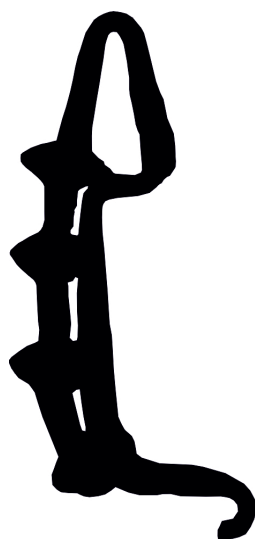


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This volume is dedicated to Tudor Soroceanu at 80 years

Acest volum este dedicat lui Tudor Soroceanu cu ocazia împlinirii a 80 de ani



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The Late Bronze Age necropolis from Zalău, Sălaj County

Ioan Bejinariu, Mihai Constantinescu, Dan Băcuet-Crișan

Abstract: This article aims to present the results of recent research (2019-2020) from a segment of a Late Bronze Age necropolis from Zalău - Valea Miții, "Dealul lupului". 16 archaeological complexes with funerary character, all with the deposition of calcined remains in the urn were discovered in this point, but the total number of graves investigated at Zalău „Dealul lupului” would be between 18 and 20. The cemetery belong to the Late Bronze Age Cehăluț – Hajdúbagos cultural group. The results of the anthropological research carried out for some of the investigated funerary complexes are also presented. The discovery is all the more important, since in the area inhabited by these communities, the archaeological research has mainly focused on the settlements, and the data on the funerary behavior are extremely incomplete and come mostly from older discoveries.

Keywords: Late Bronze Age; Cehăluț – Hajdúbagos cultural group; cemetery; north-west Romania; anthropological analyses.

The natural environment and some data on the location of research

The Sălaj area located in the northwest of Romania appears as a connecting unit between the north of the Transylvanian Plateau and the Upper Tisza region. This character is determined by the fact that the main watercourses, Someș, Crasna and Barcău are directly or indirectly tributary to Tisza. At the northern end of the Meseș peak, an extension of the Apuseni Massif, is the pass "Poarta Meseșană" one of the most important crossing places on an old road that provided transit between Transylvania and the western parts.

The municipality of Zalău, the administrative capital of Sălaj county is located in the central area of Sălaj, at the foot of the western slope of the Meseș Mountains, in an area with a depression aspect shaped by the Zalău Valley (Pl. 1/1) The hilly landscape with an altitude between 200 – 500 m is characterised by a temperate sub-mountainous climate, with rich rainfall and low-temperature oscillations compared to the Transylvanian Plateau. The Zalău micro-depression is an intermediate zone between the pass "Poarta Meseșană" in the area of the ancient Porolissum and the corridor along the Crasna Valley, which after bypassing the crystalline massif of "Măgura Șimleului", goes to the north-west towards the Tisza Basin.

"Dealul lupului" (Hungarian „Farkas-domb”) is a plateau (max. alt. 246 m) located in the north-west of the city, roughly shaped like a trapezoid, bounded to the east by the stream "Valea Miții", to the west and south by the beltway and to the north by Valea Zalăului (Pl. 1/2). Its present appearance, rather flat towards the east side seems to have been due to anthropogenic arrangements during the years of World War II when it was used as an airfield. The land belonged to the former hamlet "Valea Miții" integrated in recent years into the administrative territory of the county seat municipality. Since the 1970`s, when the urban landscaping of Zalău began, the area is reserved for industrial constructions and landscaping and has remained the same nowadays. It is in this part of the city, originally especially on the right bank of the Valea Miții stream, where the first communist enterprises were built and subsequently, starting with 2003 at the northern limit of the plateau "Dealul lupului" that the arrangement began for a production section of the French Michelin Group which later expanded to the south with the amplification of industrial activity. Beyond the beneficial effects of the development of the city, all of these industrial objectives were arranged in an area with a rich and diversified archaeological heritage. Although the first excavations with a preventive character were carried out even from the first years of the construction of these productive units¹, their scale was relatively narrow and was done with the means and in the spirit of the time, when the commands

¹ Lakó 1980, 31-32; Băcuet-Crișan S., Băcuet-Crișan D. 2003, 17-18; Băcuet-Crișan D. *et. al.* 2009, 9-13.

of accelerated industrialisation and less concern for cultural heritage took precedence. The new legislative measures related to preventive and salvage archaeology, which appeared after 2000, created the necessary framework for carrying out preventive research in an almost natural manner in order to document, record and save the archaeological remains known or newly emerged from the time of the arrangement of the land for the realisation of the Michelin Group investment.

Archaeological research carried out over time in the place called „Dealul lupului” has revealed a fairly consistent human presence over a long period of time, starting with the Neolithic². Probably the most extensive research that preceded the arrangement of the land for the construction of the production premises of the Michelin Group tyre factory was carried out between 2003-2005. In this context, the discovery of new vestiges belonging to the Neolithic, but also from the Bronze Age (Final Early Bronze Age – beginning Middle Bronze Age), from the First Iron Age, from the Laténe period of Celtic and Dacian culture, was reported. At the same time, archaeological complexes interpreted as traces of Roman marching camps were observed³, cremation graves with inventory characteristic of German Warriors dated to the 2nd AD century, a Roman-era settlement in *Barbaricum* which overlaps the vestiges of the marching camps, but also complexes attributed to the Early Middle Ages, among which cremation graves dated to the 6th - 7th centuries⁴. Most of the research took place at the northern limit of the plateau, at the spill area of Valea Miții creek in Valea Zalăului.

Presentation of the archaeological research

The preventive archaeological research that led in 2020 to the discovery of the Late Bronze Age cremation graves from Zalău – Valea Miții, point „Dealul lupului” was preceded by an archaeological diagnosis that covered an area of about 6 ha on the plateau south of the production halls of MICHELIN. The archaeological diagnosis was conducted in the late autumn of 2019 and was completed early the following year. Only at the south-eastern limit of the surface for which intrusive diagnosis was requested, archaeological indications were discovered based on which the area with vestiges was delimited and subsequently, a preventive archaeological excavation permit was requested for the research and later the removal of the archaeological findings. The first archaeological complex identified consisted of a small grouping of coal and modern ceramic fragments (Cx. 1), and the second was a pit, probably from a pillar outlined in the area where the Late Bronze Age burials occur (Cx. 2). This complex was devoid of archaeological inventory and cannot be connected with the necropolis. The same is true for Cx. 4, also an inventory-free pillar pit that appeared in the necropolis area. The first indications of the existence of an archaeological site at the south-eastern limit of the surface under diagnosis appeared in survey section S. 32 and consisted of some ceramic fragments characteristic of the Late Bronze Age period, observed at a depth of 0.30 m / 0.40 m compared to the current stepping level. After the delimitation of the area with archaeological remains in the context of the diagnosed surface and the obtaining of the authorization for preventive archaeological research, it continued by mechanical scraping up to the level at which the remains with funerary character appeared. The total area uncovered for the research of the funeral complexes was about 320 m². As an additional safety measure, we have uncovered an additional surface and we have excavated a series of survey sections in continuation of the surface with the remains, but inside the perimeter for which the diagnosis was requested but no other graves or even archaeological materials have appeared (Pl. 2).

Description of the funeral complexes

Cx. 3. It is the first grave discovered during the spring 2020 field assessment. The pit in which the urn was deposited is dug in the yellow-clay soil. The outline of the grave pit could not be specified, nor could the bottom of the pit. The first ceramic fragments appeared at a depth of 0.35 m. It is a small urn with a bitronconic body, with four conical protrusions on the maximum diameter area (Pl.6/6). Several more ceramic fragments, which probably belonged to the same context, appeared a

² Lazarovici 1986, 26.

³ Matei, Pop 2006, 171-180.

⁴ Matei *et al.* 2004, 375-378; Matei, Pop 2005, 411-413; Băcuet-Crișan D *et al.* 2006, 400-401; Băcuet-Crișan D. *et al.* 2016, 214-215; Băcuet-Crișan D. *et al.* 2017, 220.

short distance from the urn. It is the bottom of a vessel with an incised decoration of vertical strips filled with zigzag incisions, decorated also on the bottom with an incised circle and groups of three incisions. We mention two other fragments that belong to two other containers (Pl. 6/1-5). Very few burnt bones were discovered on the bottom of the urn.

Cx. 5. It was visible at a depth of 0.38 m, very close to Cx. no. 3. In order to completely remove the funerary complex, the investigated area was slightly expanded. Fragments from three containers were found. It is a vessel with a probable bitronconic profile from which a portion of the upper part was reconstructed. Other fragments come from the top of another container with a cylindrical neck and two handles under the rim. Other fragments come from a bowl with a hemispherical body, with a maximum diameter of more than 30 cm, decorated with groups of semicircular grooves under the shoulder of the bowl, as well as towards the bottom of the container (Pl. 7/1-4).

Cx. 6. A group of three tombs (Cx. 6-7-8) appeared at the eastern boundary of the investigated area. Cx. 6 and 8 are very close (about 20-30 cm), and Cx. 7 appeared about 1.00 m southeast of Cx. 6. Cx. 6 consists of the remains of a bitronconic vessel, decorated with vertical striae, discreetly made. Fragments of a ring-legged vessel decorated on the bottom also appear. Among the ceramic remains, there are also fragments of a bowl with a truncated body, well-defined shoulder and a bevelled lip on the outside. At the same time, we mention fragments from a bowl of the same type but decorated with semicircular incisions and grooves, bordered by round impressions. Another fragment comes from a container (bowl?) with conical protrusions surrounded by semicircular grooves (Pl. 8/1-6). On the bottom of the bitronconic urn appeared a large number of burnt bones, as well as two to three small pieces of bronze, indeterminable. Anthropological analysis found that a small amount of the burned bones came from animals.

Cx. 7. It emerged from a depth of 0.37 m. The urn is a vessel, apparently with a bitronconic profile, with two tubular handles placed in the upper half, under the edge of the container. Fragments from a short neck and rounded body bowl also appear, as well as fragments from at least four cups or mugs. Other fragments come from another vessel that cannot be determined due to the current fragmentary stage (Pl. 9/1-6). A handful of burnt bones appeared on the bottom of the pot that served as an urn.

Cx. 8. The vessel that served as a funeral urn was discovered in a state of excessive fragmentation. According to the preserved fragments, it seems to be a tronconic vessel. It could not be restored. The remains of a deep bowl with a truncated body without a neck were also recovered; they were a short distance from the remains of Cx. 6. The container has a horizontally bevelled lip to the outside, and below the lip, from the well-defined shoulder start concentric semicircular grooves that frame conical protrusions directed upwards (Pl. 10/3). Together with the remains of the two containers, a significant amount of burnt debris appeared.

Cx. 9 and 10. Both appeared about 10 m north of the area where most of the funerary complexes of the investigated surface of the Late Bronze Age necropolis are grouped. Both were greatly damaged by agricultural works whose traces can be seen, in places, on the tailings level as darker stripes. Complex no. 9 consists of a grouping of ceramic fragments spread over an area of 1.80 m² at a depth of 0.36 m. These are fragments from a vessel with thick walls, a bitronconic profile, with a tronconic neck, well-defined in relation to the bottom of the container. The bowl has a double colour, black on the outside and scarlet on the inside. Fragments from a second container manufactured from a homogeneous but insufficiently fired paste, also appear (Pl. 11/1-2). **Cx. 10.** About 2 m south of the remains of complex no. 9, at a depth of – 0.36 m from the current surface of the soil appeared fragments, much more grouped from two other containers. These are the remains of a large vessel with a truncated body. Next to it, there are fragments from another double-coloured container, black on the outside, and scarlet-red on the inside. It is a bowl with the rim arched inwards. (Pl. 11/3-4). Since both burial complexes were obviously affected by agricultural works, very few burnt bones were discovered in the areas where the ceramic remains were concentrated.

Cx. 11. The remains of a large bowl appeared at a depth of 0.42 m, with a diameter at the mouth of 0.45 m, with two handles that connect the rim of the vessel and its body. Beneath these appeared fragments of the underside of another vessel, probably the urn (Pl. 12/3-4). Small remains of burnt bones were also visible at the contour level, and another amount of ash remains were in the second container.

Cx. 12. Fragments of a tronconic bowl with the rim reflected inwards were observed on the contour level of at a depth of - 0.38 m. Some small ceramic fragments from a double-coloured container, black on the outside, scarlet-red on the inside, appeared alongside them. None of the vessels could be completed (Pl. 12/1-2). The amount of burned bones is extremely low. Probably this funerary complex was also affected by agricultural works, as the amount of ceramic fragments discovered, apparently "in situ" is reduced.

Cx. 13. A group of ceramic fragments appeared at a depth of -0.42 m from the current stepping level. Some come from a vessel with a tronconic body, with a rounded middle. The container is decorated with spiral grooves. It is one of the vessels of good quality that appear in the funerary complexes of the Zalău "Dealul lupului" necropolis. It is worked from a fine paste, well-homogenised, mixed with sand, gravel and crushed shards. The firing is thorough, and of good quality. The outer surface is covered with a smoothed slip, brownish in colour, in places drooping. On the inside it has a yellowish color. There were also fragments that came from the bottom of another vessel, probably with a bitronconic profile, also manufactured from a good-quality paste. We also identified, besides this, the fragments from two other containers, probably a bowl and an indeterminable vessel, decorated with two horizontal incisions (Pl. 13/1-4).

Cx. 14. A group of ceramic fragments appeared at a depth of 0.46 m, and at about 0.50 m to the west there appeared some fragments, probably disturbed by agricultural works from their original position. After cleaning it turned out that the fragments came from several vessels. It is a vessel with a cylindrical neck, well-defined and a bitronconic body profile. It is manufactured from a quality clay, well-homogenised, mixed with fine sand. The walls are thin, and the firing is of good quality. The vessel has a grey colour and the outer surface is well smoothed. Other fragments come from a vessel with a rounded body, with an alveolate girdle placed below the rim and grasping protrusions below the girdle. It is manufactured from a homogeneous paste, degreased with shards. The firing penetrated in depth the vessel's walls. The inner surface of the container is smoothed. It has a scarlet colour. The fragments of a tronconic-shaped bowl with a lobed rim appeared in the same context. Under each of the four (?) lobes appears a handle surrounded at the bottom by semicircular grooves. We also mention a fragment from a vessel with conical protrusions surrounded by fine semicircular grooves, as well as a fragment from a container whose shape cannot be specified, which has three horizontal incisions on the neck (Pl. 14/1-4; 15/4-5). The most interesting appearance in this ceramic ensemble Cx. 14 is however a fragment from a large-sized cup (?). It is a part of a vessel with an over-arched handle. The handle is roughly triangular in section, and at the top, it appears to have had a knob (Pl. 14/1). Some of the cremated bones have a slight greenish patina, probably from bronze pieces placed on the funeral pyre with the deceased.

Cx. 15. A cup placed with its mouth down over a small bitronconic vessel appeared at a depth of 0.40 m. A small amount of burnt bones was found in the last container. We also identified fragments from two bowls among the ceramic remains. The container in which the burnt bones were located is a mug with a small leg. It is tronconic in shape, with four conical protrusions, flattened on the area of maximum diameter. It is manufactured from a well-homogenized paste with a soapy appearance, degreased with fine, silty sand. The firing penetrated in depth the thin walls. The vessel is black. Only the upper part was preserved from the first vessel. It is a container with a truncated body and a straight and slightly thickened lip. Four conical protrusions directed downward appear below the edge of the vessel. It is manufactured from a low-quality, insufficiently homogenised paste. Crushed shards appear in the composition of the paste. The firing is of poor quality. It is scarlet with black flecks. The surfaces are summarily smoothed. (Pl. 10/1-2)

Cx. 16. It is another funerary complex of the necropolis that has been affected to a significant extent by agricultural works. There are a few ceramic fragments found apparently "in situ". We are talking about the remains of a container with a tronconic profile (bowl?), with sloping walls, with four (?) conical protrusions under the rim of the vessel. It is manufactured from a not very homogenised paste, mixed with crushed gravel and shards. It is scarlet and the surfaces are summarily smoothed. There are also fragments of a vessel black on the outside, respectively brown on the inside, manufactured from a well-homogenised paste, well-fired, with the outer surface thoroughly smoothed. It seems to have been decorated with semicircular grooves. (Pl. 15/1-3).

Cx. 17. At a depth of 0.40 m from the current level there appeared four groups of ceramic fragments numbered **17A-B-C-D**. Within the group numbered 17 A appeared the fragments of a vessel, probably bitronconic, made of a mixture with a medium degree of homogenisation along with sand and gravel. The firing of the pot is of good quality, penetrating the depth of the wall. The surfaces are smoothed. It features a brown slip, fallen on large surfaces, especially on the outside. Above this vessel appeared the remains of a bowl decorated with semicircular grooves on the shoulder, delimited by long impressions. It is made from an insufficiently homogenised paste mixed with shards. It has a brown colour. Next to them, there are smaller ceramic fragments it is difficult to say whether they come from the two vessels described above or perhaps other containers (Pl. 16/1-2). A small amount of burnt bones appeared on the bottom of the bitronconic vessel. 17 B designates a pot with a belly body, with semicircular grooves arranged above the area of maximum diameter. Also in the same area of the container appear four (?) small conical protrusions made by pushing the vessel wall from the inside. Along with the remains of this vessel, there are fragments from a tronconic container with oblique walls and a thin rim, arched on the outside, as well as a fragment from another vessel decorated with grooves and elongated impressions (Pl. 17/1; Pl. 21/1). On the bottom of the urn there appear many burnt remains, and among them a fragment of a bronze piece made from a bar with a quadrangular section (Pl. 21/2). The surface of the metal part is deformed and has small holes due probably to its exposure at high temperatures on the funeral pyre. Three other small metal fragments were also identified. The ceramic group denoted by 17 C consisted of the remains of a vessel with a well-rounded bitronconic profile, with a short neck and two handles in the neck area. It is manufactured from relatively well-homogenized paste mixed with fine sand. The vessel is well-fired. It is brown with well-smoothed surfaces. Fragments from the lower half of another container decorated with semicircular grooves arranged around a conical protrusion also appear (Pl. 18/1-3). A significant amount of burnt bones appeared on the bottom of the pot-urn. A river stone appeared above this context, and among the ceramic fragments, a sliver of flint was found. The number 17 D designates the group from which the remains of a bowl with a tronconic body and about a handful of burnt bones on its bottom were recovered. The remnants of the four ceramic associations appeared very close to each other without any overlap. (Pl. 21/3-8).

Cx. 18. At a depth of 0.45 m from the current level of the soil appeared the remains of a container with an almost bitronconic profile of the body, with a conical short neck, and with two handles connecting the area below the rim of the vessel with the shoulder of the container. The vessel contained a significant amount of burnt bones. It is made from a fine paste, well-homogenised, mixed with crushed shards. It is dark brown, the outer surface is well-smoothed. (Pl. 19/1).

Cx. 19. This complex consists of an association of three groups of ceramic fragments arranged on an area of about 1 m² without any overlap between them (**Cx. 19 A - B - C**). The upper part of the vessels appears at -0.48 m from the current soil level. 19 A designates the fragments of a vessel with a bitronconic body, with a roughly cylindrical neck. It is decorated with thin horizontal grooves on the neck, and in the area of the maximum diameter with protrusions obtained by pushing the vessel wall from the inside. In association with these, there also appear fragments coming from a bowl with a lobed rim and fragments from another container with a bitronconic profile, decorated in the upper part with wide incisions arranged in zigzag under a horizontal string of elongated impressions, and below them appears a spiral decoration made of grooves (Pl. 20/1-5; Pl. 23/3-9). The urn bowl contained a small amount of burnt bones on the bottom. The designation 19 B denotes the remains of a vessel with a slim body, with a cylindrical neck well delimited from the shoulder of the container. It is worked from a fine paste, well-homogenised, mixed with fine sand. The surfaces are well-smoothed, and the vessel is brown. On the inside appear adherent deposits, black, with a resinous appearance. On the shoulder of the vessel appears an elaborate decoration consisting of hatched arches that alternate with empty spaces, like excised areas. The vessel contained a significant amount of burnt bones in its lower part. Next to it appeared the fragments of a bowl with a tronconic body, with two handles under the rim (Pl. 22/1; Pl. 23/2). 19 C designates a tronconic bowl with very arched walls and slightly invasive rim, modelled with lobes that slightly exceed the edge of the container. The bowl is manufactured from a well-homogenised paste, the firing penetrated the walls. The vessel shows a well-smoothed, brown slip (Pl. 23/1).

The analysis of the discoveries

The graves investigated in 2020 in the area "Valea Miții" district, Zalău municipality, at the point "Dealul lupului" belong, based on the repertoire of the ceramic forms in the funerary inventory and their decoration, to the Cehăluț – Hajdúbagos cultural group. The archaeological monuments attributed to this cultural group are documented in the Late Bronze Age on a vast geographical area in north-eastern Hungary and north-western Romania, roughly bounded to the north by the Someș – Crasna interfluvium, and to the south exceeding the course of the Crișul Alb. The eastern limit in the Sălaj area is represented by the Meseșului peak, and to the west until Tisza. Around 200 finds attributed to the Cehăluț – Hajdúbagos cultural group are known in this geographical area so far. In this area, finds of funerary character (necropolis, groups of graves, isolated graves or in settlements) are extremely few, compared to the large number of settlements that are known⁵.

In the following we will analyse the find from Zalău "Dealul lupului" but placing the analysis in a context compared to the funerary discoveries known (and published !) from the area occupied by the Cehăluț – Hajdúbagos communities, but also by recourse to other funerary finds from the Eastern Carpathian Basin from the Late Bronze Age period. So far the only necropolis attributed to the Cehăluț – Hajdúbagos cultural group, researched and published is the one at Hajdúbagos – "Daraboshegy" (eastern Hungary). Investigated at the beginning of the twentieth century, the necropolis consisted of 18 cremation graves in urns. In 1937 four more graves were investigated and the results of the research were published by T. Kovács in 1970⁶. It is not certain, however, whether the entire necropolis or only part of the burials were investigated. Another necropolis attributed to the bearers of this group, unfortunately unpublished, originates from eastern Hungary, at Sárrétudvari. Within this cemetery, 22 graves were investigated⁷, and another group of three graves comes from Zsáka (eastern Hungary)⁸. A series of older, chance finds ((whole vessels, pieces of metal) that are supposed to come from the graves, but their funerary character is uncertain) were published from the area of the city Nyíregyháza, from the points „Bujtos ”and” Morgó”⁹. A small group of graves was discovered at Suplacu de Barcău (Bihor county), point „Lapiș I” on the occasion of archaeological research undertaken by specialists from MTC Oradea. The funerary complexes were discovered at a distance of about 50 m from the researched area of the settlement. We are talking about two cremation graves in urn. Two other graves were discovered during construction work. The vessels that served as a funeral urn were crafted from a low-quality, porous, friable paste¹⁰. Inside them were only ash and calcined bones. Other graves were discovered in Satu Mare county at Ciumești, point „ Bostănărie”¹¹ and another of uncertain character at the „Cimitirul catolic”¹². A cremation grave with the deposition of burnt remains in the pit was discovered at Pișcolt ”Nisipărie”¹³. Another funerary find attributed to this group is the one from Sanislău ”Pășune”¹⁴. A fragment of a bronze bracelet also appears in association with the burnt bones¹⁵. A possible cremation grave attributed to the members of the Cehăluț – Hajdúbagos cultural group¹⁶ is mentioned in Dindești, point ”Pășune”. Another tomb would have been discovered in the north-west of Bihor, at Valea lui Mihai, „ Breslelor str.”¹⁷, and recently another discovery of this kind is reported at the point called ”Noua groapă de lut” / ”Uj sargaföldes gödör”. A bronze crescent pendant was discovered inside the urn from the last tomb¹⁸. Given the research of the settlement from Marca ”Husău” (Sălaj county) the lower half of a bitronconic vessel in which appear several burnt bones

⁵ Bejinariu 2022, 39-42.

⁶ Kovács 1970, 27-27.

⁷ Némethi 2009, 211.

⁸ Némethi 2009, 211.

⁹ Kovács 1966-1967, 40-42; Kemenczei 1984, 123.

¹⁰ Ignat 1984, 12-13.

¹¹ Némethi 1969, 62, fig. 2/2, pl. XI/8; Némethi 1996, 30, fig. 5; Némethi 1999, 51; Némethi 2009, 206. C. Kacsó believes that there are other graves at the site – Kacsó 1997, 90.

¹² Kacsó 1999, 105, Pl. IV/2-4.

¹³ Némethi 1996, 32, 37.

¹⁴ Némethi 1978, 114, fig. 5/3-4; Némethi 1996, 33, fig. 8/5; Némethi 1999, 47- 48 f1, g1.

¹⁵ Némethi 1996, 32; Némethi 1999, 43-46, nr. 33 e3.

¹⁶ Némethi 1999, 25-27, nr. 12.

¹⁷ RepBihor 1974, 83, nr. 439; Némethi 1996, 34.

¹⁸ Ghemiș 2014, 155-160.

and a spiral piece (the ending of an arm defender ?) made of a bronze bar with a rhombic section was discovered in the investigated area of the settlement, near the remains of a construction¹⁹.

Thusly, the documentary basis from which we start our analysis consists of 59 graves of which 47 were discovered in eastern Hungary (25 yet unpublished !), respectively 12 were discovered in northwestern Romania. Several of these latest findings are questionable. They are joined by the tombs from Zalău "Dealul lupului" necropolis.

Ceramic inventory

The pottery that comes from the funerary contexts investigated in the Late Bronze Age necropolis from Zalău -Valea Miții "Dealul lupului" is in a precarious state of preservation and has a high degree of fragmentation. This aspect was certainly due not only to the anthropogenic interventions in the burial area during the time, but also was determined by the soil conditions and, apparently, by the quality of the ceramic products. Except for the two complexes (Cx. 9 and 10) affected to a significant extent by the agricultural works, all the other graves after cleaning and photo and graphic recording were removed "in situ" and transported to the conservation and restoration laboratory of the Zalău museum where specialists were able, to proceed to their cleaning, to recover the osteological inventory and later to restore the containers in the best conditions. Very few ceramic vessels could be completed to a significant extent.

Most containers are made from a well-homogenised paste, degreased with fine sand or crushed shards. Firing is most often of good quality, penetrating in-depth the vessel wall. Most often the surfaces are carelessly smoothed. The slip covering the surfaces had a low adherence and on most containers fell off large surfaces. Most vessels have dark colours, especially dark brown and similar shades, but there are also containers with a yellowish or scarlet surface. In a few complexes (Cx. 9, 10, 12, etc.) also appeared fragments from vessels with two colours: black on the outside, respectively scarlet or red on the inside. In a few cases, on the inside of the vessels that served as a funerary urn, black adherent deposits with the appearance of charcoal or resin are observed. Probably this can be connected with the deposition of funerary debris in the vessels before their final cooling.

The quality of the ceramics from the Late Bronze Age necropolis of Zalău – "Dealul lupului" is obviously inferior to the ceramic products discovered in the investigated Cehăluț-Hajdúbagos group settlements from the Șimleu depression. The poor adhesion of the slip on the vessel and the lack of concern for surface treatment are evident. In settlements, however, containers such as bowls, cups, mugs are especially very carefully manufactured, and often the surfaces are very well polished to give the impression of a metallic lustre. Can this be an indication of a production of vessels intended exclusively for the funeral, and in this case, the concern of the potter craftsmen for high-quality products be less manifest? Certainly, although some specialists support²⁰ this theory, more research and obviously deeper analysis of ceramic products are required.

Typology of forms and decoration of ceramics in the necropolis

As we mentioned earlier, the reconstruction of the ceramic vessels discovered in the burial contexts from Zalău "Dealul lupului" was a process that could not be completed due to the excessive state of fragmentation of the ceramics. For this reason, the cataloguing of vessels in a repertoire of shapes will be achieved only when we are dealing with containers where the restoration has allowed for at least a partial completion.

Most often the cremated remains were stored in vessels with the bitronconic body profile, which frequently features a pair of handles in the upper third to connect the area below the edge of the vessel with its "shoulder" (Cx. 7: Pl. 9/5; Cx. 17: Pl. 18/3; Cx. 18: Pl. 19/1). These vessels, often designated as "amphora type" are quite common ceramic containers in the Hajdúbagos necropolis²¹. They also appear in the group of graves discovered at Suplacu de Bacău „Lapiș”²², but also in the funerary

¹⁹ Bejinariu *et al.* 2014, 63.

²⁰ Medeleț 1995, 296.

²¹ Kovács 1970, 29, pl. 1/16-17, 22.

²² Ignat 1984, 24, pl. XI/2.

complex at Valea lui Mihai, the point „Noua groapă de lut”²³ or at Ciumești ”Bostănărie” (M. 6)²⁴. We also find analogies coming from funerary contexts attributed to the Cehăluț – Hajdúbagos cultural group for the variant with the same characteristics, but lacking the handles (Cx. 3: Pl. 6/6), but also for the variant that is individualized by a quasi-cylindric neck, well-defined in the lengthening of the bitronconic body of the container (Cx. 14: Pl. 15/5; Cx. 19A: Pl. 20/5). There are also two specimens (both of which unfortunately lack the upper part) with a rounded rather than bitronconic appearance of the body and probably with a cylindrical neck (Cx. 13: Pl. 13/4; Cx. 17B: Pl. 17/1). This type also appears in Hajdúbagos cemetery²⁵, but less often. We can also find it at Suplacu de Barcău²⁶. In one case (Cx. 14) a vessel with a svelte body, with the rim reinforced with a slotted girdle and provided with protrusions-handles under the lip, decorated with striae was used as a funerary urn. A similar specimen is found in the Late Bronze Age burial complex discovered at Sanislău ”Pășune”²⁷, but also in M. 11 from Hajdúbagos²⁸.

The bowl with the tronconic lower part of the body, with a more or less embossed shoulder that makes the passage towards the edge of the vessel, slightly arched outward has a high occurrence in the repertoire of ceramic forms found in the Late Bronze Age Zalău ”Dealul lupului” necropolis. Most are of medium size, with a mouth opening of 15-20 cm and no taller than 10 cm, but specimens with a wider opening also appear. In a few cases, the remains of these bowls appeared in the upper part of the funerary complexes which leads us to believe that they could be used, mainly as caps over the funerary urn. We find them almost in all of the investigated tombs of the necropolis (Cx. 5: Pl. 7/3-4; Cx. 6: Pl. 8/3; Cx. 7: Pl. 9/4; Cx. 8: Pl. 10/3; Cp. 17A: Pl. 16/1; etc.). We also find the variant with a similar shape, but with the edge patterned with four lobes (Cx. 14: Pl. 14/2; Cx. 19 A: Pl. 20/4). Some specimens have two handles connecting the shoulder area of the vessel with its lower part. Most are decorated with groups of semicircular grooves arranged around the handles or tronconic protrusions, but there are also some undecorated specimens. In the case of the Zalău ”Dealul lupului” necropolis this ceramic type is most often made from a good quality, homogeneous, well-fired paste with smoothed surfaces. This ceramic type is well represented numerically also in the case of the Hajdúbagos – ”Daraboshegy” cemetery²⁹.

Third place in an eventual ”ranking” of the frequency of ceramic types in the inventory of the tombs of the Late Bronze Zalău necropolis goes to the cups and mugs. A cup with a bitronconic body, with a small tronconic leg, along the middle with small conical protrusions, was used as a funerary urn for a small number of burnt bones (Pl. 10/2), in this case, a cup (?) with a tronconic profile, with a straight, slightly widened lip served as a lid (Pl. 10/1). In the necropolis of the Cruceni – Belegiš culture in the Romanian Banat, at Peciu Nou the cups were used as urns in 12 cases. It is estimated that these are children’s graves³⁰. The remains of a similar vessel manufactured from a high-quality paste appear in the inventory of Cx. 6 (Pl. 8/1), respectively Cx. 7 (Pl. 9/1). The cups are excessively fragmented and only small portions of the vessels could be reconstructed. Fragments of a specimen with a rounded body and neck appear in the inventory of Cx. 7 (Pl. 9/2). We find an interesting appearance in the pottery ensemble of the Zalău necropolis in the Cx. 14 inventory. It is a fragment of a container with a probable bitronconic body, on which appears a massive handle with a ridge along its length (Pl. 14/1). The upper part of the handle is broken but by all indications (including its triangular section) there was a tapered knob or ridge as we frequently encounter on certain containers in the Noua culture environment³¹.

Along with the ceramic types described above, but without reaching their share in the total containers in the funeral inventory of the necropolis, several other vessels appear. In Cx. 16 a vessel with a wide opening at the mouth (26 cm), with oblique walls, shaped like a tronconic bowl serves as

²³ Ghemiș 2014, 156.

²⁴ Némethi 1996, 30, fig. 5.

²⁵ Kovács 1970, 31, pl. 3/10.

²⁶ Ignat 1984, 24, pl. XI/1.

²⁷ Némethi 1978, 114, fig. 5/3; Némethi 1996, 33, fig. 9/5.

²⁸ Kovács 1970, 28, pl. 2/19.

²⁹ Kovács 1970, 29, pl. 1/ 12,14; 31, pl. 3/9, etc.

³⁰ Medeleț 1995, 295, 301.

³¹ Dascălu 2007, 110-116, pl. 49/4b-c.

an urn (Pl. 15/1). A similar but smaller vessel also appears in Cx. 17D, probably also as a funerary urn (Pl. 21/3). The cinerary remains of one of the tombs from Suplacu de Barcău "Lapiș" were deposited in such a vessel³². There are also fragments of small bowls with slightly invasive rims, such as those in Cx. 10 and 12 (Pl. 11/4; Pl. 12/2).

In this context, we make the proper mention that all the basic forms (with certain variants) that appear in the repertoire of ceramic containers in this funerary context are very well represented also in the discoveries coming from the Cehăluț – Hajdúbagos cultural group settlements.

The decoration of the ceramic vessels that appeared in the inventory of the funeral complexes from Zalău – Valea Mișii, "Dealul lupului" generally bears the imprint of the Cehăluț – Hajdúbagos ceramic style. The decoration most often consists of applied or modelled conical protrusions from the vessel wall, usually surrounded by a string of narrower or wider semicircular grooves (Pl. 6/6; Pl. 8/4; Pl. 18/2, etc.). Wide grooves are rendered by means of spiral motifs on the walls of some urns (Pl. 13/4; Pl. 17/1), and in one case the semicircular grooves are bordered by rows of round impressions (Pl. 8/6), also a fairly common association in the Cehăluț – Hajdúbagos environment. Notched or alveolate girdles are very rare in the case of vessels from this cemetery (Pl. 14/4). Decoration elements by means of grooves also appear on the bottom of some containers (Pl. 8/1) or on their walls. Vertical strips, wide, filled with zigzag lines (Pl. 6/1) or a decoration made of hatched arches accompanied by incised spirals are rendered in the incision technique (Pl. 6/2). On a vessel superficial striae appear, arranged horizontally and obliquely on the vessel wall (Pl. 14/4). Although the hatched decoration, probably also with a practical role, also appears on some ceramic vessels from the Cehăluț – Hajdúbagos cultural environment³³, the vessel in Cx. 14 is rather characteristic of the neighbouring cultural environment, Suci de Sus. In complex 6 appeared the lower half of an urn on which are rendered bundles of striae arranged vertically Pl. 8/5), in a manner reminiscent of the one very commonly used in the Cugir-Band cultural environment, a cultural manifestation of the Late Bronze from central and south-western Transylvania³⁴. There are also ornamental motifs that are not very common for the Cehăluț – Hajdúbagos cultural group ceramics. This is the case of the urn vessel from Cx. 19B on which appears, in the upper part an arcade-shaped decoration that is rendered in a technique reminiscent of the excision one, common in the Suci de Sus - Lăpuș cultural environment (Pl. 22/1). The presence of ceramics with decor in the Suci de Sus style in archaeological contexts attributed to the Cehăluț – Hajdúbagos cultural group is well-documented³⁵ but so far, to our knowledge, it would be the first appearance in a funeral context.

At the time of the description of the inventory of the funeral complexes, we noticed in a few cases the presence of a ceramic type, namely bichrome ceramics, characterised by a black outer surface, respectively scarlet, reddish, or yellow on the inside. These are at least three ceramic containers, namely a vessel with the bitronconic wall profile (Cx. 9), a bowl with the rim arched inwards (Cx. 10), respectively fragments from another vessel that cannot be graphically completed (Cx. 12). This ceramic species begins to appear quite timidly in various archaeological contexts in the Upper Tisza area beginning with the Late Bronze Age. The existing data, however, does not suggest the existence of an "initial centre" where it arises and from where this firing technique that allowed the bichrome ceramics to be obtained first in the Late Bronze Age had spread. Rather, one could speak of trials that are at close chronological levels of the Late Bronze in various micro-regions of the Upper Tisza area. In the cases where quantitative analyses have been carried out, it can be seen that the percentage of this type in the whole pottery picture is still very low in the period before the beginning of the Gáva culture, but it increases significantly in the settlements assigned to the early phase of this culture and becomes much more numerous in the discoveries assigned to the "classical" phase of the culture (Gáva II)³⁶.

³² Ignat 1984, 25, Pl. XII/2.

³³ Bejinariu, Lakó 2000, 170, fig. 26/ 2A, 1B.

³⁴ Ciugudean 1994, 35; Ciugudean *et al.* 2019, 89-130.

³⁵ Kacsó 2007, 43-62.

³⁶ Marta 2010, 321; Bejinariu 2022, 61.

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Information concerning the location of necropolises attributed to the Cehăluț – Hajdúbagos cultural group are scarce. The place called "Daraboshegy", where L. Zoltai surveyed part of the Hajdúbagos cemetery is a sandy dune that rises no higher than 5-6 m from the surrounding area³⁷. The cemetery from Zalău "Dealul lupului" is also located on a high area, with good visibility to the areas to the east and north-east.

The surface of the Late Bronze Zalău "Dealul lupului" necropolis cannot be approximated given the current stage of research. The investigated funeral complexes are concentrated in an area of about 190 m², but the two graves destroyed (Cx. 9 – 10) seem to be outside the concentration area of burials and this is probably due to their dislocation following agricultural work. But there are strong indications to assume that burials continue beyond the eastern boundary of the area targeted by preventive archaeological research. Five of the graves investigated are in this sector. In contrast to the west, south and north, directions in which the exposure was extended there were no other burials, and it seems that in these sectors we have reached the limit of the burial space. The 18 tombs investigated by Zoltai Lajos in 1909 at Hajdúbagos – "Daraboshegy" were spread over an area of about 900 sqm. In general, such observations about the necropolis surface are missing in the case of the few cemeteries of the Late Bronze population in the upper Tisza area. The causes are diverse. For example, in the case of the Alsóberecki necropolis (northeastern Hungary) where 45 graves were investigated, a large part of the burials were destroyed during sand mining³⁸.

Reviewing the few available data on burials attributed to the communities of the Cehăluț – Hajdúbagos cultural group, it is noted that these are cemeteries with a relatively small number of graves. 16 archaeological complexes with funerary character, all with the deposition of calcined remains in the urn were discovered at Zalău – Valea Miții, "Dealul lupului". As mentioned, in two cases the funerary complexes consisted of four groups of vessels (Cx. 17), respectively three groups of vessels (Cx. 19), each grouping very visibly delimited from the other, although close, in a narrow perimeter. Anthropological analyses of the cremated human remains from the two burial complexes have certainly revealed that in each case it is about burnt bones coming from two or three deceased, and at least in one case (Cx. 17 D) there appear in the same urn burnt bones coming from two individuals, which implies the simultaneous burning at the stake of two deceased. It is difficult to specify the existing relationship between the two, but a kinship relationship is to be assumed. So the total number of graves investigated at Zalău "Dealul lupului" would be between 18 and 20. No cases of overlapping of funeral complexes were identified on the surface of the necropolis that was investigated. The actual situation in the case of the two complexes (Cx. 17 and Cx. 19) seems to suggest the existence of burials of family groups, but this hypothesis should also be supported by further analysis. In the case of the Hajdúbagos necropolis, it is stated that tomb no. 2 consists of 9 burials each with its own urn and adjacent vessels, and some also with metal pieces³⁹. Probably the situation is similar in the case of tomb 10 where, although not expressly stated, there seem to be about three burials⁴⁰. In the absence of anthropological analyses that certify that we are talking about the remains of several individuals, we only have to signal this situation.

In the researched portion of the Zalău "Dealul lupului" necropolis, there were observed no elements/discoveries with a symbolic value, which would constitute elements of delimitation of the funerary space⁴¹ although, as mentioned above, we have uncovered on the north-south and west sides additional areas, which exceed the limit of the last burials. It seems that such discoveries were not observed even in the case of the Hajdúbagos necropolis.

Another aspect pursued by archaeologists during necropolis research is that of the relationship of the burial space with the settlement/settlements. We do not rule out the possibility that a cemetery was used by several communities simultaneously. The closest settlement to the Late Bronze cemetery

³⁷ Kovács 1970, 27.

³⁸ Kemenczei 1981, 69-94.

³⁹ Kovács 1970, 27, pl. 1.

⁴⁰ Kovács 1970, 28.

⁴¹ Medeleț 1995, 291.

investigated on "Dealul lupului" is the one at the point called "Tăneiu lui Winkler" where a series of archaeological complexes were saved in the late 1970's in the context of the construction of the industrial platform of the city⁴². Archaeological materials from these complexes, however, suggest a later stage in the evolution of Late Bronze as compared to the necropolis. Another archaeological site from this period is located about 1 km west of "Dealul lupului", at the exit from Zalău, towards the Panic village, at the point called "Uroikért".

All the investigated tombs of the Late Bronze Zalău – Valea Miții, "Dealul lupului" necropolis are cremation graves, with the deposition of the remains of the cremation in a ceramic vessel, followed by its burial, together with other vessels. In fact, all reports so far suggest that this was the predominant funerary rite of the Cehăluț – Hajdúbagos cultural group communities. So far the only cremation grave with the deposition of the burnt remains directly in the pit would be the one from Pișcolt "Nisipărie"⁴³. In this case, it is not excluded, that the burnt remains were originally "wrapped" in cloth or a piece of leather. As to the practice of erecting tumuli over cremation graves by Cehăluț – Hajdúbagos communities, as suggested by a discovery at Pericei (Sălaj county), more extensive investigations are needed in this regard, for now, the data comes only from a survey section.

The anthropologically analysed skeletal remains were extracted from the funerary urns at the Zalău County Museum of History and Art and subsequently cleaned at the „Fr. I. Rainer” Institute of Anthropology using a sieve with a mesh size of 1 mm to avoid losing small bone fragments. The osteological fragments were initially separated from small ceramic fragments, residues of the vessels in which they were deposited, and small pebble fragments. Afterwards, the bones were identified, sorted, counted, the burning temperature estimated, and weighed according to the osteological segment to which they belonged (Tab. 1-2).

The firing temperature was estimated following Wahl's recommendations⁴⁴, and sex determinations were made based on the available osteological material, either using cranial and postcranial measurements when available⁴⁵ or visual observations of identified cranial⁴⁶ and postcranial fragments⁴⁷. Age estimation at death was conducted based on dental eruption⁴⁸, degree of epiphyseal fusion⁴⁹, degree of cranial suture fusion⁵⁰, and the evolution of auricular surfaces⁵¹. Additionally, degenerative transformations of preserved skeletal segments were monitored, such as the onset of osteoarthritis on the edges of vertebral bodies and joints⁵².

The osteological assemblage from Zalău-Michelin does not exhibit significant taphonomic transformations, except for the bones in Cx. 14. In this burial, two cranial fragments and two very small bone splinters, which cannot be confidently attributed, preserve faintly visible traces of green pigment from a metal object. Furthermore, during the bone sorting process, remnants of bronze objects, deformed by fire, appeared both in Cx. 14 and in Cx. 6 and Cx. 17 vessel B, with the latter two cases leaving no traces on the bones in the urn.

Although the number of analysed human bone specimens is small, it is noteworthy that the majority of the remains were subjected to a similar burning temperature (800° C and above) in an oxidizing environment. Only in Cx. 6, a context that also preserved incinerated animal bones, did fragments appear burned at lower temperatures (650-700° C). The vast majority of the bones exhibit characteristic deformations (e.g., transverse and elliptical fractures, volume and organic matter loss), suggesting the presence of soft tissues during the incineration, likely occurring shortly after death. There are no differences in burning temperatures based on the sex, age of the deceased, or among different osteological segments. This would suggest the use of similar funeral pyres, combustible materials, and exposure times to fire for all incinerated individuals. Only in the case of Cx. 6, animal

⁴² Lakó 1980, 31-32.

⁴³ Némethi 1996, 37.

⁴⁴ Wahl 2008, 150, tab. 9.1.

⁴⁵ Wahl 1996, 339-359, fig. 1, tab. 1-4.

⁴⁶ Buikstra, Ubelaker 1994, 19-21.

⁴⁷ White, Black, Folkens 2012, 394-397, 400-404, fig. 18.12, 18.15.

⁴⁸ White, Black, Folkens 2012, 386, fig. 18.2.

⁴⁹ Powers 2008, 13-14, tab. 3; Buikstra, Ubelaker 1994, 41-44, fig. 20.

⁵⁰ White, Black, Folkens 2012, 389-391, fig. 18.7-8; Holck 1997/2008, 65, fig. 9.

⁵¹ White, Black, Folkens 2012, 400-404, fig. 18.15.

⁵² Ubelaker 1980, 60-62, fig. 77, 81.

bones may have been subjected to a different burning temperature, likely due to their different placement on the pyre.

Unfortunately, in the investigated area of the necropolis in Zalău, no traces of the incineration site have been discovered, and there is no information regarding this matter for other cemeteries attributed to the Cehăluț – Hajdúbagos cultural group. The presence of a large number of pebbles among the human bones in the urns suggests the possibility of incineration in an area with sandy soil, possibly near a river course.

During the anthropological analysis, 19.241 osteological fragments were sorted and counted. Unfortunately, there is no information about the order in which the bones were placed in the urns⁵³, as they were extracted at the Zalău County Museum of History and Art. Among the studied complexes, the only issue regarding the number of identified human osteological fragments arises in Cx. 6, where 14 fragments of diaphysis and epiphyses of incinerated animal bones were also identified (44.87 g). Most likely, the identified fragments of diaphysis and epiphyses from Cx. 6 belong to sheep/goats and cattle, the preserved epiphyses suggesting that these were young animals⁵⁴. Given the difficulty in distinguishing between human and animal bones in the case of incinerated remains, especially when morphologically expressive parts are not preserved⁵⁵, the number of animal bones in this complex is certainly more substantial. This observation is further supported by the higher weight of the remains in this complex (Tab. 2), well above the average weight of females and closer to that of the male sample.

The recovery of bones from the pyre seems to have been selective, with attention given to segments better preserved after cremation. Despite dealing with a numerically small and statistically less expressive sample, it is noteworthy that the adult and subadult lots are very similar in terms of certain osteological segments deposited in the urns. The skull, maxilla, mandible, and dental fragments are present in similar proportions in both age categories, as is the number of osteological fragments from long bones (the most substantial component of the category of unidentifiable bone fragments over and under 1 cm, see Tab. 1). In the case of children's graves, the scapular belts, thoracic cage, and pelvis are more prone to pronounced fragmentation during cremation, making their recovery more challenging. Long bones and their epiphyses⁵⁶, along with the skull, appear to be the segments that received more attention during recovery from the pyre, regardless of the age of the individuals incinerated (Tab. 1). Therefore, without having more substantial statistical evidence, one could speculate that the recovery of bones from the pyre seems to have been governed by practical reasons, favouring the selection of better-preserved bones, without an exhaustive attempt to recover all cremation remains.

Out of the 16 investigated funerary complexes, osteological remains from seven complexes were analysed (Tab. 3), with complexes 17 and 19 containing bones from four and three funerary urns, respectively (Tab. 3). Complex 17, with its four urns with bones, is an interesting case regarding Late Bronze Age cremation practices. In the first three vessels of the complex (17 A-C), bones from subadult individuals were identified. Considering that there are very few bones in 17 A, mainly lower limb bones in 17 B, and predominantly cranial bones in 17 C, it is possible that the bones from these three vessels come from a single individual. Indications in this regard are also given by the similar colour of the osteological remains in the three urns and the absence of typical duplicates of osteological remains. It is possible that the bones of this individual were gathered from the pyre and deposited in three different containers, depending on the order of recovery from the pyre. In 17 D, osteological remains from a subadult, aged 0.6-2 years, appeared. Among its osteological remains, two larger human bones were identified, possibly originating from the deceased(s) in the other three vessels. This could indicate the simultaneous cremation of the individuals placed in this complex⁵⁷. In this case, we should consider the possibility of concurrent burning (and likely death) of the two, perhaps on the same funeral pyre. In several Late Bronze Age necropolises in Romanian Banat province (Timișoara

⁵³ Observations regarding a specific order of deposition of cremation remains in funerary urns, in Late Bronze Age graves (Medeleț 1995, 294; Șandor-Chicideanu 2003, 161), suggest for some burials, the gathering of skeletal remains from the pyre and their deposition in the urns in anatomical order.

⁵⁴ Determinations carried out by Dr. Adrian Bălășescu from the Institute of Archaeology „V. Pârvan,” for which we are grateful.

⁵⁵ Wahl 2008, 149-150; Șandor-Chicideanu, Constantinescu 2019, 73-74.

⁵⁶ This is evident in the higher number of remains from long bones and epiphyses in the graves of subadults.

⁵⁷ However, it should also be considered that the two bones might have been moved by animals since the urns were opened.

– Fratelia, Voiteg, and Peciu Nou)⁵⁸ and in the area of the Žuto Brdo-Gârla Mare culture⁵⁹, multiple double or even triple graves have been discovered. In these cases, alongside an adult, one or more children were buried, likely the result of the simultaneous cremation on the same pyre of a mother and child who died concurrently.

In Complex 19, although we have bones from two adult males in two urns (B-C), the presence of fragments from the same parts of the skull certifies the presence of two different individuals.

Therefore, the analysed osteological assemblage is relatively balanced in terms of demographics, with an equal number of men and women, three each, and at least four children (if we consider the remains from 17 A-C as coming from a single individual). The average age at death for the analysed sample is 27.54 years, with the female sample (30.17 years) having a lower age at death than the male sample (41.66 years), while the subadults have an average age at death of 10.8 years⁶⁰.

The weight of remains after modern cremations of an adult individual usually ranges between 1000-2400 g⁶¹, with much smaller quantities typically recovered for prehistory. The average weights for the male sample (633.06 g) are much higher than those for the female sample (318.48 g), but the difference between the female sample and the subadult sample (255.14 g) is not significant. Generally, the weight of cremation remains for male individuals is higher, but in this case, we can assume that the recovery of bones from male individuals was done more meticulously, as the differences in weight compared to other sex and age groups are significantly larger. In terms of the weight of the recovered segments, the cranial vault and long bones (Tab. 2) are the most substantial skeletal remains preserved, regardless of the sex and age of the individuals (Tab. 2).

The only traces of bone pathology identified are deformities of the epiphyses and vertebral bodies, attributed to osteoarthritis (Cx. 8, 18, 19 vessel B-C).

The analysed osteological assemblage, although numerically small, suggests that individuals were cremated in an area with gravel/sand, possibly near a riverbed, likely shortly after death, at temperatures and with an exposure time to fire similar regardless of the sex and age of the deceased. The recovery of cremation remains from the pyre was selective, with the skull and long bones (including epiphyses) predominantly collected, regardless of sex and age, aiming to recover better-preserved bones after the body's burning. There doesn't seem to be an attempt to clean the bones and remove wood residues, ash, and pebbles collected with them, as they were deposited together

Tab. 1. The number of osteological fragments according to each identified skeletal segment.

Site & complex	1	2	3	4	5	6	7	8	9	10	11	12	Total
Zalău Michelin Cx 6	77	0	3	0	55	11	1	28	7	9	433	3866	4490
Zalău Michelin Cx 8	2	0	2	2	8	2	0	1	2	2	264	322	607
Zalău Michelin Cx 11	40	1	0	0	1	0	0	0	4	0	157	224	427
Zalău Michelin Cx 14	78	2	4	0	1	0	0	5	0	1	75	378	544
Zalău Michelin Cx 17 vessel A	15	0	1	0	10	0	0	1	0	0	68	353	448
Zalău Michelin Cx 17 vessel B	12	0	0	3	58	0	6	13	5	14	503	6477	7091
Zalău Michelin Cx 17 vessel C	105	2	0	3	0	0	0	0	0	0	41	38	189
Zalău Michelin Cx 17 vessel D	124	0	0	0	0	0	0	0	0	0	17	138	279
Zalău Michelin Cx 18	82	1	2	0	45	1	31	70	3	13	814	1928	2990
Zalău Michelin Cx 19 vessel A	13	0	0	0	0	0	1	0	0	0	47	55	116
Zalău Michelin Cx 19 vessel B	35	0	3	0	42	2	5	18	8	5	408	610	1136
Zalău Michelin Cx 19 vessel C	38	0	4	0	28	0	3	28	0	7	379	437	924

1. Calvaria; 2. Splanchnocranium; 3. Mandible; 4. Teeth (no. of fragments); 5. Epiphysis; 6. Shoulder girdle; 7. Thorax; 8. Vertebrae; 9. Pelvic girdle; 10. Hand/foot bones; 11. Not identified > 10 mm; 12. Not identified ≤ 10 mm

⁵⁸ Medeleț 1995, 293.

⁵⁹ Șandor-Chicideanu, Constantinescu 2019, 69-85.

⁶⁰ The averages were calculated assuming that the skeletal remains from 17 A-C belong to a single individual.

⁶¹ Mckinley 1993.

Tab. 2. The weight (in grams) of the preserved osteological remains from each grave.

Site & complex	1	2	3	4	5	6	7	8	9	Total
Zalău Michelin Cx 6	58.87	96.87	20.44	1.35	25.54	18.91	10.69	285.63	235.87	754.17
Zalău Michelin Cx 8	4.57	6.79	4.22	0	1.51	2.55	1.67	18.66	93.91	133.88
Zalău Michelin Cx 11	43.37	4.74	0	0	0	24.58	0	122.91	19.23	214.83
Zalău Michelin Cx 14	22.91	1.17	0	0	5.72	0	0.25	28.36	8.98	67.39
Zalău Michelin Cx 17 vessel A	6.96	18.21	0	0	1.01	0	0	35.51	25.37	87.06
Zalău Michelin Cx 17 vessel B	10.21	39.18	0	4.76	9.04	22.62	7.49	226.91	222.32	542.53
Zalău Michelin Cx 17 vessel C	107.14	0	0	0	0	0	0	12.14	1.53	120.81
Zalău Michelin Cx 17 vessel D	14.94	0	0	0	0	0	0	4.18	6.68	25.8
Zalău Michelin Cx 18	102	69.8	1.85	24.17	84.92	9.86	7.23	416	174.91	0
Zalău Michelin Cx 19 vessel A	6.3	0	0	0.56	0	0	0	18.6	4.07	29.53
Zalău Michelin Cx 19 vessel B	102.91	47.14	3.64	3.1	10.96	30.51	5.66	280.8	53.04	537.76
Zalău Michelin Cx 19 vessel C	36.72	43.46	0	1.75	30.22	0	4.87	305	48.68	470.7

1. Skull; 2. Epiphysis; 3. Shoulder girdle; 4. Thorax; 5. Vertebrae; 6. Pelvic girdle; 7. Hand/foot bones; 8. Not identified > 10 mm; 9. Not identified ≤ 10 mm.

in urns. An unusual and interesting aspect of Late Bronze Age cremation practice appears to be the more meticulous gathering of skeletal remains from male individuals compared to other sex and age categories. Also unusual is the deposition of the remains of an adolescent in three different urns (Cx. 17 vessels A-C), which, along with the skeletal remains of a child from the same grave (Cx. 17 vessel D), might be the result of the simultaneous burning of a mother and her child.

If we resume the description of the funerary inventory of each of the tombs investigated in the Zalău "Dealul lupului" necropolis we are struck by the poverty of the inventory in terms of bronze pieces. In fact the only piece of metal comes from the Cx. 17 B inventory. It is a fragment of a bronze bar with a roughly square section. It is noticed that it has been deformed by exposure to high temperatures, and its surface has a porous appearance in places. Several other very small metal fragments were identified among the burned bones. Several small metal fragments were also identified in Cx. 6 funeral inventory, and some of the bones in Cx. 14 have a slight greenish patina probably from the metal pieces placed on the funeral pyre at the time of the burning of the deceased. All these data suggest that the deceased from the Zalău necropolis were placed on the funeral pyre along with personal metal pieces. Compared to the tombs we investigated at Zalău, the tombs of the Hajdúbajos – "Daraboshegy" necropolis

Tab. 3. The demographics of the analysed sample.

Site & complex	Sex	Age at death
Zalău Michelin Cx 3	Not analysed	-
Zalău Michelin Cx 5	Not analysed	-
Zalău Michelin Cx 6	F	18-23
Zalău Michelin Cx 7	Not analysed	-
Zalău Michelin Cx 8	F	30-50
Zalău Michelin Cx 9	Not analysed	-
Zalău Michelin Cx 10	Not analysed	-
Zalău Michelin Cx 11	ind	13-19
Zalău Michelin Cx 12	Not analysed	-
Zalău Michelin Cx 13	Not analysed	-
Zalău Michelin Cx 14	F	20-40
Zalău Michelin Cx 15	Not analysed	-
Zalău Michelin Cx 16	Not analysed	-
Zalău Michelin Cx 17 vessels A-C	ind	12-19
Zalău Michelin Cx 17 vessel D	ind	0,6-2
Zalău Michelin Cx 18	M	30-40
Zalău Michelin Cx 19 vessel A	ind	5-10
Zalău Michelin Cx 19 vessel B	M	40-60
Zalău Michelin Cx 19 vessel C	M	30-50

contain much more metal pieces. Twelve of the graves investigated here contained pieces of metal⁶². These are bronze daggers and needles, bracelets, bronze spirals, hoop earrings, phalerae, pendant, arrowhead and other pieces that are harder to identify due to the deformation suffered from burning⁶³. So we are dealing with weapons and adornments, but in the absence of anthropological determinations, it is risky to say whether there is a connection between the sex of the deceased and the two categories of pieces that predominate. Metal pieces also appear in the inventory of other graves attributed to the Cehăluț – Hajdúbagos cultural group. It is a bronze bracelet in the case of the Sanislău "Pășune" tomb⁶⁴, a spiral piece crafted from a bronze bar at Marca "Husău"⁶⁵, bracelet and „numerous bronze buttons” in the tomb of Valea lui Mihai, „Breslelor street”⁶⁶, and from the one discovered at Valea lui Mihai in the „Noua groapă cu lut” point comes a bronze crescent pendant⁶⁷. Even from this brief presentation, it can be seen that in the tombs in the western part of the area of the Cehăluț – Hajdúbagos cultural group, metal pieces deposited in a funerary context appear much more frequently, while in the case of those discovered in the eastern area (Zalău – "Dealul lupului", Suplacu de Barcău – "Lapiș") these are exceptions. Of course in this case, we can think of the "legacy" of the previous fund, of Wietenberg tradition in which very rarely bronze pieces appear deposited in graves⁶⁸ but we cannot rule out certain practices, such as their removal by those who collected the cinerary remains from the stake.

By analysing the pottery from the graves investigated at Zalău – Dealul lupului we did not encounter any indications that suggest that the vessels were placed on the funeral pyre along with the deceased. There are no ceramic vessels / fragments with vitrified or deformed surfaces due to secondary firing on the funeral pyre.

Anthropological analyses have led to the identification in Cx. no. 6 of some burnt remains originating from animals mixed in the urn with human ones. Several fragments of burnt bones from young sheep/goats and cattle could be determined. These bones were burnt at temperatures similar to human bones, suggesting that they might have been placed on the same pyre. This finding (although it requires further verification) would indicate that the meat offering was burned directly on the funeral pyre along with the deceased and not prepared separately (boiling/roasting) and subsequently placed in the vessels found in the funerary context. It is also worth mentioning that in Cx. 17 C, a river stone appeared right at the contour level of the grave, and among the ceramic fragments of the vessels in the tomb, a flint chip was found.

The discovery from Marca "Husău" suggests that the populations of the Cehăluț – Hajdúb cultural group, also had the practice of depositing human cinerary remains in some cases inside the inhabited space (settlements)⁶⁹. The situation is probably repeated in the case of other funerary finds, designated as "isolated graves", but in most of these cases the context from which they come is unknown. This practice of depositing dead people in certain places in some settlements is attested even in older times⁷⁰. Although it is difficult to argue based on archaeological data, especially since these tombs are often nothing more spectacular than those in necropolises, there is also the opinion that they are burials with a special character, maybe of people with a special significance for the community⁷¹. The interpretation of our discovery from Marca is limited, however, by the lack of specialised analysis of the burnt bones, as well as by the impossibility of noticing during the archaeological research whether the burial of the vessel with the burnt remains occurred at a time when the settlement was still inhabited or after it was abandoned.

⁶² Compared to the paper in which we analysed the archaeological monuments attributed to the Cehăluț – Hajdúbagos cultural group (Bejinariu 2022, 40) where we were talking about only six tombs from the Hajdúbagos necropolis containing with metal pieces, the difference comes from the re-evaluation of the published information. In two cases it is possible (M. no. 2 and M. no. 10) we are dealing with 9 and 3 graves respectively-Kovács 1970, 27-28.

⁶³ Kovacs 1970, 27-28, pl. 1-4.

⁶⁴ Némethi 1978, 114, fig. 5/4.

⁶⁵ Bejinariu *et al.* 2014, 63, pl. 54/1.

⁶⁶ *** RepBH, 83, nr. 439; Némethi 1996, 34.

⁶⁷ Ghemiș 2014, 156.

⁶⁸ Boroffka 1994, 108; Motzoi-Chicideanu 2011, 546.

⁶⁹ Bejinariu *et al.* 2014, 63.

⁷⁰ Matei *et al.* 2003, 247; Chidioșan 1980, 23-26; Popa 2019, 63.

⁷¹ Stapel 1999, 221-229; Gogăltan *et al.* 2008, 116.

The Late Bronze Age period in the east of the Carpathian Basin in general and in particular in the Upper Tisza region is seen as a result of profound transformations, on several levels within local communities, but also of ethnic restructuring. The appearance of elements "foreign" to the local stratum, even at the end of the Middle Bronze (Koszider period) in the Middle Danube area seems to be proven inclusively by a series of anthropological analyses⁷².

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⁷² Sánta 2013, 78-79.

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Plate 1. 1. Location of Zalău town on the Romania map; 2. "X" mark the place of the Late Bronze Age cemetery on the map of Zalău. Town.

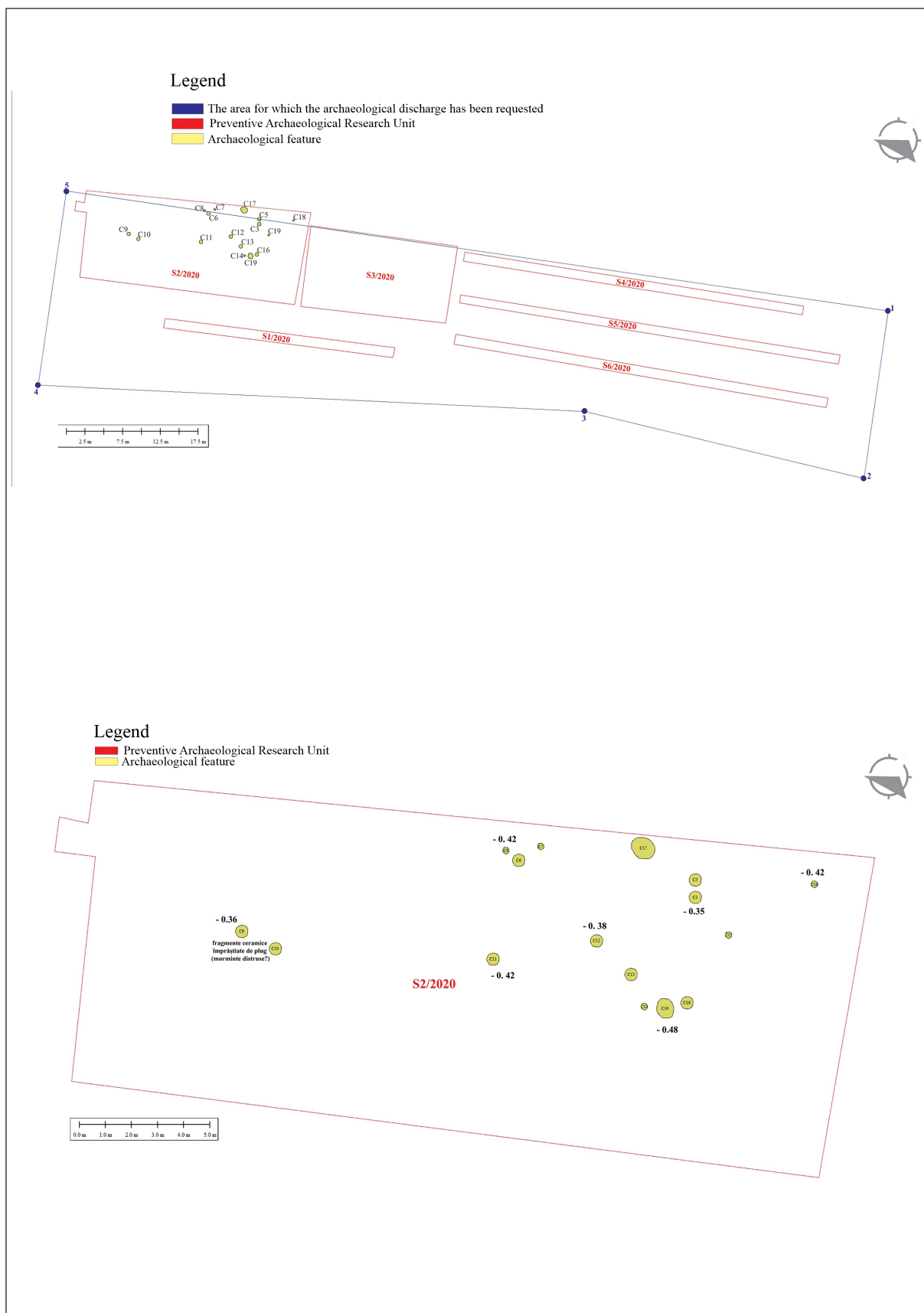


Plate 2. Zalău – Valea Miții "Dealul lupului". The plan of the archaeological research with the disposition of the graves (yellow).

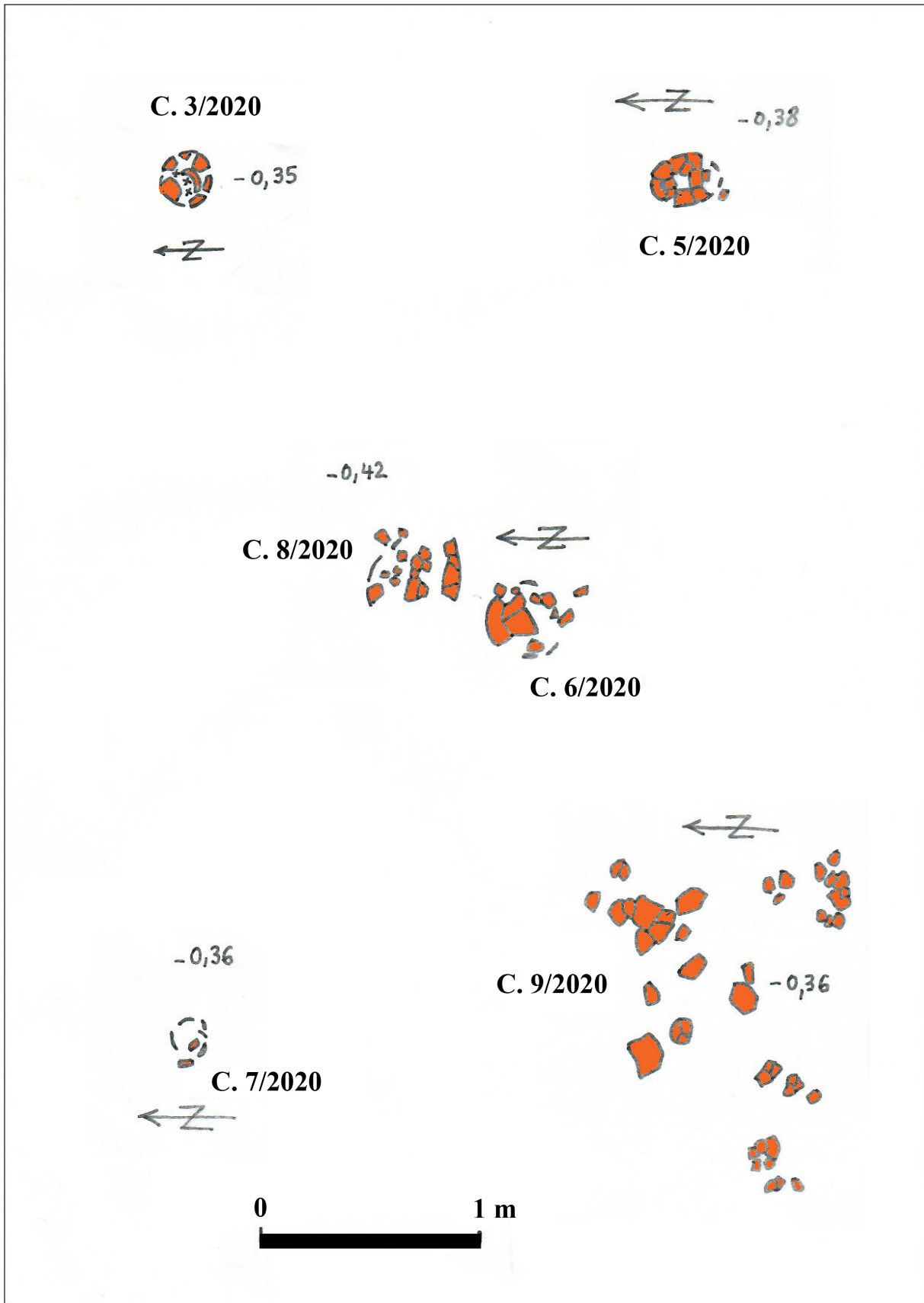


Plate 3. Zalău – Valea Miții ”Dealul lupului”. The graves of the necropolis (drawings).

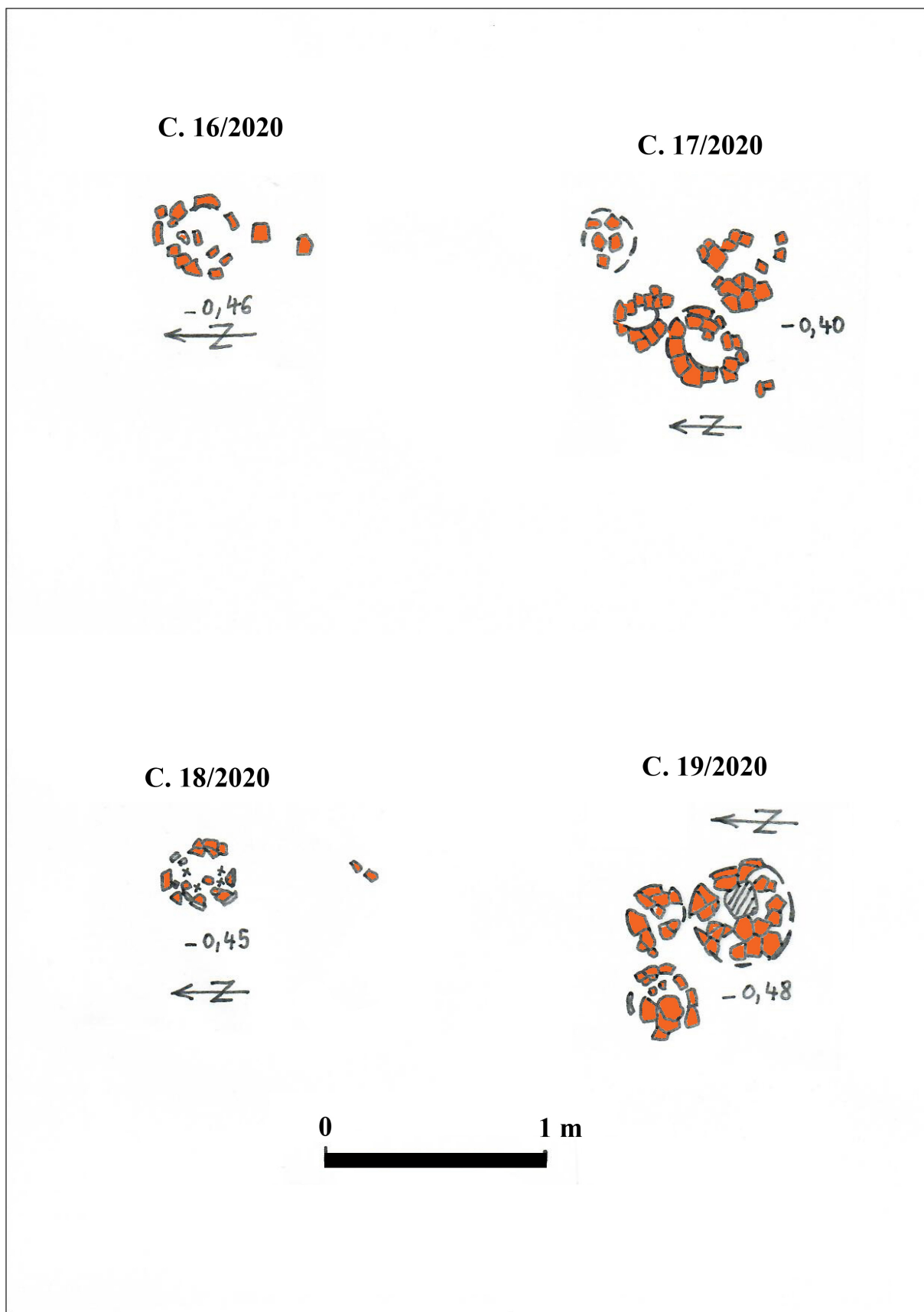


Plate 4. Zalău – Valea Miții "Dealul lupului". The graves of the necropolis (drawings).

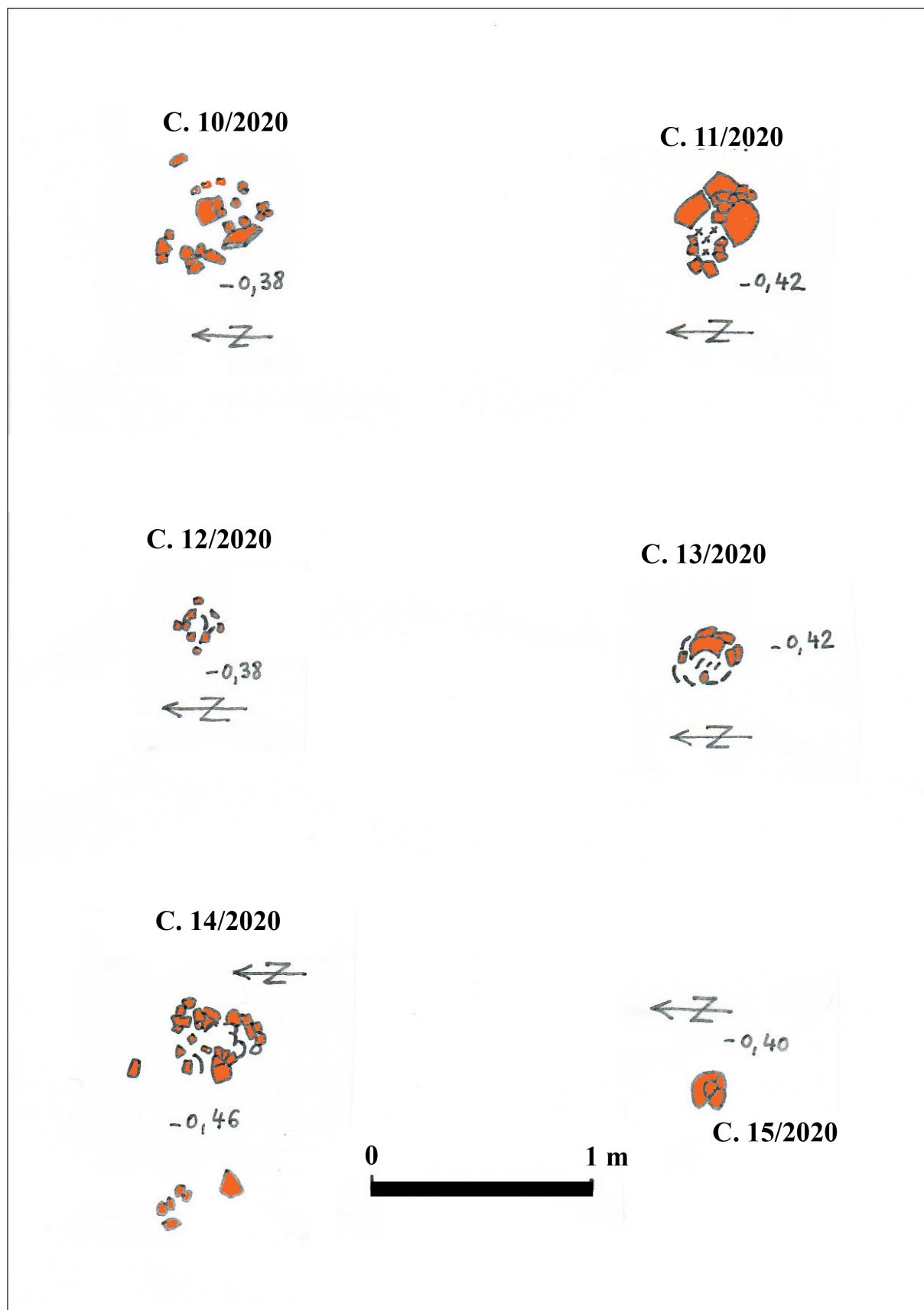


Plate 5. Zalău – Valea Miții "Dealul lupului". The graves of the necropolis (drawings).

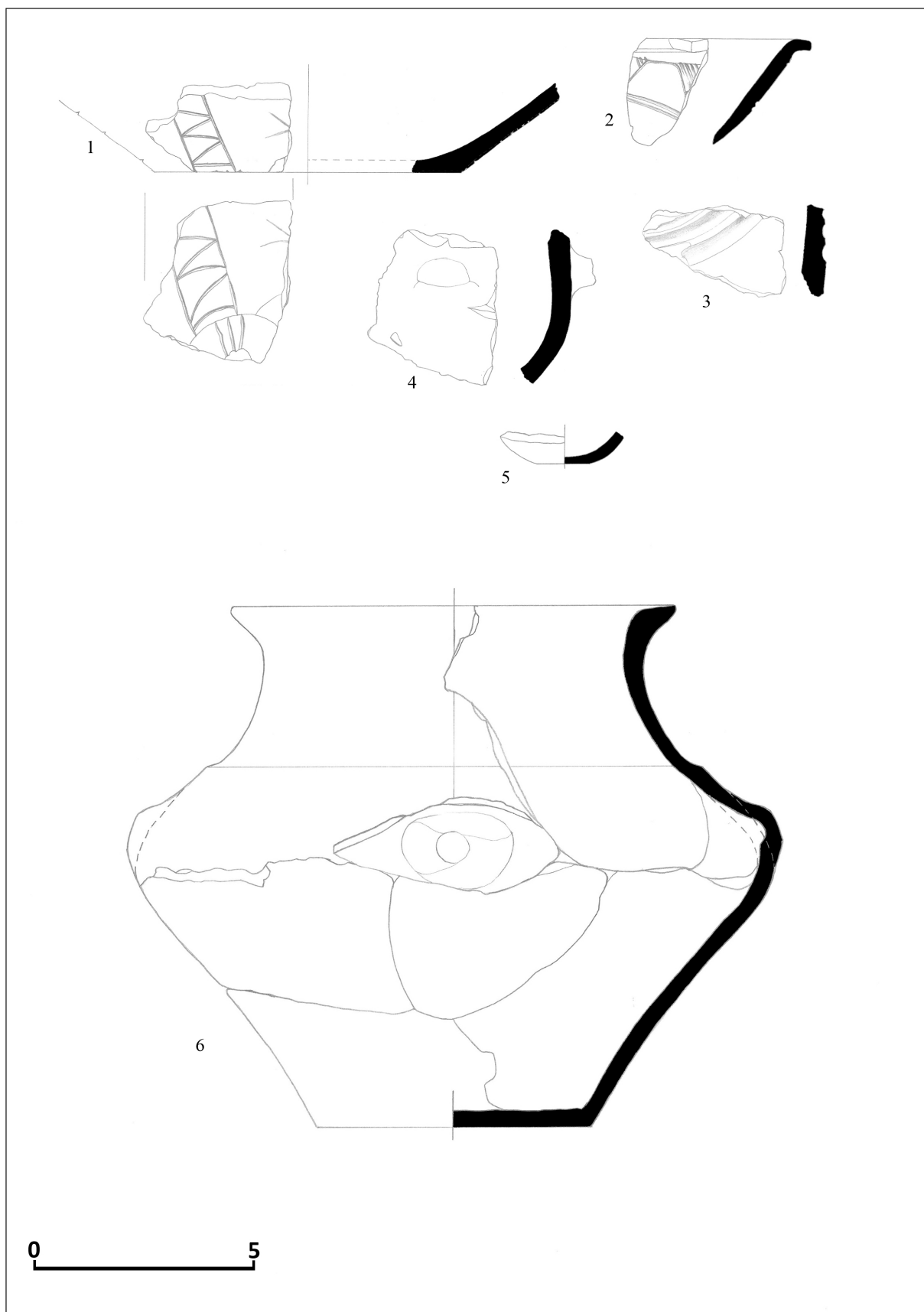


Plate 6. Zalău – Valea Mișii "Dealul lupului". Ceramic inventory of the Cx. 3.

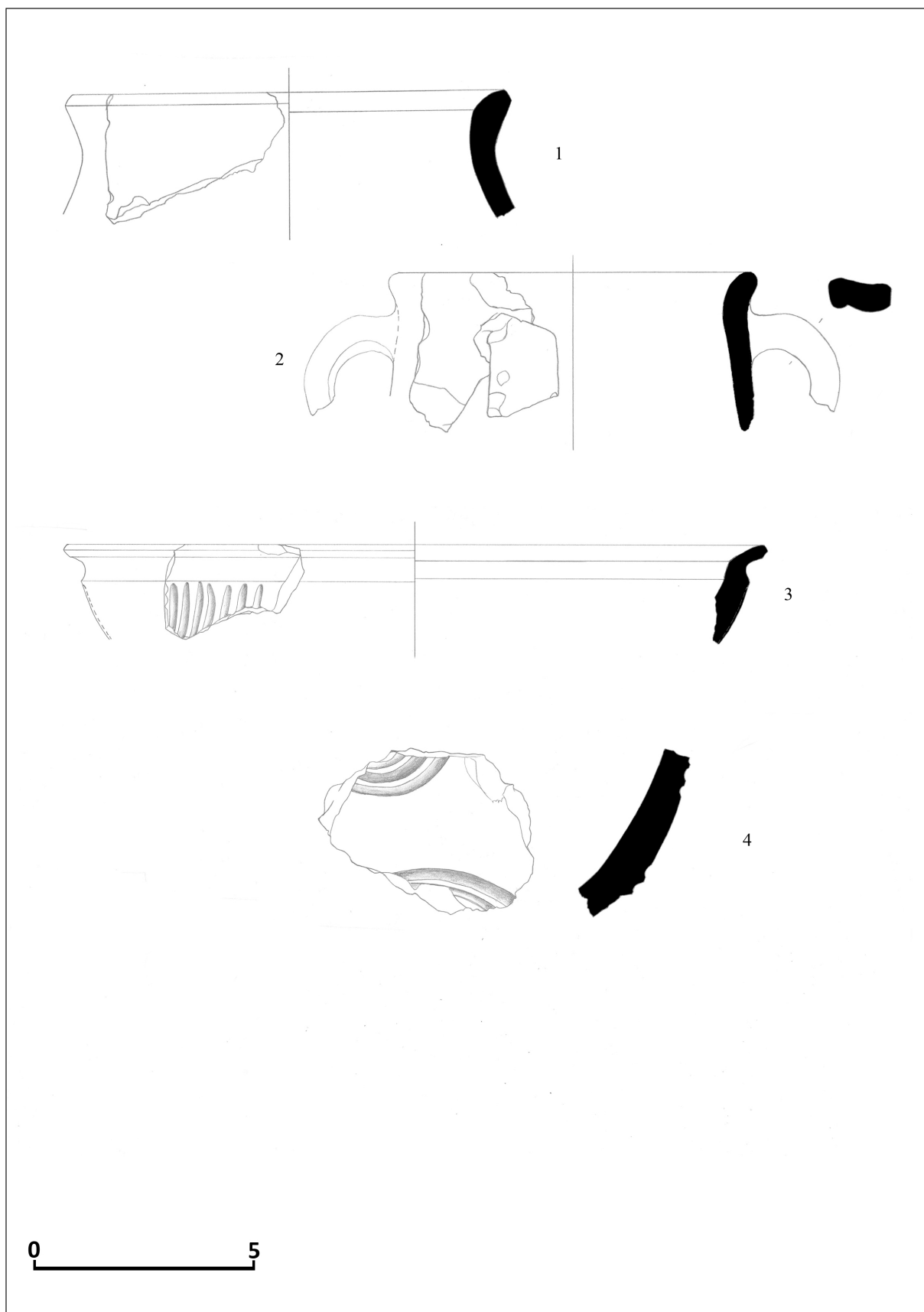


Plate 7. Zalău – Valea Mișii "Dealul lupului". Ceramic inventory of the Cx. 5.

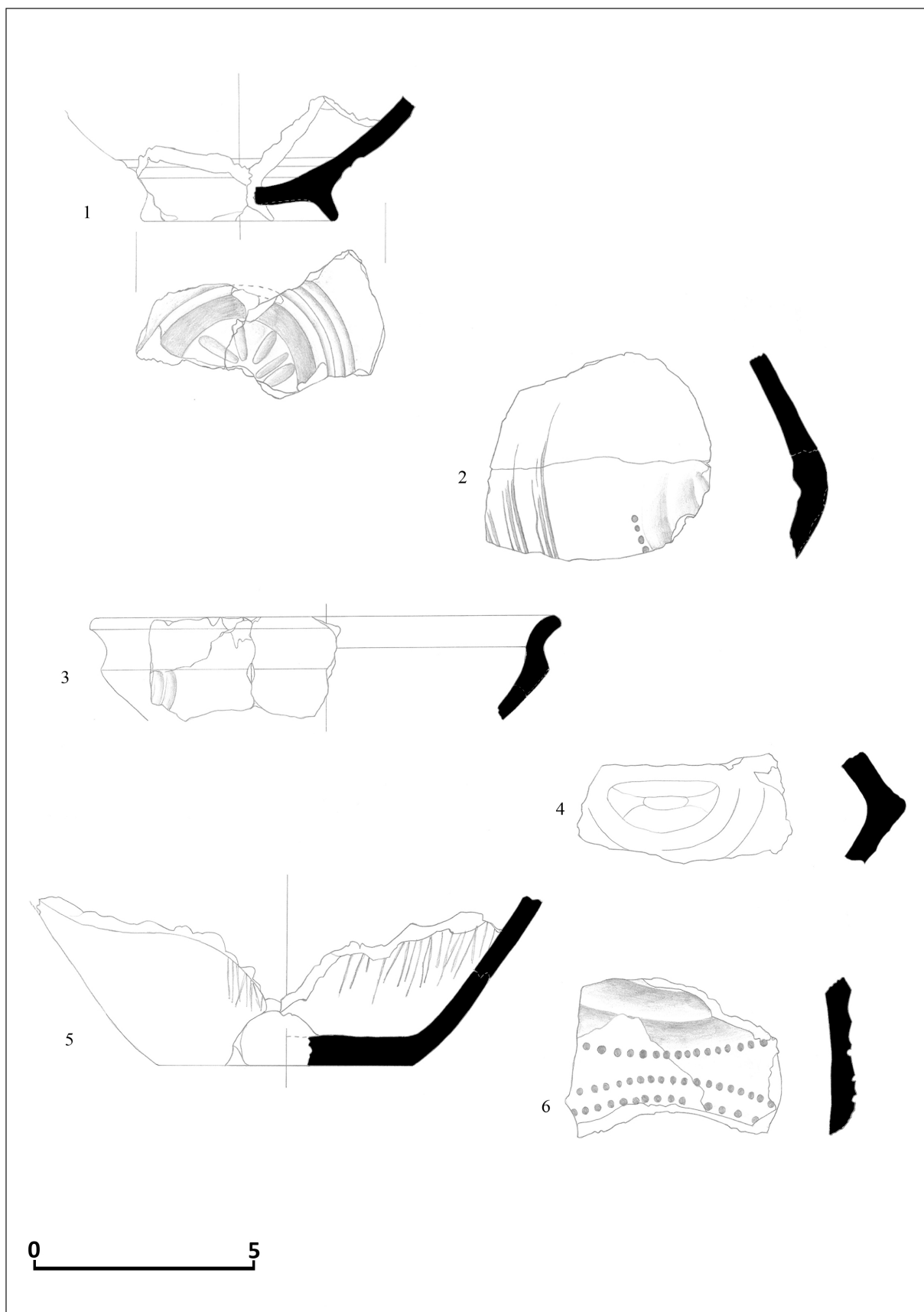


Plate 8. Zalău – Valea Mișii "Dealul lupului". Ceramic inventory of the Cx. 6.

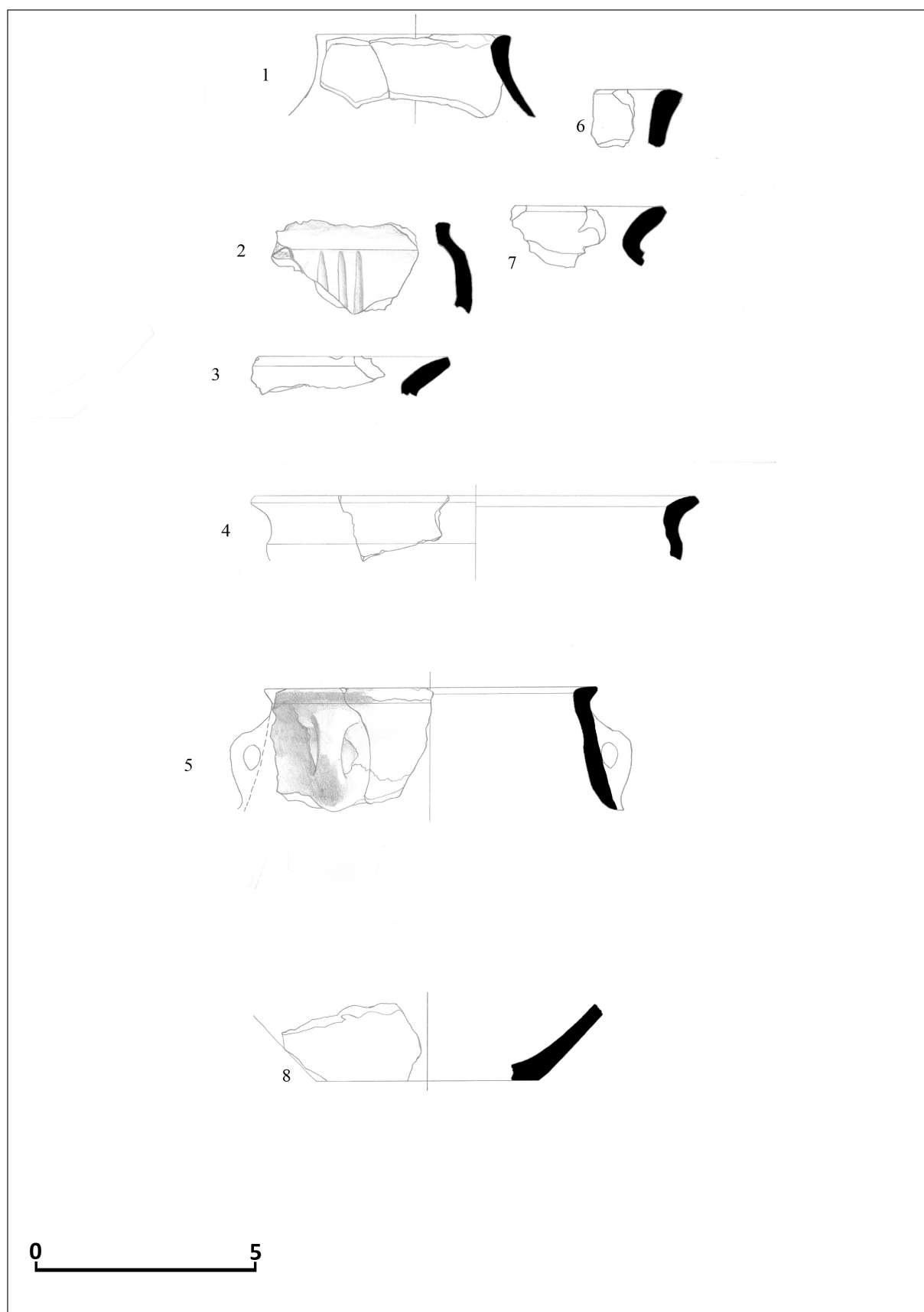


Plate 9. Zalău – Valea Miții "Dealul lupului". Ceramic inventory of the Cx. 7.

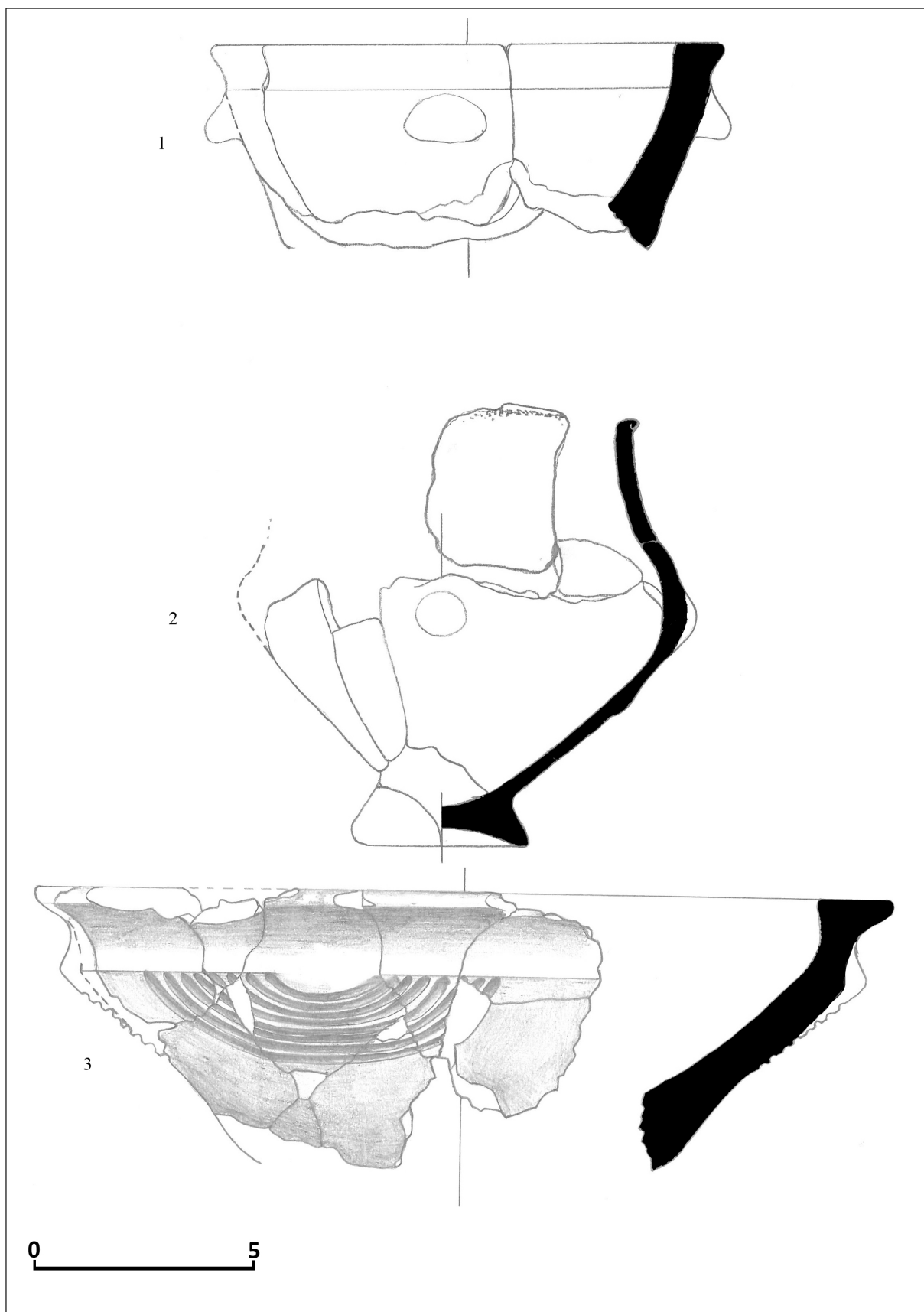


Plate 10. Zalău – Valea Miții "Dealul lupului". 1-2. Ceramic inventory of the Cx. 15; 3. Ceramic inventory of the Cx. 8.

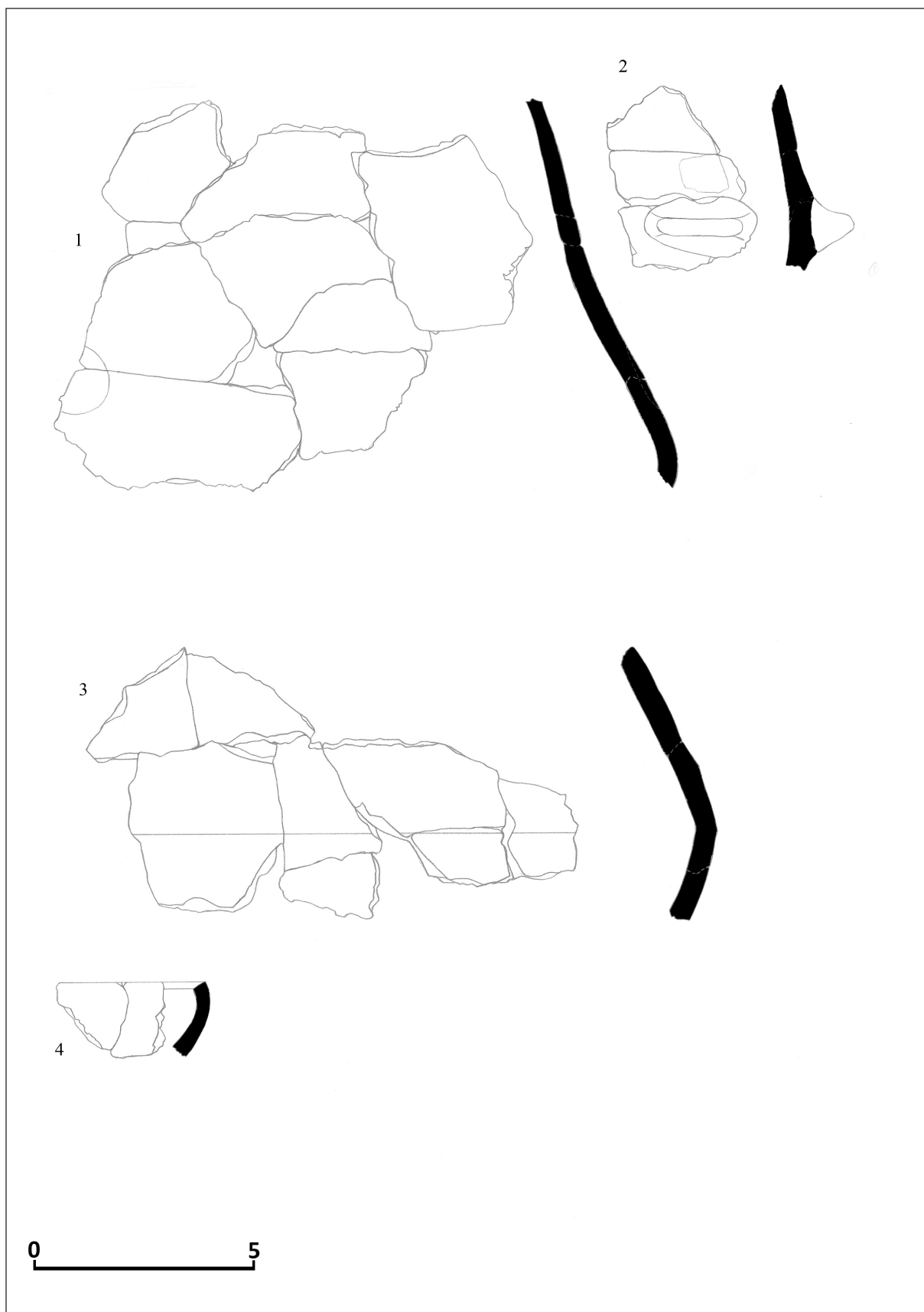


Plate 11. Zalău – Valea Miții "Dealul lupului". 1-2. Ceramic inventory of the Cx. 9; 3-4. 1-2. Ceramic inventory of the Cx. 10.

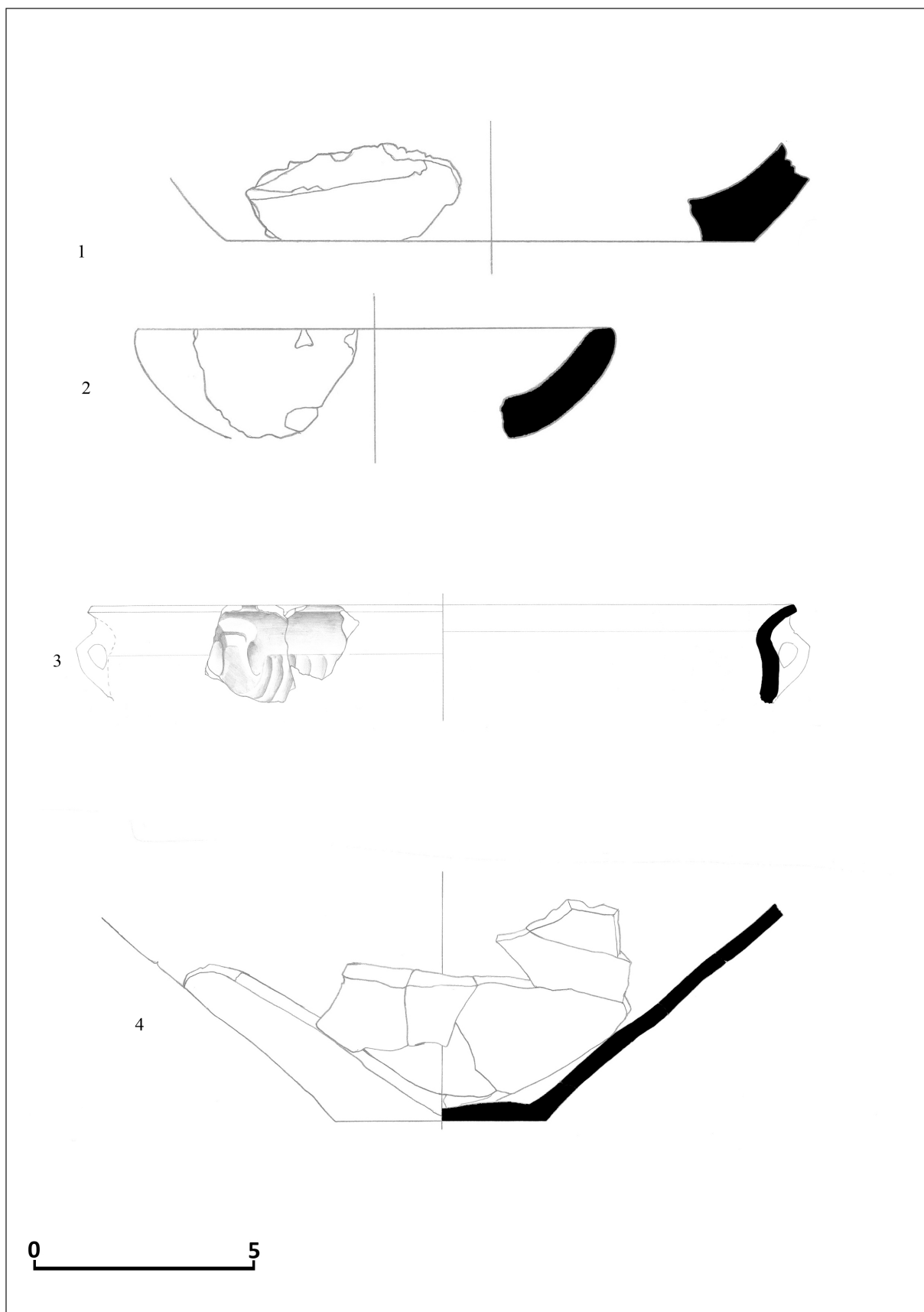


Plate 12. Zalău – Valea Miții ”Dealul lupului”. 1-2. Ceramic inventory of the Cx. 12; 3-4. Ceramic inventory of the Cx. 11.

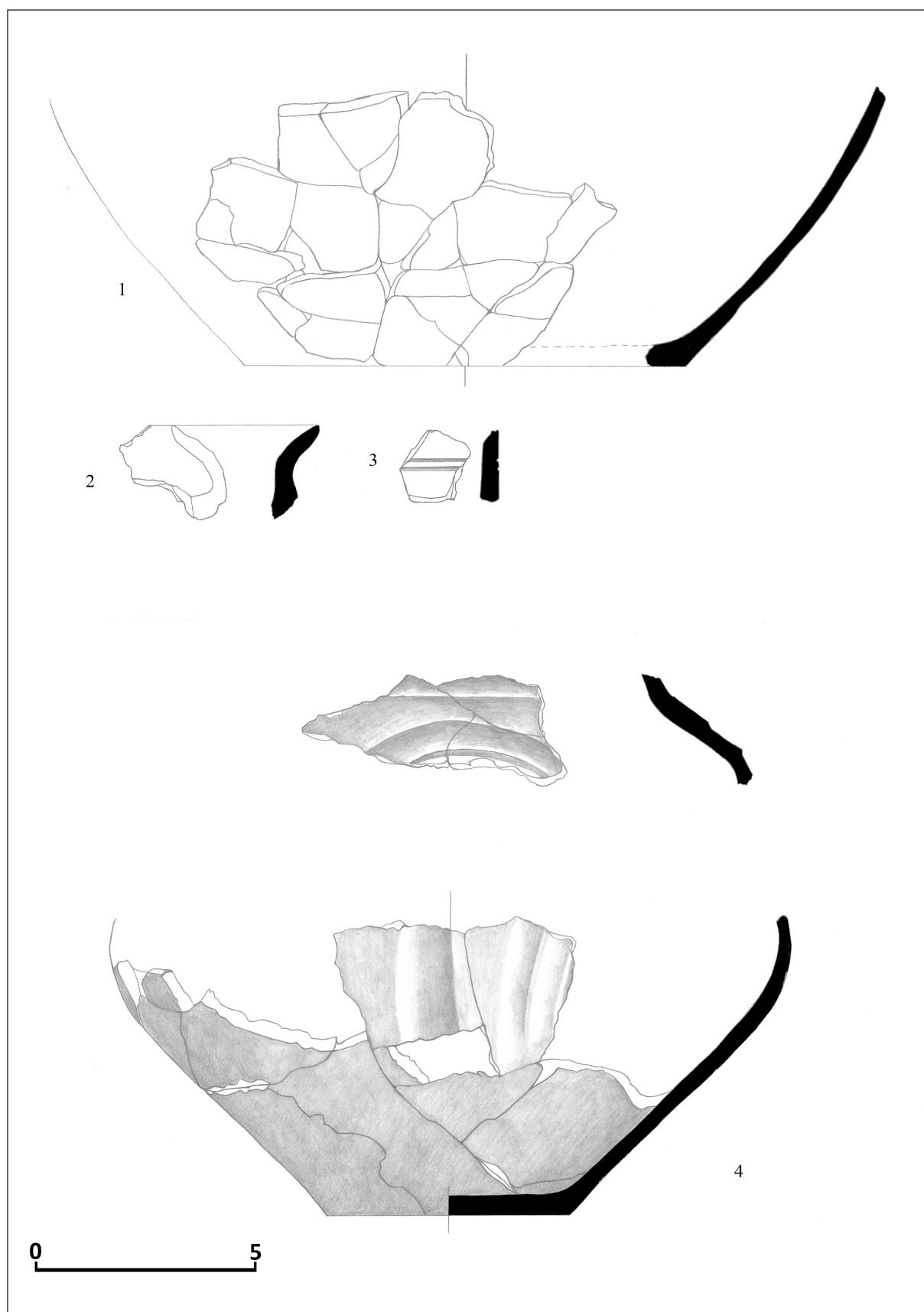


Plate 13. Zalău – Valea Miții "Dealul lupului". Ceramic inventory of the Cx. 13.

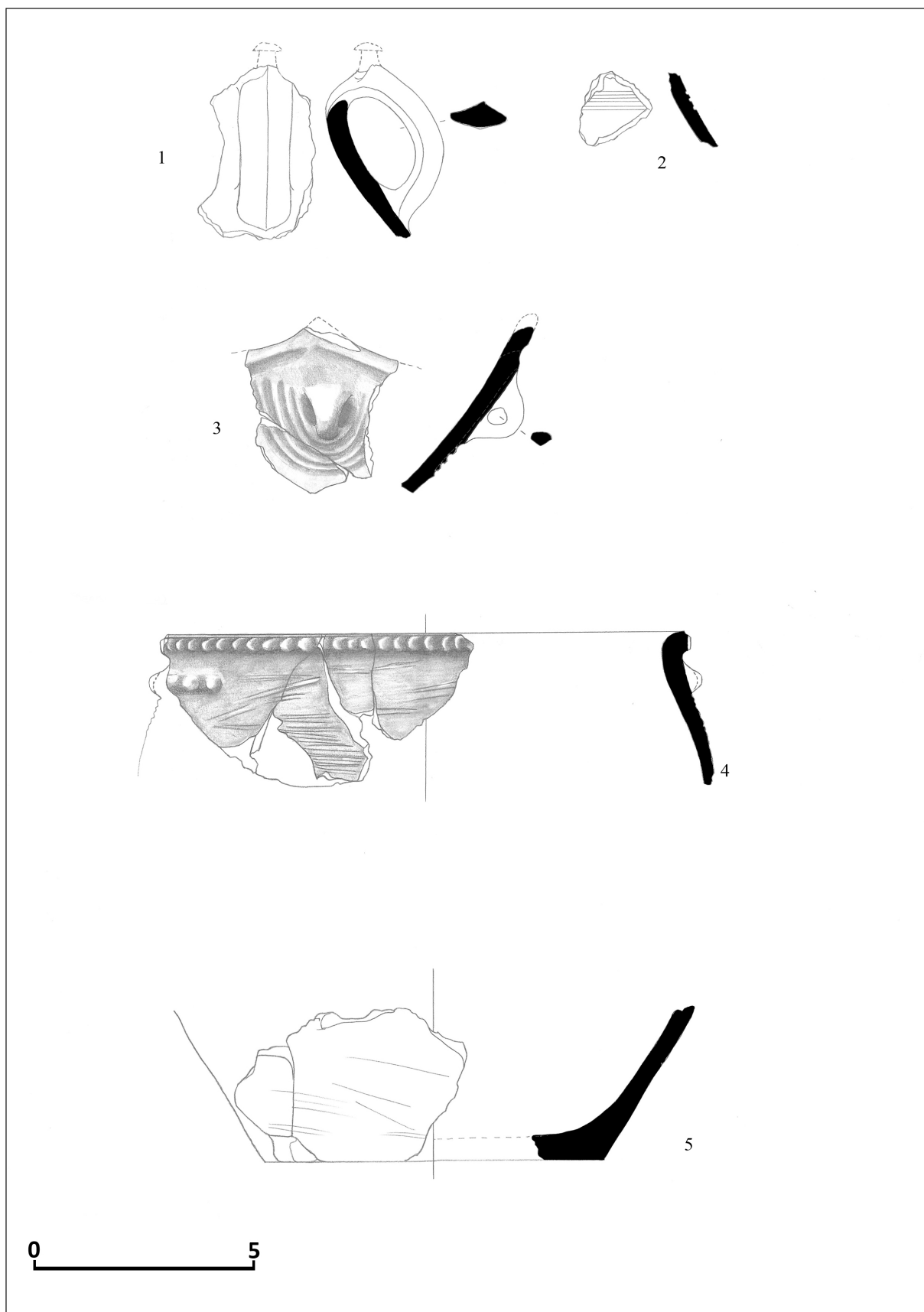


Plate 14. Zalău – Valea Miții "Dealul lupului". Ceramic inventory of the Cx. 14.

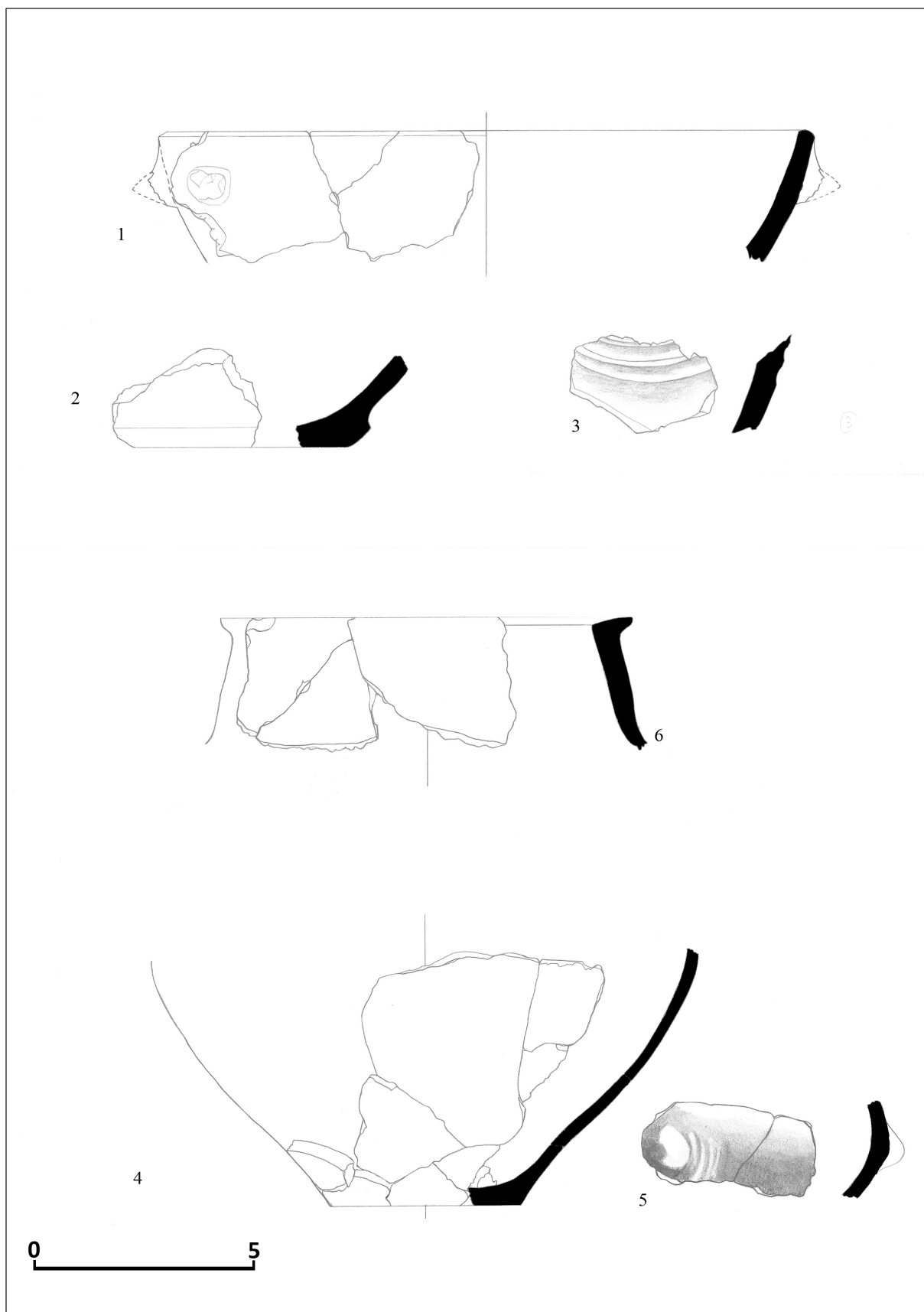


Plate 15. Zalău – Valea Miții "Dealul lupului". 1-3. Ceramic inventory of the Cx. 16; 4-5. Ceramic inventory of the Cx. 14.

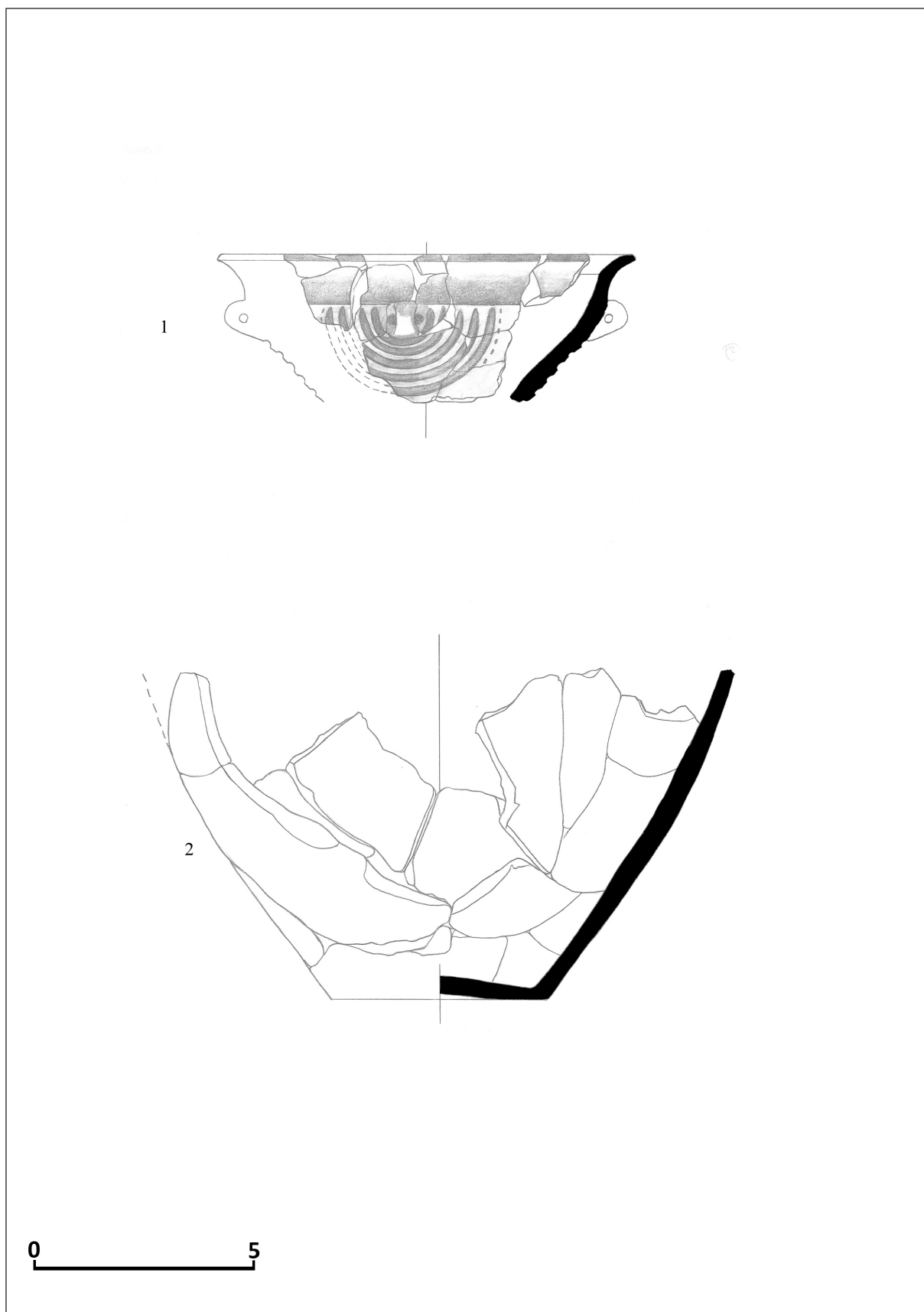


Plate 16. Zalău – Valea Miții "Dealul lupului". Ceramic inventory of the Cx. 17A.

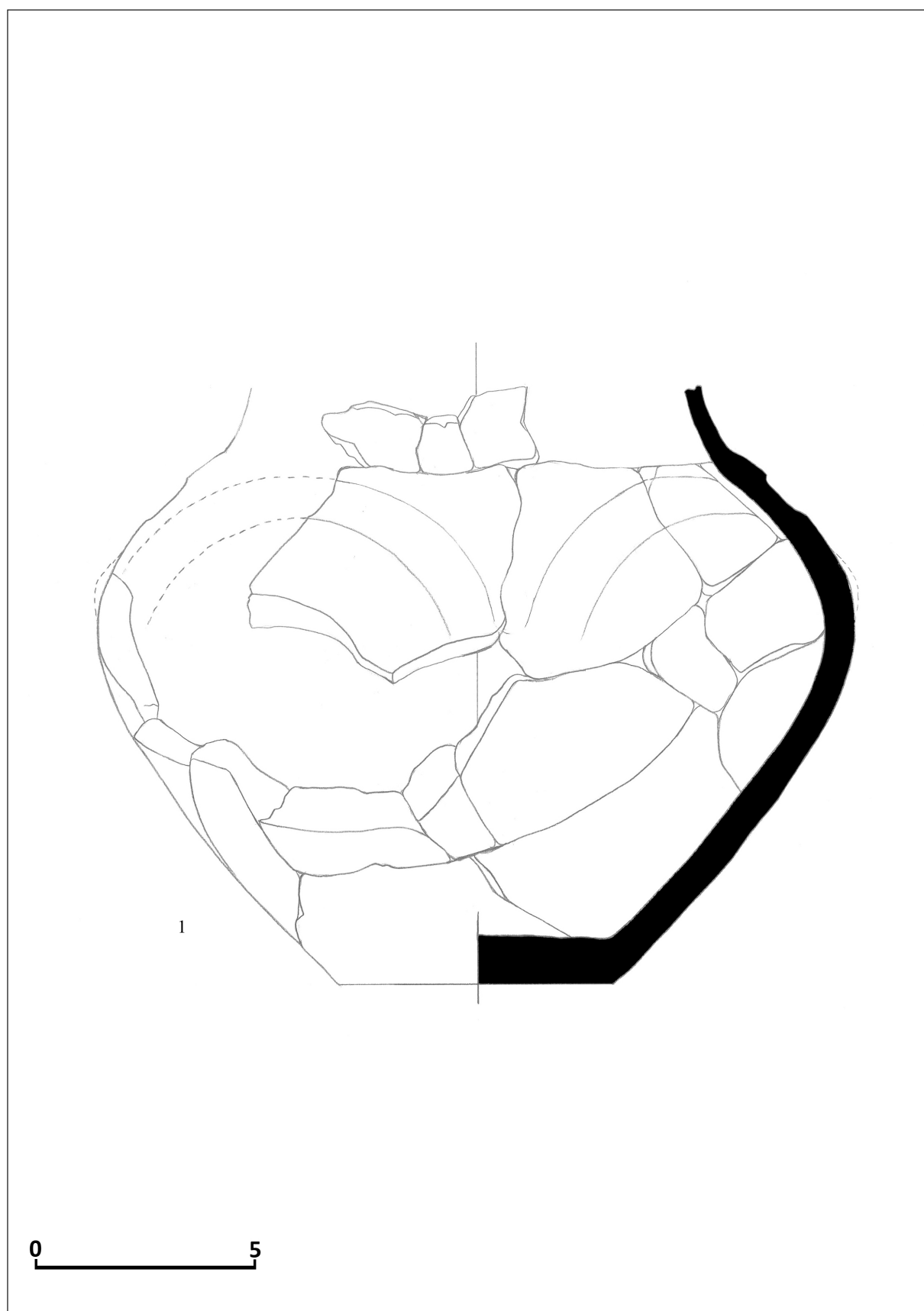


Plate 17. Zalău – Valea Miții "Dealul lupului". Ceramic inventory of the Cx. 17B.

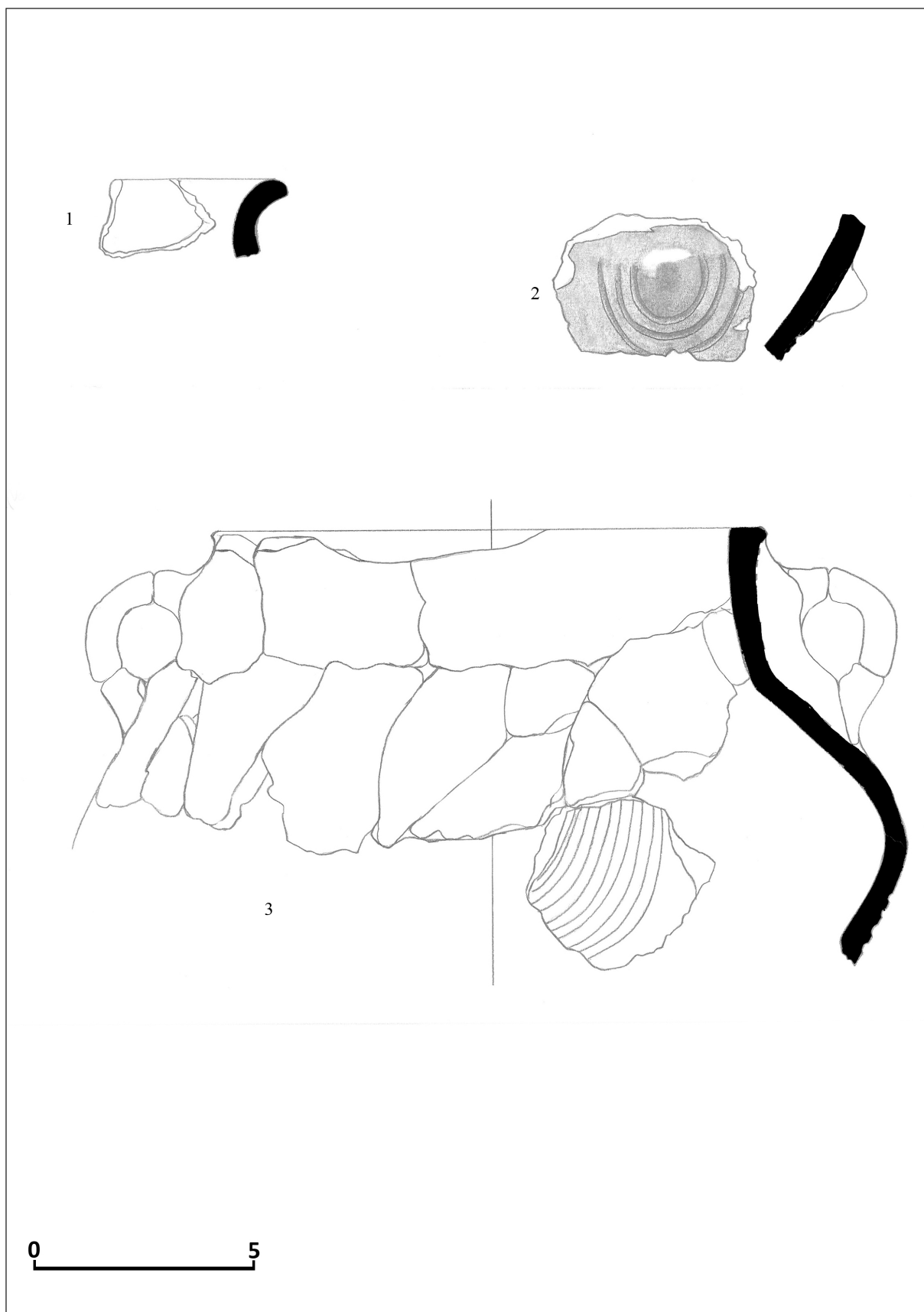


Plate 18. Zalău – Valea Miții "Dealul lupului". Ceramic inventory of the Cx. 17C.

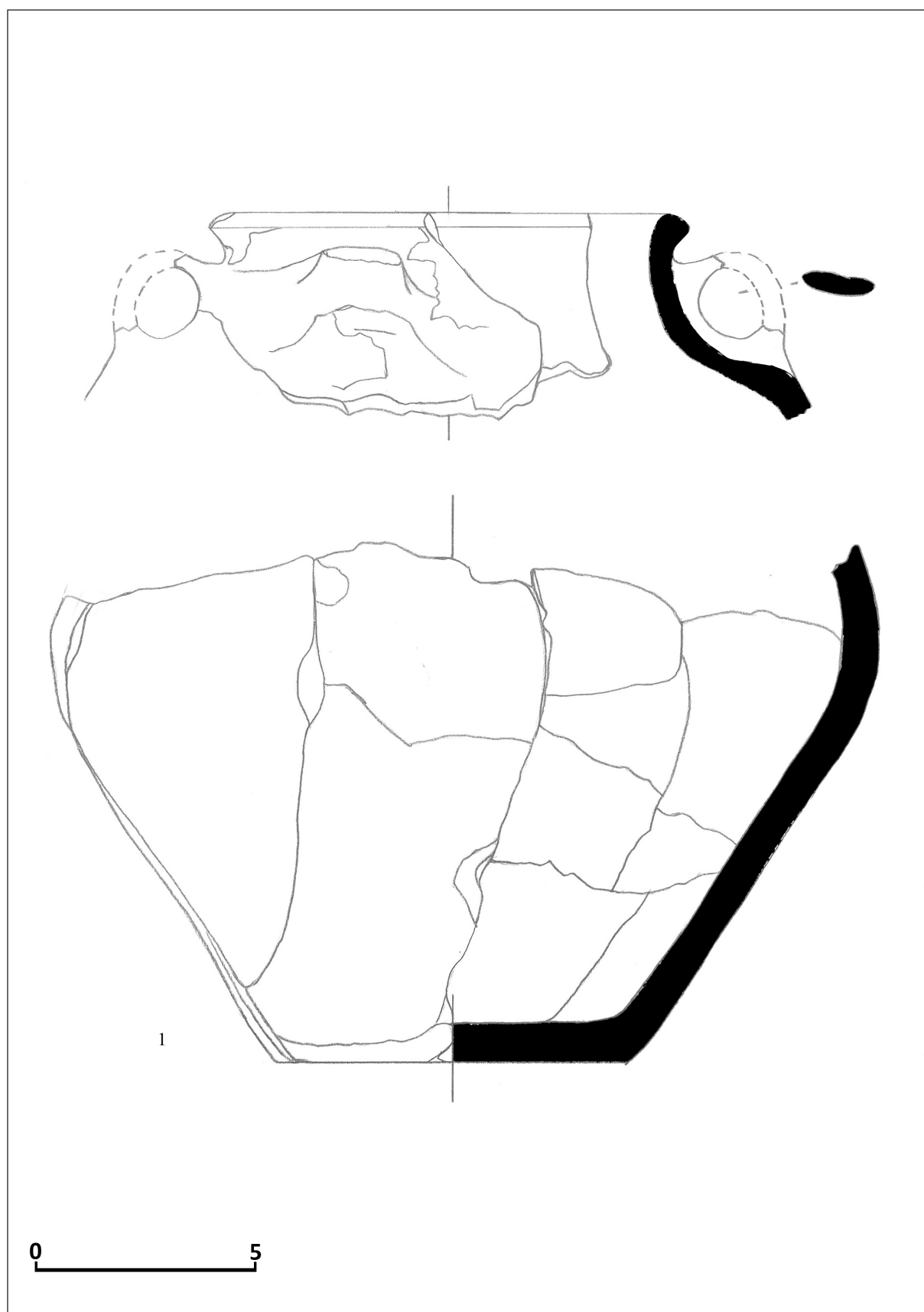


Plate 19. Zalău – Valea Miții "Dealul lupului". Ceramic inventory of the Cx. 18.

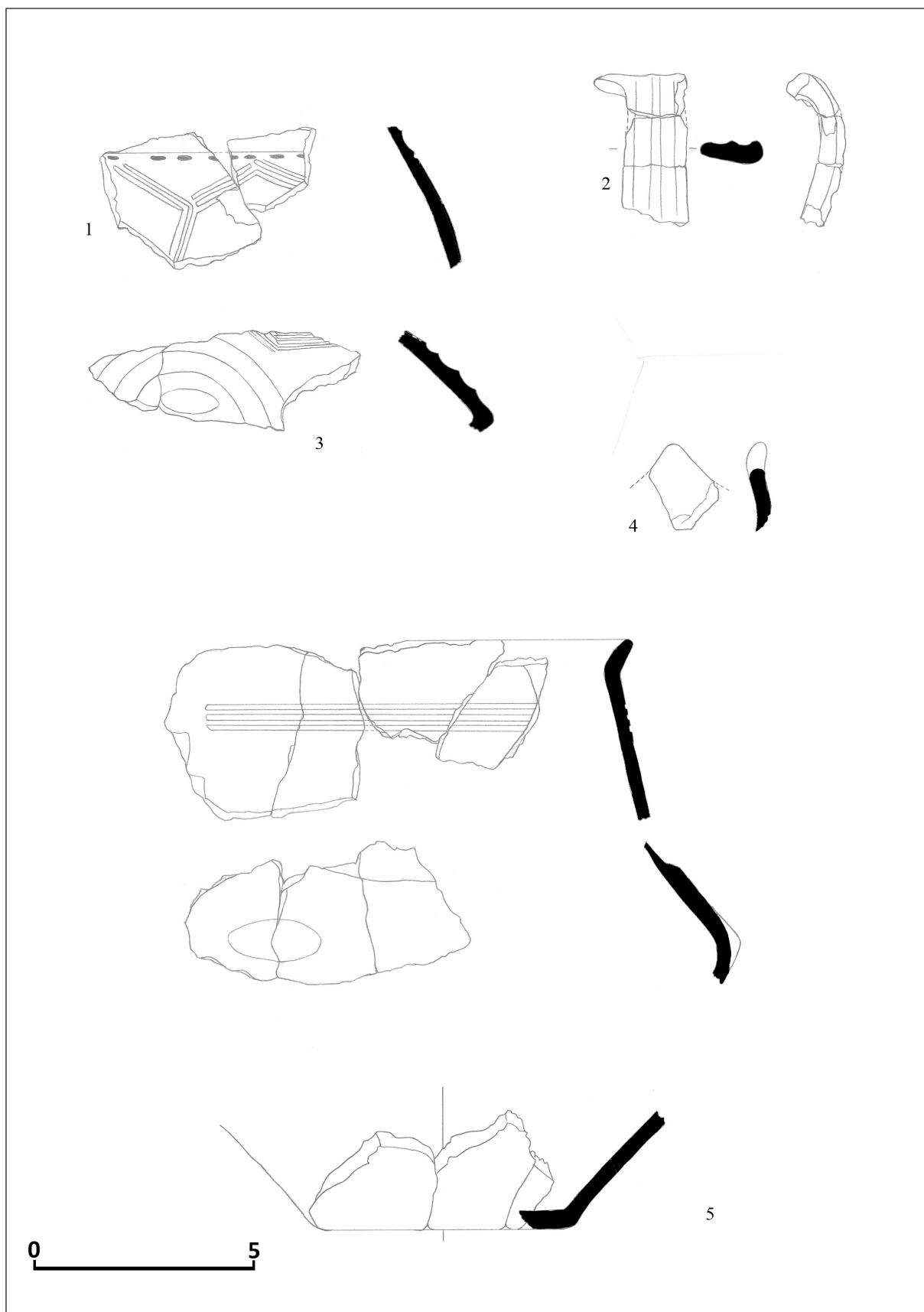


Plate 20. Zalău – Valea Miții "Dealul lupului". Ceramic inventory of the Cx. 19A.

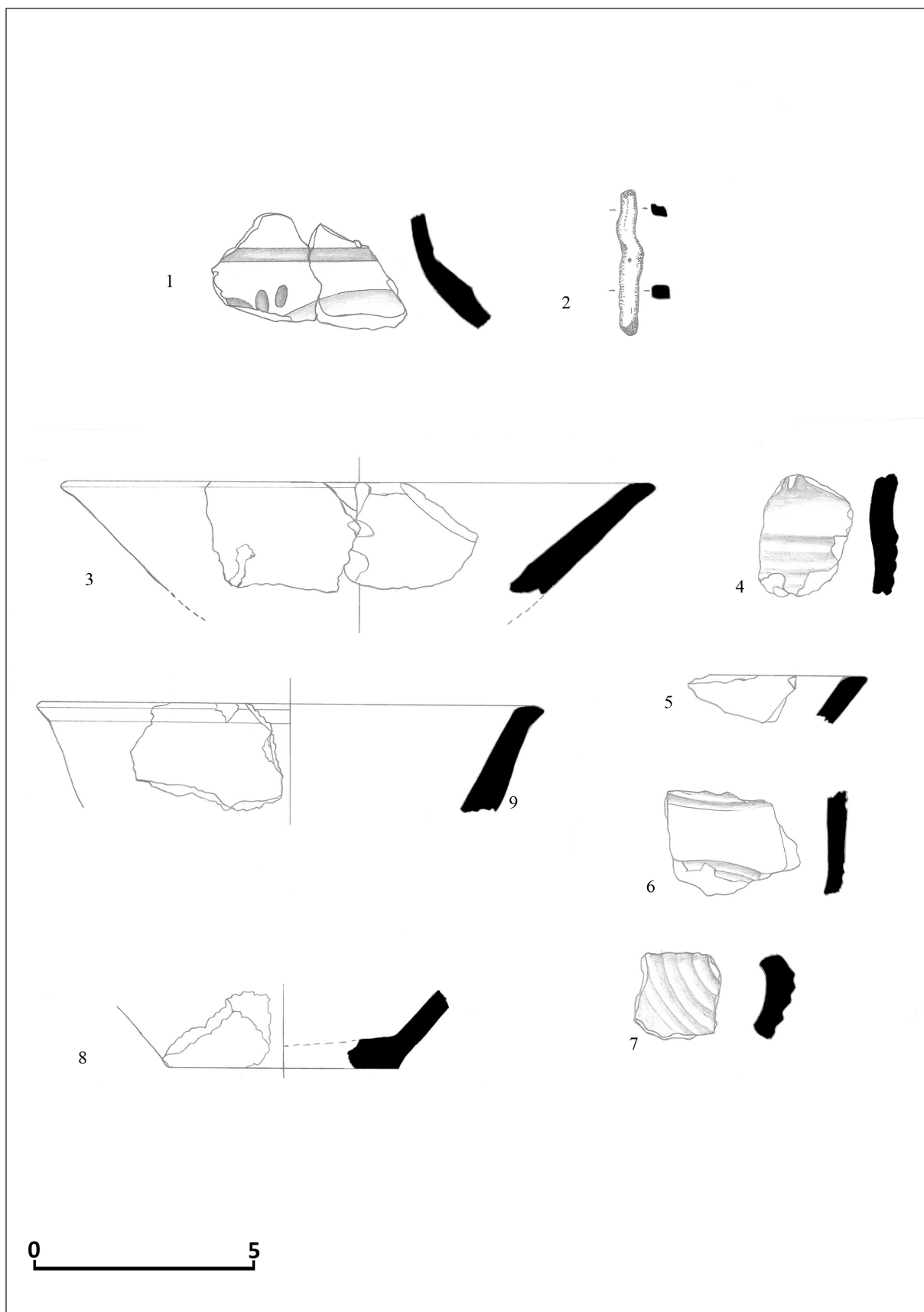


Plate 21. Zalău – Valea Miții "Dealul lupului". 1-2. Ceramic inventory of the Cx. 17B; 3-8. Ceramic inventory of the Cx. 17D.

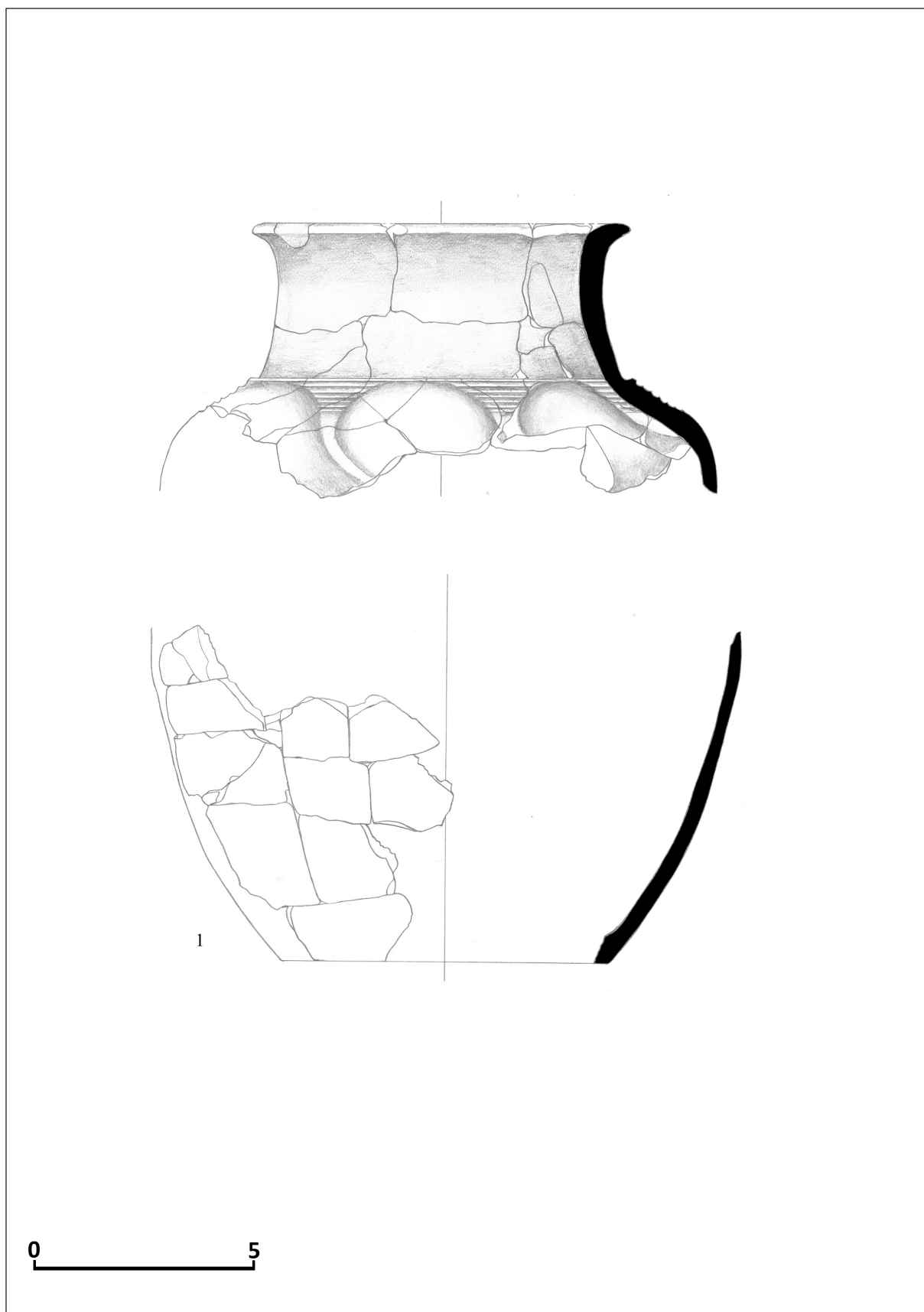


Plate 22. Zalău – Valea Miții "Dealul lupului". Ceramic inventory of the Cx. 19B.

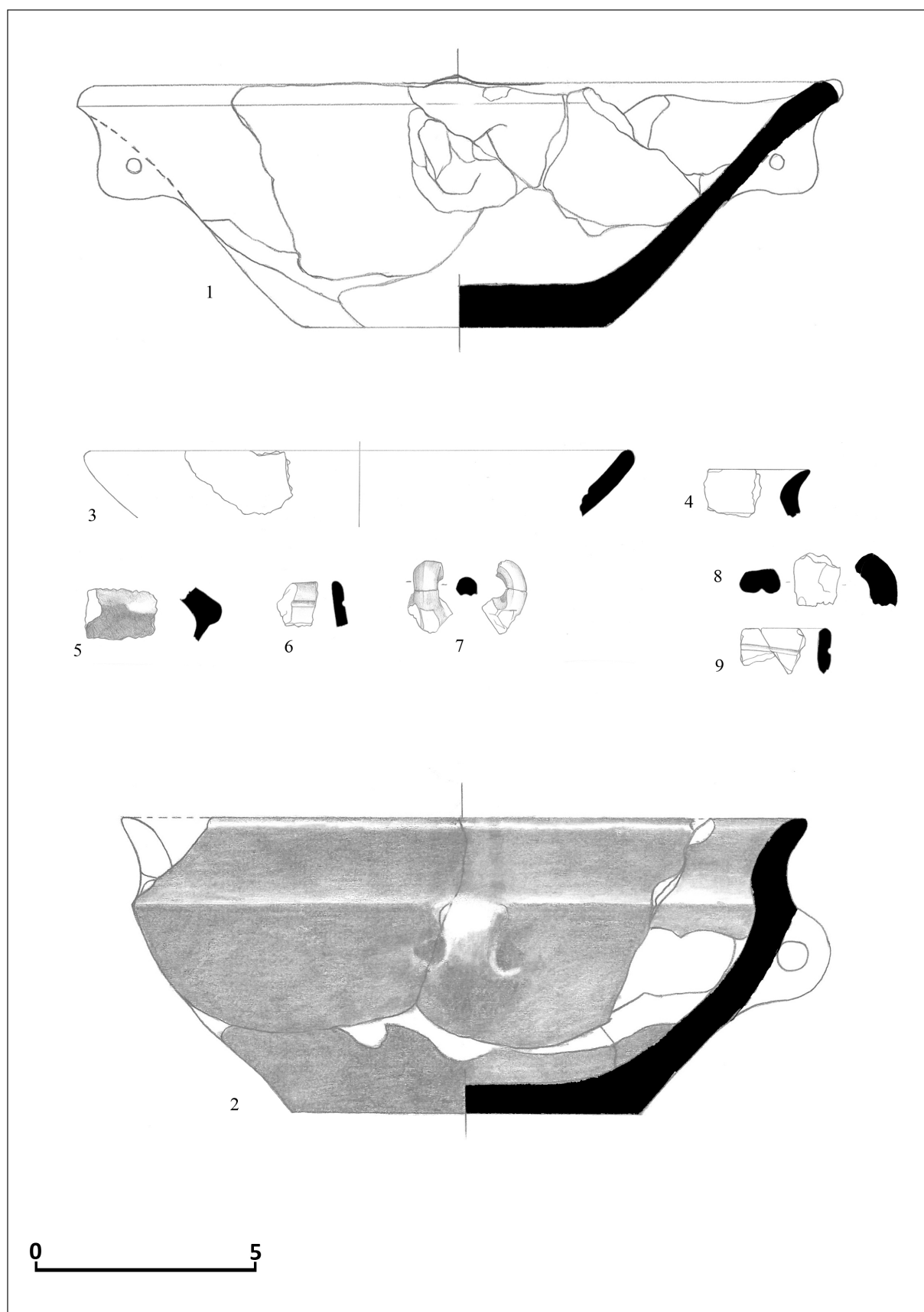


Plate 23. Zalău – Valea Miții "Dealul lupului". 1. Ceramic inventory of the Cx. 19C; 2. Ceramic inventory of the Cx. 19B; 3-9. Ceramic inventory of the Cx. 19A.