

A CERAMIC AMPHORAE PRODUCTION WORKSHOP OF THE FIRST HALF OF THE 3RD CENTURY AD IN PANTICAPAEUM

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Abstract: *Discoveries of amphorae workshops in deferent parts of the world are not observed as sensations any more. Some attempts of searching pottery workshops were made on the Cimmerian Bosporus, but most of the finds appeared to be mere coroplasts workshops. Latest archaeological researches made it possible both to clarify Bosporan amphorae forms development and to assign them a place of manufacture. A security archaeological investigation conducted by the Crimean Branch of the Institute of Archaeology expedition headed by Aleksandr L. Yermolin revealed traces of a workshop producing the Bosporan amphorae situated on the Northern Slope of Mithridate Mount. Conditions of the investigation did not let conducting full-scale excavations – a dug hole 2 × 1 m was performed. Amphorae fragments lied inside a heavy layer of ash (0,60m). Traces of the kiln repair such as pieces of burnt clay, fragments of the kiln hearth and daubing were found under the ash layer. The most prominent find of the complex was a ceramic stand for amphorae drying. It is relevant that the amphorae fragments bore the technological prints left in the process of drying with such driers.*

An ash layer containing the charcoal fractions lay on the depth of 2,30-2,50 meters. All the amphorae fragments (apart from several pieces) belong to the same type. Clay shades range from red to purple with blotchiness and lime insertions.

The workshop produced amphorae of two sizes: comparatively small ones with a rim diameter of 16-20 cm (variant for transportation) and the ones with a rim diameter of 22-28 cm for fish and water storage.

The problem of determination of origin of Bosporan vessels among the bulk of transport amphorae has still to be solved for a long time. Seemingly, the first attempt of answer was given by L.A. Elnitsky¹. Visiting excavations on Kerch's

¹ ELNITSKY 1940, 1947.

peninsula, he had the possibility to compare the clays of well-known Bosporan tile stamps with similar stamps on amphorae. Basically these stamps were monogrammed. This fact gave him some grounds to mark out "the group of Bosporan amphora stamps." This point of view did not raise any kind of doubts. On the contrary, some researchers picked up this idea and began to search for Bosporan stamps. For example, V.F. Gajdukevič attributed the stamp with an image of grazing horse and inscription ΚΕΦΑΛΙ from Tyritake excavations to the class of Bosporan stamps². Finally, B.N. Grakov still added further to this confusing localization in IOSPE III, section «Alexandria Troas»³. According to him, the amphora with this stamp was produced in Alexandria Troas and not reproducing a Bosporan monetary type, but a monetary one of Alexandria Troas. D.B. Šelov has ascribed to "Bosporan stamps" some specimens found in Pantikapaion⁴. From that time, they have been reattributed.

L.A. Elnitsky's articles have provided the first attempt of grouping Bosporan amphorae⁵. Possibly, the authority and popularity of I.B. Zeest's fundamental work on transport amphorae which were found on Bosporus, also contributed to comfort the existence of Bosporan containers.

Meanwhile, the eighties of 20th century brought a new proposal to this keen problem. S.Yu. Monachov and V.I. Kac have criticized this localization. They have noticed, that the majority of stamps, which were attributed by L.A. Elnitsky to Bosporus, were produced in Chersonesus Taurica, and consequently these amphorae were made in Chersonesus. Another part of these stamps, which were interpreted by Elnitsky as Bosporan, right now have been assigned to other attested centres of manufacture⁶. Now S.Yu. Monachov and E.V. Kuznetsova attribute unstamped Panticapaeum amphorae to an unidentified Dorian centre – maybe Byzantium or Calchedon⁷.

Visual resemblance between Bosporan and Chersonesos clays is well known and parallels between some Chersonesian amphorae and Bosporan tile stamps are quite numerous as well. No wonder that L.A. Elnitsky made this mistake.

The allocation of «Bosporan amphora stamps» let V.M. Otreško to assert, that workshops which were specialized on tile manufacturing did not exist on Bosporus - he affirmed that some workshops, which produced tiles, also made amphorae and other ceramic items⁸. In the literature, until now, it is possible to meet a great number of references on finds of Bosporan amphorae⁹ and even stamps. V. Banari interpreted as Bosporan the stamps which were found in the Western Pontus with names Βοσπόριχος and Μυρσιλείας¹⁰. Indeed, the stamps with the name Βοσπόριχος belong to Byzantium, and amphorae with stamps Μυρσιλείας come from the East Pontic area (Trapezunt).

² GAJDUKEVIČ 1947. Tab. I, G.

³ IOSPE III. L. 75.

⁴ ŠELOV 1956, p. 217-219. Tab. V.2-3

⁵ ZEEST 1952, 1960.

⁶ MONACHOV 1989, p. 43-44.

⁷ MONACHOV & KUZNETSOVA 2009, p. 160.

⁸ OTREŠKO 1970.

⁹ See: ZUBAR & ZINKO 2006, p. 117.

¹⁰ BANARI 2003, p. 158, 267.

Thereby, we can observe a paradoxal situation, since the largest political and economic centre in the Pontus, the Bosporan Kingdom had no transport amphorae of its own. Whereas rejecting the existence of Bosporan amphorae during the Hellenistic period, nobody doubts about their existence in the first centuries. A number of these amphorae also had stamps on the neck. However these stamps have nothing in common with stamps already reported by L.A. Elnitsky. Until now these stamps have not been gathered together into a group. Preparing for publication the catalogue of ceramic stamps of the museum of Kerch will be a good opportunity to reveal the group of late Bosporan amphorae stamps. These stamps can be gathered together by both style and paleography and even by their clay structure. Right now 9 prints, which were made from 9 stamps are well known. These stamps are rectangular and elongated and contain only one name written on a single line.

There were many attempts to plot potter's workshops on Bosporus. However, only workshops of coroplasts were found. K.E. Dumberg's opening of an alleged "tile factory" in 1898 has been rejected by V.F. Gajdukevič, who also published a book in 1934 reporting potter's kilns excavation in Kerch and Phanagoria (1929-1931)¹¹. Then, N.I. Vinokurov published the discovery of two kilns of 1st cent. BC and 1st century AD.

Strongly overfired pieces of kalypteres were found inside kilns, near the pear-shaped pit, which contained a mix of limestone and plaster, which according to the author of the book, were used for tile making.

Numerous traces of ceramic manufacture were revealed in Nymphaeum¹². One of the kilns (end of the 2nd - beginning of the 3rd cent. AD) was intended for firing amphorae of type 84 according to I.B. Zeest's typology¹³. A review of ceramic manufacture of the Bosporan kingdom has been done by M.M. Ahmadeeva¹⁴.

In addition to this review, we will add some rejected tiles manufacturing at settlement Zavetnoye V (the tile and bricks have been found in a dugout lost in the 4th - 3rd centuries BC) and finds of ceramic reject on east suburb of Panticapaeum¹⁵.

This discussion was finished in 2006. It permitted to specify the chronology of form development of Bosporan amphorae, it allowed to concretize the place of their manufacture.

On the northern slope of Mithridates Mount, on Kursant street in Kerch (*Fig. 1*), during archaeological researches, the expedition of the Crimean Branch of Institute of Archeology under the guidance of A.L. Yermolin a workshop of manufactured Bosporan amphorae was found out. Conditions did not allow to spend full-scale excavation. Fragments of Bosporan amphorae have been found in the sondage (dimensions: 2 x 1 m). A powerful layer of ashes was spread under amphorae fragments (0,60) (*Fig. 2*). At a depth of 2,30 m and 2,50 m, the layer of

¹¹ GAJDUKEVICH 1934.

¹² SOKOLOVA 2001.

¹³ ZEEST 1960, Tab. XXXV, 84.

¹⁴ AHMADEEVA 2010.

¹⁵ FEDOSEEV, YERMOLIN & KULIKOV 2008.

ashes with charcoal inclusion lay down. Under it traces of repair of the kiln have been found out: fragments of the burnt clay, ceramic wasters (*Fig. 3*), fragments of kiln parts. The most typical finds consist in ceramic supports for drying amphorae (*Fig. 4*). Typically, the fragments of amphorae bear the characteristic marks left by the contact with these drying implements (*Fig. 5*).

As for ceramic materials from dump, they are surprisingly uniform: more than 90% of ceramics make transport amphorae fragments of one morphological type: vessels with egg-shaped body and short and wide cylindrical neck. On the external edge of a mouth superficial grooves were made with flattened rim pointed from above. On a mouth inside, at 2-3 cm below the edge, under cover the small ledge is made. Handles of amphorae are massive and round in section. The clay of which these vessels are made is bright red or rosa-red, with inclusions, brown and grey particles and with small white flakes. Depending on firing degree the color of a surface varies from green-grey to violet. All vessels are covered with a light engobe. It is established, that in a workshop, amphorae of two sizes were issued: rather small vessels with rim diameter of 16-20 cm (a transport variant) (*Fig. 6-7*) and large vessels with a rim diameter of 22-28 cm intended for stationary storage of fish (*Fig. 8-10*).

Concerning the amount of produced amphorae in this ceramic workshop, from prospecting sondage (2 x 2 m) profile parts of at least 50 amphorae or so have been collected. Dump has been tracked by separate soundings on the 1000 m² area nearby, but probably, the quantity of amphorae was much more larger. It will not be exaggerated to confirm that in the second half of the 2nd - beginning of the 3rd cent. AD, Panticapeum Kerameikos had produced more than a thousand amphorae. Kilns were situated above on a slope and to the east.

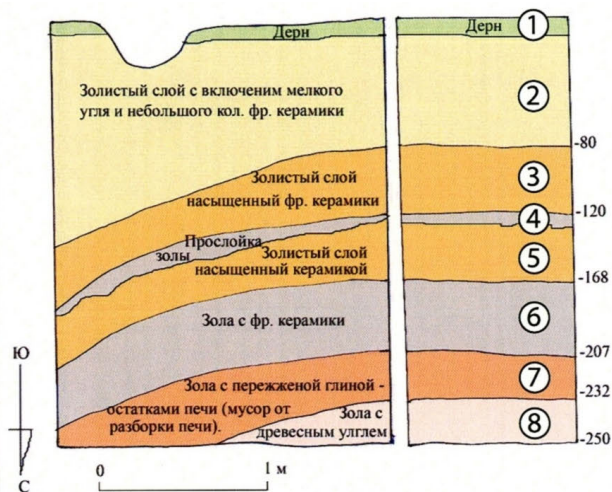
Regarding the ash structure, straw or reed stalks were used as fuel for amphorae firing. Use of cane as fuel allowed to reconstruct firing kilns directly at fishing places. As reed preparation occurred not earlier than September, it is possible to assume that the working peak of ceramic workshops fell in the interval September-October. Thus, part of the ready amphorae could be used even before navigation closing (beginning of October) for transportation of half-finished products such as the fish sauce made from Azov herring and anchovy¹⁶.

No doubt archaeological investigations in other areas of the city will eventually throw more light on the development scheme of Bosporan amphorae.

¹⁶ FEDOSEEV & KULIKOV 2010, p. 274.



Fig. 1 – Location of potter's workshop.



- 1 - Grass soil
- 2 - Ashy layer with charcoal and a small amount of pottery fragments
- 3 - Ashy layer full of pottery fragments
- 4 - Intermediate ashy layer
- 5 - Ashy layer
- 6 - Ashes with pottery fragments
- 7 - Ashes mixed with clay and kiln lumps
- 8 - Ashes with charcoal

Fig. 2 – Stratigraphic profile of section.

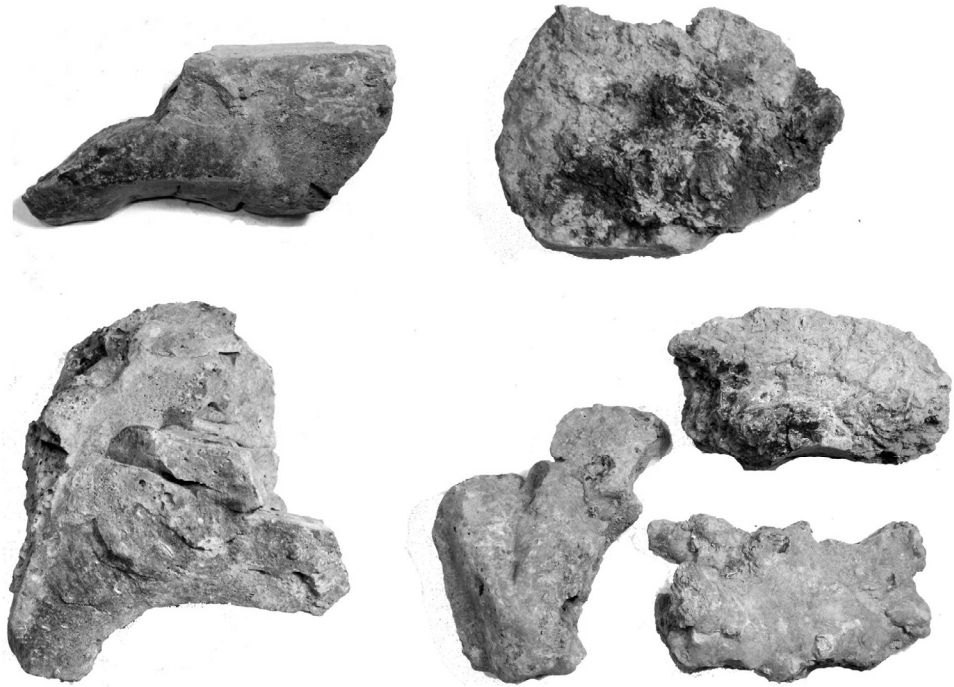


Fig. 3 – Ceramic wasters and slags.

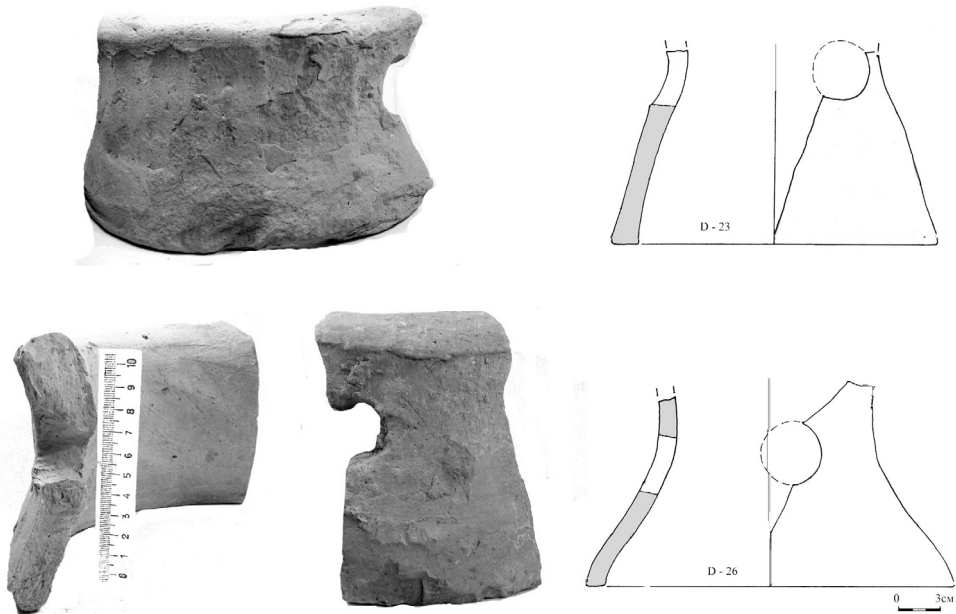


Fig. 4 – Drying supports for amphorae.

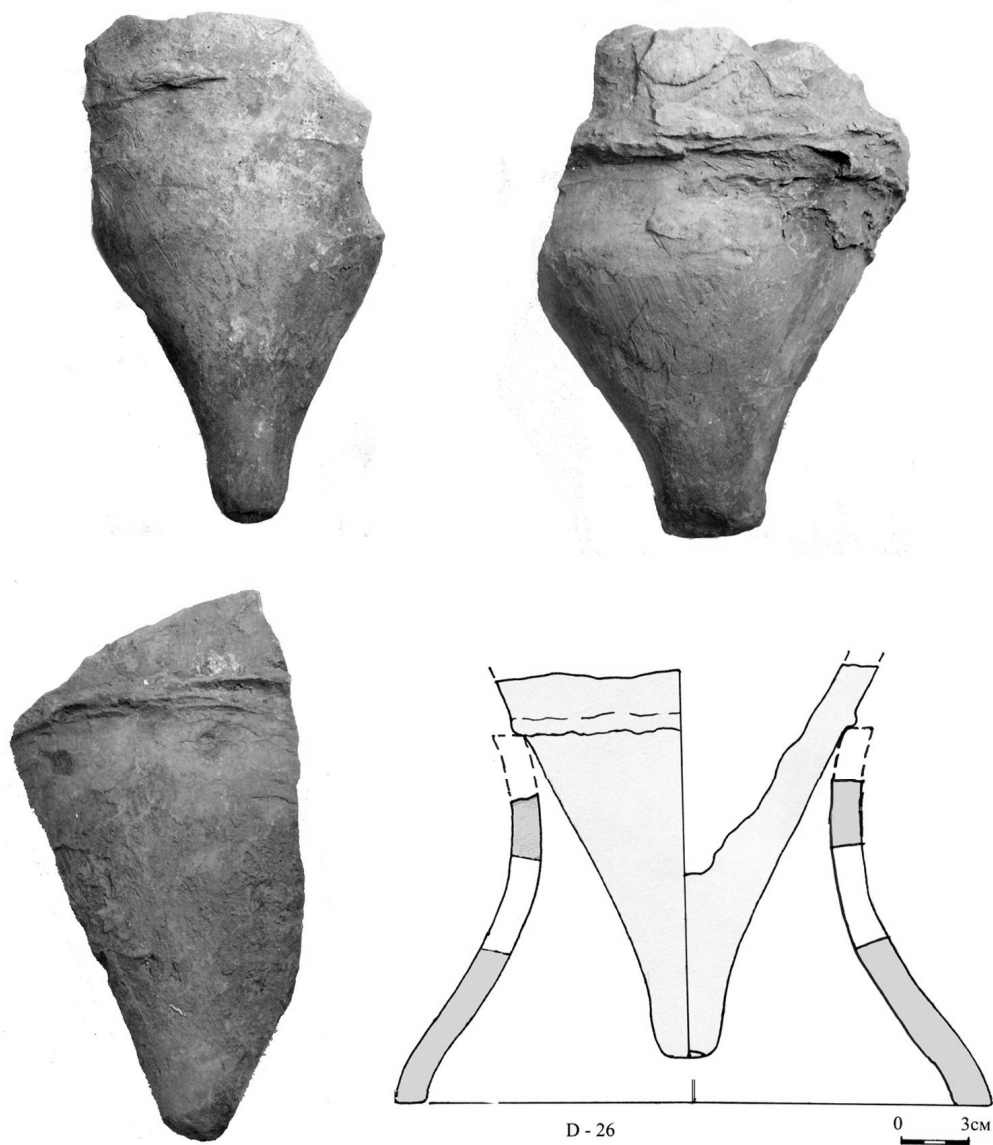


Fig. 5 – Drying supports for amphorae and prints of them on the lower part of amphorae.



Fig. 6 – Rims of amphorae.

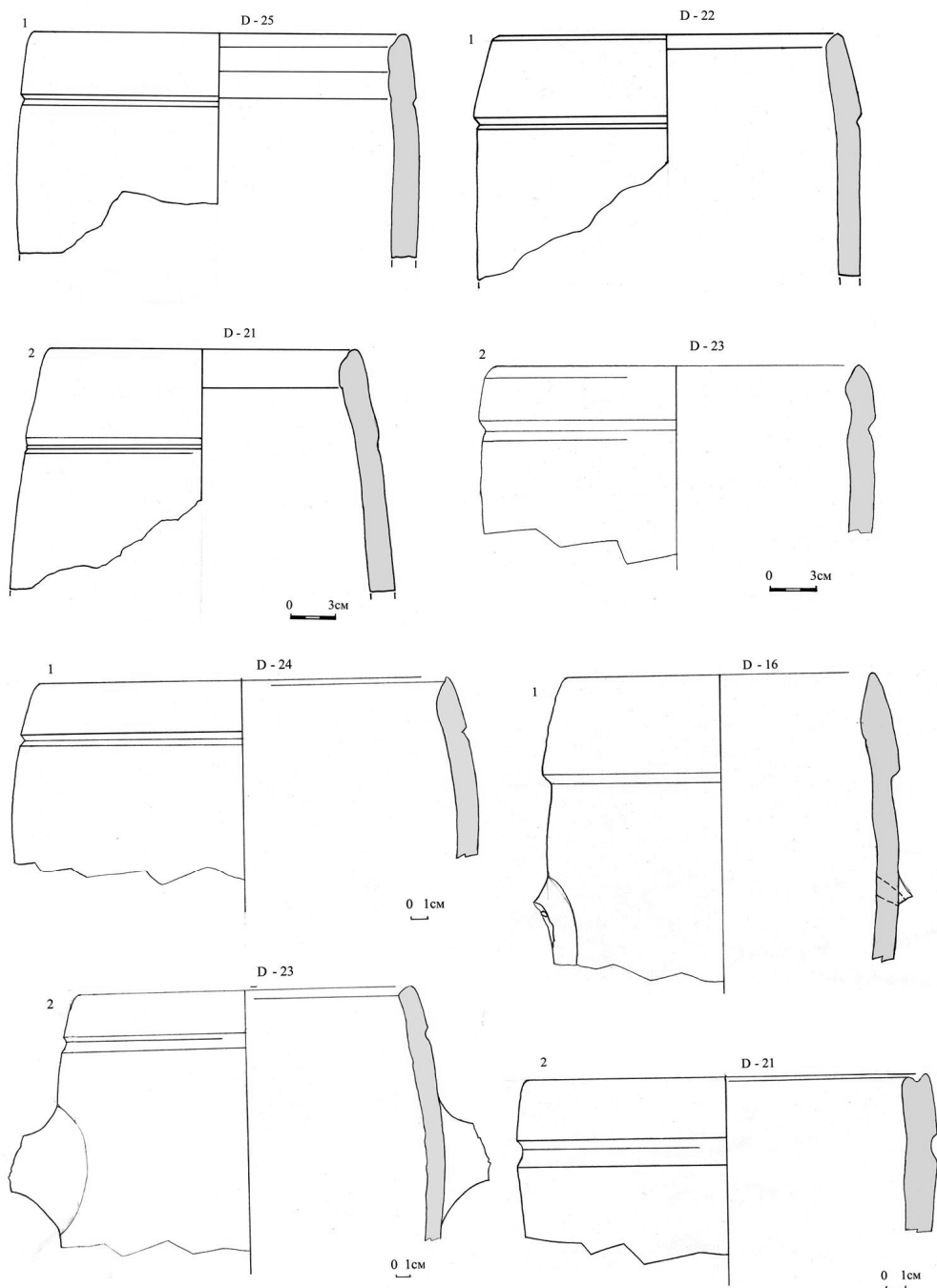


Fig. 7 – Rim and neck profiles of amphorae.

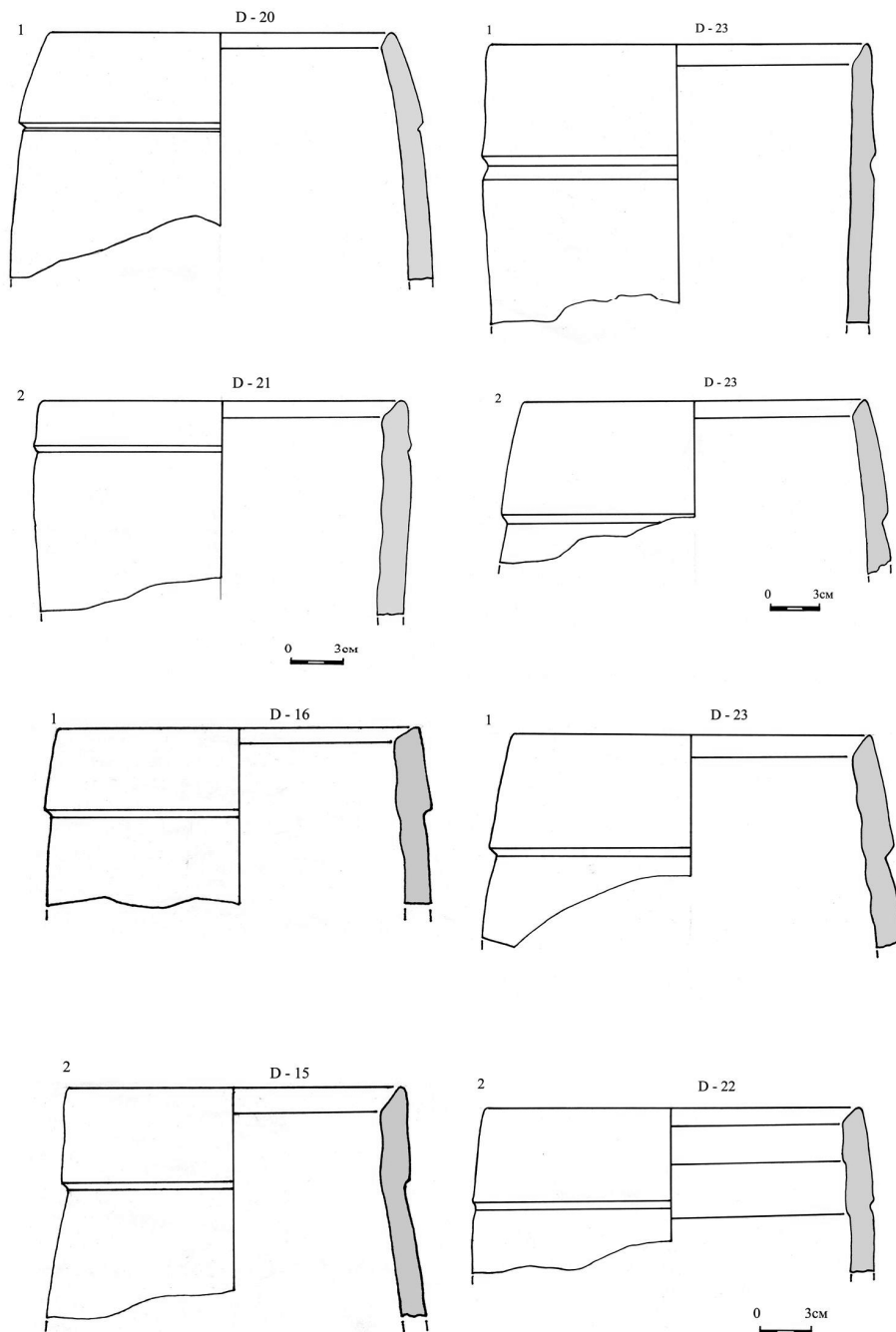


Fig. 8 – Rim and neck profiles of amphorae.

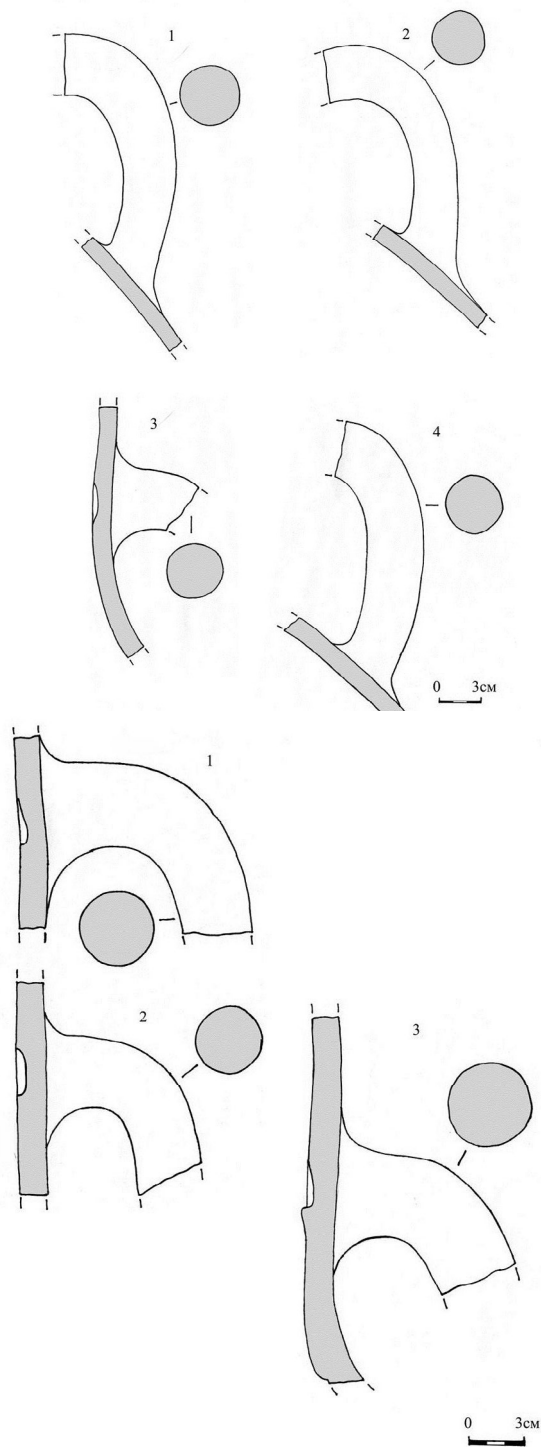


Fig. 9 – Handle profiles of amphorae.

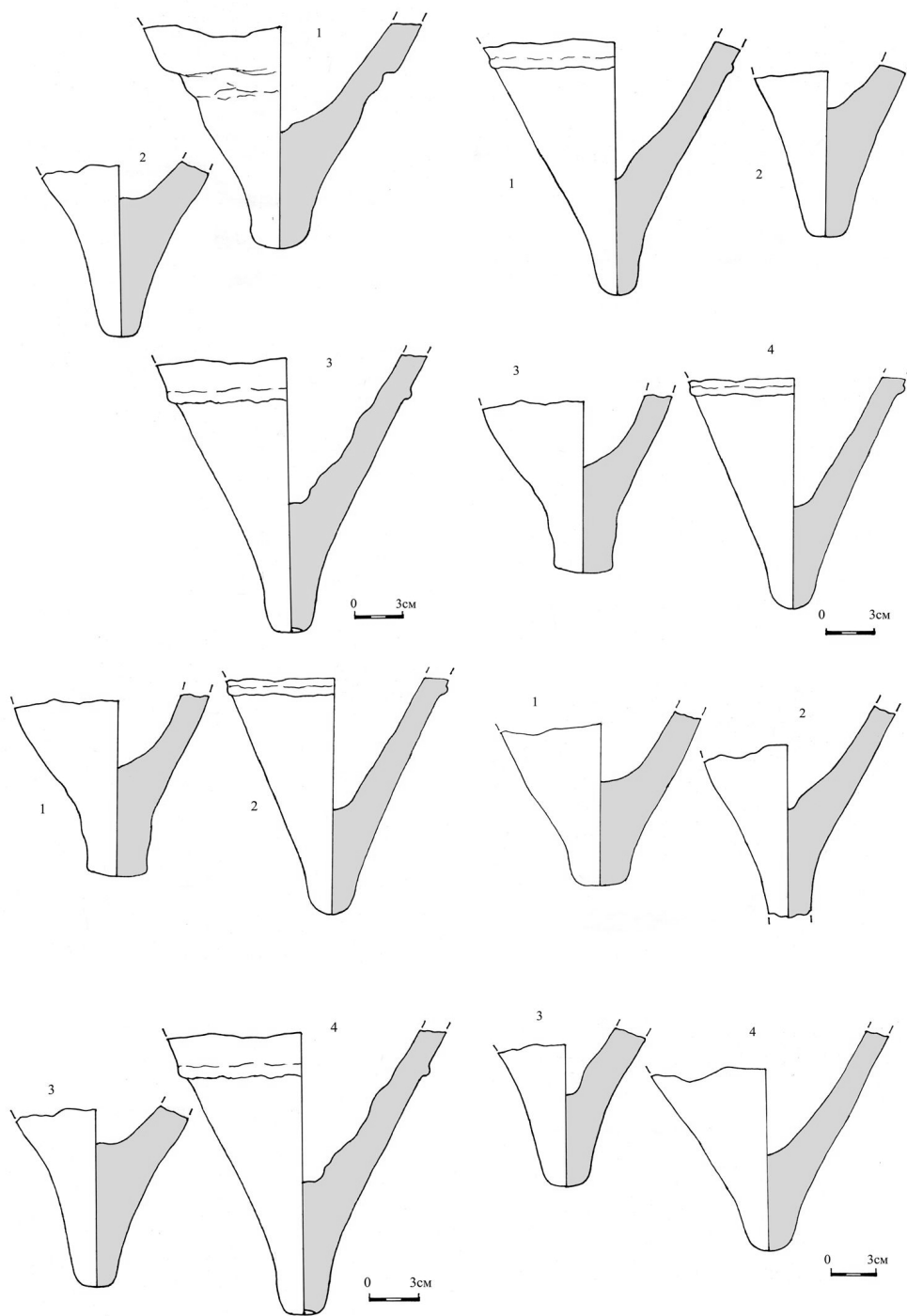


Fig. 10 – Bottoms of amphorae.