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Original Scientific Article

Early Copper Age layer of the Orlovka-Kartal settlement (Izmail District, Odessa County, Ukraine)

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Abstract: The article discusses the materials of the Gumelnița culture, obtained as a result of field studies of the multi-layered settlement of Orlovka-Kartal. Finds of this culture have been discovered both on the fortified part of the monument (the Acropolis) and on the adjacent site, which is designated as Suburb. The cultural layer of the Early Chalcolithic on the territory of the Suburb was practically not traced, with the exception of a few household pits. At the same time, a well-defined layer of this culture was identified on the territory of the Acropolis, in which various structures were traced and rich and diverse material was collected. The article consistently characterizes the stratigraphy of the site at the Acropolis area, the studied structures of the Gumelnița culture and various categories of materials. Particular attention is paid to the chronology of the site. Analysis of the materials shows that the settlement of Orlovka-Kartal played a special role in the structure of exchange relations of that time which determined certain specific features of this site.

Keywords: North-West Pontic region, prehistory, prehistoric archaeology, Early Eneolithic, Gumelnița culture, settlement, chronology.

Introduction

The archaeological site of Orlovka-Kartal (the Izmail district[1], the Odessa county) with numerous cultural layers represents a very extensive and structurally diversified complex consisting of settlement areas, special production zones, barrow and flat cemeteries as well as defensive structures. It occupies a huge area extended along the east-west line for about 3.5 kilometres. The eastern border of the complex is marked by a Roman rampart and a ditch running from the south-east to the north-west and crossing the eastern periphery of the modern village of Orlovka. Almost whole territory of the village represents part of the archaeological site. It is evidenced by numerous archaeological finds which are regularly found in the village.

Main archaeological objects are concentrated in the western part of the site about 1.5 km west of the village (Fig. 1, 1). They are situated on a narrow promontory extended from the east to the west and bordered on the north by the Cahul Lake and on the south by a girt of the Danube. Western extremity of the promontory is occupied by a multilayer settlement which consists of two parts. The western part (Acropolis) is located on the top of an eminence with the local name of Kamennaya Gora (English: Stone Hill) which represents a kind of a fortified part of the

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[1] Former Reni district.

settlement. Initially this eminence covered the area of about 3–4 ha but now it is almost completely destroyed due to extraction of schist. A lower settlement (Suburb) is attached from the east to the Acropolis. Cultural deposits on the settlement are about 3 m thick. They consist of separate layers of different epochs. Remains of the settlement of the Gumelnița A culture (the Bolgrad variant) are uncovered only on the territory of the Acropolis, where they lay in the basis of the deposits. Only a few household pits of this culture have been found on the territory of the Suburb.[2] The settlement of the Gumelnița culture in the Acropolis is covered by the late Eneolithic layer represented by the Cernavodă I culture which is especially good represented in the Suburb area.[3] Upper layers include materials of the Early Iron Age, classical Greek and Hellenistic periods of the IV–III centuries BC and the late Roman period.[4] Sporadic finds of the Middle Ages are evidenced too. All these cultural layers are uncovered both in the acropolis and in the lower settlement. The settlement of the Cernavodă I culture was protected by seven defensive ditches up to three meters deep. An extensive multicultural cemetery was uncovered in 2004 approximately 200 meters east of the settlement.[5] The cemetery is situated on the slope of the promontory gently declining to the Kagul Lake (Fig. 1, 1). Several hundred graves are related to the Early Iron Age. Additionally, isolated burials of the Yamnaya and Babino cultures, the Late Bronze Age and the Sarmatian culture have been found on the territory of the cemetery. About forty graves can be attributed to the Cernavodă I culture of the late Eneolithic period.[6]

Due to the fact that the layer of the Gumelnița culture on the territory of the Suburb was practically absent, in 2011 and 2013 excavations were carried out on the territory of the Acropolis. The northern edge of the preserved outcrop was chosen for excavations (Fig. 1, 2). At this place in the 80s of the last century, R. D. Bondar laid out an excavation area, explored to a depth of about 0.9–1.3m from the modern surface of the remnant. As a result, the layers of the Hellenistic period and the late Roman period were almost completely removed. The excavation site of 2011 was inscribed within the boundaries of the old excavation area by R. D. Bondar. Initially, it was a rectangle with an area of 32 square meters, oriented along a long axis from east to west. The northern side of the trench was originally located about 2 m from the edge of the cliff. Subsequently, the excavation was continued in the northern direction. As a result, the area explored at the level of the last stratigraphic context was more than 50 square m (Fig. 7).

Cultural layers were examined in layers 20 cm thick. After removing each layer, the excavation area was cleaned in order to identify structures and record the general stratigraphic situation. In 2011, 18 contexts were studied at the settlement. In order to document the stratigraphy, the cleaned sides of the trench were mainly used (Fig. 2–6). All measurements were made from R_0, which was taken as the southeastern corner of the excavation area. It was located at a depth of 0.97m from the modern surface of the remnant. This survey benchmark was tied to a permanent benchmark (R central), which in 2008 was taken as an angular telegraph pole of a power line going from the village to the fish farm during a geomagnetic survey. The difference between the heights of both benchmarks was 7.144m, that is, R_0 was 7.144m higher than R central.

The 2013 excavation is a continuation of the area explored in 2011 in an easterly direction. Initially, it was a rectangle with an area of 32 square meters, oriented along a long axis from east to west. The northern side of the excavation area was initially located about 2m from the edge of the cliff, and the eastern side by a maximum of 1m. Subsequently, as the edge of the cliff deepened and removed, the excavation was continued in the northern and eastern directions, thus reaching the natural edges. As a result, at the level of the sixth context, its area was about 60 sq. m. However, later it was possible to establish that in the eastern direction there was a dump of Roman ceramics from the excavations of R. D. Bondar. Due to the instability of the ground in this area, it was decided to stop the study along the line of squares H and I in order to avoid the collapse of the walls in this direction. As a result, the area of the excavation was significantly reduced and in

[2] Govedarica / Manzura 2015, 440; Бруяко 2020, 9.
[3] Govedarica / Manzura 2015, 440-442.
[4] Бруяко et al. 2005; Бруяко et al. 2009.
[5] Bruyako et al. 2005; Бруяко et al. 2006.
[6] Bruyako et al. 2022.

the final version was slightly more than 32 square meters (Fig. 10).

As the stratigraphic profiles showed, the sequence of cultural strata on the Acropolis area almost completely corresponds to the stratigraphic situation attested on the territory of the Suburb (Fig. 2–6). At the base of the layer lies the horizon of the Early Eneolithic (the Gumelnița culture). Above is a layer of the Late Eneolithic, represented by the Cernavodă I culture, which in turn is overlain by cultural deposits of the Early Iron Age. The stratigraphic column is closed by the layers of the III–IV centuries BC and the late Roman time.

The cultural layers of the Hellenistic and late Roman periods were mainly removed in the 80s of the last century. The border between them, in fact, is not traceable. If we consider the horizon of structure 1 (surface dwelling) as the upper boundary of the Early Iron Age, then the maximum thickness of the cultural strata of the Hellenistic and Roman periods should have been 0.80–0.90m from or approximately 1.80–1.90m from the modern surface. In the upper part of these cultural deposits, from top to bottom, layers of grey-brown lumpy soil can be traced, saturated with construction remains and pieces of burnt and unburnt clay. Beneath them is a relatively uniform grey-brown lumpy layer up to 0.50m thick which in the south-eastern part of the excavation lies directly on the structure 1 of the Early Iron Age. It is quite possible that this layer represents traces of leveling of the hill surface in the late Roman period.

Cultural deposits of the Early Iron Age, starting at a depth of 0.80–0.90m and ending at a depth of 2.0–2.40m from R_0, are one of the most thick and saturated in this area of the settlement. Their thickness in some areas reaches 1.50–1.75m. The cultural horizon of this period consists of many separate layers of soil of different structures, baked clay, coals, ashes and other building remains, the thickness of which ranged from 5 to 20cm. By their nature, these strata most of all correspond to such a concept as a tell-type settlement. It is in settlements of this type that there is a continuous growth of the layer due to repeated reconstructions of existing structures. Numerous structures in the form of various pits, hearths, buildings, etc., are also associated with the layers of the Early Iron Age. Some of them are recorded in stratigraphic profiles.

The layer of the Cernavodă I culture began directly under the strata of the Early Iron Age, at a depth of 2.0 to 2.40m from the benchmark. The thickness of the layer averaged 0.6–0.7m. The upper boundary of the Late Eneolithic layer is unequivocally fixed by the building remains of the Early Iron Age. At the same time, taking into account the significant chronological gap between the Late Eneolithic and the Early Hallstatt period, it seems that at least the upper part of the Late Eneolithic layer is the result of a gradual natural accumulation of soil due to deluvial processes. The lower boundary separating the Late Eneolithic layer from the Gumelnița culture layer is clearly visible in all stratigraphic profiles (Fig. 2–6). The layer of the Late Eneolithic consisted of dense fine-structured gray-brown soil, very homogeneous in its consistency, without visible interlayers, building horizons and any inclusions. The saturation of the layer with finds is relatively insignificant. In some cases, the layer was disturbed by invasions dating back to the Early Iron Age.

If on the territory of the Suburb the layer of the Early Eneolithic actually remained inexpressible, with the exception of a few pits, then on the Acropolis it is distinguished by a significant thickness. In addition to fairly thick cultural strata, various structures were discovered here and an impressive collection of rich and diverse material was collected. Interestingly, in relation to the Late Eneolithic, the situation looks absolutely opposite, since the materials of the Cernavodă I culture prevailed significantly on the territory of the Suburb. The period of the Early Eneolithic is associated with various pits, two ditches and the remains of what appears to be a semi-dugout dwelling. The Early Eneolithic layer began at a depth of 2.70–3.10m from R_0 in various areas. A general slight lowering of the layer from south to north was observed. The thickness of cultural deposits averaged 0.7–1.0m, and in the area of ditches it reached 1.60–1.70m. The thickness of cultural deposits averaged 0.7–1.0m, and in the area of ditches it reached 1.60–1.70m. The layer in some areas consisted of numerous horizons of soil of unequal structure and color, which is especially characteristic of ditches and a semi-dugout dwelling.

The maximum depth of the 2011 excavation, determined by the bottom of structure 50 (the ditch of the Gumelnița culture), corresponds to 5.73m from R_0 or 6.70m from the level of the modern surface of the "Stone Hill". The bottom of the 2013 excavation was located at a depth of about 4 meters from R_0. At the same time, the depth of the ditch was more than 5.5m from R_0 or more than 6.5m from the modern surface of the "Stone Hill".

Structures of the Gumelnița culture

Structure 29 was found in squares A1-A2, at a depth of 3.10m from R_0 (Fig. 7, 1). The structure was an irregular-shaped pit with clear boundaries, probably elongated in a southeast-northwest line, with traced dimensions of 1.50×2.10m and a depth of up to 0.25m. A significant part of the pit was located under the western side of the excavation area. The northern part of the pit was damaged by structure 27. The filling consisted of a soft mixed yellowish, gray, to ash-gray, color of the soil. In the filling, there were a large number of materials from the Early Eneolithic and one fragment of a vessel from the Late Eneolithic. The structure most likely dates back to the Early Eneolithic period.

Structure 35 was found in squares C1-C2/D1-D2, at a depth of 3.07m from R_0 (Fig. 7, 1). The structure was the bottom part of a rounded pit with clear boundaries, with a diameter of 1.10m. In the pit, mainly materials of the Early Eneolithic and four fragments of pottery of the Late Eneolithic were found. The structure probably dates back to the Early Eneolithic period.

Structure 42 was found in squares C1-C2/D1-D2, at a depth of 3.44m from R_0 (Fig. 7, 1; 8, 2). The structure was the bottom part of a rounded pit with clear boundaries, with a diameter of 0.90m. In the pit, mainly materials of the Early Eneolithic and several fragments of ceramics of the Late Eneolithic were found. The structure most likely dates back to the Early Eneolithic period.

Structure 43 was found in square A2, at a depth of 3.74m from R_0 (Fig. 7, 1; 8, 1). The structure was an elongated, irregular pit with clear boundaries, up to 2.0m long and up to 1.10m deep. Numerous materials of the Early Eneolithic and several fragments of ceramics of the Late Eneolithic were found in the pit. A flat stone adze of light crystalline rock comes from this structure (Fig. 16, 10). The structure dates back to the Early Eneolithic period.

Structure 44 was found in squares B0-B1-B2/C0-C1-C2, at a depth of 3.57m from R_0 (Fig. 7, 1–3; 8, 3). The structure was a ditch stretched along the south-north line. In the south, it went under the southern side of the excavation area (Fig. 4), and in the north it ended on a cliff. In section, the ditch had a trough-like shape with sloping walls and a flat bottom. The width of the ditch in the upper part was 5.75m, at the bottom up to 1.30m, the traced depth was 0.70m. In the filling, there were numerous materials from the Early Eneolithic and several fragments of pottery from the Late Eneolithic, as well as a fragment of a stone hammer axe. From here also comes the end scraper on a large blade of brown flint (Fig. 15, 2). The structure dates back to the Early Eneolithic period.

Structure 45 was found in square B2, at a depth of 3.76m from R_0 (Fig. 7, 1). The structure was probably an oval-shaped pit with indistinct boundaries, with traced dimensions of 0.90×0.50m and a preserved depth of up to 0.45m. The eastern part was damaged by structure 44. The filling consisted of mixed dark gray soil. Numerous materials of the Early Eneolithic and individual ceramic fragments of the Late Eneolithic were found in the pit. The structure most likely dates back to the Early Eneolithic period.

Structure 46 was found in square C2, at a depth of 3.73m from R_0 (Fig. 7, 1). The structure was a pit with indistinct boundaries, probably oval in shape, with the dimensions of the traced part of 0.40×0.30m, preserved to a depth of up to 0.40m. Most of the pit was located under the southern side of the trench or was destroyed by structure 44. The filling consisted of a fairly uniform dark gray soil. There were no materials.

Structure 47 was discovered in squares D0-D1, at a depth of 3.80m from R_0 (Fig. 7, 1). The structure was probably a pit, possibly oval-shaped, elongated in a south-north line. Most of the structure was located under the eastern side of the trench (Fig. 3). The traced dimensions are 1.60×0.25m, the preserved depth is up

to 0.25m. Several fragments of ceramics of the Early Eneolithic were found in the filling.

Structure 48 was found in squares C0-C1-C2/D0-D1-D-2, at a depth of 4.01m from R_0 (Fig. 7, 2. 3). The structure was probably the remains of a semi-dugout dwelling of an irregular shape, with clear boundaries, stretched along the southwest-northeast line. The eastern part of the structure was located under the eastern side of the excavation are (Fig. 3). The western part of the structure is cut by structure 44 (ditch). The traced dimensions of the structure are 3.20×2.90m, the preserved depth is 0.50m. The filling consisted of layers of gray soil, from light to dark shades, with the inclusion of yellow clay. The filling contained numerous materials from the Early Eneolithic. Five fragments of vessels of the Late Eneolithic were also found. The structure dates back to the Early Eneolithic period.

Structure 49 was found in squares C0/D0, at a depth of 4.19m from R_0 (Fig. 7, 2. 3). The structure was a subrectangular pit with indistinct boundaries, oriented along the southwest-northeast line, measuring 2.0×1.60m, traced to a depth of 0.15m. The pit was damaged by structure 48. Numerous materials of the Early Eneolithic and one fragment of a vessel of the Late Eneolithic were found in the pit.

Structure 50 was found in squares A-D/0-1, at a depth of 4.19m from R_0 (Fig. 7, 2. 4). The structure was a ditch stretched along the east-west line. The eastern and western ends of the ditch went under the sides of the excavation area (Fig. 3; 5). The eastern part of the ditch in the upper layers was damaged by structure 48. In cross-section, the ditch had a funnel-shaped shape with a rounded bottom. The lower part of the filling consisted of soft gray soil, in the upper part interspersed layers of yellow continental clay and gray soil (Fig. 9, 6). The width of the ditch in the upper part reached 2.50m, the depth reached 1.40m. In the filling of the ditch, only pottery of the Early Eneolithic was found in large quantities.

Structure 51 was found in the square D1, at a depth of 4.18m from R_0 (Fig. 7, 3). The structure was an oval spot of gray-brown soil, possibly the bottom part of the pit, with dimensions of 1.50×1.35m, oriented along the line southeast – northwest. The eastern edge of the spot was located under the eastern side of the trench (Fig. 3). There were no materials. In terms of stratigraphic position, the structure should belong to the Early Eneolithic.

Structure 52 was found in squares A1-A2, at a depth of 4.57m from R_0 (Fig. 7, 3). The structure was an oval pit with clear boundaries, oriented along the south-north line, with dimensions of 1.60×1.50m, with a traced depth of 0.30m. The filling consisted of soft gray-brown soil. In the filling, only materials of the Early Eneolithic were found in large quantities.

Structure 53 was found in squares A1-A2/B1-B2, at a depth of 4.31m from R_0 (Fig. 7, 3; 8, 6). The structure was a rounded pit with indistinct borders, 0.70m in diameter, with a traced depth of 0.20m, with a semicircular profile. The filling consisted of sandy homogeneous light gray soil. In the filling, there were fragments of ceramics of the Early Eneolithic.

Structure 54 was discovered in squares C1-C2/D1-D2, at a depth of 4.39m from R_0. This number was assigned to this structure during excavations. In fact, this structure is the lower part of a semi-dugout dwelling registered under No 48. At this level, it looks in the form of an oblong oval with clear borders, elongated along the east-west line. The eastern part of the structure was located under the eastern side of the trench (Fig. 3). The filling consisted of mixed dark gray soil with inclusions of pieces of clay and ash. The traced dimensions of the structure are 2.50×1.25m, the preserved depth is up to 0.30m. Two fragments of ceramics of the Early Eneolithic were found in the filling.

Structure 55 was found in square C2, at a depth of 4.38m from R_0 (Fig. 7, 4; 9, 1). The structure was a rounded pit with clear boundaries, with a diameter of 0.80m, with a traced depth of 0.30m, with a semicircular profile. The filling consisted of mixed light gray soil. Six fragments of ceramics of the Early Eneolithic were found in the filling.

Structure 56 was discovered in squares A1-A2/B1-B2, at a depth of 4.47m from R_0 (Fig. 7, 4; 9, 2). The structure was an irregularly rounded pit with indistinct boundaries, up to 2.10m in diameter, with a traced depth of 0.45m. In the filling, there were a large number of materials from the Early Eneolithic.

Structure 57 was discovered in squares B1/C1, at a depth of 5.06m from R_0 (Fig. 7, 3). The

structure was a pit of irregular shape, with indistinct boundaries, traced in dimensions of 1.40×1.0m, with a traced depth of up to 0.50m. In the filling, there were fragments of ceramics of the Early Eneolithic and one potsherd of the Late Eneolithic.

Structure 58 was found in squares C1-C2/D1-D2, at a depth of 4.90m from R_0 (Fig. 7, 5; 9, 5). The structure was an oval-shaped pit with clear boundaries, dimensions of 1.60×1.0m, with a traced depth of 0.30m, with a trough-shaped profile. The filling consisted of a homogeneous light brownish soil. Only materials from the Early Eneolithic were found in the filling. The structure dates back to the Early Eneolithic period. The bush part of the stone hammer-axe also originates from this structure (Fig. 16, 3).

Structure 59 was discovered in squares D1-D2, at a depth of 4.90m from R_0 (Fig. 7, 5). The structure was a pit of irregular shape, with indistinct boundaries, established dimensions of 1.10×1.0m, with a traced depth of up to 0.30m, with a trough-like profile. The eastern part of the pit was located under the eastern side of the trench. The filling consisted of mixed light brownish soil. There were no materials. According to the stratigraphic position, the structure belongs to the Early Eneolithic period.

Structure 107 was found in squares G00/G0, at a depth of 4.17–4.28m from R_0 (Fig. 10, 1; 11, 1). The object was an accumulation of stones, animal bones and ceramics on an area of 2.10×1.10m, lying approximately at the same level. The ceramics (43 fragments) belong exclusively to the Early Eneolithic. The blade part of a stone hammer-axe is also associated with this object (Fig. 16, 6. 7). As further research has shown, this structure is the upper horizon of a number of structures of this period, located below, and in fact can belong to structure 108.

Structure 108 was discovered over a vast area of approximately 5.60×3.70m, in the eastern part of the excavation area, in squares F-H00/F-H2, at a depth of 4.12–4.15m from R_0 (Fig. 10, 1. 2; 11, 2. 3. 5). At the detection level, the structure was a spot with relatively unclear boundaries. In the course of further clearing, it was possible to establish that the area of the object was strongly pitted with large animal holes, which were also traced in stratigraphic sections. As the final clearance showed, structure 108 actually consisted of several pits or depressions throughout its area (structures 111–115) located below. During the clean-up on the site area, at a depth of 4.12m from the R_0, burns and ash layers along the south-north line were recorded. The filling consisted of a fairly dense dark-gray soil, in some places interspersed with coals and ash. The material consisted mainly of Early Eneolithic pottery (more than 300 fragments), but occasionally fragments of Early Iron Age pottery (6 fragments) were found, which were probably brought into the structure by animals. In addition, the blade part of a stone hammer-axe (Fig. 16, 4) and a disk with a hole made of a fragment of ceramics of the second category were found in the structure. From the same structure comes the clasp of a bronze fibula of the Early Iron Age, apparently brought in by animals. It is quite possible that the structure 108 and the pits associated with it are a semi-dugout dwelling, although no structures for domestic purposes have been identified in it.

Structure 109 was found in squares E-G/1-2, at a depth of 4.11m from R_0 (Fig. 10, 1. 2; 11, 6; 12, 1–3). The structure was a ditch stretched along the east-west line with a slight deviation. On the eastern side, the northern part of the ditch filling in the upper layers is cut by structure 115. Certain intrusions are also noted in the southern part of the ditch on the western side, which probably belong to some structures that were not recorded in the plan. In cross-section, the ditch had a regular funnel-like shape with a rounded bottom, sharply widening in the upper part. The filling of the ditch consisted of alternating layers of soft gray-brownish soil, light gray soil and yellow virgin clay. By the nature of the filling, it can be assumed that the ditch was filled in deliberately. The width of the ditch in the upper part reached 2.50m, the depth reached 1.40–1.47m (5.66–5.73 m from R_0). In the filling of the ditch, there was a large amount of pottery fragments of the Early Eneolithic (about 350 fragments), but there were also sherds of the Late Eneolithic (3 specimens) and the Early Iron Age (1 specimen), which got there, most likely, as a result of the activities of animals.

Structure 110 was found in square E/2, at a depth of 4.13m from R_0 (Fig. 10, 1. 2; 11, 1; 12, 2). The structure was a rounded depression with a diameter of up to 0.9m, traced to a depth of

0.10m (4.23m from R_0). The filling consisted of soft gray soil. Only two fragments of pottery of the Early Eneolithic were found in the filling.

Structure 111 was found in squares G00/G0, at a depth of 4.93m from R_0 (Fig. 10, 2). The structure was a small oval depression up to 1.40m long and 0.98m wide with a traced depth of up to 0.08m (5.01m from R_0). The filling consisted of soft dark gray soil. Only 5 fragments of pottery of the Early Eneolithic were found in the structure.

Structure 112 was discovered in square G00, at a depth of 4.94m from R_0 (Fig. 10, 2; 12, 3). The object was an oval depression up to 1.02m wide, oriented along the north-east-southwest line. The southwestern part of the object was cut off by object 113. The observed depth of object 112 was 0.12m (5.06m from R_0). In the dark filling of the depression, 17 fragments of pottery of the Early Eneolithic were found.

Structure 113 was found in squares F00-F0/G00, at a depth of 4.94m from R_0 (Fig. 10, 2; 12, 3). The object was an oval pit of 1.23×0.95m, oriented in a northeast-southwest line. The traced depth is 0.34m (5.28m from R_0). This object cut the south-western edge of the object 112 and the north-eastern edge of the structure 114. In the dark-gray homogeneous filling, 23 pottery fragments of the Early Eneolithic were found.

Structure 114 was found in squares F00/F0, at a depth of 4.95m from R_0 (Fig. 10, 2; 12, 3). The object was an oval pit 1.55×1.20m, oriented along the northeast-southwest line. The traced depth is 0.22m (5.17m from R_0). The filling consisted of homogeneous dark gray soil. There were no materials.

Structure 115 was found in squares F0-F1/G0-G1, at a depth of 4.95m from R_0 (Fig. 10, 2; 12, 2. 3). Only the eastern part of the structure has been explored. It was a large depression with a width of up to 1.95m and a traced depth of 0.32m (5.27m from R_0). Judging by the stratigraphic section, this structure cut the northern edge of the ditch (structure 109) and, therefore, is stratigraphically later. The upper part of the filling is disturbed by extensive animal holes. In the lower levels, layers of clay and dark gray soil can be traced (photo 9: 6). More than 300 fragments of ceramics from the Early Eneolithic and 3 fragments of the Cernavodă I culture were found in the filling, which, apparently, got into the structure by accident.

Flint tools

In the settlement of Orlovka-Kartal, the most numerous chronological group of tools made of split flint belongs to the Gumelnița culture (27 pieces). Apparently, it includes a significant part of the materials of the "Eneolithic as a whole", and some of the things of uncertain origin. 22 objects come from the Acropolis (incl. 18 from the cultural layer and 4 from the objects) and 5 from the Suburb (incl. 2 from the structures [ovens and pit 22] and 3 from the cultural layer).

The raw material is quite monotonous: the Ravno lithogroup completely predominates. Several flakes and a semi-primary blade represent lithogroups of raw materials of the Prut-Dniester provenance.

From a technical point of view, the collection consists of primary flakes (with retouching, Fig. 14, 9; 15, 4), semi-primary flakes, semi-primary blades, flakes (5 flakes / incl. 2 with secondary processing), blades (19 copies / 17 with secondary processing). Most of the blades were apparently not produced locally, but were imported to the settlement in the form of blanks already removed from nucleuses.[7]

The main chipping technique was most likely an indirect blow with the help of a horn mediator. A group of blades can be classified as massive according to the ratio of width to thickness. The cleavage angle is close to the right angle and often exceeds it. Preparation for removing the blades is scarce and was often limited to rough removal of the cornice by wide short chips (trimming). The notch from the impact tubercle of the previous chip could not be completely removed in this way. Probably, it did not interfere with further splitting. The grounds are most often flat, prepared with a single chip, with a characteristic appearance ("with horns" or "with wings") in the plan. All these morphometric indicators are more likely to indicate the technique of the mediator[8] than any other techniques known in the Early Eneolithic of the Danube region.[9]

From the typological point of view, the collection consists of the proximal part of the blade with semi-steep retouching along the two edges

[7] Скакун 1994.

[8] Pelegrin 2006; 2012a; 2012b.

[9] Furestier / Mihail 2011; Hansen et al. 2012; Mihail / Ştefan 2014.

and flat chips along the abdomen (Fig. 13, 9), 3 fragments of retouched blades and 1 whole blade with partial irregular retouching (Fig. 13, 4. 5. 7. 11; 14, 4. 5. 7. 12), 4 fragments of blades with retouching and polishing (Fig. 13, 1; 14, 1; 15, 7), 2 retouched flakes (one of them is primary, Fig. 14, 9; 15, 4), 5 end scrapers on retouched blades (Fig. 15, 1. 2. 5) (in one case a blade with a polishing – Fig. 15, 3, in the other case with toothed retouching), an end scraper on a blade (Fig. 13, 2; 14, 2), the medial part of a gable blade with an incisal chip (Fig. 13, 8; 14, 8), a perforator on a blade fragment (Fig. 13, 12; 14, 11), a chisel-shaped product on a flake, a multifaceted dihedral transverse cutter on a blade (Fig. 13, 10).

The typological composition of the collection corresponds to the published data on the structure of the complexes of the Gumelnița culture, including its Bolgrad variant. The predominance of end scrapers on retouched blades and fragments of blades with retouching and polishing is a characteristic feature of these complexes. They also often contain retouched flakes, blades with convergent semi-steep retouching, perforators on blades, chisel-shaped products and cutters.

For example, oblique stripes of polishing located from the abdomen and from the back from one or two edges of the blade fragments are typical (Fig. 13, 10; 15, 7). As a rule, they correspond to the rounded edge of the working edge of the product. They are traditionally interpreted as inserts of sickles, although N. N. Skakun[10] and some other traceologists[11] point out that such polishing can also be found on other types of tools. The oblique arrangement of polishing is proposed to be interpreted as the result of a special fastening of the flint blade in the frame of the sickle.[12]

The chisel-shaped toll has two blades and is arranged on the flake by removing wide thin chips from the back and abdomen of the flake. The blades are marked with a crumpled "clogged" edge.

The perforator is made on the blade with semi-steep convergent retouching. N. N. Skakun interprets such perforators as rod drills,[13] although there are other interpretations of morphologically similar products[14] – as elements of a device for extracting fire.

Dihedral incisors are quite regularly found in the settlements of the Gumelnița culture.[15] Nevertheless, the design features of this specimen, the transverse axis of the chipping of the workpiece, the direction of the incisor chips, distinguish it from the typical incisors of the Early Eneolithic (Fig. 13, 10).

One item is quite peculiar for the Early Eneolithic. It is a narrow (13.5mm wide) blade with retouched ends (Fig. 15, 6). The distal end was removed by semi-steep scraper retouching, the remains of the platform were removed from the proximal end (part of the impact tubercle was preserved). The edges of the blade are retouched with fine jagged retouching, rare regularity of outlines and regularity of application. The blade bears a characteristic oblique polish and apparently is a product from the group of "sickle inserts". Perhaps a fragment of a close product is an artifact with field No 61 (2013). From the formal-typological point of view, it is an end scraper on a fragment of a blade with toothed retouching along both edges (Fig. 13, 3; 14, 3). This product is attributed to the Early Eneolithic in the report, although, judging by the field inventory, it comes from a depth (1.65m from R_0), that is, above the Early Eneolithic layer.

This nature of edge processing most likely requires retouching with a metal working element and is more typical of the Late Eneolithic than the early one. A. Păunescu believed that blades with a toothed edge (but a slightly different morphology) are inherent in the set of tools of the Cernavodă I culture.[16] Good analogies to such blades can be found in the Late Trypillian materials[17] and finds from the Durankulak cemetery of the Varna culture.[18] Perhaps the subject under consideration is intrusive for the Gumelnița layer and is rather related to the tool kit of the bearers of the Cernavodă I culture. At the same time, final conclusions on this matter will be possible only with a significant increase in the sample of flint tools of both cultures.

[10] Скакун 2006.
[11] Starnini 2002.
[12] Бибиков 1962, 5-6.
[13] Скакун 2006.
[14] Budziszewski 1995.
[15] Păunescu 1970.
[16] Ibid., 57.
[17] Шмаглій 1966.
[18] Sirakov 2002.

Thus, to a large extent, the flint processing of the Gumelnița culture on the left bank of the Lower Danube and the Prut depended on long-distance supplies of raw materials. Such long-distance delivery systems are characteristic of a number of related societies of early farmers in the Near East, the Balkans, and Central and Eastern Europe. There are already several assumptions about the interpretation of this phenomenon. On the one hand, they may be due to the need for logistical support for the sedentary way of life established in the Neolithic, including through the supply of raw materials and tools from it. On the other hand, some scholars tend to emphasize the social component of such long-distance exchanges and see them as a way to ensure social cohesion at a higher level than settlement.[19]

The social aspect of the problem in the distribution of flint raw materials should also be considered. On the Acropolis of the Orlovka-Kartal settlement, almost whole or whole blades of Dobrudzha raw materials of the Ravno lithogroup were found. Since blade blanks were used as much as possible in the flint-poor Danube region, their whole or almost complete forms are practically unknown in the settlements of the Bolgrad variant. A few specimens come only from the excavations of the settlement of Nagornoye 2. The settlement of Orlovka-Kartal yielded a very expressive series of whole blades from the earlier excavations of R. D. Bondar. An almost complete blade was discovered in 2013 in the cultural layer (Fig. 13, 11; 14, 12). In the context of the Early Eneolithic of the Lower Danube region, an unfragmented blade is a tool blank in motion from the manufacturer (craftsmen of North-Eastern Bulgaria) to the consumer (the inhabitants of the resident settlements). The concentration of such blanks on "Stone Hill" may testify to the special place of Orlovka-Kartal in the exchange system of settlements of the Lower Danube region. For the Linear-Band Ceramic culture in the Rhineland, A. Zimmermann attached social importance to the redistributive functions of such settlements (primary centers of distribution of raw materials), believing that due to the primacy in distribution, these sites had a higher status in the hierarchy of settlements.[20] The settlement of Orlovka-Kartal, located in exceptionally convenient natural conditions on the Danube, could be the center (along with the sites between Reni and Giurgiulești) in which the blanks of flint tools came to the territory of Budjac.

The absence of nucleuses, technical flakes and fission products in the raw material groups of presumptive "Dobrudzha" origin is evidence that this flint came to the settlement mainly in the form of blanks or ready-made tools. In this aspect, the settlements of the left-bank Danube region were included in the general exchange system operating in the area of the cultural community of KGK VI, which supplied flint of these varieties to the settlements of this community regardless of the remoteness from the deposits in Southern Dobrudzha. Blanks for tools from this raw material were made by a number of fission technologies well described for the Bulgarian part of this area. The most common was to obtain blades with the help of an intermediary. Less often, reinforced spinning was used. All blades from the Orlovka-Kartal settlement from the UA-Bolg-F1 and UA-Nov-F2 raw material groups are within the range of variations in the morphology of intermediary cleavage products,[21] although not strong enough to draw definite conclusions about the cleavage technique, based only on the small collections of these settlements.

In contrast, the degradation products of the UA-Bolg-F4 feedstock groups have different metric parameters and different morphologies, suggesting an excellent repertoire of cleavage techniques and splitting techniques applied to them.[22] Apparently, a certain amount of flint from these groups came to the settlement in the form of separate raw materials and/or prepared prenucleuses. The above allows us to assume a different social role of different groups of raw materials in the settlements of the Danube region. If flint of the Ravno and Kriva Reka varieties are material remnants of the settlement's inclusion in the Balkan exchange system, then flint of a different appearance could have been mined in a different way – as a result of individual or group ex-

[19] Zimmermann 1995; Gurova / Bonsall 2014; Biagi 2015.

[20] Zimmermann 1995.

[21] Pelegrin 2006; 2012b.

[22] Pelegrin 1994; 2000; Inizian / Pelegrin 2002.

peditions of settlement residents directly to the deposits.

There is no reason to assume the social "prestige" of raw materials other than the "Dobrudzha" varieties. Its quality in terms of splitting is much lower than that of the latter. Rather, the appeal to it was really of the nature of an economic necessity, while the use of flint of Dobrudzha origin could also have a certain cultural and social meaning – as a symbol of preserving one's cultural identity in conditions of considerable remoteness from the "metropolis".

Stone tools

Tools made of crystalline rocks of stone or schist are represented by a relatively small number, which is also characteristic of other sites of the Gumelnița culture in the Northwest Pontic region.[23] For the manufacture of tools, apparently, imported raw materials from the territory of Dobrudzha were used, since in the adjacent territories of the steppe zone there are almost no outcrops of hard rocks. At the same time, in some cases, local quartz and coarse-grained sandstones or diabase rocks were used, especially for the manufacture of grain graters, fenders and grinders.[24] The tools found at the settlement include hammer-axes, adzes and hammerstones.

Hammer-axes are made of greenish (Fig. 16, 3. 8. 9) or dark gray (Fig. 16, 4. 6) crystalline rocks of stone. They are represented only by fragments, which does not allow us to fully characterize their shape. The tools were pre-processed by means of a point technique (picketing) and then refined with the help of grinding to give the final shape. A hole was drilled in the widest part of the tool. Basically, elongated shapes of products with a length not exceeding 15–16cm, a width of up to 4–5cm and a thickness of up to 3cm prevail (Fig. 16, 6–9), but there are also shorter and wider specimens (Fig. 16, 3. 4). In terms of the totality of traits, the tools of this category show distinct parallels with similar items found in other settlements of the early stage of the development of the Gumelnița culture.[25]

Adzes are represented only by two intact specimens discovered at the Acropolis site in 2011. They have a trapezoidal plan and a rectangular or trapezoidal cross-section. In longitudinal section, they have an asymmetrical shape with a beveled blade, which is typical for tools of this type. The length of the larger specimen is 12.2cm, the width of the blade is 7.4cm, and the thickness is 1.8cm (Fig. 16, 11). Dimensions of the smaller adze: length – 6.3cm, blade width – 4.4cm, thickness – 1.3cm (Fig. 16, 10). In terms of manufacturing technique, morphological features and dimensional parameters, the adzes from the Orlovka-Kartal settlement almost completely correspond to the tools of this category from other sites of the Bolgrad-Aldeni variant of the Gumelnița culture.[26]

The third category of tools includes hammerstones made of various types of stone. They have as a rule a regular spherical shape with a diameter of 4–5cm (Fig. 16, 1. 5) or oval outlines with dimensions of 6×5cm (Fig. 16, 2). It is likely that some similar tools found on the territory of the Suburb in the layer of the Chernavodă I culture are also associated with the Gumelnița culture. In general, it can be noted that in terms of their nomenclature and typological features, the stone tools of the Orlovka-Kartal settlement almost completely correspond to the collections from other sites of the early stage of the development of the Gumelnița culture in the Northwest Pontic region and on the territory of Romania and do not reveal any distinctive features.

Bone and horn tools

Items made of bone and horn, as well as other categories of tools, were found in small quantities at the settlement. Bone tools are represented by punctures from 9.5cm to 15cm long, made of longitudinally split tubular bones of animals (Fig. 17, 6. 7). The surface of the found specimens is well polished, which probably indicates their long-term use. One tool is a fragment of the blade part of the chisel, also cut from tubular bone (Fig. 17, 8). All the tools were discovered

[23] Субботин 1983, 41; Бейлекчи 1978, 91.

[24] Субботин 1983, 41; Бейлекчи / Чирков 2019, 14.

[25] Бейлекчи 1978, 91, Fig. 18, 5. 8; 38, 1. 2; 46, 9. 13; 55, 4. 5; 61, 23; 62, 1; Субботин 1983, 43-44, Fig. 16, 9–20; Dragomir 1983, 45, Fig. 11, 7–11; Бейлекчи / Чирков 2019, 14, Fig. 6, 2–5; Govedarica / Manzura 2020, 126, Fig. 15, 3. 6.

[26] Бейлекчи 1978, 91-92, Fig. 38, 3–5; 55, 3; 62, 2; 69, 5. 10; Субботин 1983, 43, Fig. 15, 10–15; Dragomir 1983, 45, Fig. 12, 1. 2. 8–17; Govedarica / Manzura 2020, 126, Fig. 15, 7.

during excavations of the Gumelnița culture layer at the Acropolis site. A fairly large collection of bone tools comes from the territory of the Suburb, but they are associated with the layer of the Chernavodă I culture of the Late Eneolithic.

The horn tools at the Acropolis are represented by fragments of hoes with polished points, probably due to long-term use (Fig. 17, 1. 2). Three large hoes with curved ends, made of deer antler appendages from 16 cm to 26cm long, have also been preserved (Fig. 17, 9–11). A perfectly preserved 8.2cm long tool with a rounded hole in the center, which is probably a small hoe, was also made of horn (Fig. 17, 5). Fragments of two large horn objects are probably parts of the handle (Fig. 17, 3. 4), although one similar item from the Vulcănești settlement was considered by L.V. Subbotin as a fragment of a pickaxe-type tool.[27] In general, it can be noted that in terms of their characteristics, the tools made of bone and horn from the Gumelnița culture layer at the Orlovka-Kartal settlement are not particularly original and find wide analogies in the most diverse Neolithic and Eneolithic cultures of South-Eastern Europe.

Pottery

The pottery makes up the bulk of the finds obtained during the excavations of the settlement at the Acropolis area. Almost all the vessels have been preserved in a fragmented state, although several whole vessels come from the excavations of R. Bondar. At the same time, in many cases, sufficiently large fragments of vessels were found, which make it possible to reconstruct the shape of ceramic wares and ornamental motifs relatively accurately.

In the study of ceramics of the early stage of the development of the Gumelnița culture, various classification schemes were developed. One of the first classifications of Gumelnița pottery as a whole was proposed by V. Dumitrescu on the basis of the materials of the eponymous settlement, who divided them according to the thoroughness of manufacture into household and cult wares. Within these two groups, separate morphological types of vessels were determined.[28] Later, using ceramics from the same settlement, the researcher identified three groups of wares that were characterized by different ornamentation techniques.[29] In the 20th century, this approach was developed in the works of M. Petrescu-Dîmbovița, D. Berciu, E. Comșa and other researchers, but there was no generally accepted classification.[30] The first detailed classification scheme in Romanian archaeology, which would take into account most of the available features and their correlation, was developed by I. T. Dragomir in 1983. The researcher divided all ceramic material into three groups, which differed from one another, primarily according to technological characteristics: general-purpose ceramics (ceramica de uz comun), good quality ceramics (ceramica bună) and fine ceramics (ceramica fină).[31] Morphological and stylistic features were used for a more detailed division of the material within groups. The classification of ceramics of the early stage of the Gumelnița culture (cultural aspect of Stoicani-Aldeni II or Bolgrad variant) created by I. T. Dragomir turned out to be quite successful in essence and continues to be used with certain adjustments both in the Romanian archaeological literature[32] and in studies in adjacent territories.[33]

On the territory of the North-Western Black Sea region, the earliest attempts to classify the ceramics of the Gumelnitsa culture were made by T. S. Passek and E. K. Chernysh, who, based on the results of the first studies of the settlements of this culture in the region, identified four groups of vessels. This division was based on such features as the character of surface treatment and the technique of ornamentation, which, of course, could not convey the entire complexity of the ceramic complex.[34]. As the materials of the excavations were accumulated, V. S. Beylekchi proposed a more detailed classification scheme, which mainly took into account the shape of the vessels (appearance and type of vessels) and their

[27] Субботин 1983, 51, Fig. 20. 10.

[28] Dumitrescu 1924, 330, 341.

[29] Dumitrescu 1925, 56 ff.

[30] Petrescu-Dîmbovița 1953; Berciu 1956; Comșa 1963; Dragomir 1970.

[31] Dragomir 1983, 53.

[32] Paveleț 2010; Frînculeasa 2011; 2012; Grigoraș / Paveleț 2013; Garvăn / Adamescu 2018, etc.

[33] Govedarica / Manzura 2020.

[34] Пассек / Черныш 1965, 10.

functional purpose.[35] However, this principle of using these attributes in characterizing ceramic groups in the work was not always applied consistently, which was rightly noted by L. V. Subbotin.[36] In addition, the differences associated with the technology of making ceramics were practically not taken into account, as a result of which functionally and technologically different vessels were included in one type.

These shortcomings were taken into account in the classification of L. V. Subbotin himself, published in 1983. The entire ceramic ensemble was divided into two main groups – kitchen and tableware, within which taking into account mainly morphological features kinds, types, and subtypes of vessels were distinguished.[37] In fact, the second group combined ceramic vessels, which in the classification scheme of I. T. Dragomir belonged to different groups – the second and the third, which can hardly be considered a completely justified approach, since the differences between these groups are quite noticeable. In subsequent studies, when characterizing the ceramics of the Gumelnitsa culture, both the classification of L.V. Subbotin[38] and the scheme of I. T. Dragomir[39] were mainly used. It should be recognized that the classification developed by I. T. Dragomir better takes into account the characteristic traits of the ceramic material, is quite applicable to finds from the Northwest Pontic region and therefore is used in this study.

The fundamental criterion in the division of ceramic material is the concept of "category", which takes into account technological differences in the manufacture of vessels. Within the framework of individual categories, on the basis of morphological features, varieties or kinds of vessels are distinguished, for example, pots, bowls, beakers, amphorae, etc. Within independent kinds, there are types of ceramic products that have specific morphological features, as well as variants of these types, which are characterized by certain details with a common morphological structure. When distinguishing between technological categories and morphological types, the technique and composition of ornament were not taken into account, since the same stylistic traits are found in different groups of pottery, which has already been noted in other studies on this topic.[40] For example, painting with various dyes, a grooved pattern, impressions of rounded or oval stamps are inherent in both the second and third groups of vessels. At the same time, applied ornamentation is found mainly on vessels of the first group. Such a technological method as polishing was used in all three ceramic groups. The percentage of different categories of pottery was mainly determined by counting potsherds and in some cases was accompanied by weighing them. It is noteworthy that the use of different methods of counting materials led to almost identical results. It should be noted that all vessels are exclusively flat-bottomed.

First category

Pottery of the first category, commonly referred to as "kitchenware", is the most abundant (49.9% in 2011 and 49.4% in 2013). It is made of clay with an admixture of coarse shamot, in many cases with the addition of fine sand. Vessels with plant temper, as on other sites, have not been found. The firing of the vessels is quite good, the potsherd is dense, in the fracture it is mainly dark gray. The thickness of the walls is usually 1–1.5cm. The outer surface of the vessels is usually yellowish, orange or reddish in color, although there are pots with gray and dark gray surfaces. The inner surface is usually gray. The body of the vessels is often covered with barbotine on the outside, sometimes with traces of vertical or diagonal smoothing with the fingers (the so-called "organized" barbotine) (Fig. 18, 1. 3. 4. 6–13. 15. 16; 19, 1–3. 5–10. 12–22). Along with this, in this category of ceramics, there are vessels with a carelessly smoothed surface without barbotine (Fig. 18, 2. 5. 14; 19, 4). The inner surface of the vessels is always carefully treated, even and smooth, sometimes with traces of polishing.

Among the morphological varieties, one can distinguish bowls, basins, cauldrons, pots, amphorae and pans. Bowls are extremely rare. Two types of vessels of this kind were found, which are represented by truncated-conical bowls (Fig. 18, 1) and semispherical bowls (Fig. 18, 4). The basins include relatively high vessels with

[35] Бейлекчи 1978, 98-99.
[36] Субботин 1983, 59-60.
[37] Ibid., 60-89.
[38] Манзура / Сорокин 1990; Sorokin 1994.
[39] Govedarica / Manzura 2015; 2020.
[40] Бейлекчи 1978, 98.

conically tapering straight or slightly curved walls (Fig. 18, 2. 5. 6. 8). Cauldrons (Fig. 18, 3. 7. 9) are distinguished by a wide-open mouth and a rounded body, reaching a height of up to 40cm and a diameter of more than 50cm. The rim on such vessels, as a rule, has a rounded or oval thickening (Fig. 18, 5. 8).

Pots are the most common kind of vessels. The type of wide-open pots with a rounded body and without an accentuated neck, often decorated with horizontal relief bands, is especially numerous (Fig. 18, 11–16; 19, 1–4. 6–8. 10). A separate type is probably made up of pots with a highlighted neck, separated from the body by a low step (Fig. 18, 10). In this type of pots, the neck is usually well smoothed, while the body is covered with barbotine. Pots with a sharp bend separating the vertical neck from the body are probably an independent type, although they can also be considered as a variant of pots with a step (Fig. 19, 5. 9). In the monograph of L. V. Subbotin, much more types of pots are mentioned from various settlements of the Gumelnița culture in the Northwest Pontic region.[41] However, the significantly fragmented state of ceramics at the Orlovka-Kartal settlement does not allow in most cases to reliably reconstruct the shape of vessels. It is possible that some of them differed in different body profiles, such as types 1–4 in the classification of L. V. Subbotin,[42] but at the same time the design of the rims looks quite the same.

The shape of such vessels as amphorae could not be traced from the materials of the Orlovka-Kartal settlement. L.V. Subbotin designates these types as jugs with a high cylindrical neck, an elongated rounded body and massive vertical handles on the body.[43] Only handles from such vessels were found in the materials of the settlement (Fig. 19, 11–13). At the same time, such a type of vessels as frying pans is widely represented in the ceramic materials (Fig. 19, 17–22). They are distinguished by low and conically expanding walls, a rounded, sometimes slightly bent rim and a large diameter. Very often there are vertical single or double handles on the walls (Fig. 19, 18. 19. 22). In general, the nomenclature of morphological types of vessels of the first category at the Orlovka-Kartal settlement looks relatively limited in comparison with the various classification units presented in the works of L. V. Subbotin and I. T. Dragomir. This is most likely due to the small scale of excavations and the highly fragmented state of the materials. At the same time, the main types of vessels inherent in the ceramic ensemble of the early Gumelnița culture are found here.

Ceramics of the first category are usually ornamented with horizontal relief ribs with finger or nail impressions located below the short neck (Fig. 18, 4. 13; 19, 1–4. 10). Sometimes the ribs stretch vertically from the base of the neck downwards (Fig. 19, 16), are located directly under the cut of the rim (Fig. 18, 3. 9) or form arcuate figures (Fig. 19, 14). Conical, washer-shaped or bifurcated protrusions-supports are quite often found as relief ornaments (Fig. 18, 15. 16; 19, 15). Similar types of ornamentation of vessels of the first category are characteristic of almost all ceramic collections from other settlements of the Gumelnița culture throughout its area.

Second category

The pottery of the second technological category is numerically inferior to wares of the first category, accounting for 34.3% (2011) or 24.3% (2013) of the total amount of ceramics. It is made of clay with an admixture of fine shamote or other mineral additives, exclusively flat-bottomed. In this category, according to the character of surface treatment and color range, three independent groups can be distinguished. The first group includes black polished pottery with a wall thickness of mainly 0.8–1.0cm, sometimes up to 1.3cm (Fig. 20, 16. 18; 21, 3. 10. 12–14). The inner surface of the vessels is carelessly smoothed, uneven, bumpy, orange, reddish, light brownish in color. The outer surface in the upper part of the vessels is usually well polished, in the lower part it is simply carefully smoothed, dark gray to black. Inside and outside, the surface is often covered with a thick layer of red paint, and only the unpolished rough part of the vessel was painted on the outside. The second group includes good fired mainly polished vessels with a surface of light gray, yellowish, light reddish or beige color (Fig. 20, 2–9. 14. 15. 17. 19. 20; 21, 1. 4. 6. 9). The thickness of the walls is on average

[41] Субботин 1983, 61-64.
[42] Ibid., 62, Fig. 26.
[43] Ibid., 64-65.

0.8–0.9cm. The third group consists of vessels with a smoothed surface inside and outside, occasionally with traces of slight polishing (Fig. 20, 10–13; 21, 2. 11). The color scheme includes mainly light gray, orange, reddish shades. The thickness of the walls varies between 0.8–0.9cm.

In this category of pottery, several morphological types can be distinguished, which include a variety of bowls, pots, amphorae and lids. Bowls are divided into several morphological types. The first type, the most numerous, is represented by truncated-conical bowls, which can be divided into several variants according to the features of the rim design. There are bowls with rims thickened on one or both sides, faceted, pointed, simple rounded or T-shaped (Fig. 20, 1–9; 22, 1. 2). The second morphological type is represented by hemispherical bowls, which are known in much smaller numbers (Fig. 20, 10; 22, 7). The third type includes bowls with a sharply tapering lower part and a cylindrical upper part, which usually ends with a bent rim, although vessels with a straight rim are also known (Fig. 20, 11–13). The fourth type consists of bowls with an S-shaped profile (Fig. 20, 15. 16; 22, 5. 6) and the fifth type embraces biconical bowls (Fig. 20, 14; 22, 3).

Among the morphological kind of pots, the type of wide-open vessels with a cylindrical neck separated from the spherical squat body by a low nut prevails significantly (Fig. 20, 18–20; 22, 9. 12). Some pots have small handles with a vertical hole (Fig. 21, 1). Often on such vessels, the body is located on a hollow cylindrical pedicle (Fig. 21, 20). A separate type, apparently, are pots with a rounded body and a tightened top with a slightly marked neck and a highlighted rim (Fig. 20, 17; 21, 11; 22, 10). The third type includes pots with a rounded body and a high cylindrical neck (Fig. 21, 6. 7; 22, 8. 13). A special morphological type is small pear-shaped pots, which in their shape correspond to ceramics of the first category, but are made in the technological tradition of ceramics of the second category (Fig. 21, 2. 5). The third kind of vessels of the second category is represented by amphorae with a rounded body, a high cylindrical neck and small vertical handles on hangers (Fig. 21, 4). The fourth morphological type includes lids with a mushroom-shaped flattened or convex handle, among which several types can be distinguished by the design of the profile (Fig. 21, 15–19. 21. 22). As a rule, the inner surface of the lids is carelessly treated, which distinguishes them from some bowls of similar shape.

A significant part of the vessels of the second category is ornamented, and different ornamentation techniques can be used to decorate one vessel. There is a painted geometric pattern in white paint in the form of narrow horizontal or diagonal lines, placed on the neck of pots, which is sometimes combined with a curvilinear ornament (Fig. 20: 17. 18; 21, 7. 20; 22, 11–13). Quite often it is practiced to paint the inner and/or outer surface of vessels with red dye (Fig. 20, 1; 21, 10. 12). Sometimes an arcuate pattern is applied with red paint on the outer surface of the vessels. Some vessels are decorated with horizontal cannelurs (Fig. 20: 15. 16. 18. 19; 21, 11; 22, 5. 6. 10. 12), carved or drawn lines (Fig. 21, 9; 22, 8). A combination of polished and smoothed areas of the surface of vessels can be perceived as an ornament (Fig. 20, 18; 21, 23. 14; 22, 12). In terms of their morphological and stylistic traits, the vessels of the second category from the Orlovka-Kartal settlement practically do not differ in any way from the ceramic materials of the early Gumelnița culture from the territory of Romania and the Northwest Pontic region. As in the case of ceramics of the first category, an incomplete set of morphological types which are characteristic of the ceramic complex of this culture as a whole should be noted at this settlement.

Third category

The pottery of the third category is the smallest compared to other groups of ceramics (from 15.8% in 2011 to 26.3% in 2013), but it is the most diverse. It is made of carefully sifted fine-grained clay without visible impurities and is perfectly fired. The vessels are thin-walled, the thickness is mainly 0.4–0.5cm, although there are specimens with a wall thickness of up to 0.15cm. The surface of all vessels, as a rule, inside and outside is carefully leveled and excellently polished, often to a mirror-like metallic shine. The color of the vessels is mainly dark gray, to radical black, but occasionally there are gray or brownish wares.

The morphological kind, designated as bowls, has the highest degree of variability, although several stable types of vessels can be distinguished in this group. The first type includes

bowls of a simple truncated-conical shape (Fig. 23, 1–4), which are divided into several variants according to the features of the rim structure. Vessels with a sharply tapering body and a low vertical rim should probably be considered a special type of conical bowls (Fig. 23, 5. 6). The third morphological type includes hemispherical bowls, which also have several variants in terms of the shape of the rim (Fig. 23, 7–11). The fourth type is represented by bowls with a conical lower part and a bent upper half of the body, which are divided into several different variants (Fig. 23, 12–24; 25, 4. 8. 11). The fifth type includes bowls with a similar profile of the lower part and a cylindrical upper half of the body (Fig. 24, 1–5. 8; 25, 1. 5. 7. 10. 12. 13). The sixth type of bowls includes vessels with a soft S-shaped profile (Fig. 24, 6. 7. 9. 10). Bowls with a sharper bend of the body can be considered as a variant of this type (Fig. 24, 13; 25, 2). The seventh type includes biconical bowls, among which individual variants can also be distinguished (Fig. 24, 11. 12. 14. 15). In terms of their proportions, vessels of this type can occupy an intermediate position between bowls and beakers (Fig. 24, 12. 15).

The second fairly common morphological kind of pottery of the third category is beakers, which are divided into several leading types. The first type includes biconical beakers. One of the variants of this type contains vessels with a sharp profile of the body and a prominent rim (Fig. 26, 1–6. 9; 27, 1–3). The second variant is represented by beakers with a softer body profile (Fig. 26, 7. 8; 27, 4). The second type is represented by beakers with a conically tapering lower part and a cylindrical upper half of the body. As in the first case, in this type it is possible to distinguish vessels with sharper (Fig. 26, 11–19; 27, 5–7) and softer (Fig. 26, 20. 21; 27, 8) outlines. Funnel-shaped beakers are relatively rare in this kind of pottery of the third category (Fig. 26, 18. 22).

Such a morphological type as pots in the pottery of the considered technological category are known only in single specimens. Three morphological types can be conventionally distinguished. The first of these includes small pots with a high cylindrical neck (Fig. 24, 18. 20). The second type also includes small pots with a high conical neck and a bent rim (Fig. 24, 21). The third type is represented by pots with a spherical body, a low vertical neck and a straight rim (Fig. 24, 19).

The bottoms of vessels in all morphological types are mostly concave, while flat bottoms are relatively rare. Some bowls and beakers have small vertical handles located under the fold of the body (Fig. 23, 14. 20; 24, 9; 26, 2–5. 7. 12. 19; 27, 1. 4. 7). Some vessels of the third category are ornamented. The painted ornament in the form of thin white lines forming oblique ribbons on the neck or body of the vessels, as well as a spiral pattern, predominates (Fig. 23, 18; 24, 3. 5–7. 10; 25, 4. 10–12; 26, 1. 4–6. 8–10. 12. 16. 17. 21; 27, 2. 6–8). Less common is the ornament of horizontal flutes, carved lines, small rounded or oval depressions (Fig. 23, 5. 8; 24, 2; 26, 1. 4. 6. 15; 27, 2). Sometimes a rather complex pattern is formed by alternating polished and worn surfaces of vessels, and in some cases the ornamentation technique is negative, when the worn areas of the surface are perceived as a composition (Fig. 23, 14. 20. 24; 26, 17). Among the ceramics of the third category, one fragment of a red-burnished vessel decorated with dark red painting in the form of horizontally arranged rows of triangles attracts special attention (Fig. 24, 17). Such a composition of ornament is not typical for the sites of the Gumelnița culture as a whole, so this vessel can probably be considered as an imported ware from remote territories of the Balkan Peninsula or the Carpathian Basin.

As a whole, it can be recognized that the ceramic complex of the Orlovka-Kartal settlement in general fully corresponds to the ceramic collections of the rest of the settlements of the early stage of the Gumelnița culture. At the same time, the extremely high level of diversity of ceramics of the third category in comparison with other sites of the Northwest Pontic region is noteworthy. This is especially noticeable in the specific technique of the ornament, consisting of alternating polished and worn areas of the surface. It is found in Orlovka-Kartal in a fairly large number, unlike other sites in the region. In all likelihood, the great variety of high-quality ceramics of the third category, which undoubtedly has a prestigious character, reflects the special place of the settlement in question in the regional system of interrelations perhaps as an important logistics center.

Imported ceramic ware

Two wall fragments, apparently from a single vessel, come from the Acropolis and have no parallels in the materials of the Gumelnița culture (Fig. 28, 1–4). They were found in undisturbed layers of a ditch (structure 109) associated with the Early Eneolithic. Due to this stratigraphic position, the chronological attribution of this find is beyond doubt.

The vessel was made of clay with an admixture of finely crushed shells. The shard is quite dense, lumpy, dark gray. The inner and outer surfaces are covered with a thin grayish-brown engobe and are well smoothed. The fragments retain an ornament applied with an angular toothed stamp. The stamp impressions were arranged in several rows or were enclosed in a triangular figure.

In terms of technological attributes, these fragments partly resemble the ceramics of the Cernavodă I culture. At the same time, such a technique and style of ornamentation in the materials of this culture at the Orlovka-Kartal settlement have not yet been encountered. On the other hand, very similar examples of ornamentation can be found outside the North-Western Black Sea region, in the areas of the steppe Eneolithic cultures and the Cucuteni-Trypillya culture.

According to technological traits, the finds from Orlovka are quite consistent with, for example, ceramics from the third layer of the settlement of Strilcha Skelya, which belongs to the Skelynska culture (according to Yu. Ya. Rassamakin) or the Skelynska phase of the Sredny Stog culture (according to D. Ya. Telegin and N. S. Kotova). On the vessels of this culture, patterns of hanging triangles and impressions of an angular stamp are found.[44] At the same time, similar ceramics (type Cucuteni C) are well known in the settlements of the Cucuteni-Trypillia culture, starting from the Cucuteni A period. It also contains patterns in the form of incised hanging triangles and angular impressions of a toothed stamp, located in several rows.[45] In some cases, the stamp impressions are literally identical in shape to the patterns on the ceramic fragments from Orlovka.[46] It is quite possible that the clay vessel with an admixture of crushed shells came to the Orlovka-Kartal settlement from the Cucuteni A culture area, taking into account the possibility of synchronization of monuments such as Bolgrad-Alden and settlements of the Cucuteni A2 and A3 period,[47] although more distant connections with the Skelyanska culture are not excluded.

Anthropomorphic figurines

Anthropomorphic figurines were found at the settlement in single copies and in a fragmented state. Two fragments come from the upper part of the figurines (Fig. 28, 8. 9. 12. 13) and four from the lower part (Fig. 28, 5. 7. 11). A single specimen shows a separate leg with a highlighted foot, which is also most likely part of a figurine (Fig. 28, 6) and a leg bent at the knee, possibly originating from a small altar (Fig. 28, 10).

All figurines are made of carefully sifted clay without visible impurities. The surface of the figurines is carefully smoothed and polished. The color varies from gray to dark gray. All the figurines are sculpted in a conventionally realistic manner and convey a standing female figure. The upper part is a flat torso with the arms extended to the sides. On one figurine, the chest and navel are depicted in semicircular moldings (Fig. 28, 12. 13). The same specimen depicts a shaded horizontal ribbon encircling the body below the chest. The legs are depicted in a three-dimensional manner, separately with a well-pronounced steatopygia in the pelvic area (Fig. 28, 5. 7. 11). The recessed lines show *montem veneris* (Fig. 28, 5. 12. 13). On the sides of some figurines above the pelvis there are through holes (Fig. 28, 7. 11). On one figurine, traces of red paint have been preserved. The exact size of the figurines is difficult to determine due to their preservation.

In their shape and other features, the female figurines from the Orlovka-Kartal settlement fully correspond to the anthropomorphic images of other sites of the early stage of the Gumelnița culture.[48] The small number of figurines found

[44] Котова 2006, Fig. 15, 2. 3; 16, 3–5; 17, 3; 18, 7–9.

[45] Dragomir 1985, Fig. 21, 1. 3; Sorochin 2002, Fig. 81, 4; 105, 6; 106, 6–8; 117, 2.

[46] Пассек 1961, Fig. 22, 2. 3; Бурдо 2016, Fig. 4, 1.

[47] Sorochin 2002, 168-169.

[48] Бейлекчи 1978, 117-121, Fig. 11, 1. 2; 63, 1–5; 70, 3. 6–9; Субботин 1983, 107-111, Fig. 49, 3–13; 50, 1–11; Dragomir

and the absence of other artifacts related to ritual activities are probably due to the relatively small area explored and the peripheral nature of the area where the excavations were carried out.

Chronology

The chronological position of the settlement of the early stage of the Gumelnița culture in Orlovka-Kartal is determined from three radiocarbon dates, which were obtained from samples from the layer on the territory of the Acropolis (Table 1). According to these dates, an early Eneolithic settlement functioned in this area in the interval 4683–4453 BC (2σ). The reality of such a duration of the existence of the settlement may be indicated by the difference in absolute dates obtained from samples from different contexts. Two samples (MAMS 14641 and 14642) come from structure 50, which was a ditch, and their earlier dates are likely to reflect the initial stage in the development of the settlement. The third sample (MAMS 14643) comes from contexts 15–16, i.e., from the cultural layer above structure 50, which is reflected in its later dating.

Another radiocarbon date for the Orlovka-Kartal settlement, 5550±70 BP/4539–4262 BC, is given in a work of A. Frînculeasa.[49] At the same time, the researcher refers to the article by I. Bruyako on the paleoecology of the landscape in the vicinity of the settlement, published in 2016.[50] However, in this case there is a certain misunderstanding, since the indicated date in the work of I. Bruiaco refers to the spore-pollen complex 7 from the vicinity of the village of Ciumai in Republic of Moldova[51] and is mentioned in connection with the determination of the possible age of the Gumelnița culture layer in Orlovka-Kartal.

For other sites of the Gumelnița A1 culture and the cultural variant Stoicani-Aldeni (Bolgrad-Aldeni), very few radiocarbon dates are known so far. Three dates were obtained from samples from the Vulcănești II settlement: 5790±150 BP, 5810±150 BP, 5300±60 BP.[52] However, the first two dates have too large a standard deviation, reaching 150 years, making them highly unreliable. The third date also does not look very convincing, since it places the time of the existence of this settlement at the very end of 5th millennium BC or even the beginning of 4th millennium BC (4320 (2.5%), 4290, 4270 (92.9%), 3980 – 2σ), which is too late for sites of this type.

Much more reliable is the series of AMS dates from the settlement of the Bolgrad-Aldeni group in Cialîc, the earliest of which (4682–4504 BC – 2σ), obtained from the bone of an animal from the ditch, falls on the second quarter of 5th millennium BC and reflects the initial period of the existence of this settlement.[53] The other four dates from Cialîc are placed in the middle to the third quarter of the same millennium, which generally corresponds to the absolute dating of the Orlovka-Kartal settlement.

Several radiocarbon dates from the sites of the early stage of the development of the Gumelnița culture and the Stoicani-Alden aspect are considered in the works of Romanian researchers.[54] It should be noted that they are distinguished by a certain contradiction, especially when compared with the chronological indicators of other

Table 1. *Radiocarbon dates of the Gumelnița culture from the Orlovka-Kartal settlement*

Lab Nr. MAMS	Probe name	Site	Probe material	C14 age	±	13C	CalBC 1 sigma	CalBC 2 sigma	C: N	%C	%coll
14641	1 str. 50 settlement-Acropolis	Orlovka-Kartal 2011-1	cattle bone	5722	31	-16,9	4603–4504	4683–4466	3,2	21,1	15,4
14642	2 str. 50 settlement-Acropolis	Orlovka-Kartal 2011-2	deer bone	5725	32	-19,8	4609–4505	4684–4490	3,2	8,7	5,7
14643	3 contexts 15–16 settlement-Acropolis	Orlovka-Kartal 2011-3	cattle bone	5687	33	-18,7	4545–4464	4611–4453	3,2	22,1	12,9

1983, 97-101, Fig. 48, 1–8; Манзура / Сорокин 1990, 91-92, Fig. 1, 1. 4; Бейлекчи / Чирков 2019, 22-24, Fig. 11, 1–5; Govedarica / Manzura 2020, 126, Fig. 15, 1. 2.

[49] Frînculeasa 2016, 67.

[50] Бруяко 2016.

[51] Ibid., 126.

[52] Семенцев / Романова / Долуханов 1969, 256; Dergacev / Dolukhanov 2008, 34.

[53] Govedarica / Manzura 2020, 126, Fig. 16.

[54] Mantu 1995; 2000; Frînculeasa 2016, 67-69; Bem 2000.

cultural units in the same area or in neighboring territories. In this regard, it is indicative that, for example, the radiocarbon dates from the settlement Mălăeștii de Jos of the Stoicani-Alden group are generally located on the border of the third and last quarter of 5 thousand BC, which is more consistent with the period of the Gumelnița A2 culture.[55]

The same late date comes from the settlement of the same group in Seciu.[56] On the other hand, the dates for the Gumelnița A1 culture layer from Hârșova and Lișcoteanca-Movila Olarului fit in the middle and third quarter of 5th millennium BC, which generally corresponds to the dates of the Orlovka-Kartal and Cialîc settlements,[57] although they look somewhat later. Based on these dates and the materials of some other sites, C. Bem dated the A1 stage of the Gumelnița culture to the interval of 4600/4550–4350 BC,[58] which to a certain extent agrees with the dating of the settlements of the Northwest Pontic region.

Several radiocarbon dates were obtained for layers 1 and 2 of the settlement in Aldeni-Gurguiul Balaurului of the Stoicani-Aldeni group, which fall within the interval of 4368–4064 cal BC according to 2σ. C. E. Ștefan, comparing these dates with the dates of the settlements of Orlovka-Kartal and Cialîc, noted their later age and on this basis suggested that the south of Bessarabia could be the zone of formation of the cultural aspect of Stoicani-Aldeni.[59] This conclusion can hardly be considered legitimate, since in the southern regions of Bessarabia there are no archaeological sites of the Balkan Neolithic at all, with the exception of rare finds of fragments of vessels of the Boian culture. In other words, in this region there was no cultural environment on the basis of which the Gumelnița culture could have arisen. For the North-Western Black Sea region, this culture is undoubtedly an alien phenomenon, penetrating this territory from Dobrudja and/or the right bank of the Prut.

In general, the stratigraphic situation in Muntenia and Dobrudja differs radically from the stratigraphic relationship of cultures in the North-Western Black Sea region. This territory in the late Neolithic was part of the Boian culture area, the traditions of which largely predetermined the appearance of the early Gumelnița culture. In addition, the discovery of settlements of the Precucuteni III culture in the upper reaches of the Călmățui River, which were stratigraphically overlapped by layers of the Stoicani-Aldeni cultural aspect, is important. Radiocarbon dates from the layer with Precucuteni culture materials occupy the interval 4720–4500 cal BC,[60] which corresponds to the dating of monuments of this culture in the main area and partly coincides with the dates from Orlovka-Kartal and Cialîc.

It is difficult to judge at this point to what extent these discoveries attest to the significant role of the Precucuteni culture in the formation of cultural traditions of the Stoicani-Aldeni type. If we accept this scenario of events, then the formation zone of the Stoicani-Aldeni group can be localized in the south of Moldova, between the Prut and the Carpathians, where both cultures border,[61] and the connections with the communities of the Precucuteni culture must have been particularly intense. At least in the territory of Bessarabia such contacts are traced quite well,[62] although in the settlement of Orlovka-Kartal the materials of the Precucuteni culture itself have not yet been found. In general, the situation at present seems relatively unclear, therefore the role of the Precucuteni cultural traditions in the formation of the Gumelnița culture should probably not be overestimated yet.

It should be recognized that the dates from the settlements of Orlovka-Kartal and Cialîc are currently the most reliable for determining the absolute age of both the Stoicani-Aldeni group and for the Gumelnița A1 culture as a whole. They agree well with the dates of the Precucuteni III-Trypillia A2 culture and the beginnings of Cucuteni A and Trypillia BI, which fall within approximately the same time range.[63] This synchronization is confirmed by mutual imports both in the Precucuteni/Cucuteni-Trypillia A settlements and in the Gumelnița A1 (Bolgrad-Aldeni) culture. It is significant that radiocarbon dates from the settlements of the Stoicani-Aldeni

[55] Frînculeasa 2016, 68, Tab. 1.
[56] Ibid.
[57] Bem 2000, Tab. 1.
[58] Ibid., 340.
[59] Ștefan 2023, 259.
[60] Garvăn 2021, 73.
[61] Govedarica / Manzura 2020, Fig. 1.
[62] Сорокин 1997.
[63] Mantu 1995; 2000; Відейко 2004; Diachenko et al. 2024; Govedarica / Manzura 2024.

group in the territory of Muntenia mainly correspond to the absolute dating of the burials of the Suvorovo group, in which materials of the Gumelnița A2 culture were found.[64] At the same time, there is still no convincing evidence of connections between this group and the preceding early Gumelnița culture in the North-Western Black Sea region.

Conclusion

The archaeological complex near the village of Orlovka still remains a unique phenomenon in the prehistory of the Northwest Pontic region. This reputation of the site is clearly confirmed by the recently published cemetery of the Early Iron Age, numbering over 530 burials, which is the largest funerary site of this time in Eastern Europe.[65] The importance of the complex is largely due to the peculiarities of its location. It is located on the very bank of the Danube, next to the crossing that connects both banks of the river and has been operating from ancient times to the present day. Its important role was also manifested in the Early Eneolithic period, when the settlement of the Gumelnița A1 culture was founded on this site.

The appearance of the first farmers on the left bank of the Lower Danube in the vicinity of the modern village of Orlovka goes far beyond the framework of a local event. The settlement that arose here served as a kind of springboard for the further colonization of the steppe territories of the Northwest Pontic region by the agricultural population of Balkan origin. Relatively quickly, long-term settlements appeared in various steppe localities, almost reaching the southern border of the Precucuteni-Trypillya A culture. At the same time, the steppe zone at that time was not suitable for primitive agriculture, primarily because of the extremely limited resources necessary for normal existence and development in steppe conditions.

Most of the various raw materials for the manufacture of tools had to be brought from areas where they were available in sufficient quantities and possessed the appropriate qualities. In this context, the settlement of Orlovka-Kartal, whose inhabitants had easier access to the deposits of high-quality flint and other types of stone in Dobrudzha, was supposed to serve as an important logistics center, supplying the district and more remote villages with valuable raw materials. This position of the settlement in question to a certain extent predetermined the special nature of the material culture of the local population, which was manifested primarily in the field of flint processing and the high level of diversity of the ceramic ensemble.

The settlement of the Gumelnița culture (Bolgrad/Stoicani-Aldeni) near the village of Orlovka arose relatively unexpectedly, like other settlements of this type in the steppe zone, setting a completely new vector of development in this region. Based on the materials from Orlovka-Kartala and other archaeological sites, it is still difficult to build a reliable periodization of this culture, although the difference in radiocarbon dates from Bessarabian sites seems to indicate a certain duration of the existence of agricultural settlements within 150–200 years. At the same time, the period of existence of these settlements still cannot be considered too long. They disappeared as suddenly as they appeared in this territory. It is still difficult to judge what factors of internal development or external influence caused the rapid departure of agricultural communities from the steppe, but in any case, these events can be regarded as the first successful attempt in European prehistory to develop the steppe space by ancient farmers.

[64] Govedarica / Manzura 2024.

[65] Бруяко 2024.

Rezime

Sloj ranog eneolita u naselju Orlovka-Kartal (okrug Izmail, oblast Odesa, Ukrajina)

Višeslojni naseobinsko/kultni kompleks Orlovka-Kartal predstavlja jedinstven arheološki fenomen na područja sjeverozapadnog Crnog mora. Ovaj lokalitet je bio stalno iznova naseljavan, počev od eneolita, pa sve do kraja Rimskog carstva, a novim istraživanjima njegov značaj sve više dolazi do izražaja. To pokazuje i nedavno objavljena nekropola iz ranog željeznog doba

koja je sadržavala preko 530 grobova i koja predstavlja najveći funerarni lokalitet tog perioda u Istočnoj Evropi. Jedinstvenost ovog nalazišta u velikoj mjeri proizlazi iz posebnosti njegove lokacije. Smješten je na isturenom rtu prirodne terase koji dobro kontroliše prostor izmedju ušća Pruta u Dunav i početka dunavske delte, područje koje je od davnina imalo izuzetni strateški značaj. Posebna vrijednost ove pozicije došla je do izražaja već u ranom eneolitu, kada je ovdje nastalo naselje balkanske kulture Gumelnița A. Ta pojava prvih poljoprivrednika na lijevoj obali donjeg toka Dunava svakako nadilazi okvire lokalnog događaja. Naselje koje se tu razvilo služilo je kao svojevrsna odskočna daska za dalju kolonizaciju stepskih teritorija sjeverozapadnog Pontskog regiona od strane poljoprivrednog stanovništva balkanskog porijekla. To potvrđuje relativno brzo širenje naselja ovog tipa na području besarabijske stepe, sve do južne granice kulture Precucteni-Tripolje A. Ovo je prilično neobična pojava s obzirom da stepska zona nije bila pogodna za tadašnju ekstenzivnu poljoprivredu, prvenstveno zbog izrazito ograničenih resursa potrebnih za normalnu aktivnost ratarskih zajednica.

Većina različitih sirovina za izradu oruđa morala se dobavljati iz područja gdje su bile dostupne u dovoljnoj količini i imale odgovarajuće karakteristike. U tom kontekstu, naselje Orlovka-Kartal, čiji su stanovnici imali lakši pristup nalazištima visokokvalitetnog kremena i drugih vrsta kamenih materijala u Dobrudži, moglo je služiti kao važan logistički centar, snabdijevajući okolinu i udaljenija sela vrijednim sirovinama. Ova pozicija naselja u određenoj mjeri predodređuje posebnu prirodu materijalne kulture lokalnog stanovništva, koja se najprije ogledala u obradi kremena i visokom nivou raznovrsnosti keramičkog repertoara.

Naselje Orlovka-Kartal pripada stepskoj varijanti kulture Gumelnița A (varijanta Bolgrad/Stoicani-Aldeni). Ono je poput drugih naselja ovog tipa, nastalo relativno neočekivano, postavljajući potpuno novi razvojni vektor u zoni besarabijske stepe. Na osnovu materijala iz ovog naselja, kao i iz drugih arheoloških lokaliteta, teško je izgraditi pouzdanu periodizaciju ove kulture, iako dijapazon radiokarbonskih datuma sa besarabijskih lokaliteta sugeriše trajanje postojanja ovih poljoprivrednih naselja u rasponu od 150–200 godina. To svakako nije previše dug period, a uz to se pokazuje da su ta naselja nestala jednako iznenada kao što su se pojavila na ovom prostoru. I dalje je teško prosuditi koji su faktori unutrašnjeg razvoja ili spoljnog uticaja izazvali nastanak i dosta brzo napuštanje stepskog područja od strane poljoprivrednih zajednica, ali u svakom slučaju se ovi događaji, barem kad je u pitanju evropska prošlost, mogu smatrati prvim uspješnim pokušajem da se stepski prostor razvije djelovanjem drevnih poljoprivrednika.

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Fig. 1. *Location of the Orlovka-Kartal archaeological complex in the region and a locality (1) and view of the excavation area 1 at the Acropolis from the north in 2011*

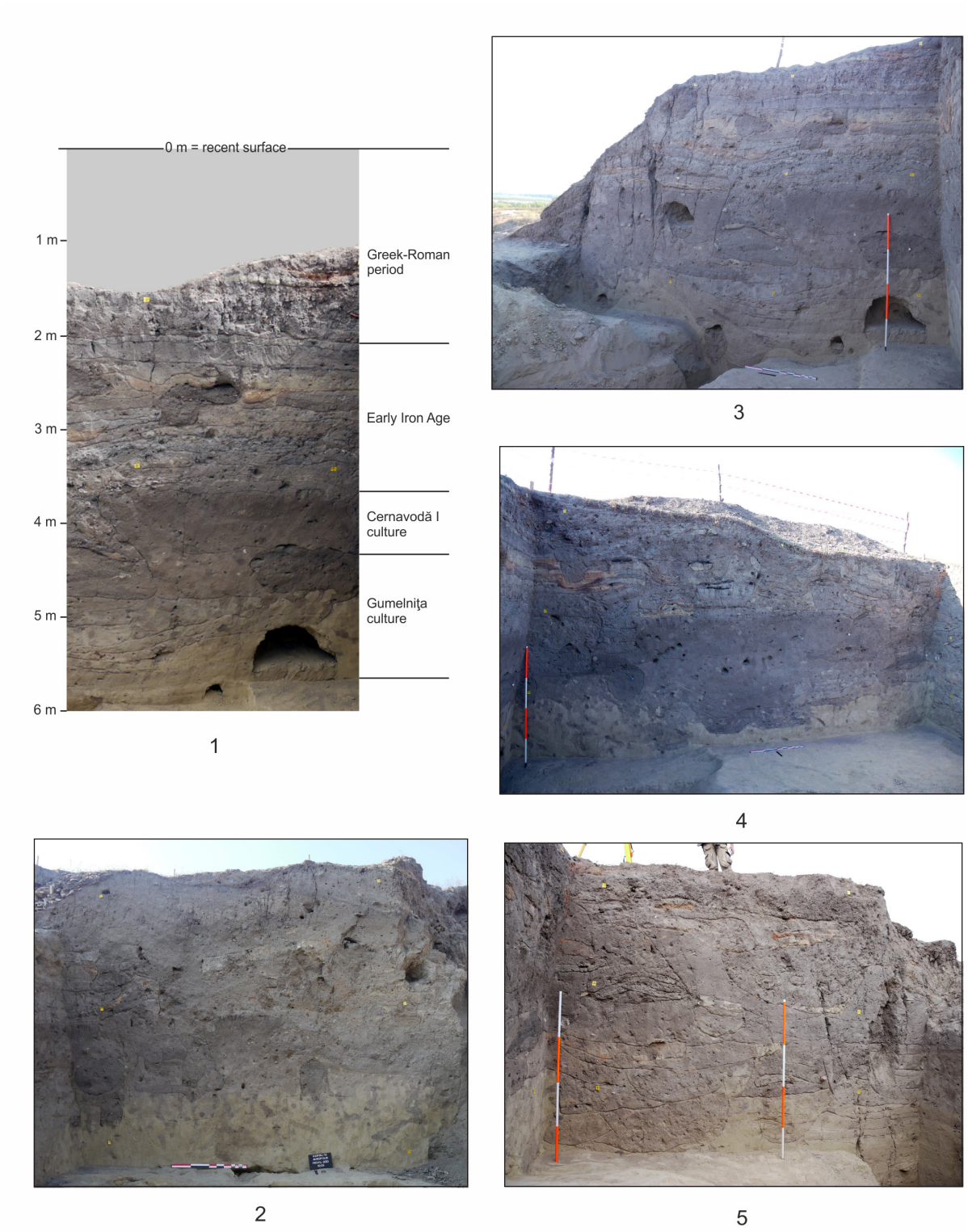

Fig. 2. *Stratigraphic sections at the Acropolis: 1 – excavation area 1, part of the eastern section (2011) with designation of cultural layers; 2 – excavation area 1 (2011), photo of the southern section; 3 – excavation area 1 (2011), photo of the eastern section; 4 – excavation area 1 (2011), photo of the western section; 5 – excavation area 2 (2013), photo of the southern section*

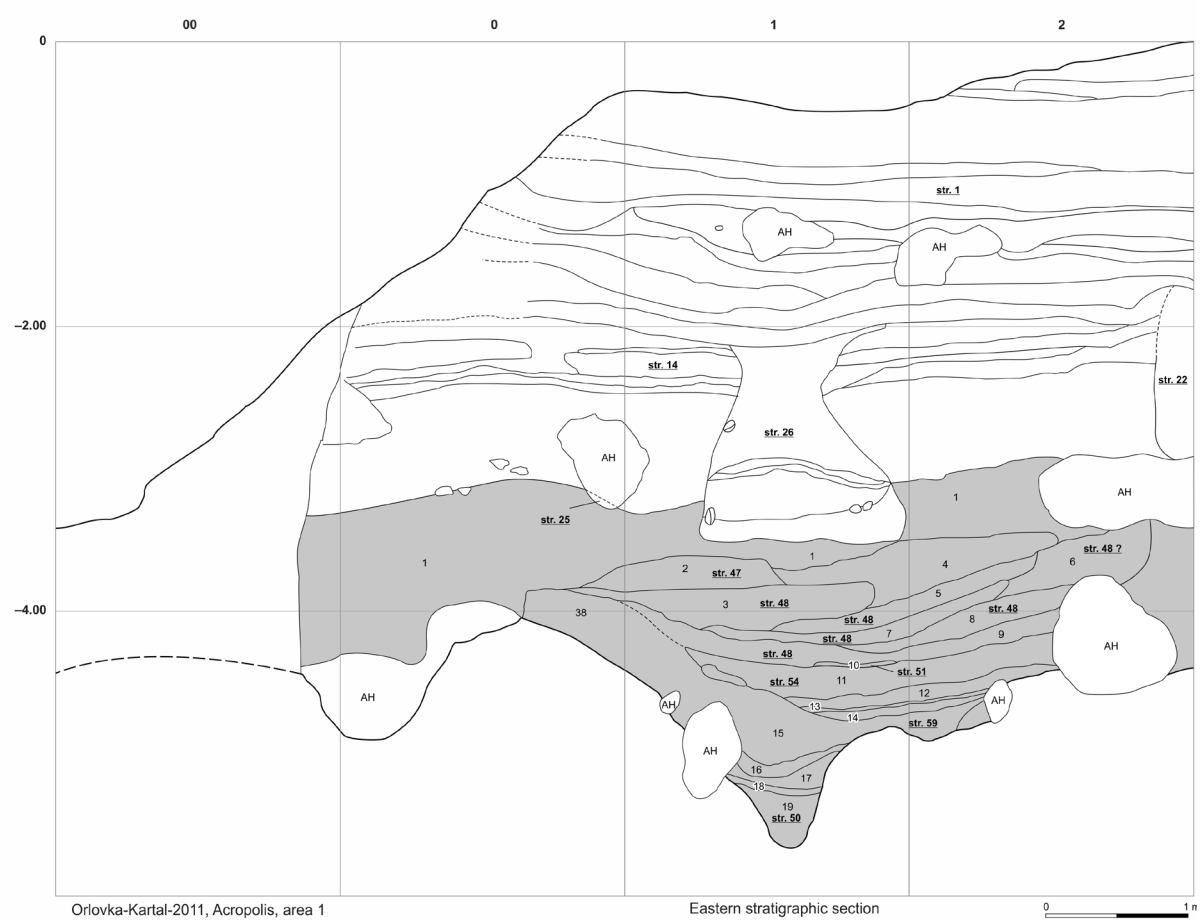

Fig. 3. *Excavation area 1 at the Acropolis (2011), draft of the eastern section. Designation of layers in the cultural stratum of the early Eneolithic: 1 – light grey-brown soil. Fine and compact; 2 – grey-brown soil relatively coarse with the packing of the clay particle; 3 – grey-brown soil less coarse; 4 – light grey-brown soil fine, bioturbated; 5 – light grey-brown soil; 6 – pack with narrow clay pieces; 7 – light grey-brown soil, sandy, fine, bioturbated; 8 – same as 7 but slightly brighter; 9 – dark grey-brown soil with few charcoal particles – bioturbated; 10 – light grey-brown sandy soil, bioturbated; 11 – dark grey-brown soil with lots of charcoal and ash; 12 – dark grey-brown soil with fired clay particles; 13 – light grey-brown soil of different intensities with shell, ash and clay powder*

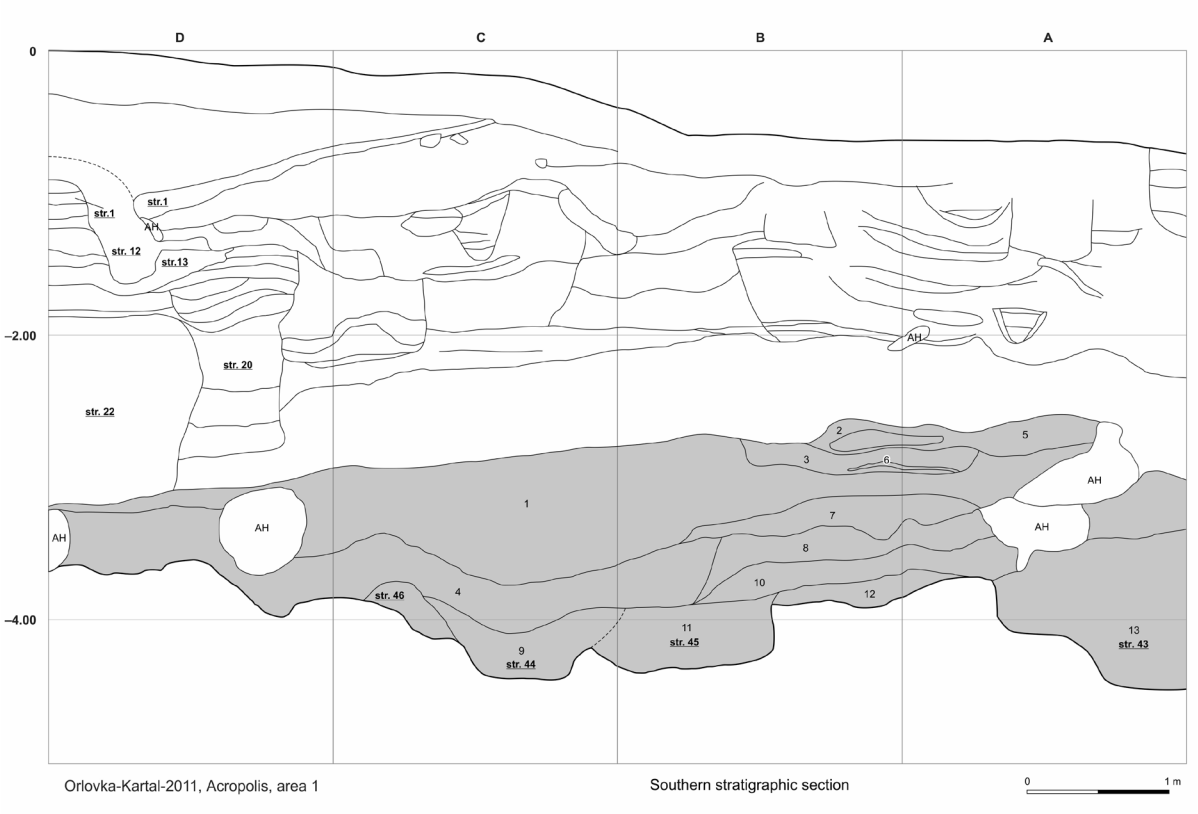

Fig. 4. *Excavation area 1 at the Acropolis (2011), draft of the southern section. Designation of layers in the cultural stratum of the early Eneolithic: 1 – light grey-brown soil. Fine and compact; 2 – grey-brown soil relatively coarse with the packing of the clay particle; 3 – grey-brown soil less coarse; 4 – light grey-brown soil fine, bioturbated; 5 – light grey-brown soil; 6 – pack with narrow clay pieces; 7 – light grey-brown soil, sandy, fine, bioturbated; 8 – same as 7 but slightly brighter; 9 – dark grey-brown soil with few charcoal particles – bioturbated; 10 – light grey-brown sandy soil, bioturbated; 11 – dark grey-brown soil with lots of charcoal and ash; 12 – dark grey-brown soil with fired clay particles; 13 – light grey-brown soil of different intensities with shell, ash and clay powder*

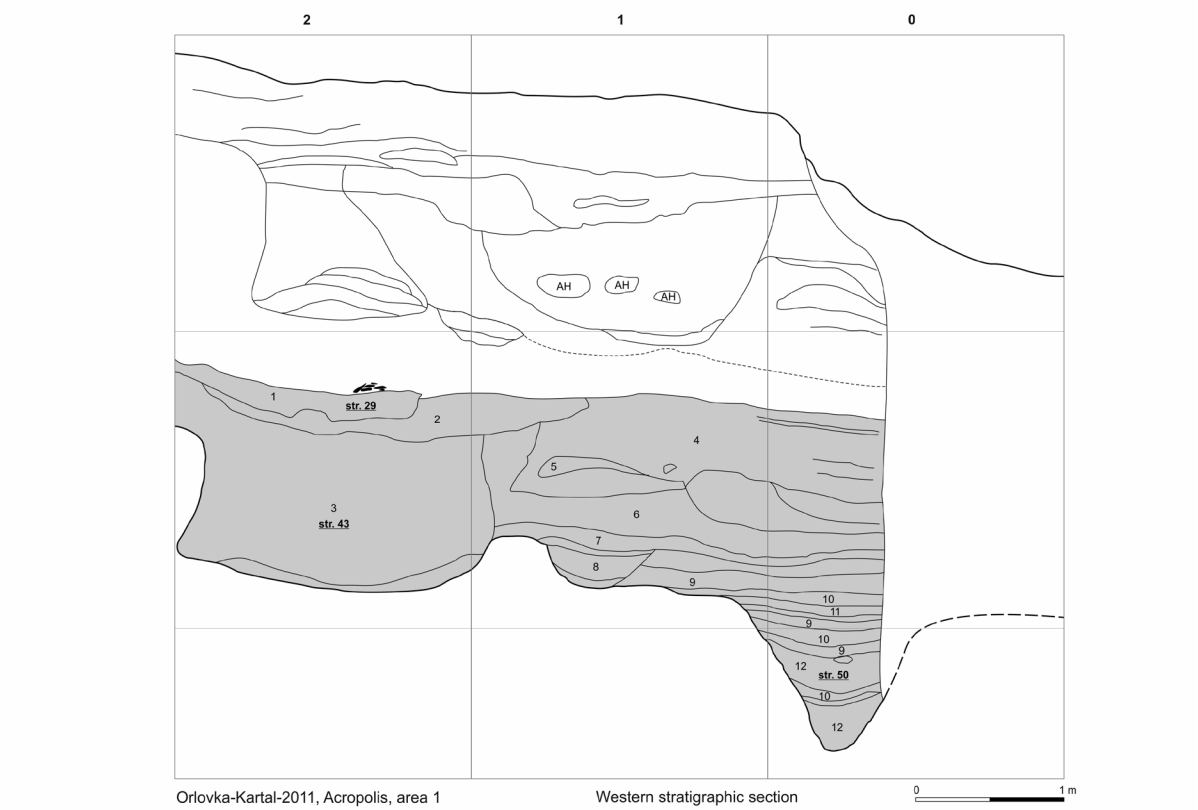

Fig. 5. *Excavation area 1 at the Acropolis (2011), draft of the western section. Designation of layers in the cultural stratum of the early Eneolithic: 1 – light grey-brown soil, sandy with unfired and fired clay powder; 2 – same soil with less clay powder; 3 – light grey-brown soil of different intensities with shell, ash and clay powder; 4 – light grey-brown soil, sandy with shells; 5 – intensive clay particles; 6 – mottled grey-beige fine sand; 7 – light grey-brown soil, fine; 8 – mottled brownish sand with clay admixture; 9 – brownish sand filling; 10 – light beige sand filling; 11 – light beige sand filling; 12 – brownish sand filling*

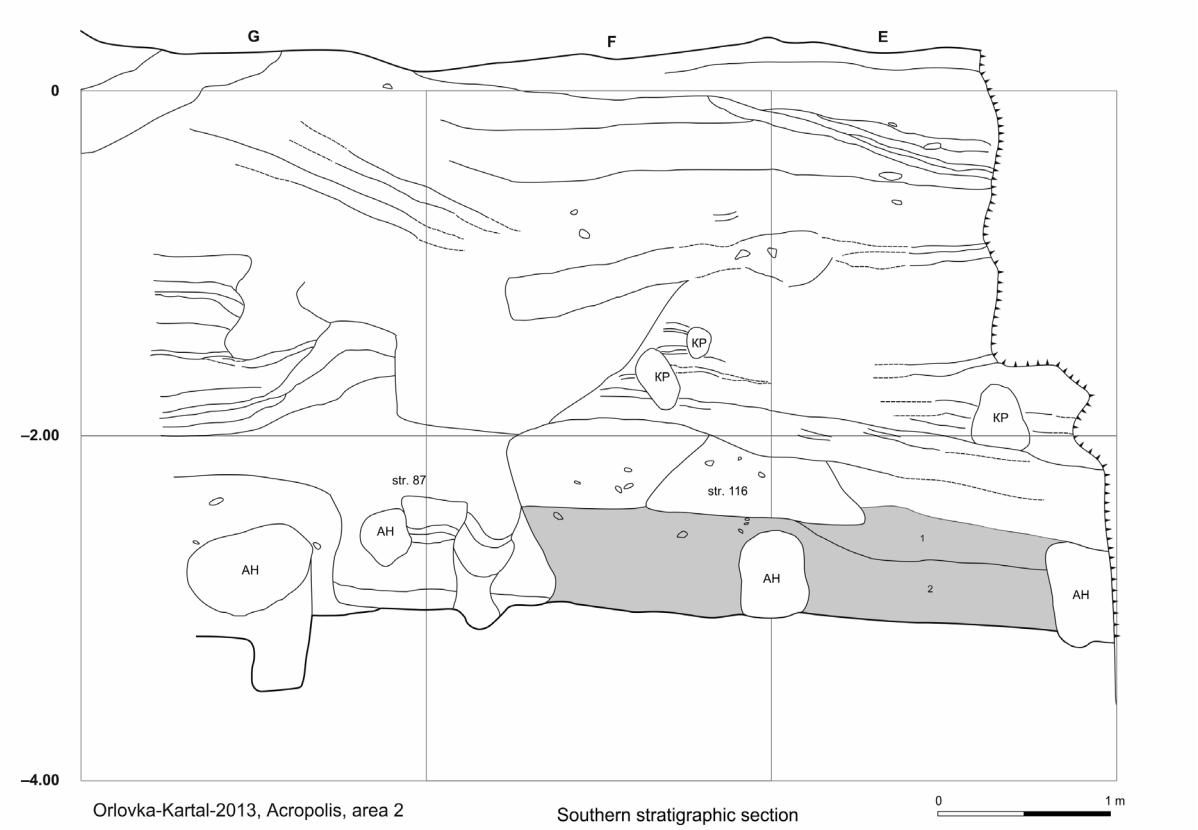

Fig. 6. *Excavation area 2 at the Acropolis (2013), draft of the southern section. Designation of layers in the cultural stratum of the early Eneolithic: 1 – light grey-brown soil. Fine and compact; 2 – light grey-brown soil fine, bioturbated*

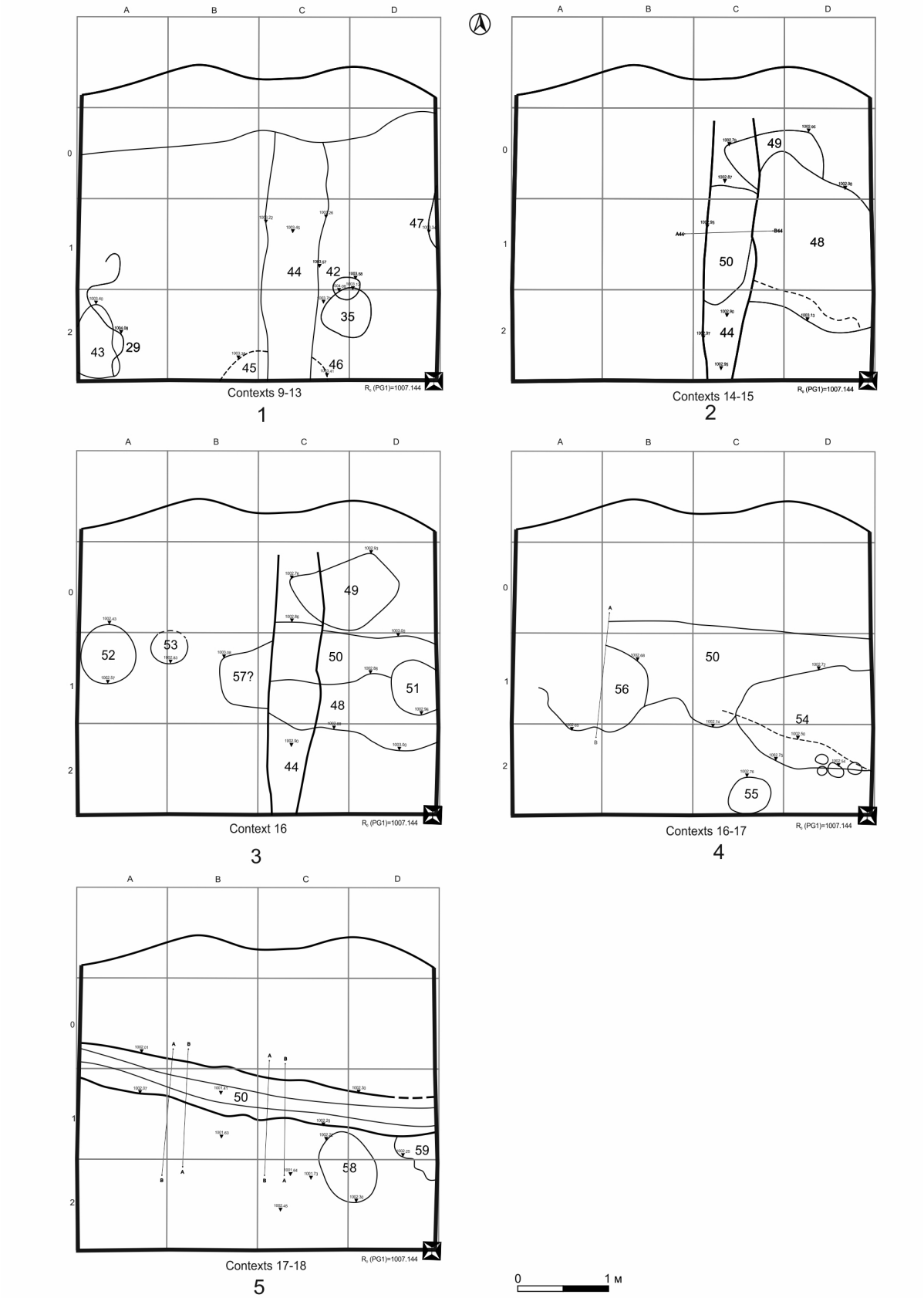

Fig. 7. *Excavation area 1 at the Acropolis (2011), draft of stratigraphic contexts with structures of the Gumelnița culture*

Fig. 8. *Excavation area 1 at the Acropolis (2011), photos of structures of the Gumelnița culture*

Fig. 9. *Excavation area 1 at the Acropolis (2011), photos of structures of the Gumelnița culture*

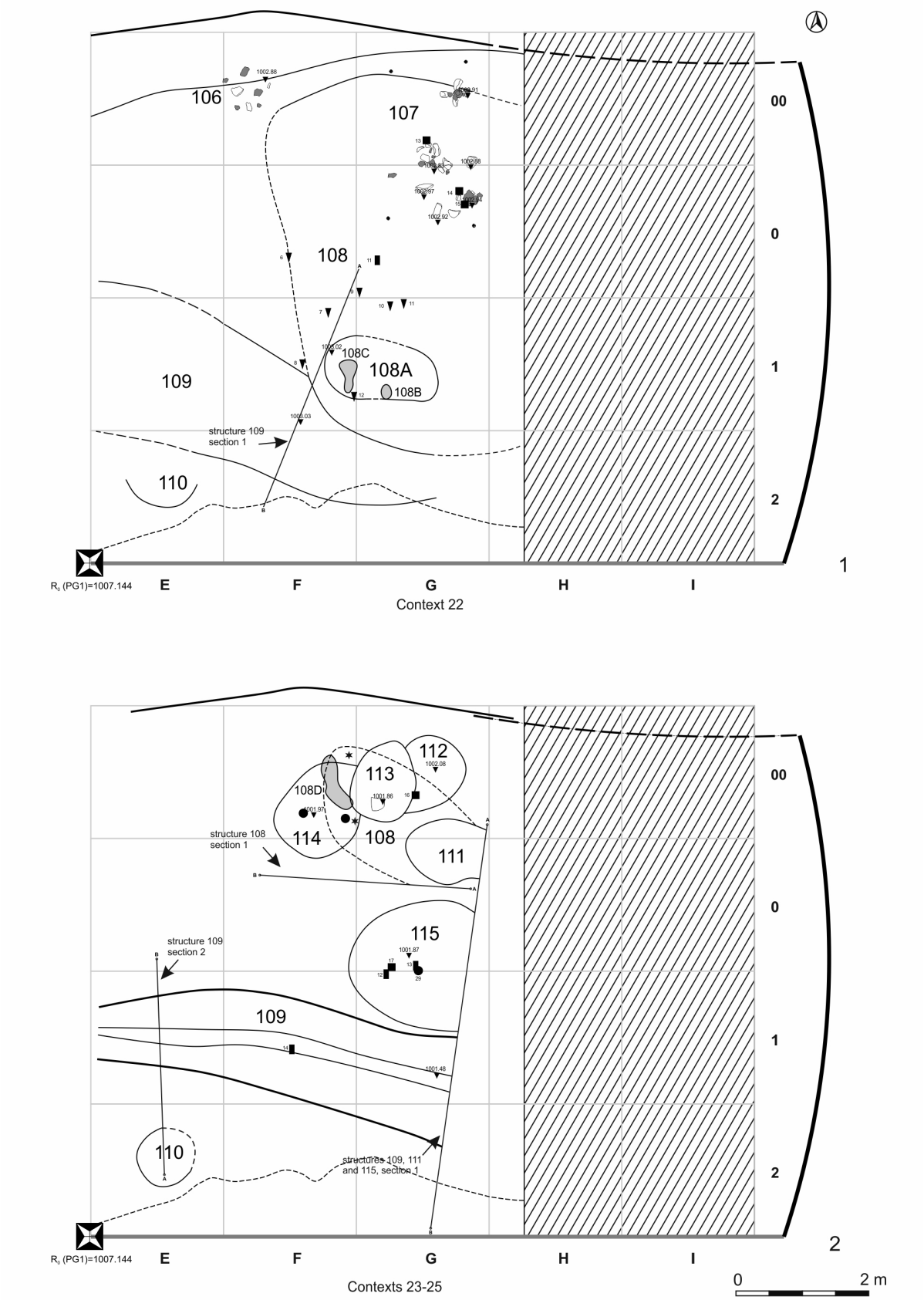

Fig. 10. *Excavation area 2 at the Acropolis (2013), draft of stratigraphic contexts with structures of the Gumelnița culture*

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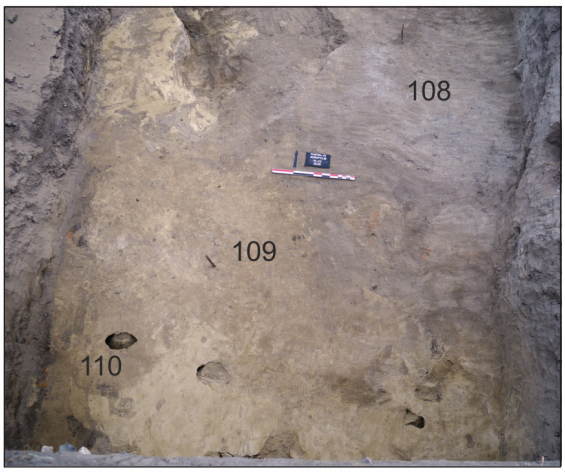

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Fig. 11. *Excavation area 2 at the Acropolis (2013), photos of structures of the Gumelnița culture*

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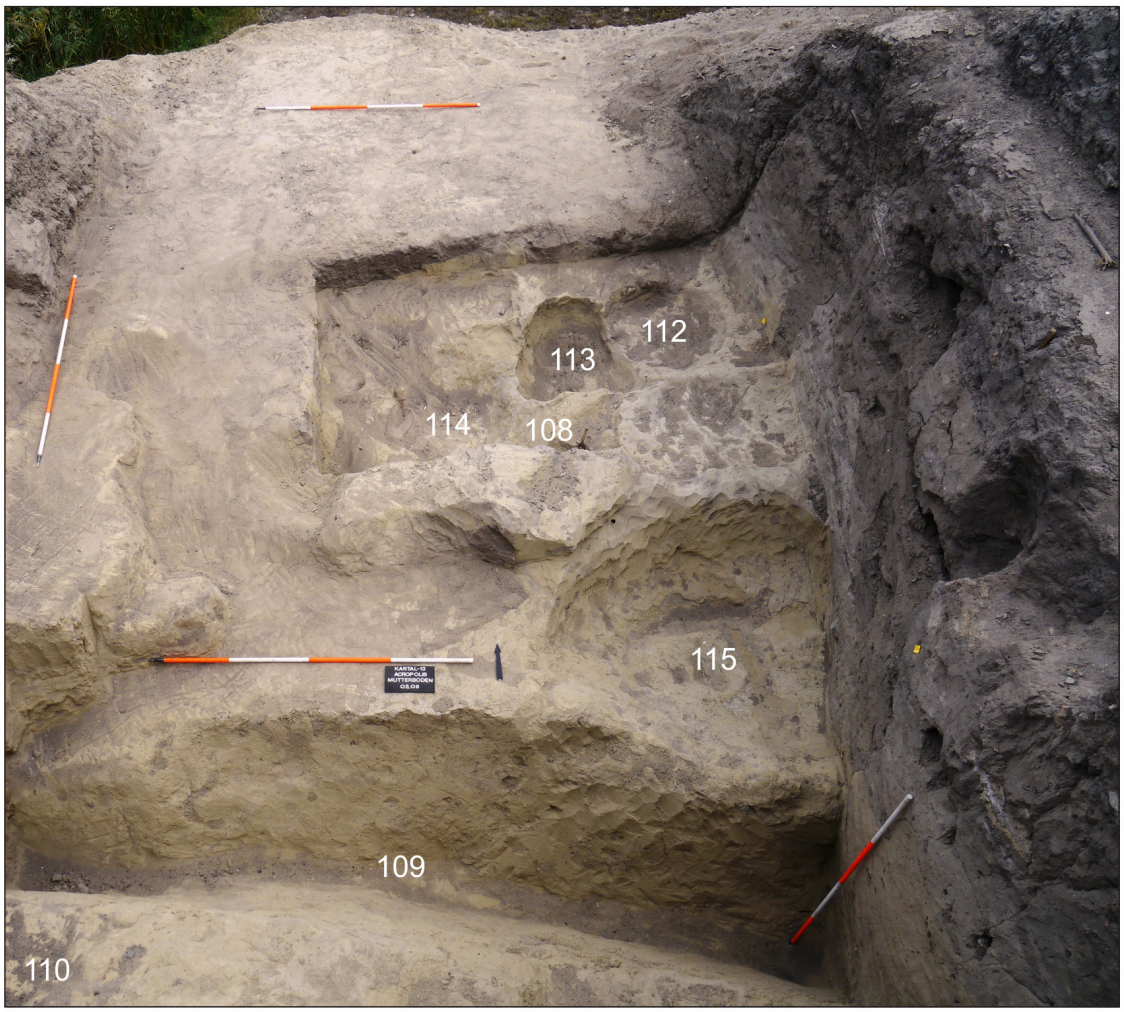

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Fig. 12. *Excavation area 2 at the Acropolis (2013), photos of structures of the Gumelnița culture*

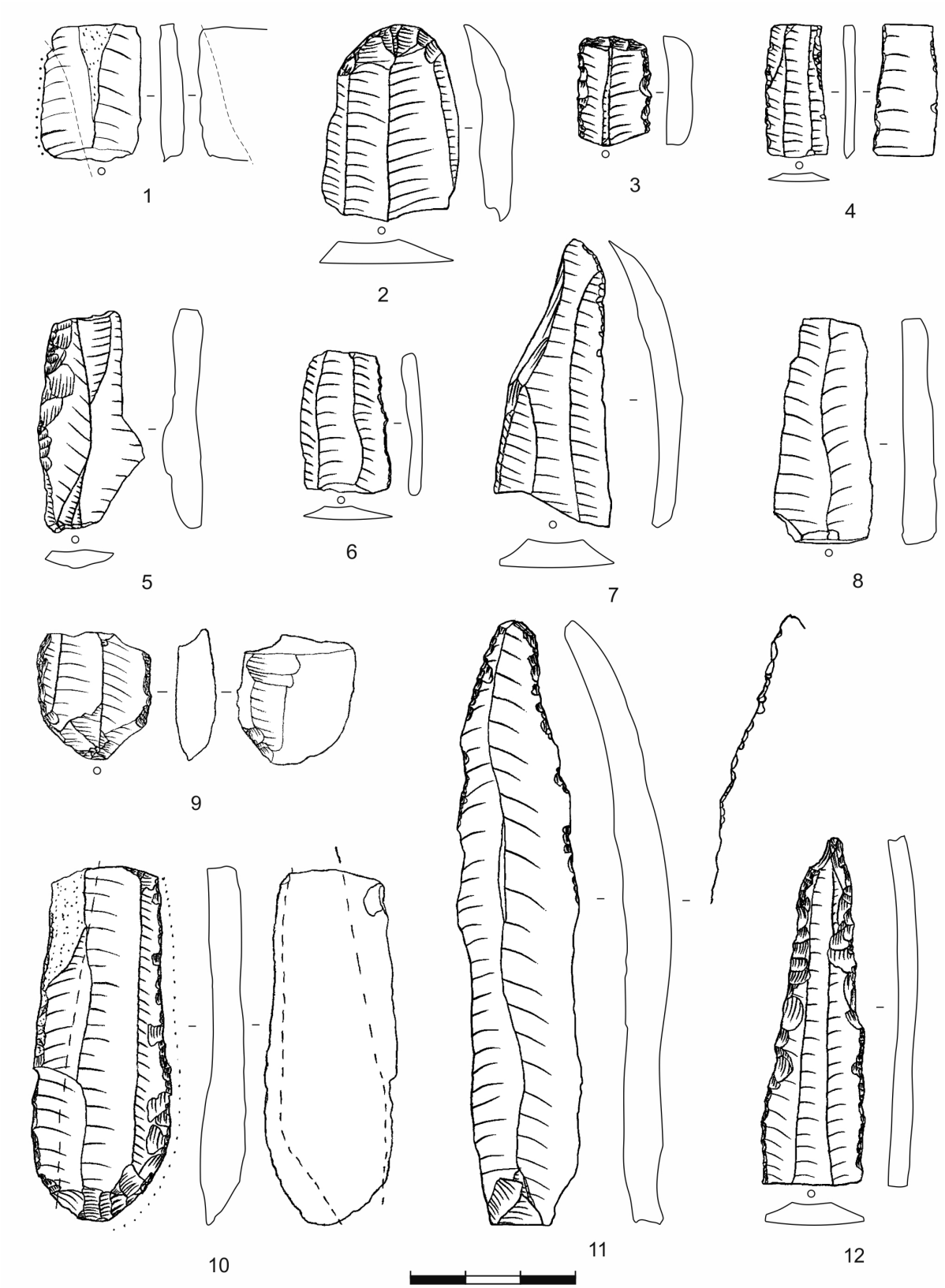

Fig. 13. *Flint tools of the Gumelnița culture at Orlovka-Kartal*

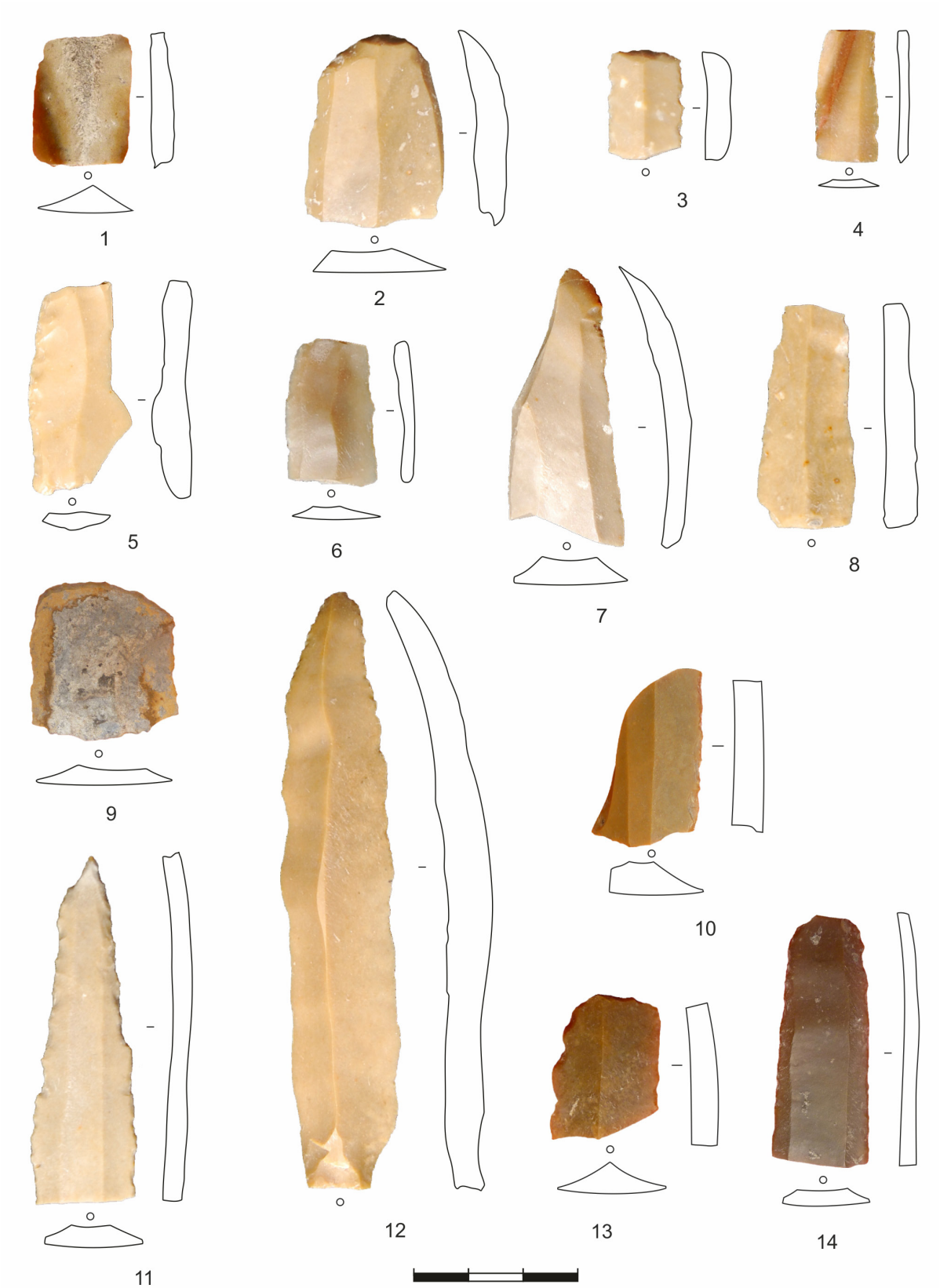

Fig. 14. *Flint tools of the Gumelnița culture at Orlovka-Kartal*

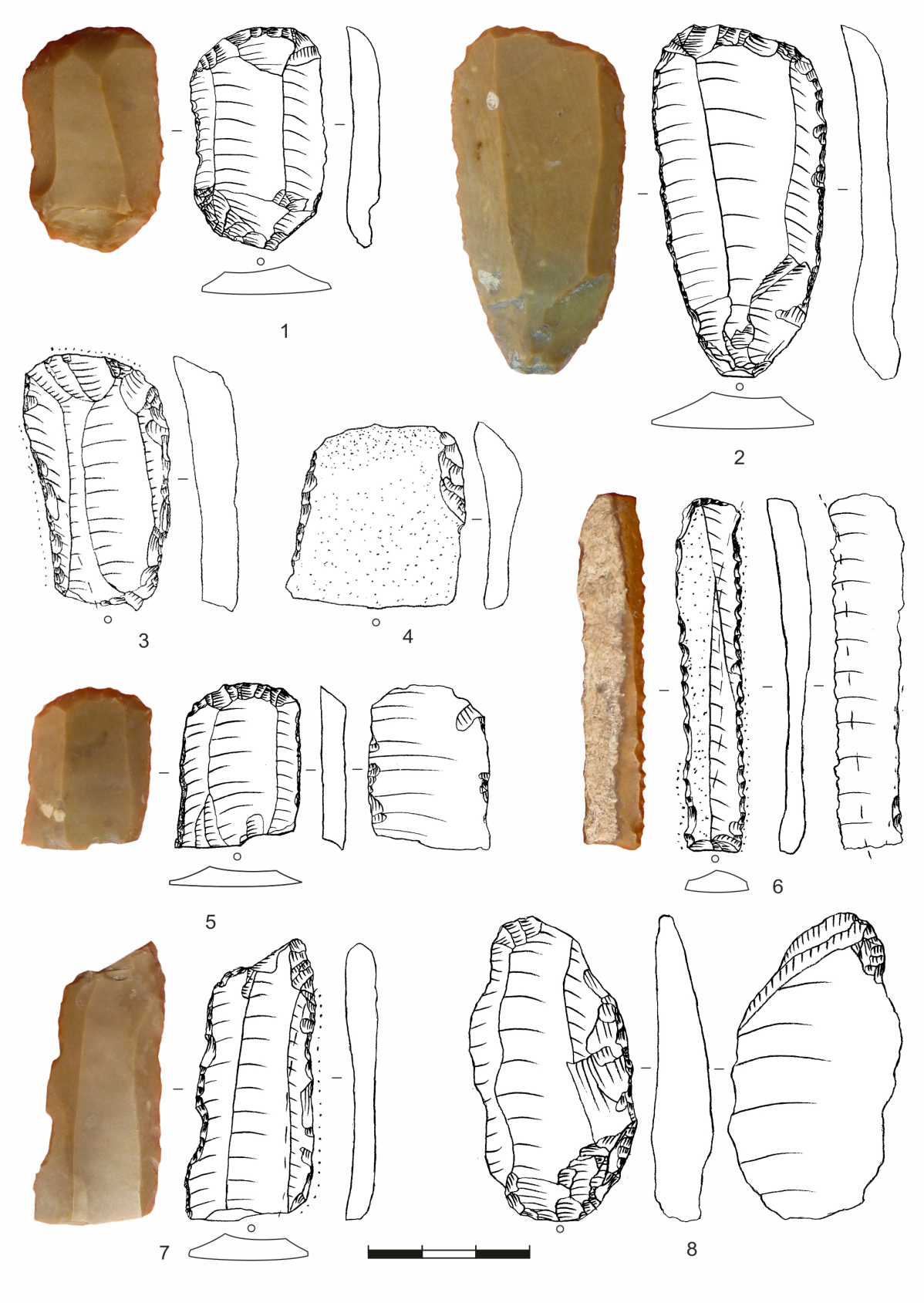

Fig. 15. *Flint tools of the Gumelnița culture at Orlovka-Kartal*

Fig. 16. *Stone tools of the Gumelnița culture at Orlovka-Kartal*

Fig. 17. *Bone and antler tools of the Gumelnița culture at Orlovka-Kartal*

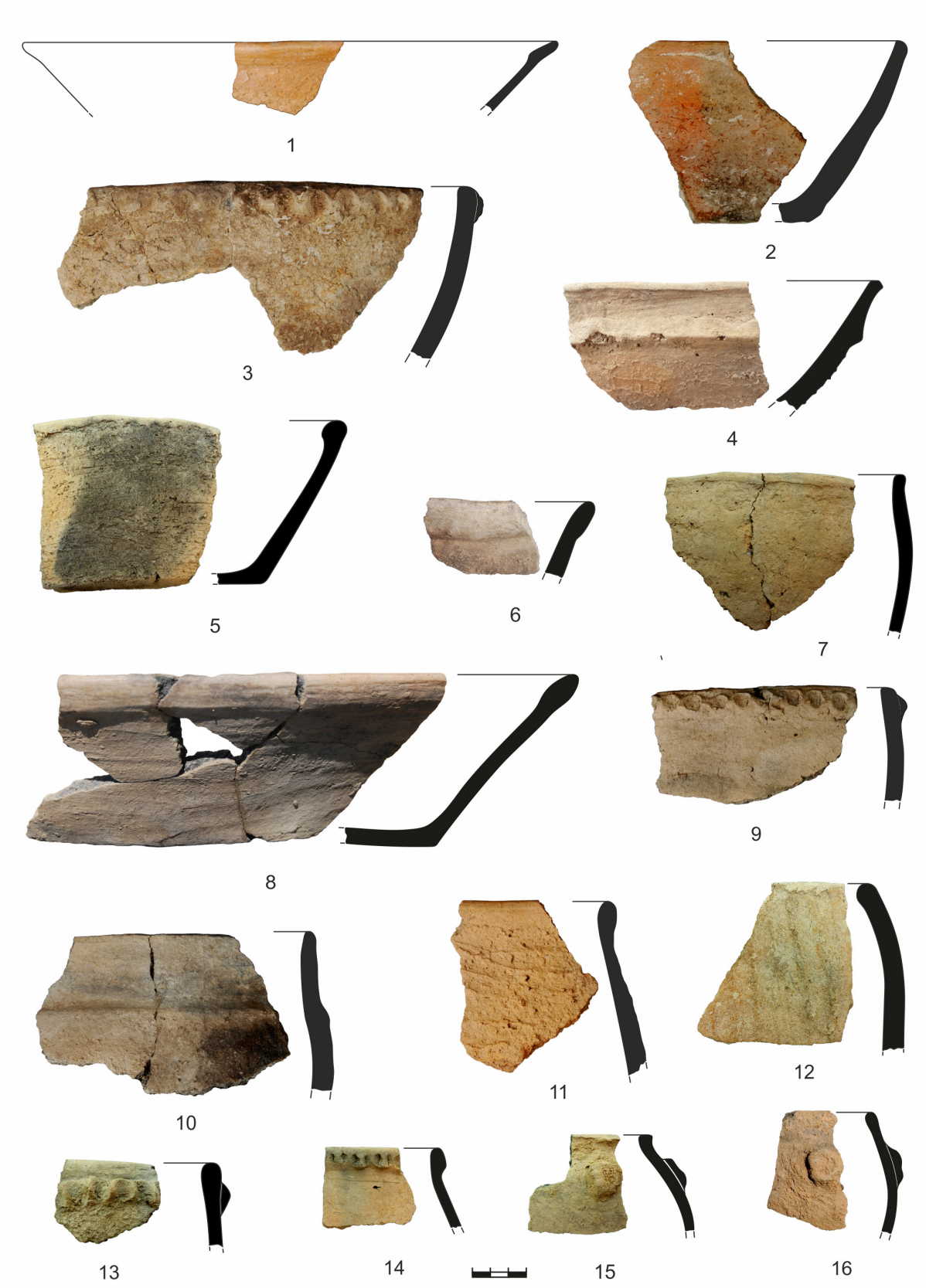

Fig. 18. *Pottery of the category I of the Gumelnița culture at Orlovka-Kartal*

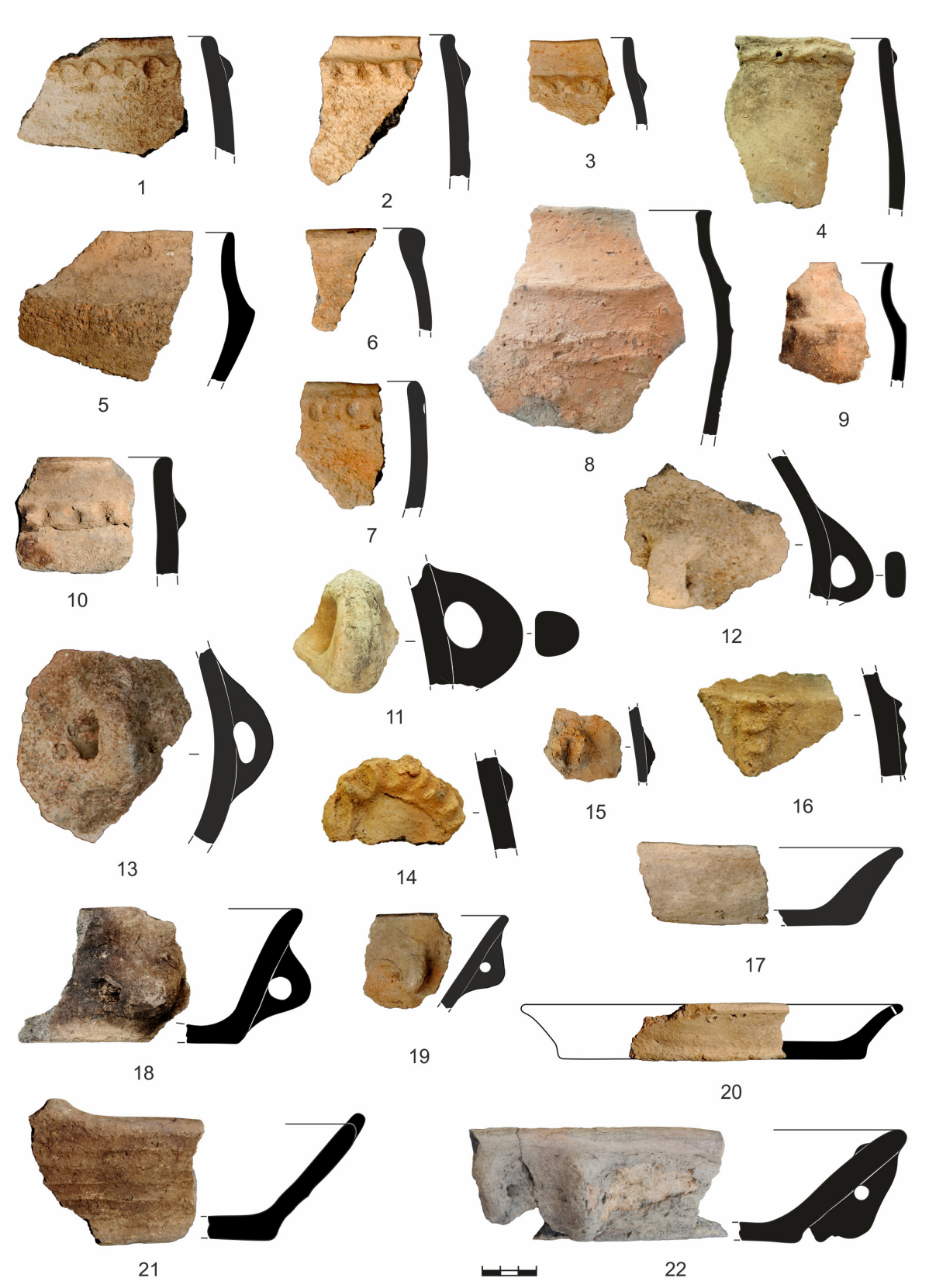

Fig. 19. *Pottery of the category I of the Gumelnița culture at Orlovka-Kartal*

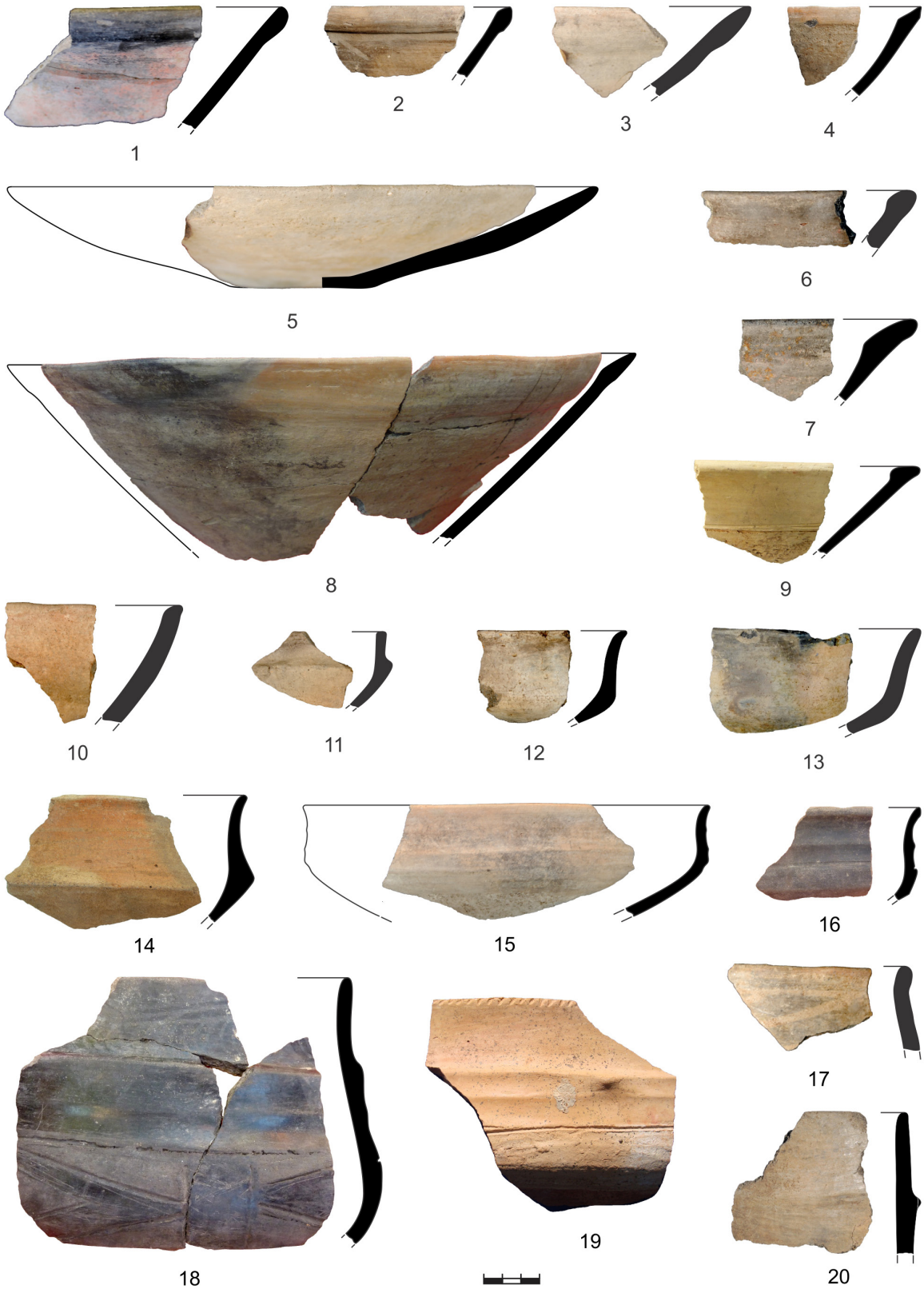

Fig. 20. *Pottery of the category II of the Gumelnița culture at Orlovka-Kartal*

Fig. 21. *Pottery of the category II of the Gumelnița culture at Orlovka-Kartal*

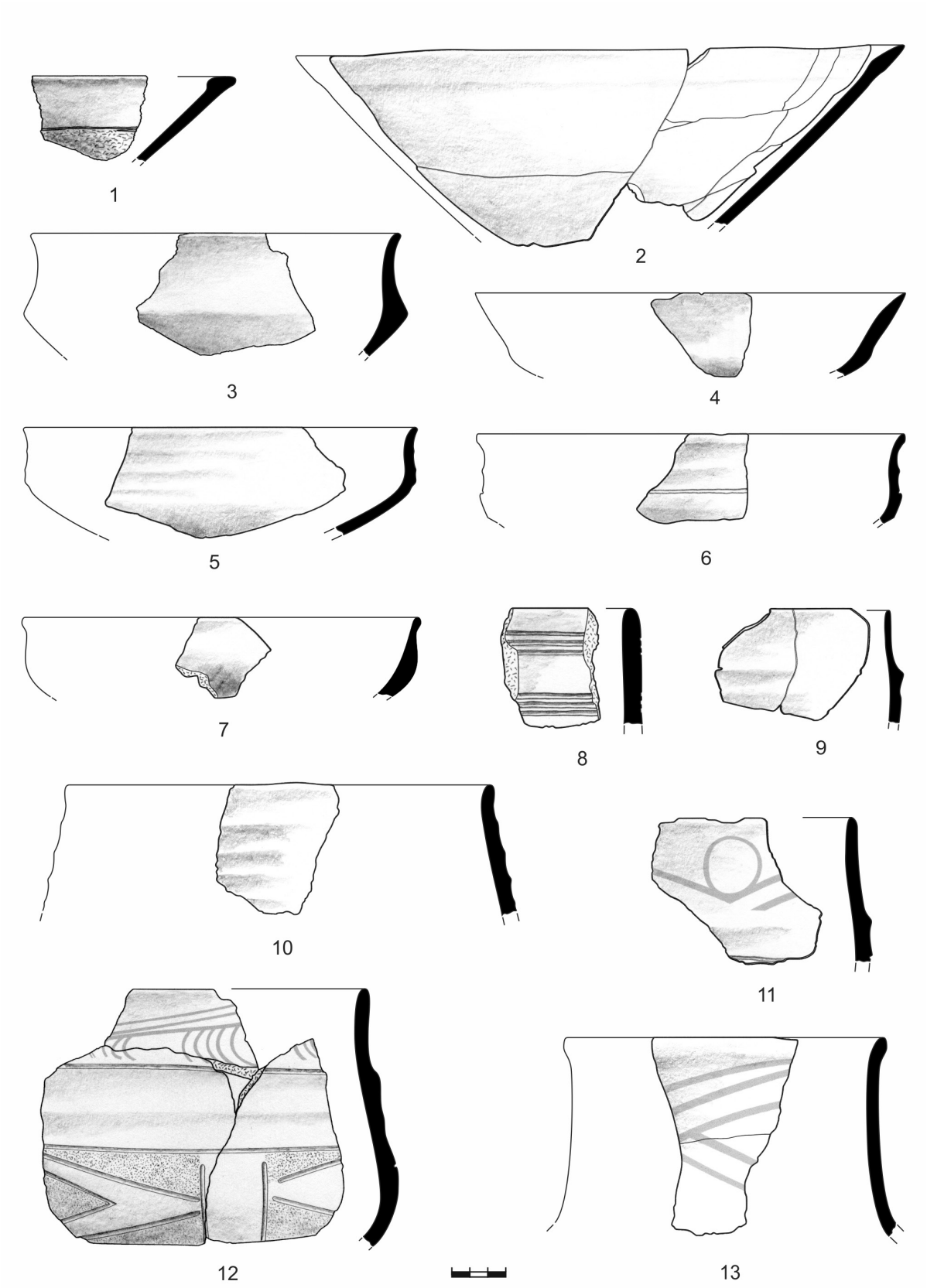

Fig. 22. *Pottery of the category II of the Gumelnița culture at Orlovka-Kartal*

Fig. 23. *Pottery of the category III of the Gumelnița culture at Orlovka-Kartal*

Fig. 24. *Pottery of the category III of the Gumelnița culture at Orlovka-Kartal*

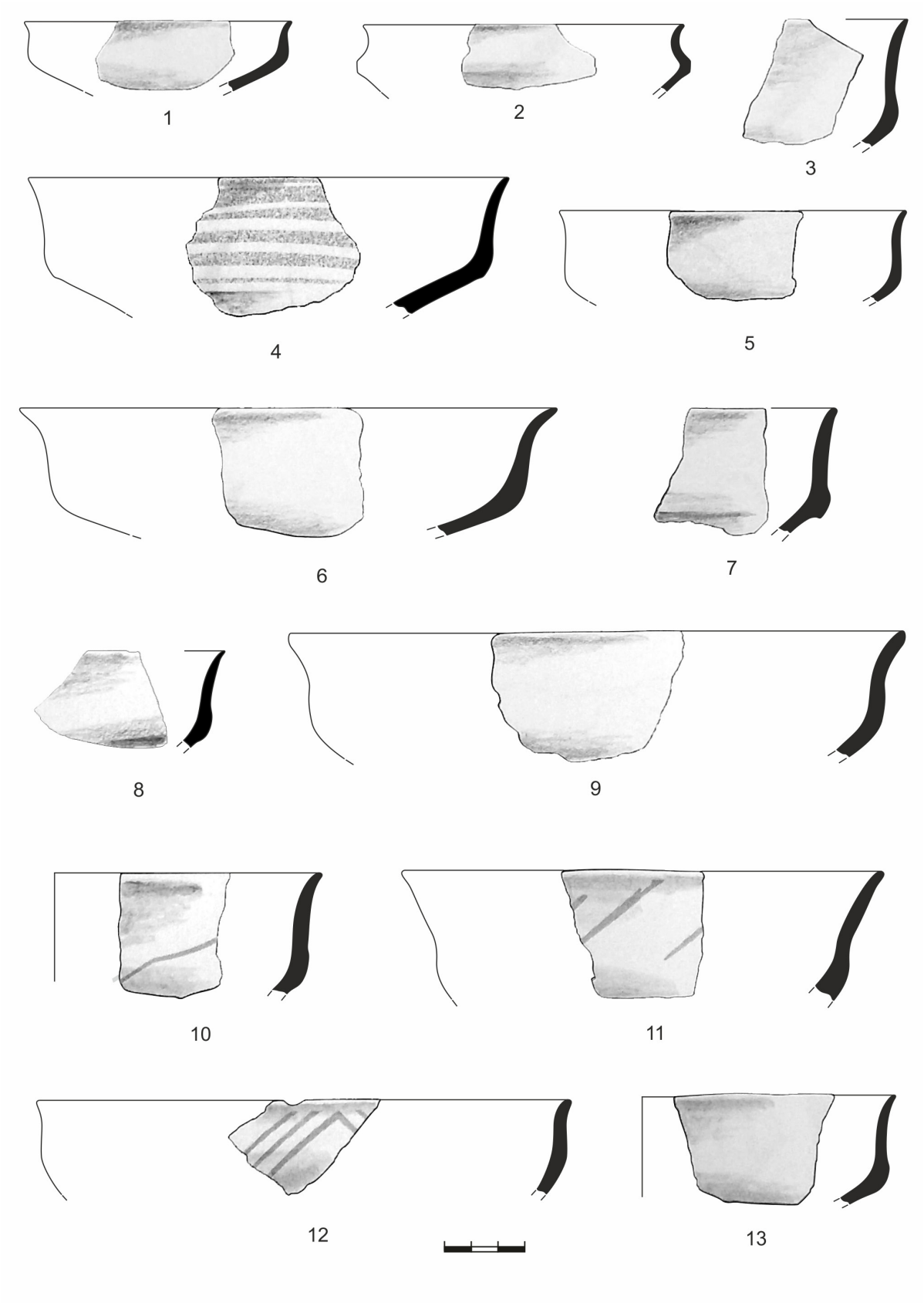

Fig. 25. *Pottery of the category III of the Gumelnița culture at Orlovka-Kartal*

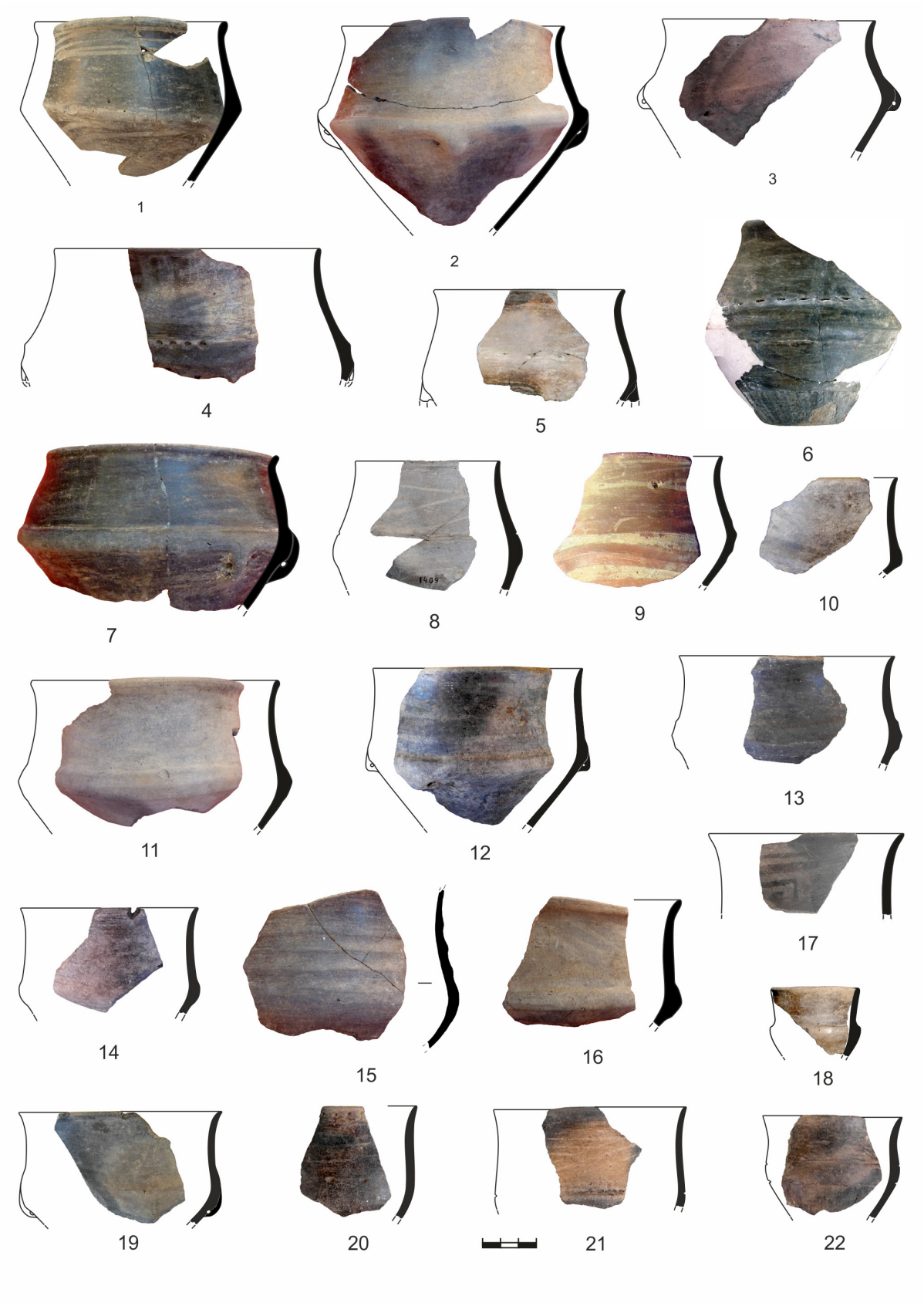

Fig. 26. *Pottery of the category III of the Gumelnița culture at Orlovka-Kartal*

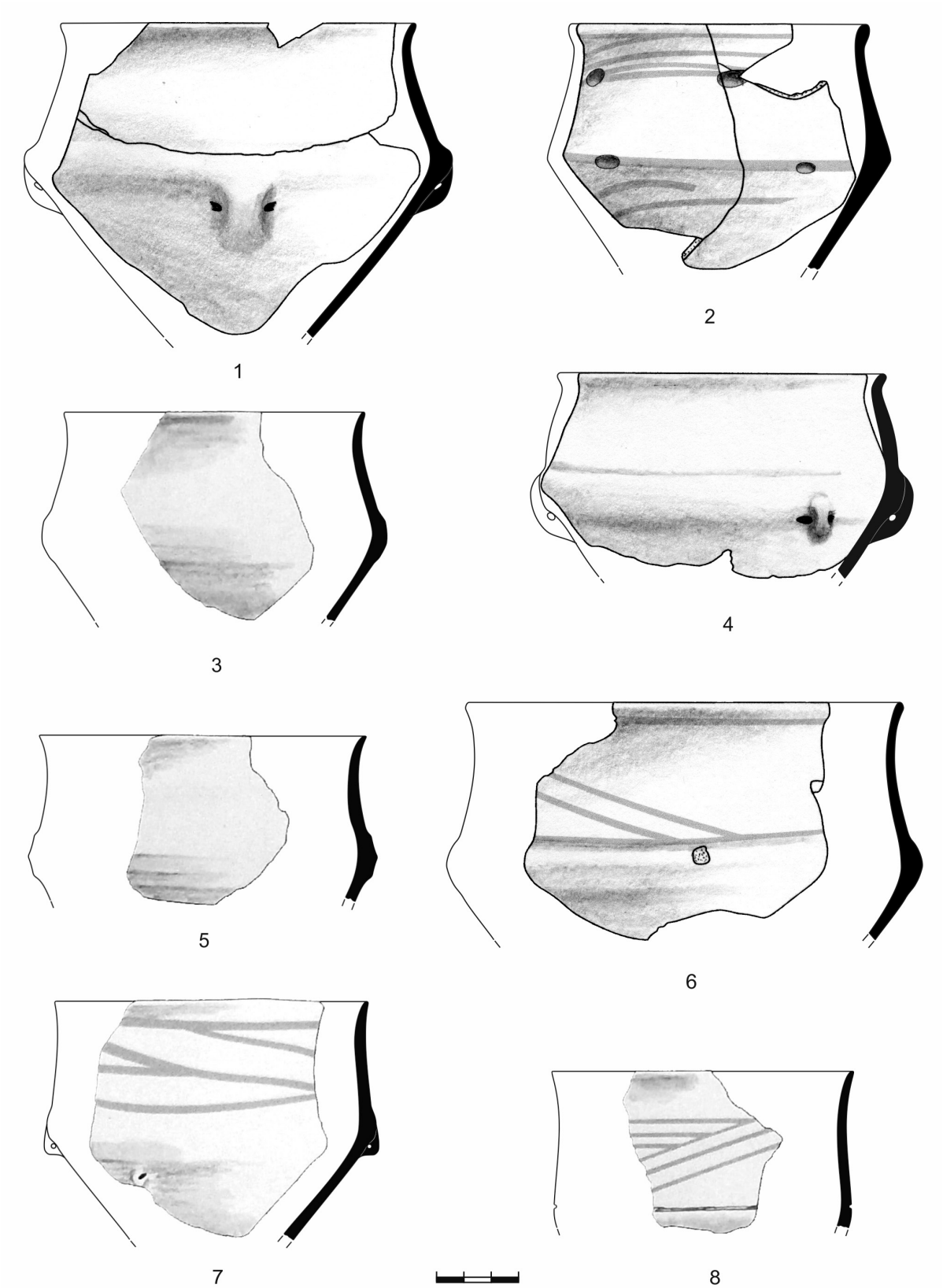

Fig. 27. *Pottery of the category III of the Gumelnița culture at Orlovka-Kartal*

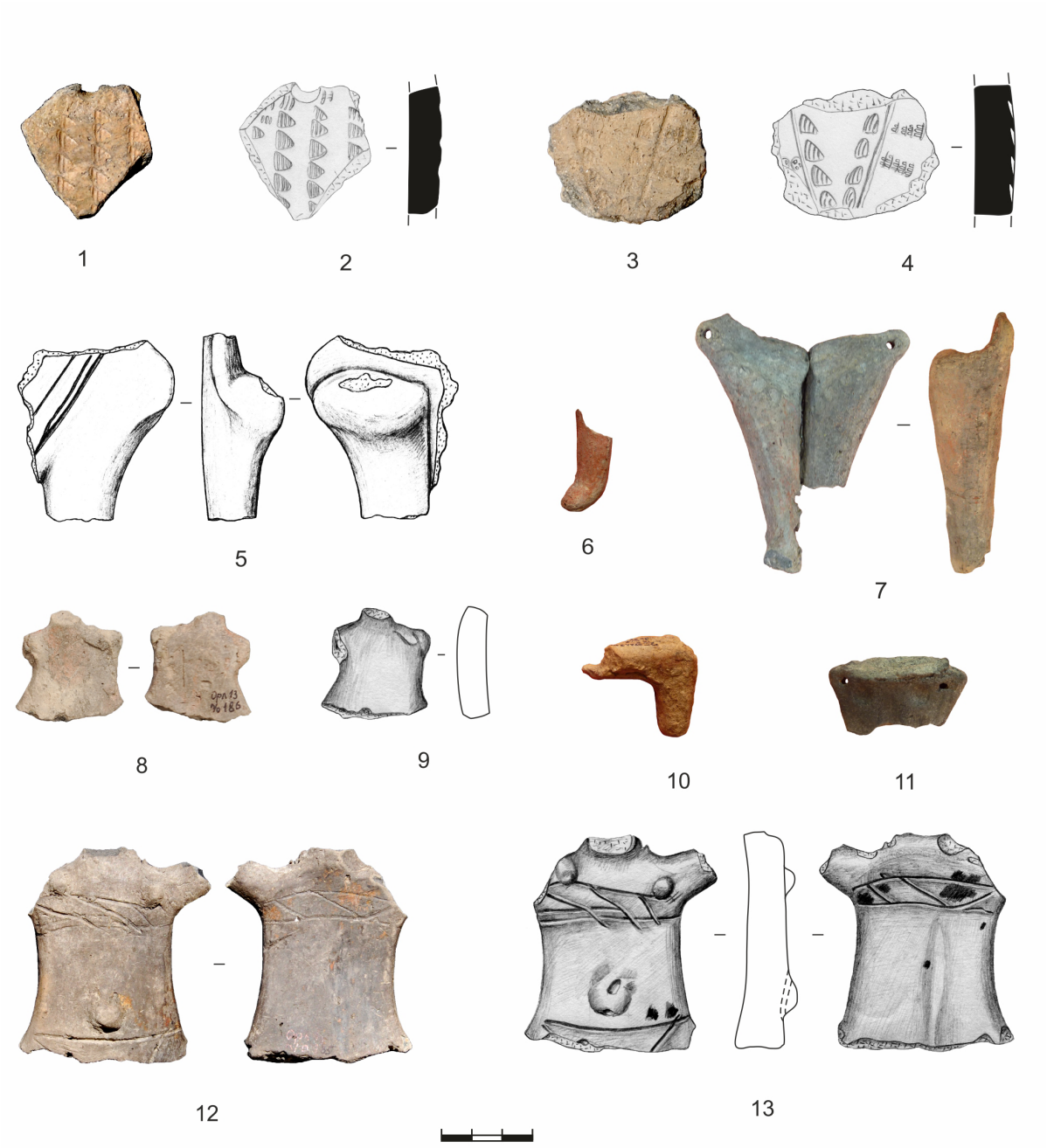

Fig. 28. *Imported ceramic ware (1–4) and anthropomorphic figurines (5–13) of the Gumelnița culture at Orlovka-Kartal*