 cm.



36. Handle part. Inv. no. **175**. MALC 2011-146.
HD 3.3/2 cm.



39. Lower part. Inv. no. **1054**.
MALC 2017, S4.7. PH 11 cm.



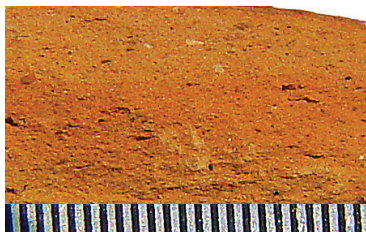
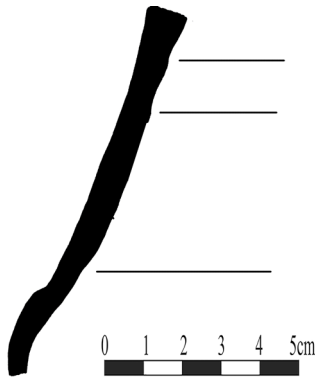
Koan or imitations (?)

Three fragments, one shoulder fragment, one rim, and one handle, belong to an amphora with horned, bifid handle and cylindrical body that is perhaps an imitation of a Koan amphora type.¹⁰⁸ Two Koan examples discovered at Pompeii have capacities of 33.71 litres and 8.47 litres, suggesting that they were made in sizes from one to a quarter.¹⁰⁹

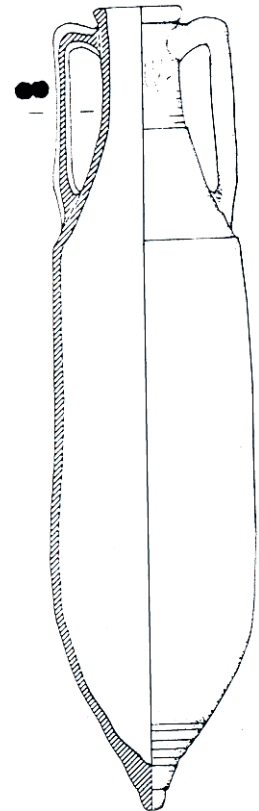
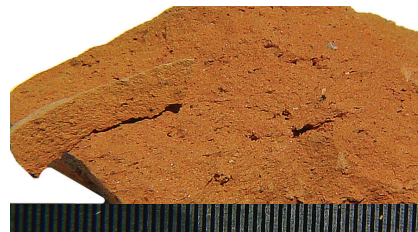
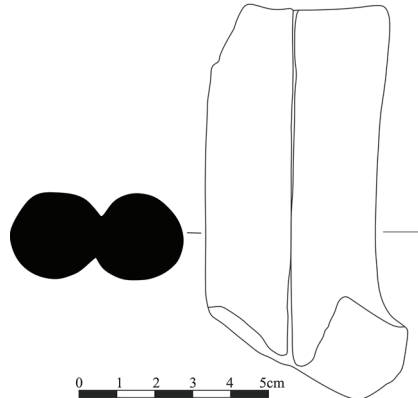
The fabric is very fine, compact, and hard, no visible inclusions to the naked eye; tiny black and brown inclusions (iron oxides?), and tiny crystals of translucent quartz. The handle has flecks of silver and gold mica and tiny angular, opaque quartz and scarce rocks (?). The colour varies between reddish yellow (5YR 6/6-7/4). This fabric is quite similar to “Argila D” identified at Pompeii.¹¹⁰ They occur at Troesmis,¹¹¹ Orlea,¹¹² Tibiscum, and Sarmizegetusa.¹¹³ Their frequent presence in some military centers of the Lower Danube may indicate a specific military network connection.

Catalogue

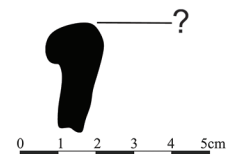
40. Shoulder. Inv. no. **147**. MALC 2011-95.
PH 10.4 cm.



41. Handle part. Inv. no. **150**. MALC 2011-85. HD 4.6/2.5 cm; PH 10.5 cm.



42. Rim. Inv. no. **188**. MALC 2011-120. RD?; PH 2.9 cm.



¹⁰⁸ Robinson 1959, 43, pl. 8.

¹⁰⁹ Panella and Fano 1977, 153, figs. 35-36.

¹¹⁰ Panella and Fano 1977, 147-148, pl. I.7.

¹¹¹ Fragments preserved in the storeroom of Archaeological Museum Tulcea.

¹¹² Popilian 1976, 40, pl. 15.1.

¹¹³ Ardeț 2006, 122-23, pl. 25.197, 198, 199.

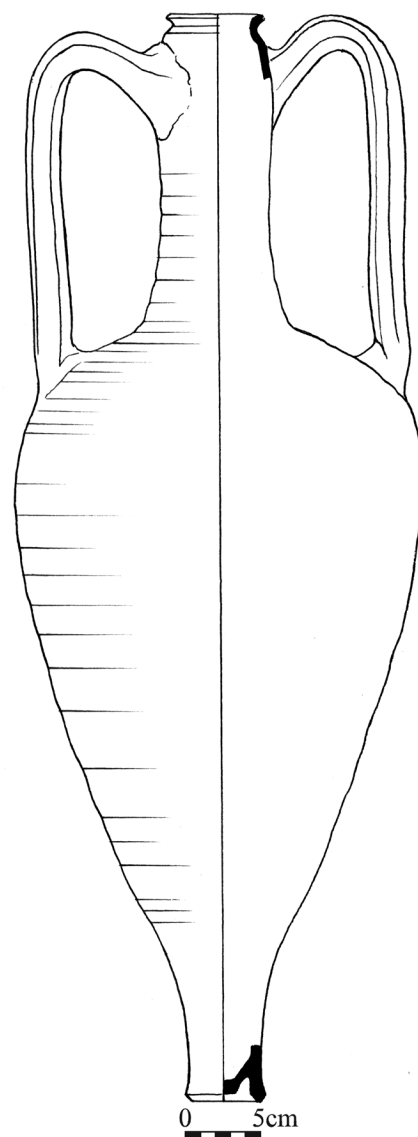
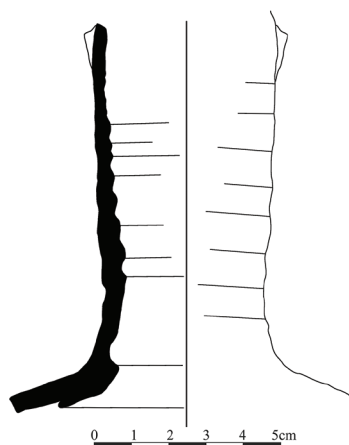
Chian (?)

Two amphora necks belong to an amphora that might be the predecessor of the well-known amphora of type Kapitän 2, an amphora that has probably a Chian origin.¹¹⁴ It occurs in reduced quantities at Transdierna,¹¹⁵ Gorsium,¹¹⁶ Ampelum,¹¹⁷ Slăveni,¹¹⁸ Callatis,¹¹⁹ and Ibida.¹²⁰

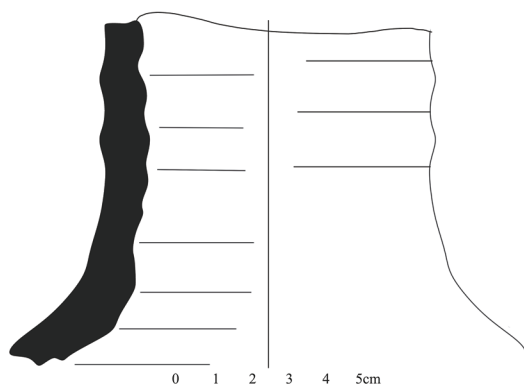
The fabric has a fine, smooth texture, with very rare gold mica, commonly rounded and flattened, brownish inclusions, and sparse grayish quartz; the colour is pink (7.5YR 7/3-7/4), and the surface is very pale brown (10YR 7/3-7/4); the second example has common brownish inclusions (iron minerals?) and a light red colour (2.5YR 6/8).

Catalogue

43. Neck. Inv. no. **260**. MALB 2013-S6. PH 21 cm.



44. Neck fragment. Inv. no. **1055**. MALC 2017-S 8.2. ND 9 cm.



¹¹⁴ Opaît 2022.

¹¹⁵ Bjelajac 1996, 66, fig. XXII.120.

¹¹⁶ Kelemen 1990, 177, type 21, no.13.fig. 6.

¹¹⁷ Negru, Bădescu and Avram 2003, 121, fig. 2.24.

¹¹⁸ D. Bondoc pers. comm.

¹¹⁹ Opaît and Ionescu 2016, 62, pl. IV. 21-23; V. 24.

¹²⁰ Fragments preserved in the storeroom of Archaeological Museum Tulcea.

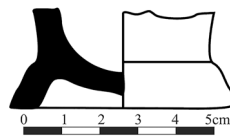
West Asia Minor coasts

Amphorae with only one handle, known under the name of ‘micaceous water jar’,¹²¹ Peacock and Williams Class 45,¹²² Mid Roman 3,¹²³ are commonly accepted to have been manufactured in the area of the Meander Valley.¹²⁴ Examples of amphorae similar to type Agora F 65-66 have also been found at Ibida¹²⁵ and Gorgipija.¹²⁶ The area may be wider and stretch from Miletus to Pergamum. Only two base fragments confirm the arrival of such an expensive wine in this fortress. The base is flaring, with a concave interior, and has some parallels in Athens (P 17896), which is dated perhaps mid-2nd century AD; thus, our example is an earlier variant.

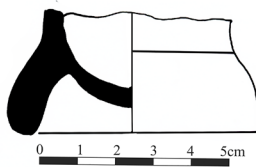
The fabric is very fine, has a conchoidal texture, has no visible inclusions to the naked eye, is very rich in silver mica, and has sparse, tiny, light brownish inclusions. Colour: light yellowish-brown (10YR 6/4); exterior reddish-yellow (7.5YR 6/6) (slip?).

Catalogue

45. Base. Inv. no. **403**.
MALB 2014-116.
BD 5.8 cm; PH 2.5 cm.



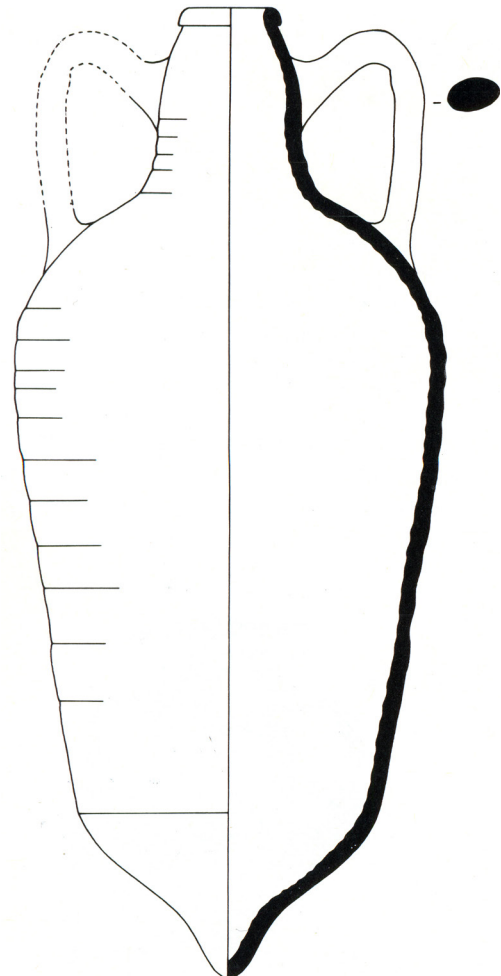
46. Base.
Inv. no.
1001. MALC
2017-S8.1-
Sq1. BD 7 cm;
PH 4.5 cm.



Zemer 57

We already defined this amphora type some years ago.¹²⁷ It is known as Zemer 57 or Agora M 236. The mouth is narrow with a rim rolled towards the exterior, the truncated conical neck is slightly swollen, while the handles, ovoid in cross section, arched and fall on the maximum diameter of the body, which narrows slightly to the lower part and ends in a conical toe. The freshly broken section is almost hackly with broken quartz sand, sparse to common brown inclusions, and tiny white particles. The colour is light red (2.5YR 6/6-6/8).

Inside of the wall is covered by pitch, which suggests wine as content. This product is confirmed by a dipinti in black on the shoulder of an amphora that indicates “Pramnian wine”.¹²⁸ The earliest subtype is dated in Crete during the Augustan period.¹²⁹ Its production continued during the early Roman time as seems to be indicated by the amphora published by Zemer.¹³⁰ Two amphorae of this type have been found on a shipwreck



¹²¹ Robinson 1959, pl. 41.

¹²² Peacock and Williams 1986, 188.

¹²³ Riley 1979, 183-86.

¹²⁴ Hayes 1976, 117; Peacock and Williams 1986, 188; Bezeczky 2013, 165.

¹²⁵ Opaît and Paraschiv 2012, 118, fig. 12.

¹²⁶ Alekseeva 1997, pl. 220.4.

¹²⁷ Opaît 2014, 48-50.

¹²⁸ Lang 1976, 75, pl. 41.

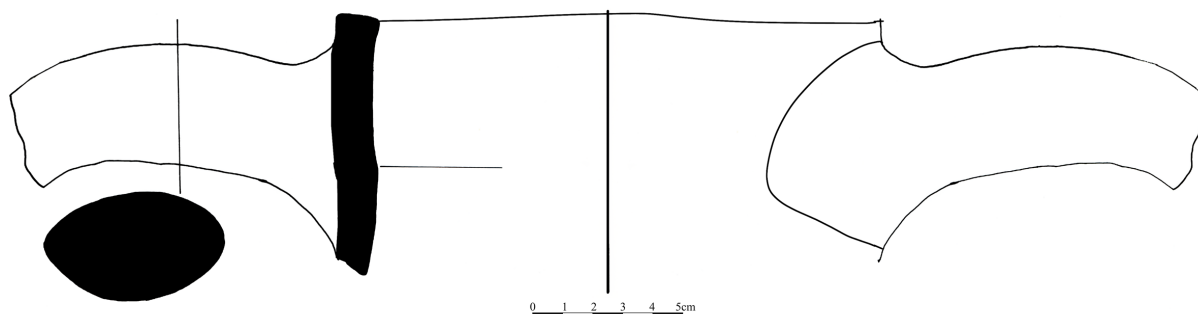
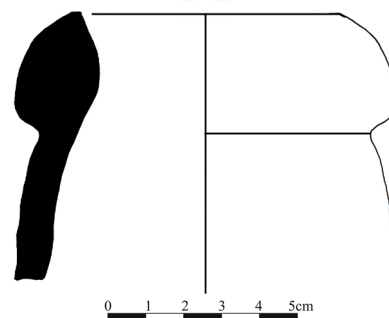
¹²⁹ Sackett 1992, 183 no. a1.29, pl. 127.29.

¹³⁰ Zemer 1978, 70, type 57, pl. 21.57.

near Knidos and dated to the mid-3rd century,¹³¹ while many other examples have been found in Athens and dated to the 4th century AD.¹³² Our discovery is important as it points out a precise occurrence of this amphora in its evolution.

Catalogue

47. Rim and handle. Inv. no. **1033**.
MALC 2019-32-drainage channel. RD
10 cm; HD 6/3.6 cm; PH 7 cm.

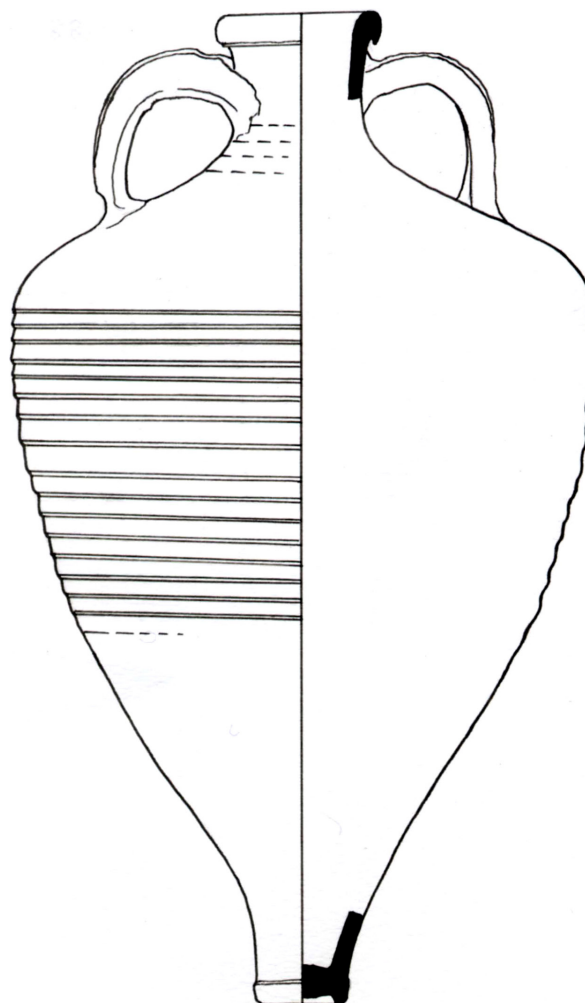


West Mediterranean wine amphorae

Two amphora fragments could be tentatively assigned to a west Mediterranean origin.

Gauloise (?)

Interestingly, an amphora fragment might appear that is of the Gauloise type. It has a rounded lip on the outside and slightly faceted obliquely towards the inside. This morphology suggests its belonging to a type of amphora called either August 12,¹³³ Ostia 60,¹³⁴ Peacock and Williams 27,¹³⁵ the best known being the name Gauloise 4.¹³⁶ It has a hard, finely textured, and slightly micaceous, having a colour that varies between 'reddish yellow-(7.5YR 6/6), such as that of the first specimen, and 'very pale brown-(10YR 7/3-7/4). It is an amphora with a capacity of around 30 liters that circulates mainly in the western part of the Mediterranean. It is also interesting to note that Gauloise 4 has a minimal appearance in southern France, where it was produced, and it has a massive presence in northwestern France as well as on the Rhône-Rhin axis that supplied the German limes.¹³⁷ It also reached the Aegean, Egypt, Sudan,¹³⁸ and it has a reduced occurrence in the Lower Danube.¹³⁹



¹³¹ Opaît *et alii* 2026, in print.

¹³² Robinson 1959, 106, M 236, pl. 28; also, P 25170, P 29077.

¹³³ Martin-Kilcher 1994, 360-364.

¹³⁴ Panella 1973, 538.

¹³⁵ Peacock and Williams 1986, class 27, 142-143.

¹³⁶ Laubenheimer 1985, 260-262.

¹³⁷ Desbat and Martin-Kilcher 1989, fig. 8; Laubenheimer 2001, 55-57.

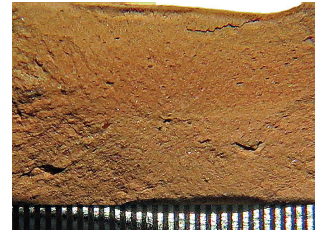
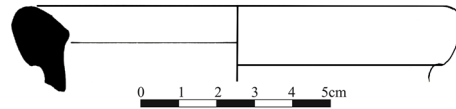
¹³⁸ Laubenheimer 2001, 58, figs. 5-6.

¹³⁹ Apart from Mălăiești, we also know an example in the

Catalogue

48. Rim. Inv. no. **1032**. MALC 2019-33. S9.1.

RD 12 cm; PH 3 cm.

**Haltern 70?**

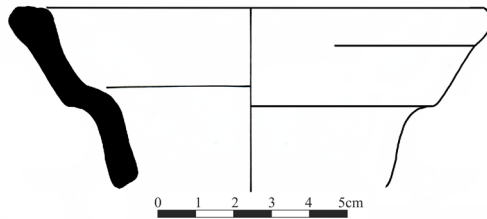
This fragmentary specimen could be a late variant of the Haltern 70.¹⁴⁰ The rim is flaring with a shallow concavity and the fabric is fine, red without visible inclusions (10R 5/8). It might represent the last variant of Haltern 70.¹⁴¹

Catalogue

49. Rim. Inv. no. **1016**.

MALC 2017-S8.8-Sq4.

RD 13 cm; PH 4.8 cm.

**Olive oil amphorae**

The main import of olive oil came from the western coasts of Asia Minor and the Aegean, which manufactured at this time the well-known Dressel 24 *similis*.¹⁴² The other type Dressel 24,¹⁴³ based on recent underwater discoveries, might have some workshops in Cilicia. If we consider that a Dressel 24 *similis* amphora was about ten times bigger than a wine amphora, we realize the importance of this product for the daily lives of the soldiers of this fortress.

Dressel 24

This amphora was firstly identified at Rome¹⁴⁴ and Pompeii,¹⁴⁵ and later discovered at Paphos,¹⁴⁶ Miletus¹⁴⁷ while in the Black Sea it has been found at Kalos Limen,¹⁴⁸ and in Dacia in the *castrum* of Brețcu.¹⁴⁹ It is characterized mainly by a cup-shaped mouth, tronconic neck, ovoid in cross-section handles, egg-shaped body, and a conical or spike base.¹⁵⁰ The capacity varies between c. 50 litres of the amphora from Pompeii,¹⁵¹ 55 litres indicated by an amphora discovered at Tanais,¹⁵² and 68.5 litres suggested by an amphora discovered at Kalos Limen.¹⁵³

Different fabrics seem to be present at Mălăiești. One is abundant in calcareous materials (**171**, **282**, **319**), one (**165**) seems to be richer in brownish particles (iron minerals?), while another one (**402**) is richer in calcareous materials,

legionary camps at Troesmis (unpublished material), and another published by Waldner 2016, 328, pl. 41.K 982; Durostorum, information S. Honcu, to whom we thank.

¹⁴⁰ Martin Kilcher 1994, 386-388, pl. 177-178; Filipe *et alii* 2024, fig. 2.5244.

¹⁴¹ Sealey 1985, 59-65, fig. 8.78; Carreras Monfort 2003, 88; Gonzáles Cesteros and Berni Millet 2018, fig. 6.1.6.1.

¹⁴² Opaït and Tsaravopoulos, A. 2010; 2011.

¹⁴³ Manacorda 1975; Panella 1986, 624-25, fig. 22; Opaït 2007.

¹⁴⁴ H. Dressel, C.I.L. XV, 2, pl. II.

¹⁴⁵ Manacorda 1975; Panella 1976.

¹⁴⁶ Hayes 1991, 204, fig. XXXIX: 25.

¹⁴⁷ Pülz 1985.

¹⁴⁸ Uzhentsev and Yurochkin 1998, fig. 1:1; 3:1-2.

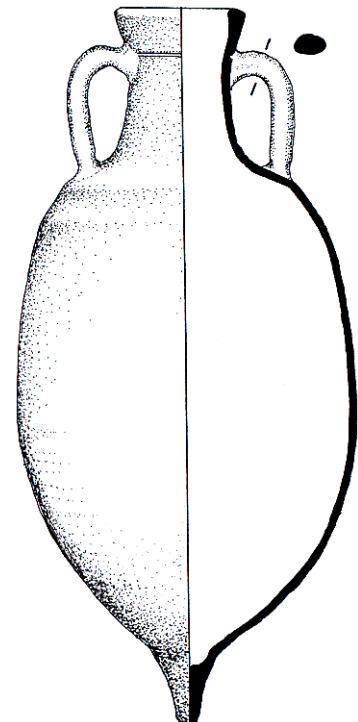
¹⁴⁹ Gudea 1980, 307, fig. 38.

¹⁵⁰ Opaït 2007, 628.

¹⁵¹ Panella 1976, 152, Note 7, pl. XLI.4; Panella 1986, 624-25, fig. 22.

¹⁵² Arsen'eva and Naumenko 1992, 152-53, fig. 31; Naumenko 2008, 274, fig. 4.1.

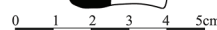
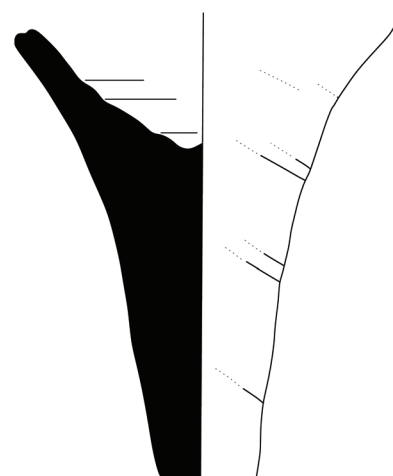
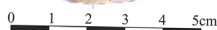
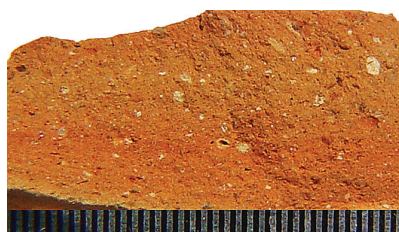
¹⁵³ Uzhentsev and Yurochkin 1998, fig. 1:1; 3:1-2.



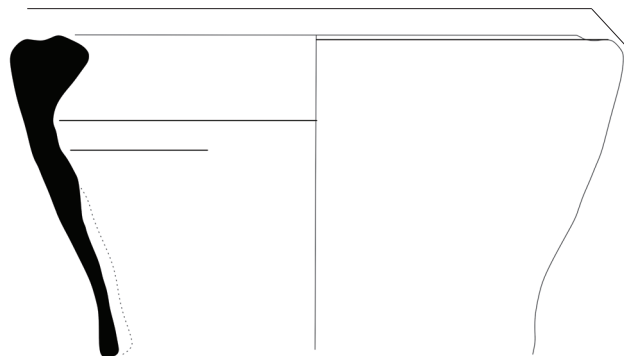
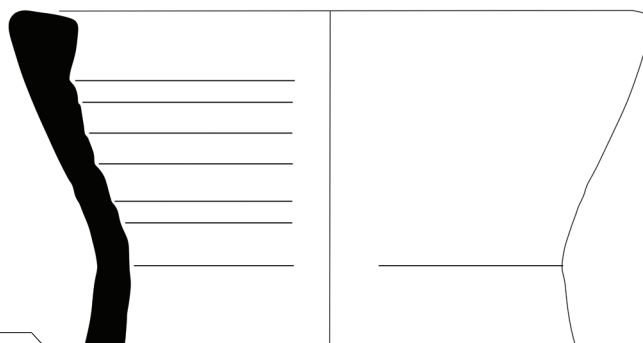
rounded yellow and translucent quartz, sparse muscovite, large (1.5-2 mm) sparse to common sub-rounded stones (?). The latter fabric seems to be the most frequently used in manufacturing this type. This diversity in fabrics suggests a variety of workshops.

Catalogue

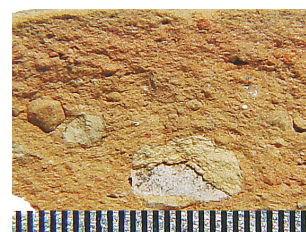
50. Base. Inv. no. **171**. MALC 2011-104. BD 2.8 cm; PH 12.5 cm.



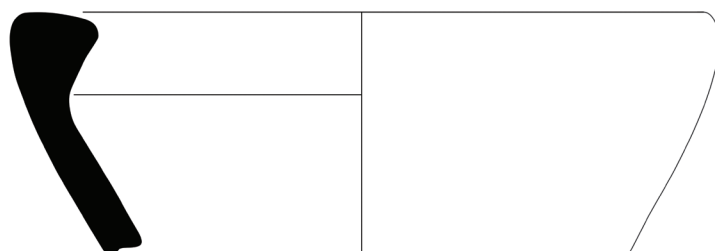
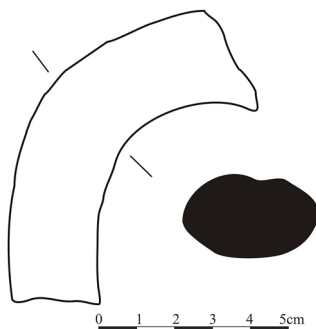
51. Rim. Inv. no. **282**. MALC 2013-*Passim balneum*. RD 19 cm; PH 8.8 cm.



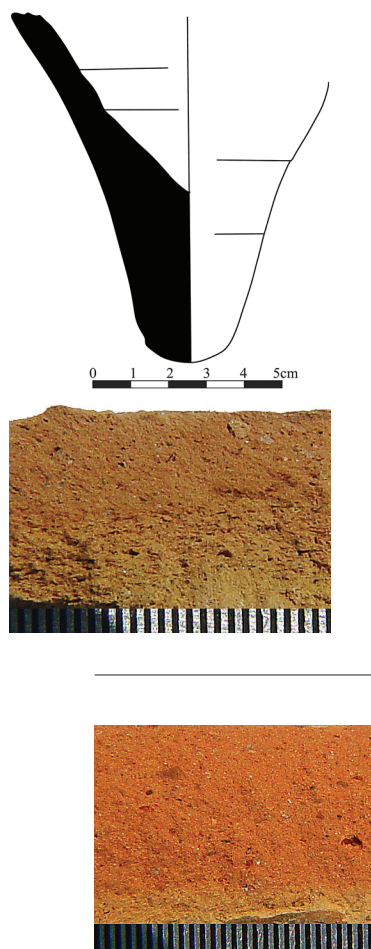
52. Rim. Inv. no. **319**. MALC 2012-S4- Sq1-3. RD 16 cm; PH 8.3 cm.



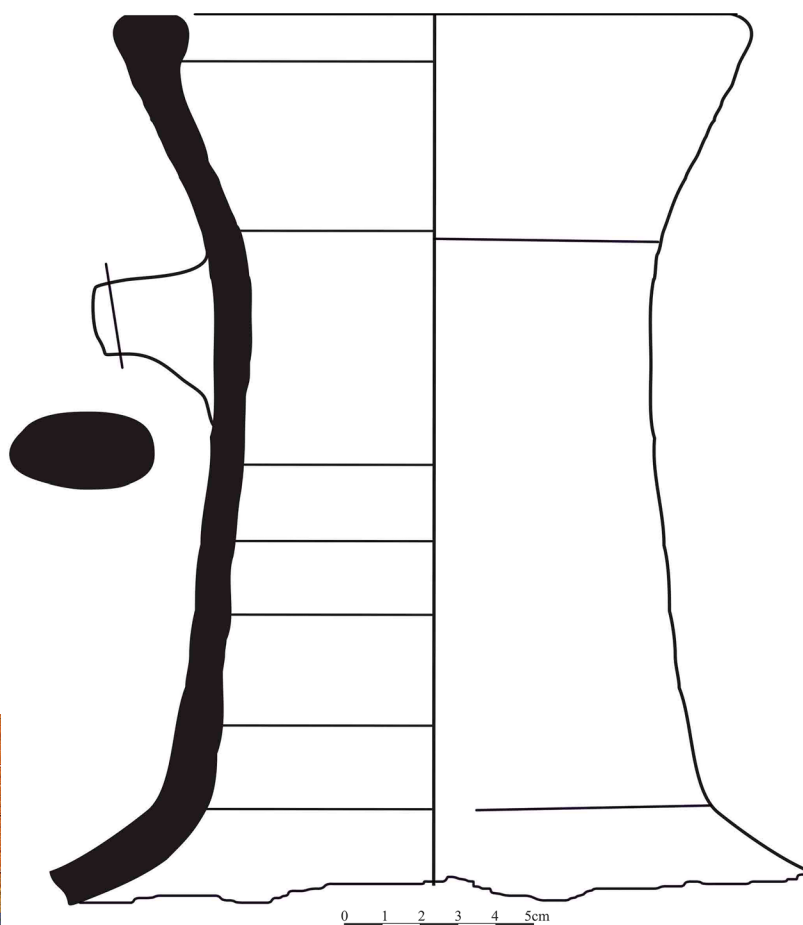
53. Rim and handle. Inv. no. **402**. MALB 2014 – *Passim balneum*. RD 19 cm; PH 7 cm.



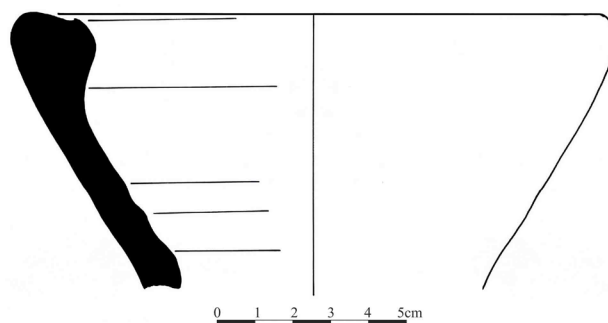
54. Base. Inv. no. **165**.
MALC 2011-92. PH 9.5 cm.



55. Rim, neck, upper handle attachment. Inv. no. **454**. MALB 2014-110.
RD 17 cm; HD 3.7/2 cm; PH 23.5 cm.



56. Rim. Inv. no. **1022**. MALC 2017-S8-3-CX7.
RD 16 cm; PH 7 cm.



Dressel 24 similis

The similarities existent between Dressel 24 and a series of amphorae with cup-shaped mouths and ovoid bodies ending in a small spike have been pointed out by C. Panella forty years ago.¹⁵⁴ Despite these resemblances, Dressel 24 similis has its particularities, and in a recent paper, I pointed out the existence of at least four variants.¹⁵⁵ Worth pointing out are the handles, which are round in cross section, following a long Hellenistic tradition, and not ovoid as the handles of Dressel 24. In another paper, based on the amphora workshop discovered in Chios, I deepened this typology by distinguishing some fabrics typical for Chios and Erythrai.¹⁵⁶ Some of these fabrics were also identified at Mălăiești. Thus, nos. **13**, **160**, **162**, **163**, **180**, **272**, and **273** belong to a Chian production, while nos. **172**, **336**, **339** and **1051** belong to Erythrai. Other fabrics, such as **159** and **161**, are coarser, with large white

¹⁵⁴ Panella 1986, 624-25.

¹⁵⁵ Opaîţ 2007.

¹⁵⁶ Opaîţ and Tsaravopoulos 2010; 2011.

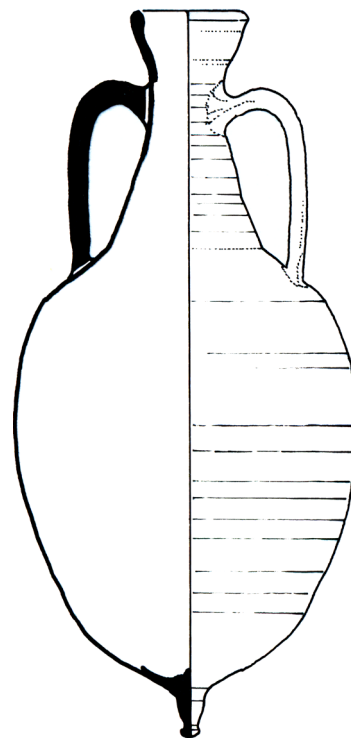
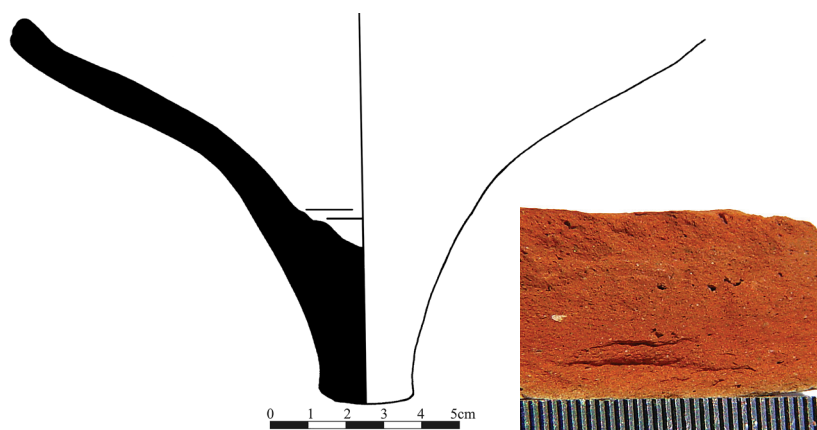
(calcareous inclusions?) and brown (iron minerals?), and **4**, very fine and rich in iron oxides, were made in unknown centres.

These amphorae's capacities are large and vary between 40 litres, 60 litres, and almost 80 litres, being made in different sizes. Quite rarely, these amphorae bear stamps, and sometimes, when the depositional contexts are good, dipinti can be preserved on the neck and shoulders. However, the habit of stamping these amphorae seems to have begun after the middle of the 2nd century AD and mostly in the first half of the 3rd century AD.

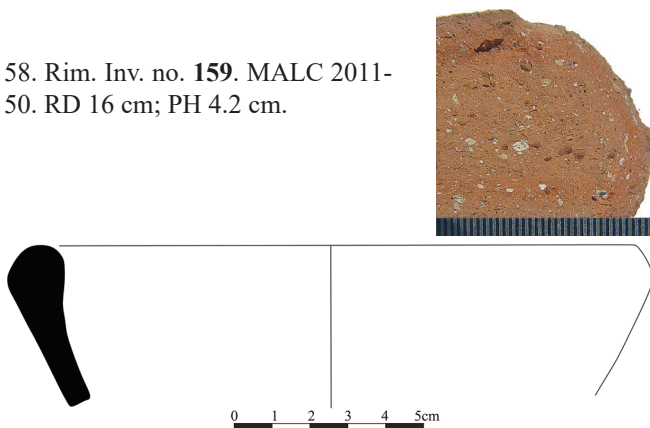
In total a number of six rims, three handles, two bases and one lid have been found at this site. These amphorae are present in every Roman site in the Lower Danube area.

Catalogue

57. Base. Inv. no. **4**. MALB 2014-79. BD 2.5 cm; PH 18 cm.

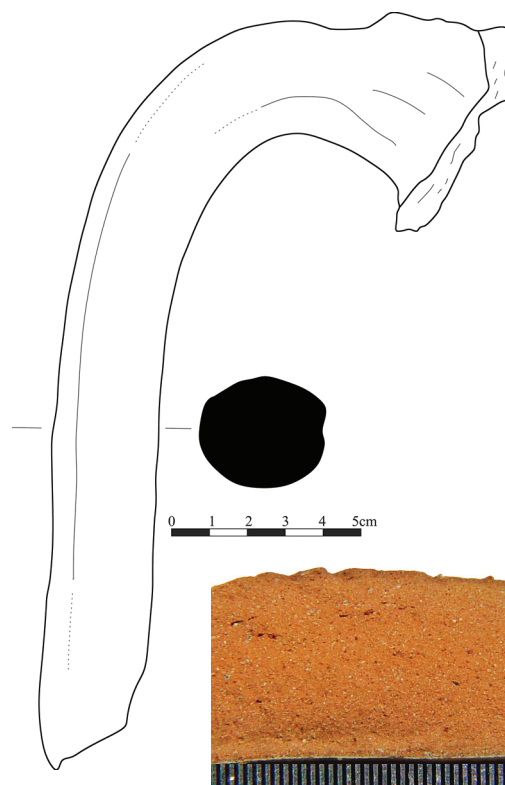
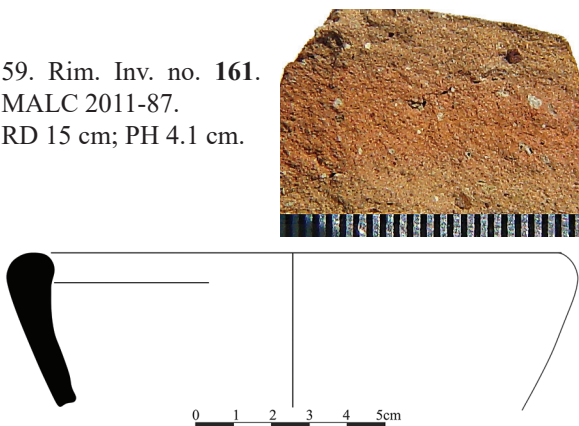


58. Rim. Inv. no. **159**. MALC 2011-50. RD 16 cm; PH 4.2 cm.

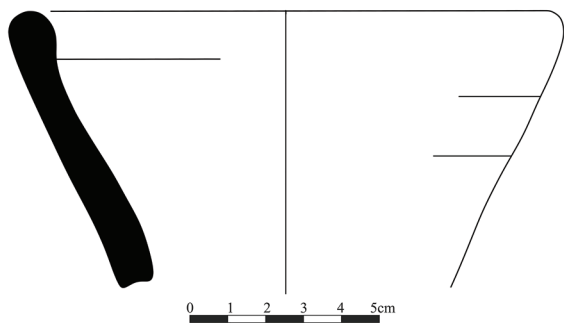


60. Handle part. Inv. no. **172**. MALC 2011-124. HD 3.4/3 cm; PH 20 cm.

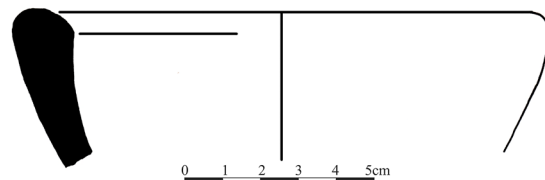
59. Rim. Inv. no. **161**. MALC 2011-87. RD 15 cm; PH 4.1 cm.



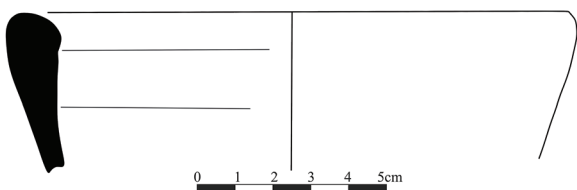
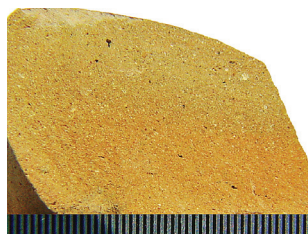
61. Rim. Inv. no. **13**.
MALB 2013-86. RD
14.4 cm; PH 7 cm.



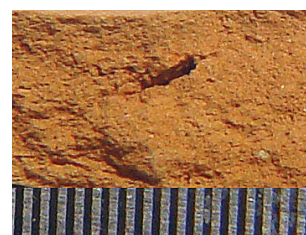
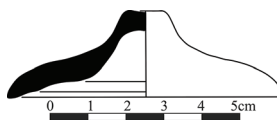
62. Rim. Inv. no. **160**.
MALC 2011-102. RD
14 cm; PH 4.1 cm.



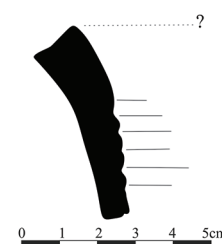
63. Rim. Inv. no. **163**.
MALC 2011-131. RD
15 cm; PH 4.2 cm.



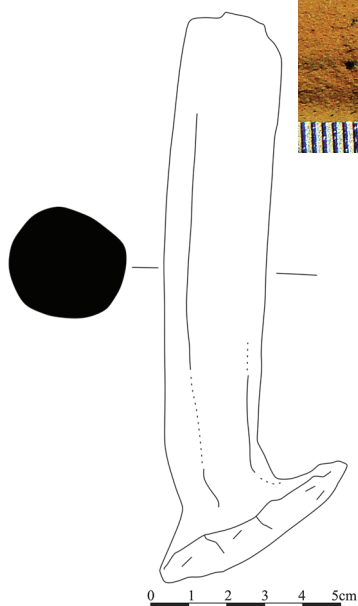
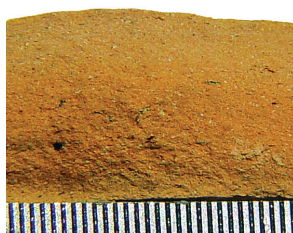
64. Lid. Inv. no. **272**.
MALB-69. RD 7 cm; PH
2.3 cm.



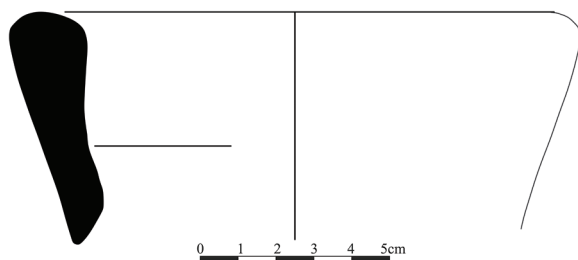
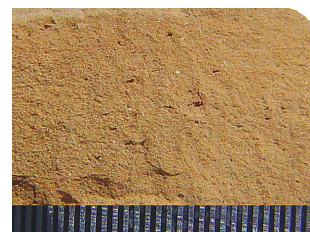
65. Base. Inv. no. **180**. MALC
2011-137. PH 5.1 cm.



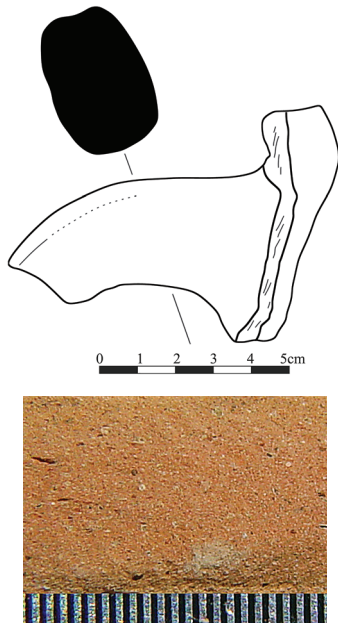
66. Handle part. Inv. no. **162**. MALC 2011-52. HD
3/3.1 cm; PH 15 cm.



67. Rim. Inv. no. **275**.
MALB 2014-69. RD
15 cm; PH 6 cm.



68. Handle and part of the neck fragment. Inv. no. 167. MALC 2011-83. HD 3.9/2.6 cm; PH 8.8 cm.



Shoulder and lower handle attachment. Inv. no. 1051. MALC 2017, S4, P1, M8.



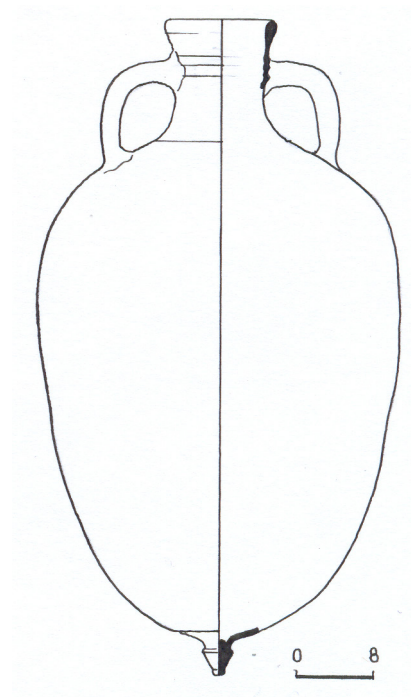
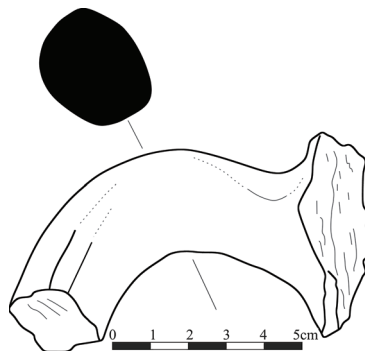
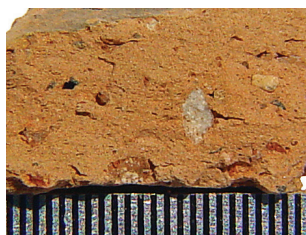
Dressel 25

The handles and base fragments, **164**, **168** and **288**, by their fabrics and shapes, belong to an amphora that probably was made in Peloponnese at Sikyon. The handle is almost rounded in cross section, which is a characteristic of this type.¹⁵⁷ An example discovered in Novae is a good parallel for our fragmentary examples.¹⁵⁸

The fabric is not very hard, with a hackly texture, powdery surface, ill-sorted, common brown and pale gray angular particles, and sparse black inclusions. Colour: reddish yellow (7.5YR 7/6).

Catalogue

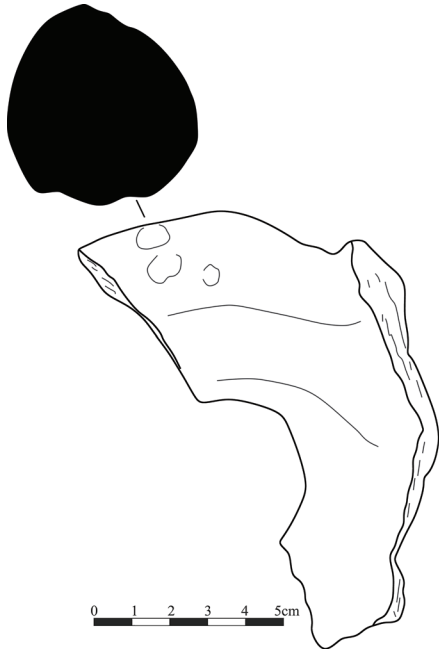
70. Handle part. Inv. no. **168**. MALC 2011-97. HD 3.1/2.6 cm; PH 9.5 cm.



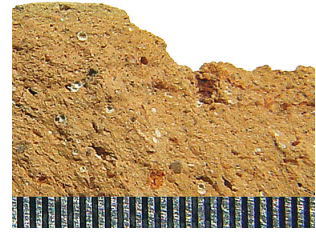
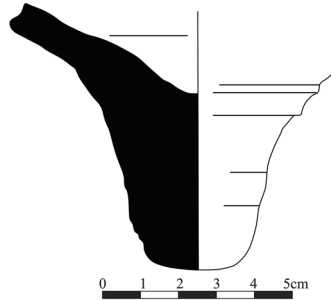
¹⁵⁷ Opaïț 2010, 155-56, pl. 7.5.

¹⁵⁸ Information A. Tamas.

71. Handle part. Inv. no. **164**. MALC 2011-31.
HD 5/5.2 cm; PH 11.6 cm.



72. Base. Inv. No. **288**. MALC 2012-S4-Sq A3. BD 3 cm; PH 8.8 cm.



Fish amphorae

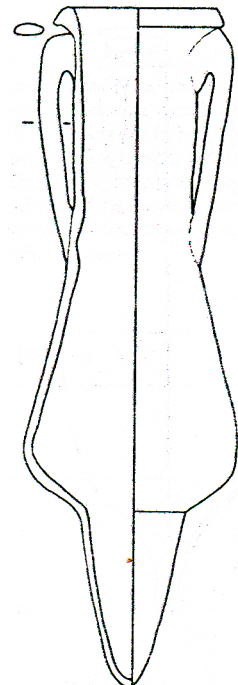
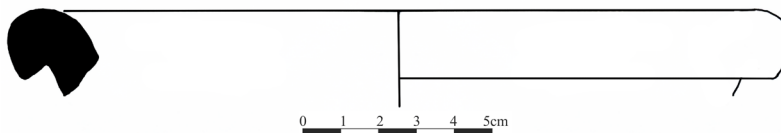
Fish-processed products are the third dietary good identified in this fortification. The amphorae containing these products suggest a diversified source of origin. They seem to have come from either the western Mediterranean area in amphorae of type Dressel 7-11 or, mostly, the southern and northern coasts of the Black Sea.

Pélichet 46/Augst 29 type

A single, small fragment of the lip suggests the existence of an amphorae of the Pélichet 46/Augst 29 type, amphorae that circulated during the Flavian period and the first decades of the 2nd century AD.¹⁵⁹ The large size of the mouth also suggests a Hispanic fish amphora. The fabric is sandy, white, transparent quartz, silver mica, and sparse red and brown iron ore. The colour is yellowish-red (5YR 5/8).

Catalogue

73. Rim. Inv. no. **1007**. MALC 2017-S8.3.- Sq54. RD 22 cm; PH 2 cm.



Pontic fish processed amphorae

A group of interesting fish-processed amphorae is mainly found in the cellar of one barrack, suggesting perhaps a high military rank of its occupant. They come to confirm the privileged position that this foodstuff had in the diet of the military. This processed fish is the product of two distinct north and south Pontic areas. Their identification is difficult as we know mostly fish product amphorae of the 3rd century, while vessels of the 1st- early 2nd century are less known.¹⁶⁰

¹⁵⁹ Martin-Kilcher 1994, 400-401, pl. 199. 4173, 4179; 2003, 73, fig. 5.F.

¹⁶⁰ See the interesting article of Doroshko 2024.

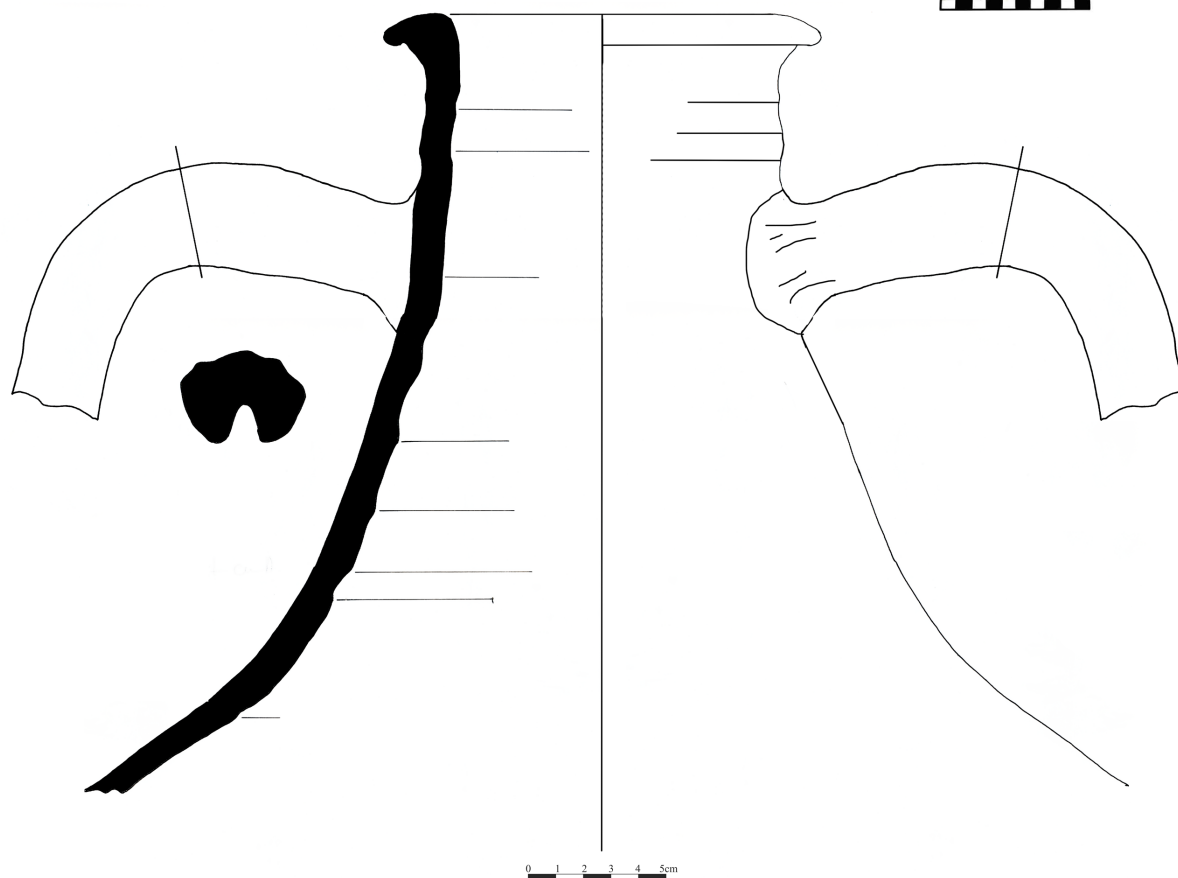
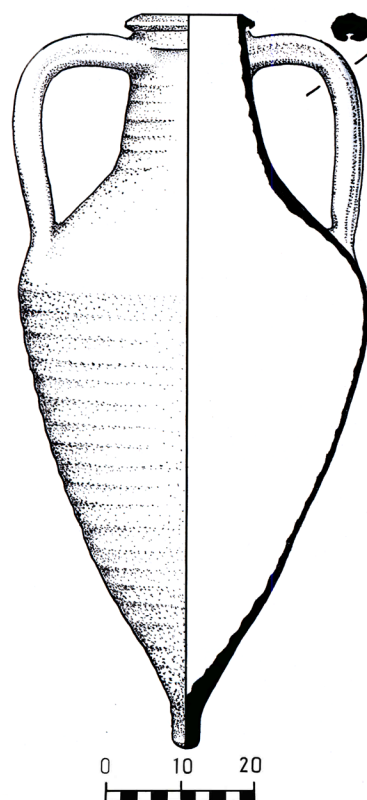
North Pontic fish processed amphora

Type 1.

Only fragments of the upper part have been preserved. The rim is massive, thickened with its tip pointing to the exterior. The neck is large, truncated conical. The handles are huge with a convex, riled exterior, while the internal part has a deep concavity. The shape of these handles made me assume a north Pontic origin for this amphora. Similar handles have North Pontic amphorae of Zeest 72/73 and 77 dated to the end of the 2nd – 3rd century AD. The amphora ends in a massive spike. The fabric is hard, compact, common tiny foraminifera, tiny brownish, round inclusions (iron minerals?), sparse yellowish, rounded quartz, and sparse ferruginous quartz sand. The colour is yellowish-red (5YR 5/8). A comparable handle has been found at Sarmizegetusa.¹⁶¹ However, amphorae with similar handles but with a slightly different rim have been found in the Chersonese territory,¹⁶² Tanais,¹⁶³ and Sinope.¹⁶⁴ A shipwreck containing 20-30 such amphorae has been identified off Varna. Only one amphora has been recovered. It “contained bones of a large freshwater catfish species, several olive pits, and resins”.¹⁶⁵ Their capacity is c. 65-67 litres.

Catalogue

74A. Upper part. Inv. no. **1024A**. MALC 2018- CPL 2. RD 16 cm; HD 4.6/3.3 cm; PH 40 cm.



¹⁶¹ Potra, Băeștean and Barbu 2026, in print in RCRF 49.

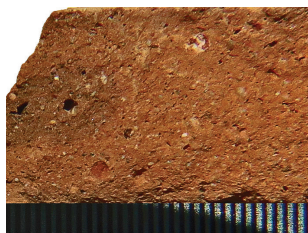
¹⁶² Strjeletskii *et alii* 2005, 70, urn 237, pl. VII.4; Opaît 2021, 367-368, fig. 12.40.

¹⁶³ Shelov 1965, 68, fig.11 top; Arsen'eva and Naumenko 1992, 144-145, fig. 20.

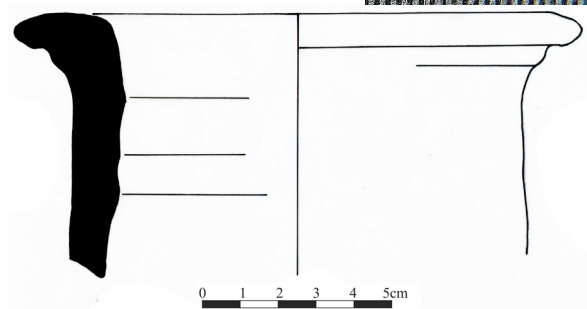
¹⁶⁴ Kassab Tezgör 2020, 65, pl. XLII.134.

¹⁶⁵ http://news.national.geographic.com/news/2003/01/0110_030113_blacksea.html.

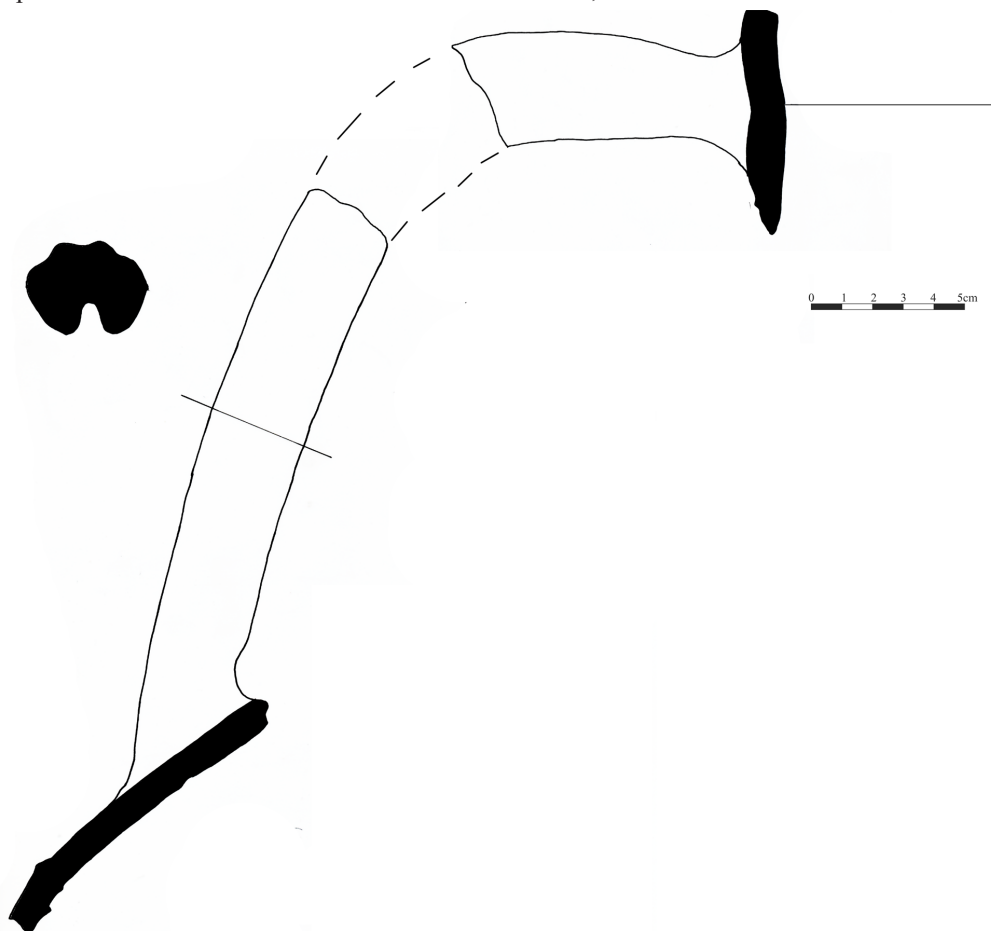
74B. Base. Inv. no.
1024B. MALC 2018-
CPL 2. PH 14.5 cm.



75. Rim. Inv. no. **1028**.
MALC 2018 CPL-71A. RD
15 cm; PH 7 cm.



76. Upper part. Inv. no. **1025**. MALC 2018-CPL 2. HD 4/3.2 cm; PH c. 28 cm.



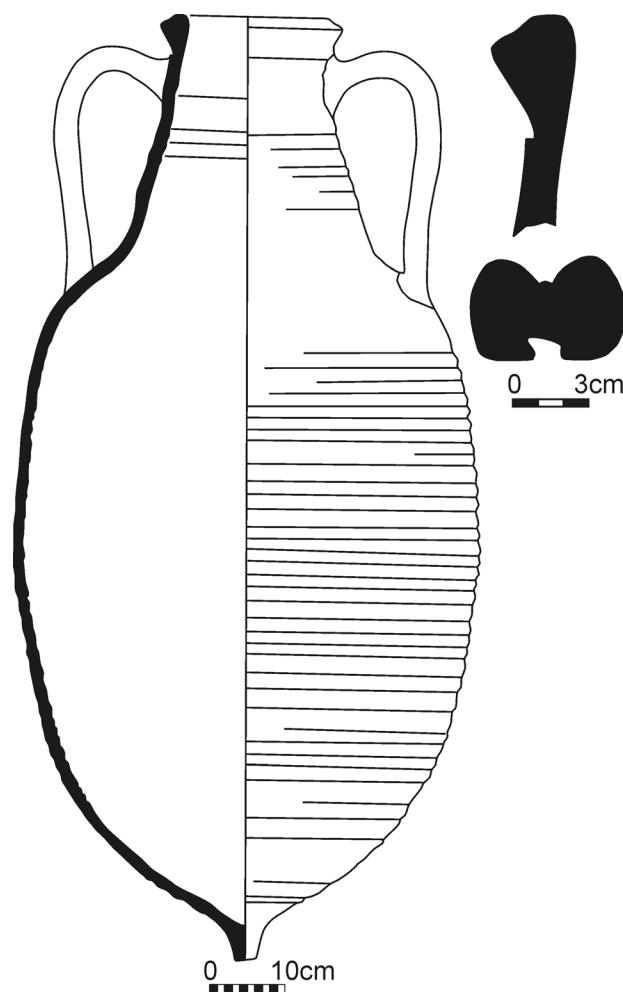
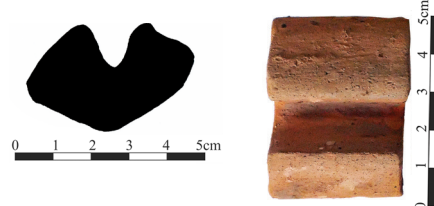
Type II / proto Zeest 75?

A handle fragment of an ovoid shape has a deep median groove on the upper part, but an angular lower part, resembles very much the handles of Zeest 75.¹⁶⁶ The fabric is very hard, fine, with white inclusions of calcar and gold flecks of mica. The colour is red (2.5YR 5/6). However, the type Zeest 75 has another deep concavity on the lower part of the handles. Our handle is likely of an earlier date than Zeest 75 date, being their predecessor. A huge example has been found at Greci, near Troesmis, with a handle diameter of 7/6 cm and a capacity of 180 litres. As our handle from Mălăiești has half of the Greci example, we can assume a capacity of c. 90 litres.

Catalogue

77. Handle part. Inv. No. **1021**.

MALC 2017-S8.1-Sq2. HD 4.4/2.8 cm.



Type III/Knossos 39

Only some fragments of at least three amphorae consisting of rims, handles, and three bases have been preserved. The rim is heavy and rolled, while the neck is enlarging to the lower part. The handles are big and ovoid, with a massive central rib. The fabric is hard and rich in angular, grayish quartz, sparse brownish inclusions (iron minerals?), and common, tiny whitish inclusions (calcareous material?). Somehow, it is similar to the fabrics of Zeest 80. The colour is light red (10R 6/8) with a reddish-yellow (5YR 6/8) exterior. Recently, an origin on the southern coasts of the Black Sea has been proposed, which seems quite feasible.¹⁶⁷ The amphora discovered at Ostia indicates a volume of c. 53 litres.

It was an amphora that carried a precious product, probably a fish-processed one, as it occurs mainly in a military milieu at Aquincum,¹⁶⁸ Viminacium,¹⁶⁹ in the Crimea at the Ust-Alma necropolis,¹⁷⁰ and

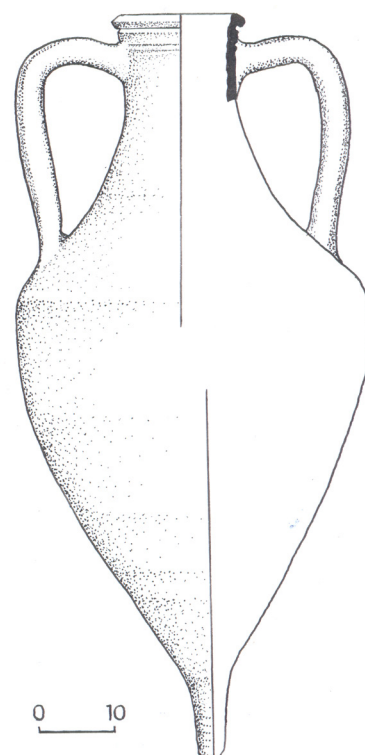
¹⁶⁶ Zeest 1960, 113, pl. XXXI; Opaît 1980a, 308, pl. IX.2-3; 2021, 366-367, fig. 9-10.

¹⁶⁷ Doroshko 2024.

¹⁶⁸ Kelemen 1990, 172-174, fig. 5.2-4 with a dipinti indicating the recipient as a Legio, either IV-th Flavia or X-th Gemina.

¹⁶⁹ Bjelajac 1996, 61-65, fig. XX.114.

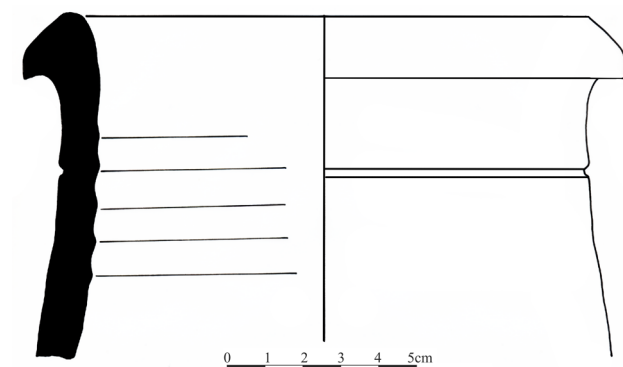
¹⁷⁰ Puzdrovskiy and Trufanov 2016, figs. 9, 1,4-6; 32, 1,6,7; 65, 2,6, 74, 9; 136, 2; 187, 9,10.



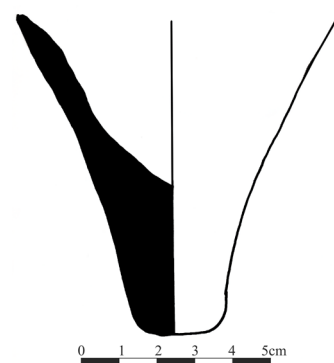
Tarpanchi.¹⁷¹ Interesting is its occurrence in the Villa of Dionysos,¹⁷² and Ostia.¹⁷³ It is difficult to consider this amphora as an Aegean wine vessel.¹⁷⁴

Catalogue

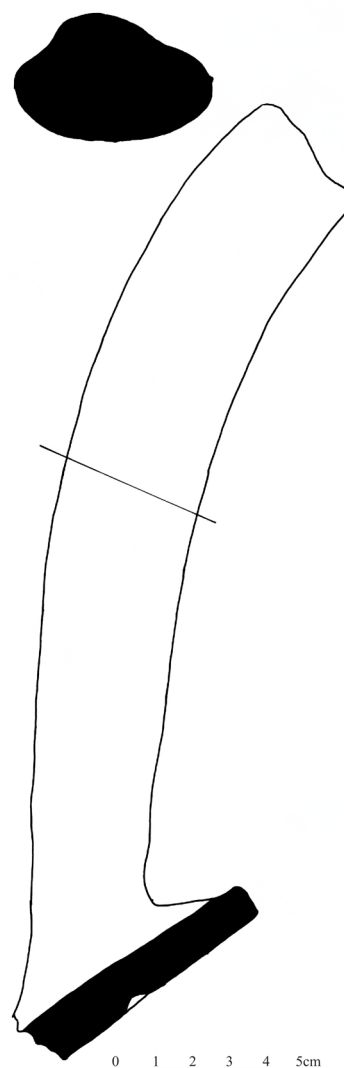
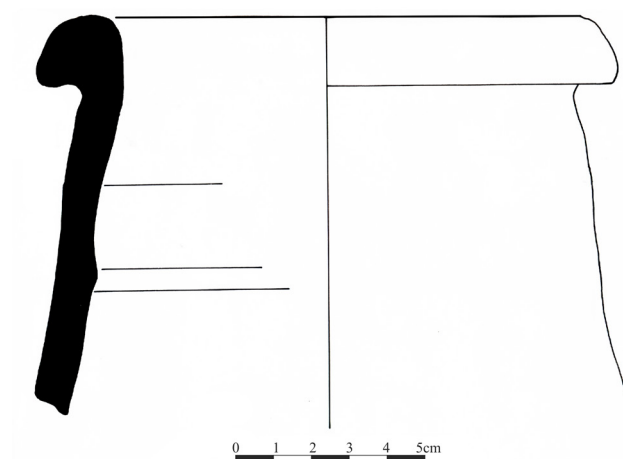
78A. Rim. Inv. no. **1018A**. MALC 2017-S8.1-B1-Sq 4. RD 16 cm; PH 9 cm.



78B. Base. Inv. no. **1018B**. MALC 2017-S8.1-B1-Sq 3. BD 2.5 cm; PH 8.5 cm.



79. Rim and handle. Inv. no. **1026**. MALC 2018-CPL 2. RD 15.5 cm; HD 5.3/3.4 cm.



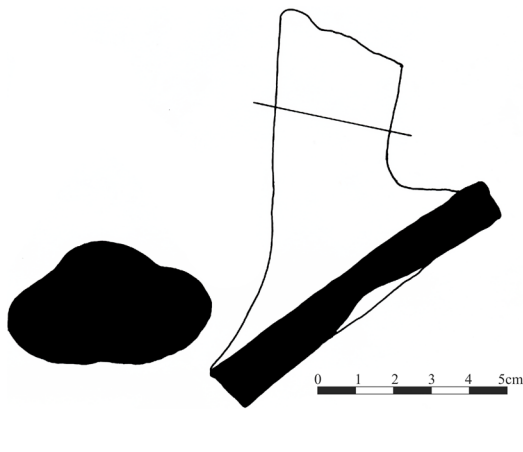
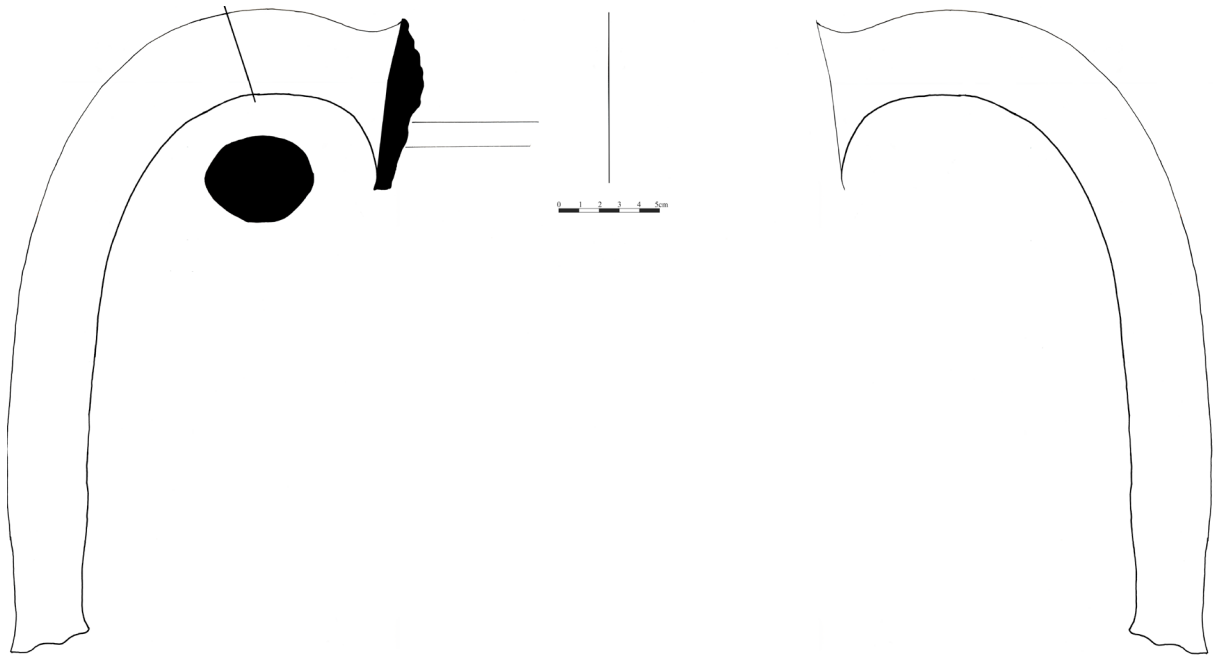
¹⁷¹ Doroshko 2024, 78, fig. 1, with bibliography.

¹⁷² Hayes 1983, 155, type 39, fig. 25.91.

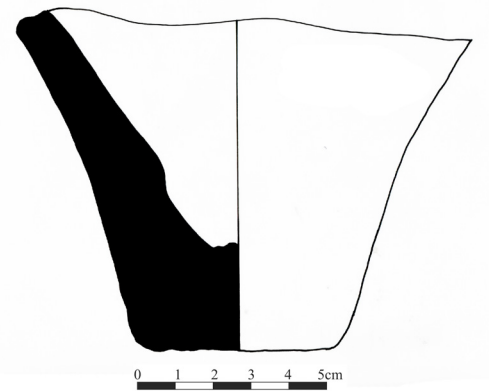
¹⁷³ Palma and Panella 1968, 101, fig. 461, pl. XXVIII.461; Panella 1986, 628, fig. 26.

¹⁷⁴ Bezeczky 1996, 332.

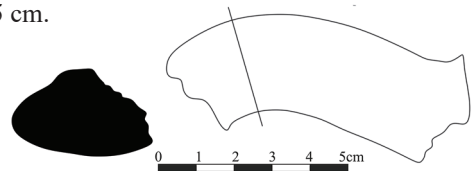
80. Upper fragment. Inv. no. **1029**. MALC 2018-CPL 2. PH 32 cm; HD 5.5/4.5 cm.



81. Base. Inv. no. **1017**. MALC 2017-S8.1-Sq1. DB 5.6 cm; PH 9 cm.



82. Handle part. Inv. no. **1047**. MALC 2017, S8.4.CX7. HD 3.6/2.5 cm.



Unknown amphora types

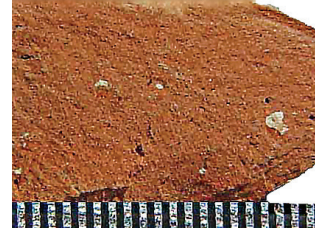
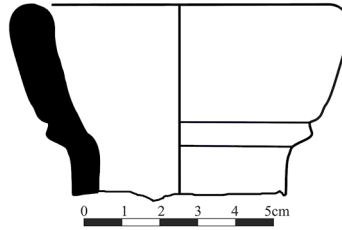
The medium size diameter of their mouth, narrow neck as well as their fine fabrics suggest wine as main content.

Aquincum 78 (?)

The first rim is rectangular and vertical, separated from the cylindrical neck by a prominent ridge (12). It has a compact, hard, fine, sedimentary fabric with sparse, white (calcareous material?) inclusions. The colour is yellowish red (2.5YR 5/8).

Catalogue

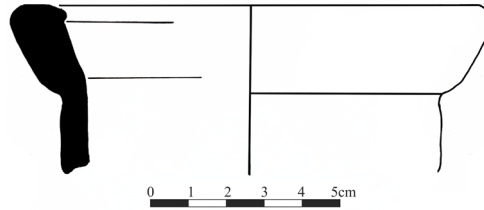
83. Rim. Inv. no. **12**. MALB 2014-10.
RD 9 cm; PH 4.7 cm.

**Unknown type**

Flaring, rectangular rim, ovoid in section handle. Fine fabric is calcareous, without visible inclusions with the naked eye. The core is pale brown (10YR 7/4), while the exterior is reddish yellow (5YR 6/6).

Catalogue

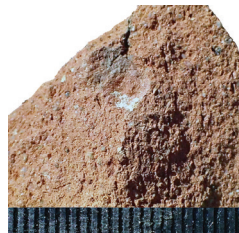
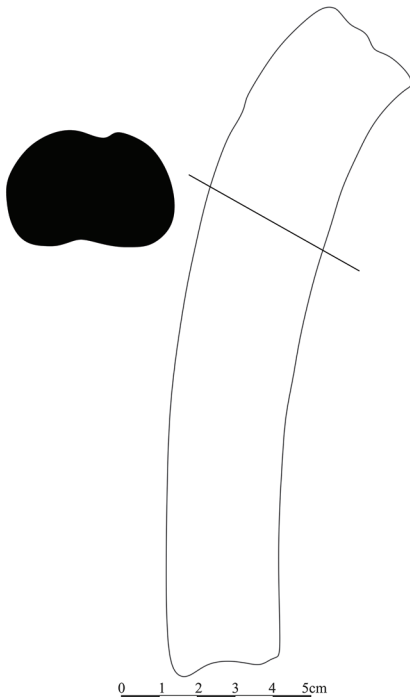
84. Rim and handle. Inv. no. **1027A-B**
MALC 2018-CPL 2.
RD 12.7 cm; PH 4.5 cm; HD 3.8/2 cm.

**Unknown type (Fish-product amphora?)**

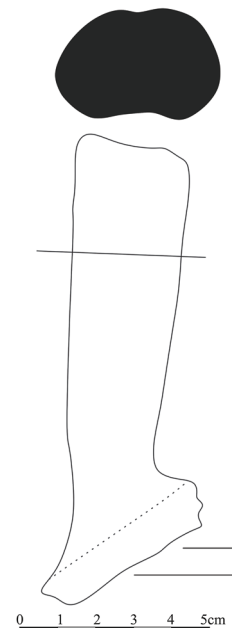
Two fragmentary amphora handles (**1036**, **1038**) might belong to the same amphora, as they have been found almost in the same context and have similar dimensions. The handles are massive with a shallow median groove on both the upper and lower sides of the handle. The fabric is hard, irregular in fracture, and rich in subrounded and rounded grayish quartz and common brownish inclusions. The color is brownish (5YR 5/6-5/8).

Catalogue

85. Inv. no. **1036**. MALC 2017, S8.1, PIT. HD 4.5/3 cm;
PH 17.5 cm.



86. Inv. no. **1038**.
MALC 2017,
S8.1.
HD 4.2/2.3 cm.
PH 12.5 cm.



Unknown large amphora types

1. A massive fragmentary amphora handle is difficult to parallel (1041). It is ovoid in cross-section. A possible analogy might be an amphora of the Troesmis X type, although its fabric is coarse and hackly with sparse, large angular quartz and common large brown angular inclusions. The color is dark brownish (5YR 5/6-5/8).

Catalogue

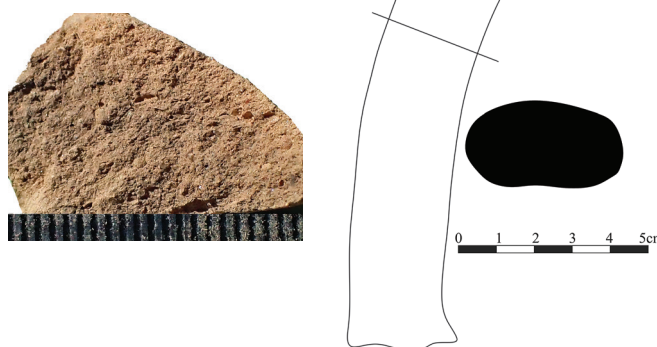
87. Handle part. Inv. no. **1041**.
MALC 2017, S7.3. *Via sagularis*.
HD 5.2/2.5 cm; PH 6 cm.



2. Another huge amphora handle is also difficult to parallel. It is ovoid in cross section. The fabric is coarse with common rounded translucent quartz and common brownish inclusions. The colour is brownish (7.5YR 5/8).

Catalogue

88. Handle part. Inv. no. **1035**. MALC 2017,
S8.3. C X 7. HD 4.2/2.3 cm; PH 12.8 cm.



3. Massive amphora handle. Difficult to parallel. Ovoid in cross section with two median ribs on the exterior. A whitish slip covers the surface. The fabric is fine with sparse, tiny, rounded quartz and abundant brownish inclusions, and maybe ferruginous quartz sand. The color is brown-reddish yellow (5YR 6/6-6/8).

Catalogue

89. Handle part. Inv. no. **1049**. MALC 2017, S4, P1, M8. HD 5/2.7 cm. PH 2.7 cm.



Conclusions

As has already been pointed out, the territory of the Lower Danube was heavily defended by the Roman army¹⁷⁵ and colonized by veterans who contributed to the creation of a strong military tradition, which created a real caste system and a strong base for volunteer recruits.¹⁷⁶

Among different ceramic categories, amphorae are the most proficient in providing information about the nature of their contents, production places, and dates. Working on amphorae discovered in a *castrum* from the Lower Danube is difficult because the ceramics from early Roman fortifications are still not adequately studied. In Dobrogea, archaeological excavations have focused mainly on the last phases of late Roman habitation. Only the ceramics of a few military sites have been studied. We can mention Troesmis,¹⁷⁷ Dinogetia,¹⁷⁸ and Noviodunum.¹⁷⁹ In Oltenia, amphora publication has focused more on their stamps and not on the morphology of the vessels.¹⁸⁰ An even darker situation we find in Transylvania, where, however, a first, tentative monograph on amphorae has been published.¹⁸¹ Nevertheless, it is worth noting the publications of the new generation.¹⁸²

From the beginning, it must be emphasized that ceramics have specific characteristics depending on the nature of the sites in which they are discovered. Thus, the ceramics of a military site can be relatively different from the ceramics of a city, *vicus*, or *villa*. For this reason, it is wrong to compare ceramics from sites with such a social and cultural structure. Finally, each ancient site established its commercial network depending on the ethnic, social, and professional structure. The type of economy that was involved was also different. Thus, it is normal that in a military site, fort, and adjacent settlement, we see a greater involvement of the dirigiste economy, acting in parallel with the imports brought by the regional or local free economy. Therefore, the preponderance of certain types of amphorae or the reduced number of other amphorae is essential for defining economic relations of the local community and its diet.

Although those over 80 diagnostic amphorae fragments from Mălăiești are not impressive from a quantitative point of view, they impress by their variety. They provide a clear picture of a certain hierarchy of the products that arrived at this *castrum*. The amphora table summarizes the rims/upper parts, handles, and bases assigned to specific types. In addition, we tried to multiply the number of vessels by their capacity to have a clearer picture of their presence on this site. Although we cannot guarantee 100% accuracy of these figures, they offer a decent picture of the wine, olive oil, and fish products traffic (**Table 1**). If we count only these fragments without paying attention to the volume of merchandise carried by these containers, the picture will be distorted. However, only this contextual approach can shed new light on these intertwined relations between dirigisme and free trade.

The wine amphorae show a slight preponderance of the Aegean wines carried by amphorae of Dressel 2-4, Ephesians, Cretan, Samian, Rhodian (?), and Cilician (**Fig. 4**). Usually, they are amphorae of small dimensions, but, in the aggregate, they count for over 350 liters. The south Pontic amphorae from Sinope and Heraclea follow them. It is also worth pointing out the reduced occurrence of Heracleian containers at a time when this wine almost flooded many south and north Danubian and north Pontic military and civilian settlements. This is not the case with Sinope, which still exports at Mălăiești wine in vessels of both the old Hellenistic tradition and the new amphora type of Roman tradition.¹⁸³ The occurrence of some Gauloise and perhaps Haltern 70 wine amphorae is interesting. These imports were likely due to the continuation of the 1st century trade connections that would be diminished during the following decades. The provincial, perhaps west Pontic, wine is represented by two amphorae of Troesmis X type, which still count for c. 120 litres of wine. Some table amphorae and table pitchers also suggest the presence of local wine. However, the modest presence of these containers should not be misleading, as cheap wine, beer, and vinegar could have reached the camp in barrels or skins that did not leave any traces. Interesting is the occurrence of a funerary monument decorated with a barrel of a *negotiator vinarius* at Novae,¹⁸⁴ probably the main quarter that supplied products to the soldiers of Mălăiești *castrum*.

¹⁷⁵ Matei-Popescu 2010, 275.

¹⁷⁶ Mann 1983, 37; Mihăilescu-Bîrliba and Dumitrache 2013; Opaît and Grigoraș 2022, 141.

¹⁷⁷ Opaît 1980a; 1980b; Waldner 2016.

¹⁷⁸ Opaît and Grigoraș 2022.

¹⁷⁹ Simion 1984; Honcu and Stanică 2019.

¹⁸⁰ Tudor 1967; 1968a; 1968b; 1978; Popilian 1976; Bondoc 2014; 2016.

¹⁸¹ Ardeț 2006.

¹⁸² Egri and Inel 2006; Egri 2008; Egri, Timofan and Bounegru 2021; Potra 2023; Potra, Băeștean and Barbu 2026, in print in RCRF 49.

¹⁸³ The export of wine in these two different amphorae is also well illustrated by a shipwreck found off Sinope (cf. Opaît, Davis and Brennan 2022).

¹⁸⁴ Kolendo 1965.

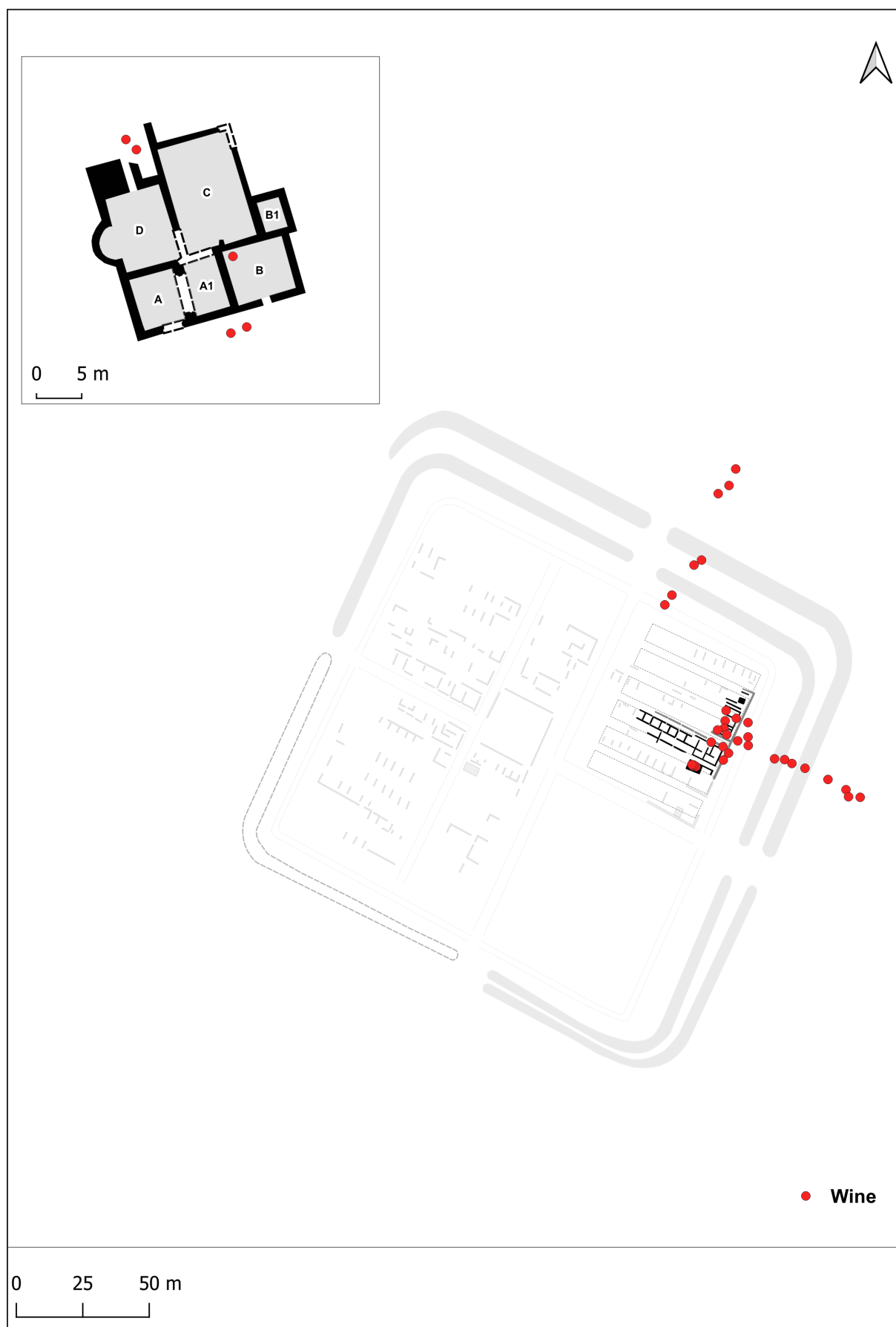


Fig. 4. Distribution of the wine amphora finds in the Mălăiești fort and baths

Table 1. Numerical and volume statistics of amphorae

Amphorae	Handle	Rim – Upper part	Base	Total	Total Volume l
Troesmis X		2		2	2 x 60=120
Heraclea	4	1	1	6	6 x 6=36
Sinope	3	1 (upper part)	3	7	7 x 15=105
Table pitcher		6		6	6 x 12.5=75
Table amphora		2	2	4	4 x 20=80
Dressel 2-4	1	2	-	3	3 x 26= 78
Cilician	1			1	65
Proto-Kapitän 2	-	2	-		12 x 2=24
Cretan	6	1	1	6	5x8=40
Rhodian ?	4			4	4 x 20=80
Zemer 57		1		1	18
Gauloise		1		1	30
Haltern 70		1		1	30
Samos & Unknown Aegean		1	1	2	2 x 12=24
Ephesus	-	-	2	2	10
Dressel 24		5	2	7	7 x 60=360
Dressel 24 passim.	3	6 (rims and upper part)	2	11	11 x 70=770
Dressel 25	1		1	2	2 x 40=80
Augst 29		1		1	1 x 16=16
Fish amphora I		3		3	3 x 65=195
Fish amphora II	1			1	1 x 90=90
Fish amphora III-Knossos 39		3	1	4	4 x 50= 200

The olive oil amphorae have an East Mediterranean origin. In first place is the olive oil transported in amphorae of Dressel 24 similis (c. 770 liters), while only c. 360 liters were transported in amphorae of Dressel 24 (**Fig. 5**). Also significant is the occurrence of Peloponnesian olive oil in amphorae of Dressel 25, but in much-reduced quantities. However, it is also present at Novae during the same time.¹⁸⁵ The same situation seems to be also at Troesmis¹⁸⁶ and Novae,¹⁸⁷ where amphorae of Dressel 24 similis predominate. It is also not excluded to have a similar situation in Dacia.¹⁸⁸ This massive presence of olive oil in this *castrum* is not a coincidence. It has good parallels in the fortification of the western part of the Roman Empire in Scotland,¹⁸⁹ Britain,¹⁹⁰ the Netherland,¹⁹¹ and the Rhine region¹⁹² where olive oil was abundantly found, especially during the first two centuries AD. We can talk about the Baetican olive oil's virtual monopoly in the empire's western provinces, especially during the early Roman times. However, as we can see, the situation in the eastern part of the empire has changed.¹⁹³

¹⁸⁵ Information A. Tomas.

¹⁸⁶ Opaî 1980a, 296, pl. IV.

¹⁸⁷ Information L. Kovalevskaya and A. Tomas.

¹⁸⁸ Gudea 1980, 307, fig. 38.1; Daicoviciu *et alii* 1983, 269, fig. 16.2-7, considered as 'tall shapes.'

¹⁸⁹ Fitzpatrick 2003, 61.

¹⁹⁰ Carreras-Monfort and Williams 2003, 64.

¹⁹¹ Carreras and van der Berg 2017, 355-356.

¹⁹² Martin-Kilcher 1987, 193-196.

¹⁹³ Opaî 2023.

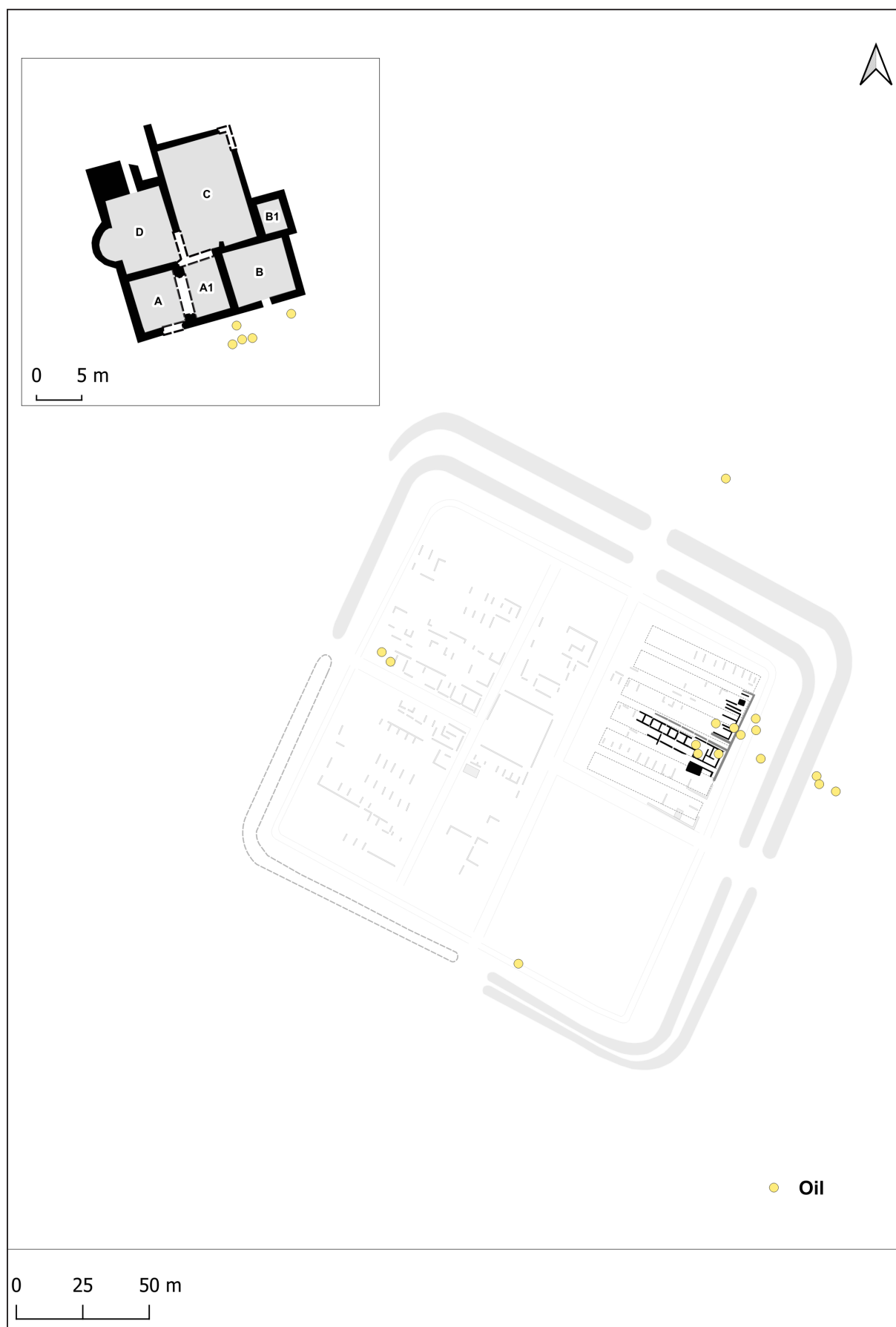
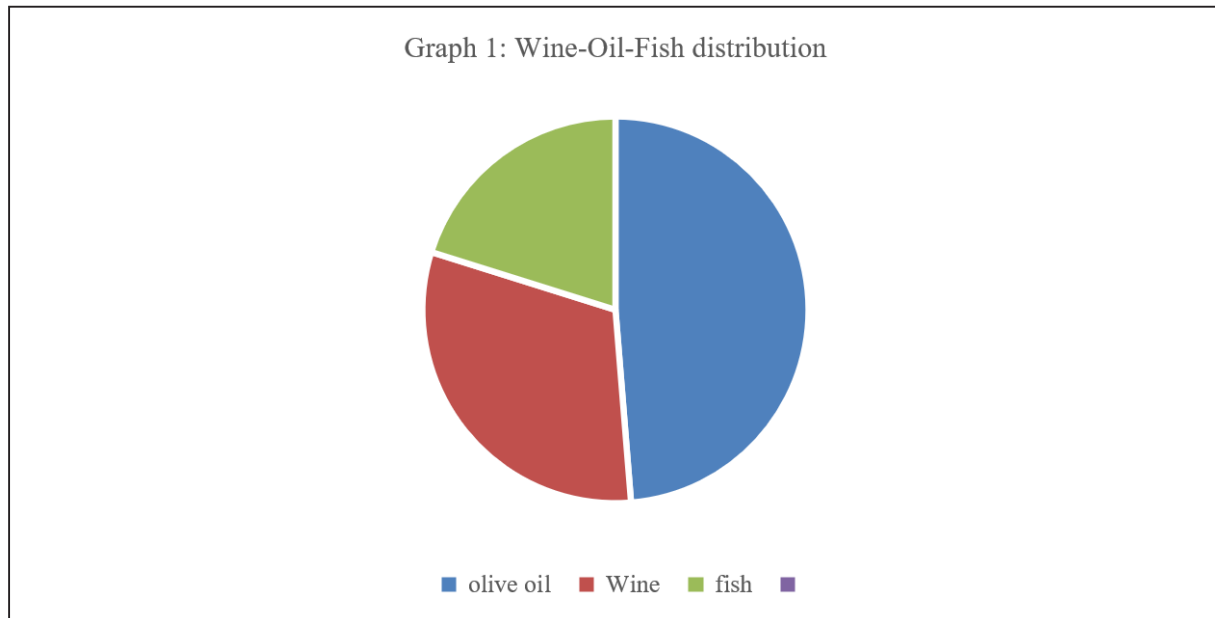


Fig. 5. Distribution of the olive-oil amphora finds in the Mălăiești fort and baths

The fish product amphorae also have an impressive presence (**Fig. 6**). If the first two types have a north Pontic origin, the last type might be assigned to a south Pontic production center. The presence of a Spanish amphora is an isolated case. It is also interesting that other discoveries made at Carnuntum or Aquincum suggest a reduced number of fish amphorae, this type of amphora being on the property of some officers.¹⁹⁴ From Dacia we know so far only some amphorae type Dressel 7-11, discovered at Tibiscum and Romula.¹⁹⁵ The abundance of fish-processed amphorae in this *castrum* might be due to the reduced distances between this fortification and the Pontic region, which was an important factor in ensuring a better supply of fish products. However, even in the Mălăiești fortification, these fish amphorae are concentrated precisely, probably in a selected location of some officers.

The spatial distribution of amphorae reveals some interesting aspects regarding the consumption of wine, olive oil, and fish products within this camp (**Graph 1; Tab 2; figs. 4-6**). Thus, wine consumption is predominant in the camp, with 39 specimens, while in the baths, only five examples were discovered (**Fig. X cu amf de vin**). Oil amphorae are also more numerous in the barracks, represented by 15 examples. At the same time, in the baths, only 6 vessels appear (an amphora lid being included here) (**Fig. 5**). The fish amphorae offer an even more interesting situation (**Fig. 6**). They are distributed almost equally, 6 and 5 examples between the barracks and the cellar from the barracks. What is surprising is the types of amphorae present in these locations. Thus, only type I is present inside the aforementioned cellar, probably of North Pontic production, while types II, III, and August 29 are present only in the barracks. This pattern suggests a clear preference for certain fish products, which probably had different prices and satisfied educated palates.



Graph 1. Wine, oil and fish products consumption

Table 2. Spatial distribution of the amphorae

Location	Wine	Olive oil	Fish	Unknown wine amphorae
MALC	34	15	6	4
MALB	5	6		1
CPL			5	1

These different amphora types suggest the presence of two distinct networks. One was dirigiste, controlled directly by the government, and delivered products such as olive oils from various sources based on a precise contract. In

¹⁹⁴ Bezeczky 1996.

¹⁹⁵ Ardeț 2006, 163-164, pls. VII. 68-69; VIII.73.

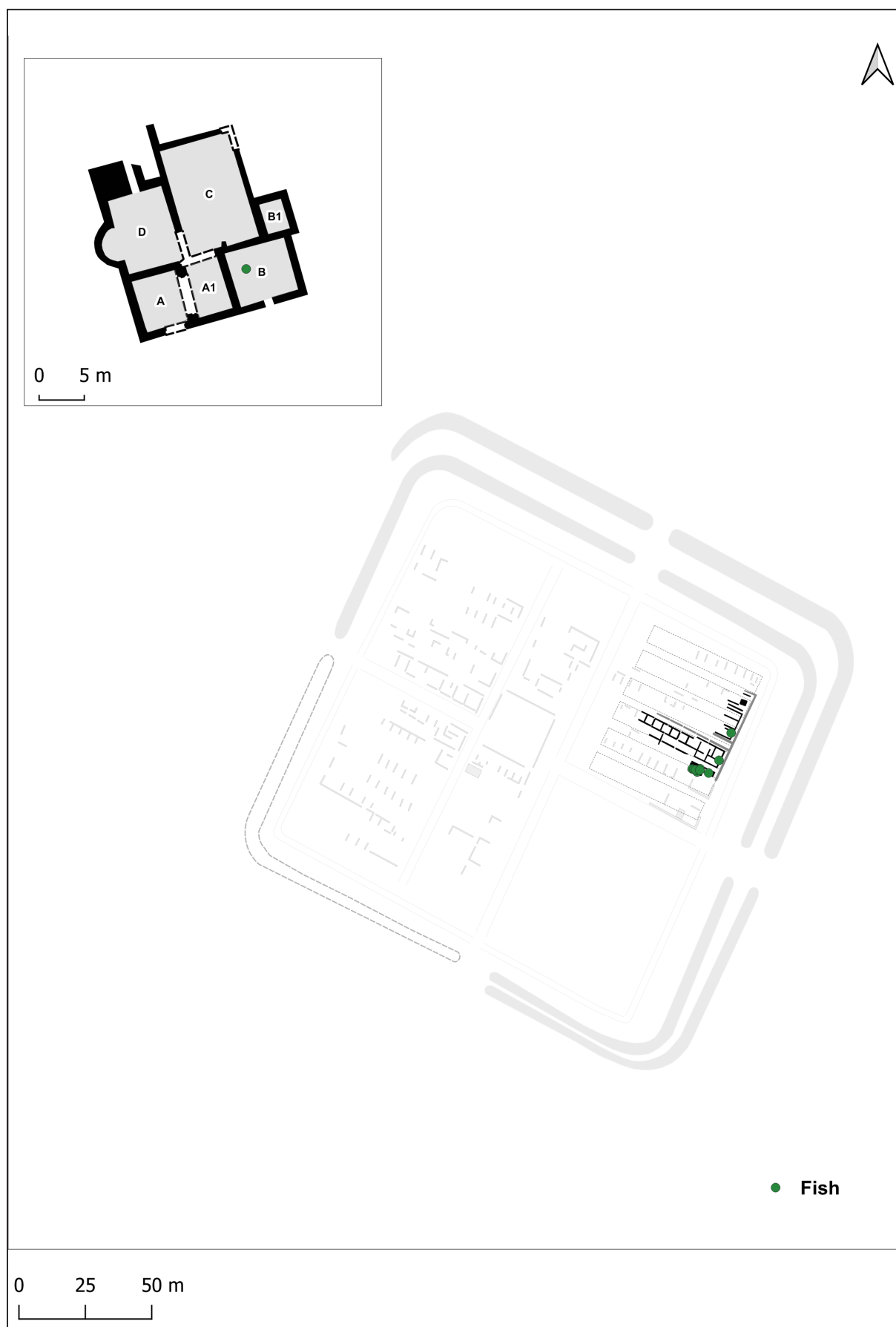


Fig. 6. Distribution of the fish amphora finds in the Mălăiești fort and baths

contrast, the free trade distributed wine and fish products based on contracts with large producing areas. Although we cannot demonstrate the presence of specific agreements as can be done with Dressel 20 amphora stamps in England,¹⁹⁶ we can only suggest the existence of such direct contracts. This can explain the scarcity of Heracleian amphorae when these containers are very abundant at Novae or Noviodunum. However, we can observe the role of geographical distances, which dictated a certain price for their distances and the acquisition effort.

The studied amphorae were enough to support some conclusive evidence. First is the absolute preponderance of the olive oil, well above the wine and fish. However, we must point out that local/provincial wine or vinegar quantities could be much larger, as they could arrive in barrels and skins. The vintage wine arrived, of course, in amphorae, but, interestingly, they have been found mainly in the barracks, while in the Officer's Quarters, only one wine amphora has been found. However, as not all the barracks have been excavated, these amphorae could be stored on the other side. The preponderance of East Mediterranean wine and olive oil, as well as that of the fish Pontic products, is well explained by the geographical position of this fortification.

We can conclude that Mălăiești *castrum* brought to light beneficial and well-dated information about the trade network, logistics, and diet of a military troop at the beginning of the 2nd century AD. New excavations and publications about the many such fortifications in the Lower Danube area will help us understand this view.

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¹⁹⁶ Funari 2002; 2005.

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Tabel 1. Statistica numerică și a volumelor amforelor

Tabel 2. Distribuția spațială a amforelor

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