

IGOR' BRUÂKO, ALEXANDR DZIGOVSKIJ, RENATA MADYDA-LEGUTKO

CENTRAL EUROPEAN BELT FITTINGS FROM SARMATIAN BURIAL
AT KARTAL ON THE LOWER DANUBE*ELEMENTY PASA POCHODZENIA ŚRODKOWOEUROPEJSKIEGO W SARMACKIM GROBIE
Z KARTAL NAD DOLNYM DUNAJEM*

Abstract: *In the 3rd century AD Sarmatian cemetery located on the foreground of the Kartal hillfort (near the village of Orlivka, Odessa region, Ukraine), which was part of the Lower Moesian limes, a complex of two graves (No. 298 and 298a) surrounded by a circular ditch was discovered. A unique feature of the graves' equipment is the co-occurrence of artefacts of Central European origin (a rectangular belt buckle with double tongue and a rectangular strap-end from grave 298) and artefacts characteristic of Sarmatian milieu in Eastern Europe (various strap fittings from graves 298 and 298a). The belt, typical of the outfit of warriors in Central European Barbaricum, probably reached the Sarmatian areas as a result of political events from the second half of the 2nd and the beginning of the 3rd century, namely migration of the Goths from the southern zone of the Baltic Sea towards the north of the Pontic zone.*

Key words: Roman Period, Sarmatian graves, Germanic military belt, central European Barbaricum

Słowa kluczowe: okres rzymski, groby sarmackie, germański pas wojownika, środkowoeuropejskie Barbaricum

Situated on the left bank of the Danube River delta, the Kartal/Каптал hillfort (village of Orlivka/Орлівка, Odessa region, Ukraine) was part of a system of fortifications (*limes*) protecting Lower Moesia, and it played a bridgehead role (R. D. Bondar' 1984, p. 32). The main element of the system was Roman *castrum Noviodunum* (in present-day Romania) on the opposite bank of the Danube but within view of Kartal.

A flat Sarmatian burial ground was discovered in the immediate vicinity of the Kartal hillfort, and it was in use during the 3rd century AD (Fig. 1). It comprised graves of various forms: graves surrounded with ditches, ditches without graves in the middle, as well as graves without ditches. However, all the burials discovered in this cemetery shared an important trait, namely traces of intentional skull deformation. The cemetery belongs to a group of late Sarmatian sites known from the Budjak/Budzhak steppes which date to 240–270 AD (A. A. Vasil'ev, O. K. Savel'ev 2008, p. 29–37; I. V. Bruâko, A. N. Dzigovskij 2008, p. 77; O. K. Savel'ev 2009, p. 365–373; I. V. Bruâko, A. N. Dzigovskij, V. L. Denisûk 2011, p. 341–342).

* The article is a modified and extended version of the work published in Russian – И. В. Бруако, А. Н. Дзиговский, Р. Мадыда-Легутко, *Studia Baltica et Pontica* (Сармато-германский комплекс на городище Каптал в низовьях Дуная), „Stratum plus” 2017/4, p. 233–264.

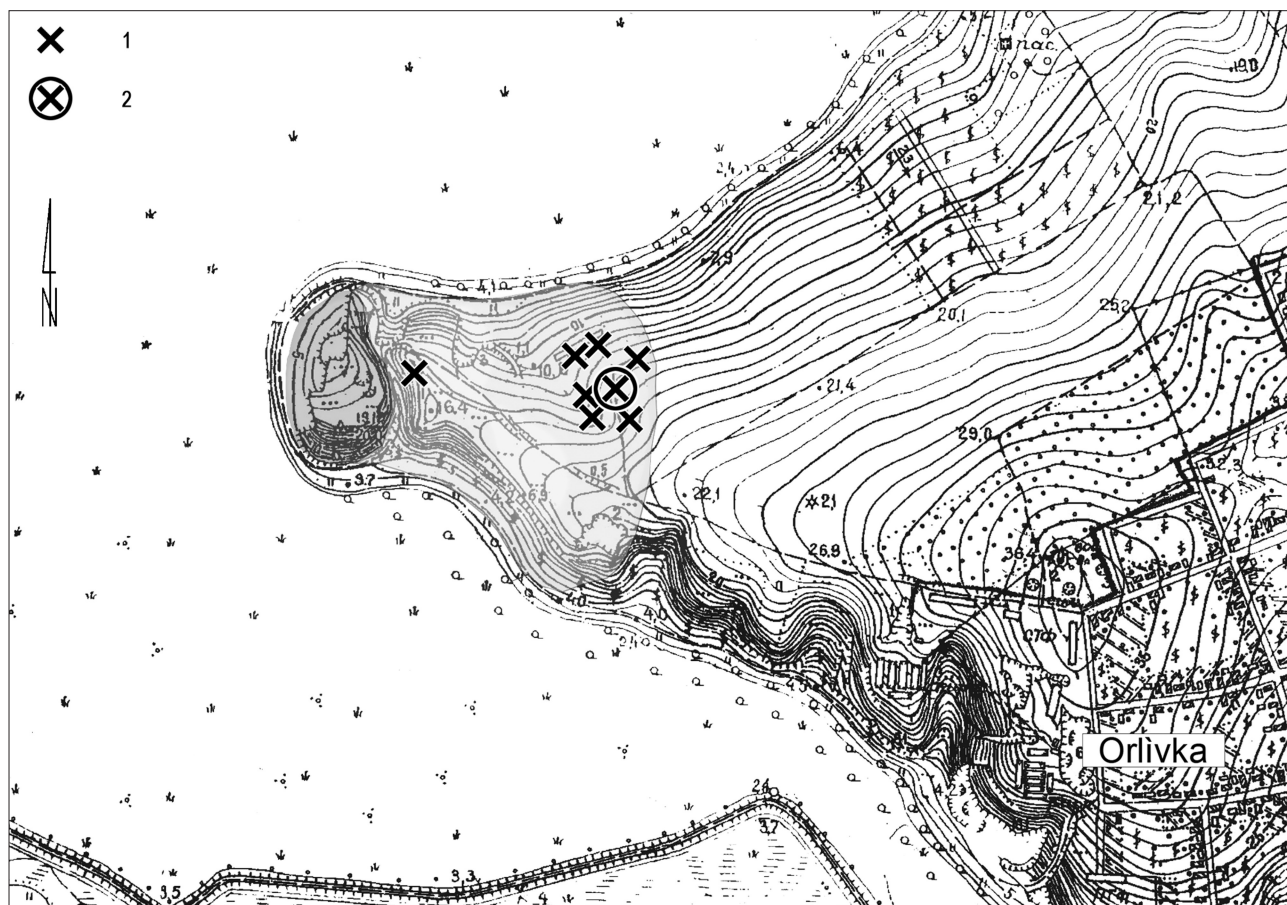


Fig. 1. Location of the Sarmatian cemetery in the forefield of the Kartal hillfort (Orlivka, Odessa region):

1 – Sarmatian graves; 2 – graves 298 and 298a.

Ryc. 1. Lokalizacja cmentarzyska sarmackiego na przedpolu umocnień Kartal (Orlivka, obw. odeski):

1 – groby sarmackie; 2 – groby 298 i 298a

The excavations carried out in the cemetery in 2012 revealed, among other things, an interesting complex of two graves (nos 298 and 298a) surrounded by a circular ditch (Fig. 2).

Grave 298 was a concentration of metal artefacts recorded at depths ranging from 50–60 to 95 cm, with a small amount of cremated bones¹ in the bottom part. In the upper part metal strap fittings (including belt fittings) were found (Fig. 3:1–4, 4:1–4, 5:1.2.10.11), while objects discovered with the bones included three small bronze rings suspended on circular loops, a large iron buckle (which survived in fragments), and fragments of a clay spindle-whorl (Fig. 3:5.8.9, 4:5, 5:13–16).

Inventory: 1. A copper alloy buckle with a slightly trapezium-shaped frame set on an axle, with a fork-shaped tongue with a broadened and decorated base, and a rectangular plate attached with three groups of three rivets. Dim.: the frame 8.5×3.4 cm, the plate 8.0×2.0 cm (Fig.

3:1, 5:1); 2. A copper alloy rectangular strap end-fitting with the longer sides slightly concave and the shorter sides arching, decorated with an openwork pattern of opposing triangles and punched concentric circles. The upper part of the fitting is bound by three groups of three rivets. Dim.: 13.0×5.8 cm (Fig. 3:2, 5:2); 3. A silver buckle with an oval, angular, unthickened frame and a rectangular, faceted plate. The plate has a small plate for attachment, mounted from the bottom side with one rivet. The buckle's tongue is straight and relatively short, with an undistinguished base. Dim.: L (frame with plate) 4.0 cm, W (frame) 2.5 cm (Fig. 4:1, 5:3); 4. A silver, tongue-shaped end fitting, faceted along the long axis and with triangular termination. In the upper part, a plate for attachment is mounted with one rivet. Dim.: L 6.2 cm, W 1.5 cm (Fig. 4:3, 5:5); 5. A small silver fitting in the form of an open ring with tapering, flattened ends. Dim.: $\varnothing$ 1.2 cm (Fig. 4:2, 5:4); 6. A copper alloy tongue-shaped belt end-fitting slightly tapering towards the bottom. A rivet has survived in the upper part. Dim.: L 8.2 cm, W 1.5 cm (Fig. 4:4, 5:12); 7. Three small copper alloy rings with slightly thickened front parts,

¹ The bones have not been examined.

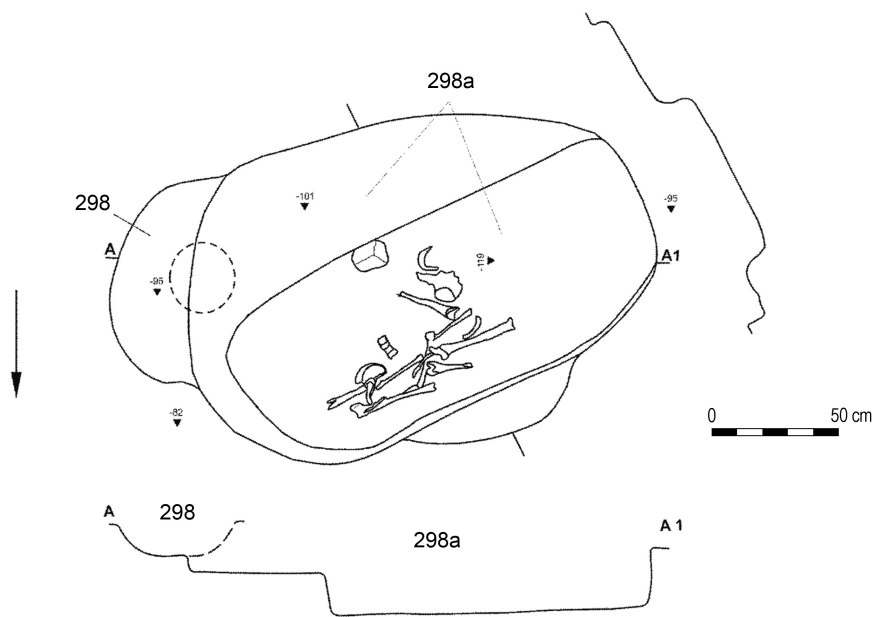
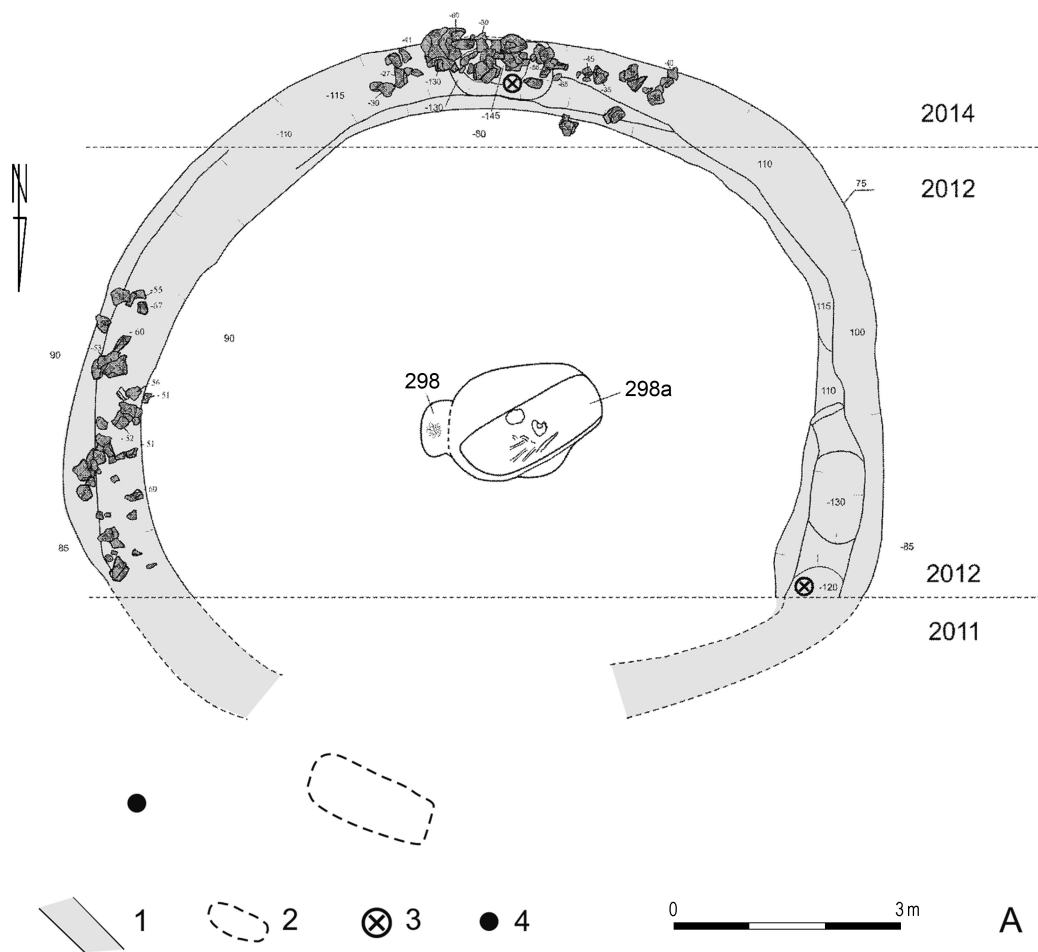


Fig. 2. Kartal, Odessa region. A – graves 298 and 298a surrounded by a circular ditch; B – grave 298 and 298a, plan and cross-section;
 1 – ditch; 2 – pit No. 39; 3 – remains of a horse's skull; 4 – silver strap button in the shape of a dog's head.
 Ryc. 2. Kartal, obw. odeski. A – groby 298 i 298a otoczone kolistym rowem; B – groby 298/298a, plan i przekrój; 1 – rów; 2 – jama nr 39;
 3 – kości czaszki konia; 4 – srebrna przewlecza rzemienia w kształcie głowy psa

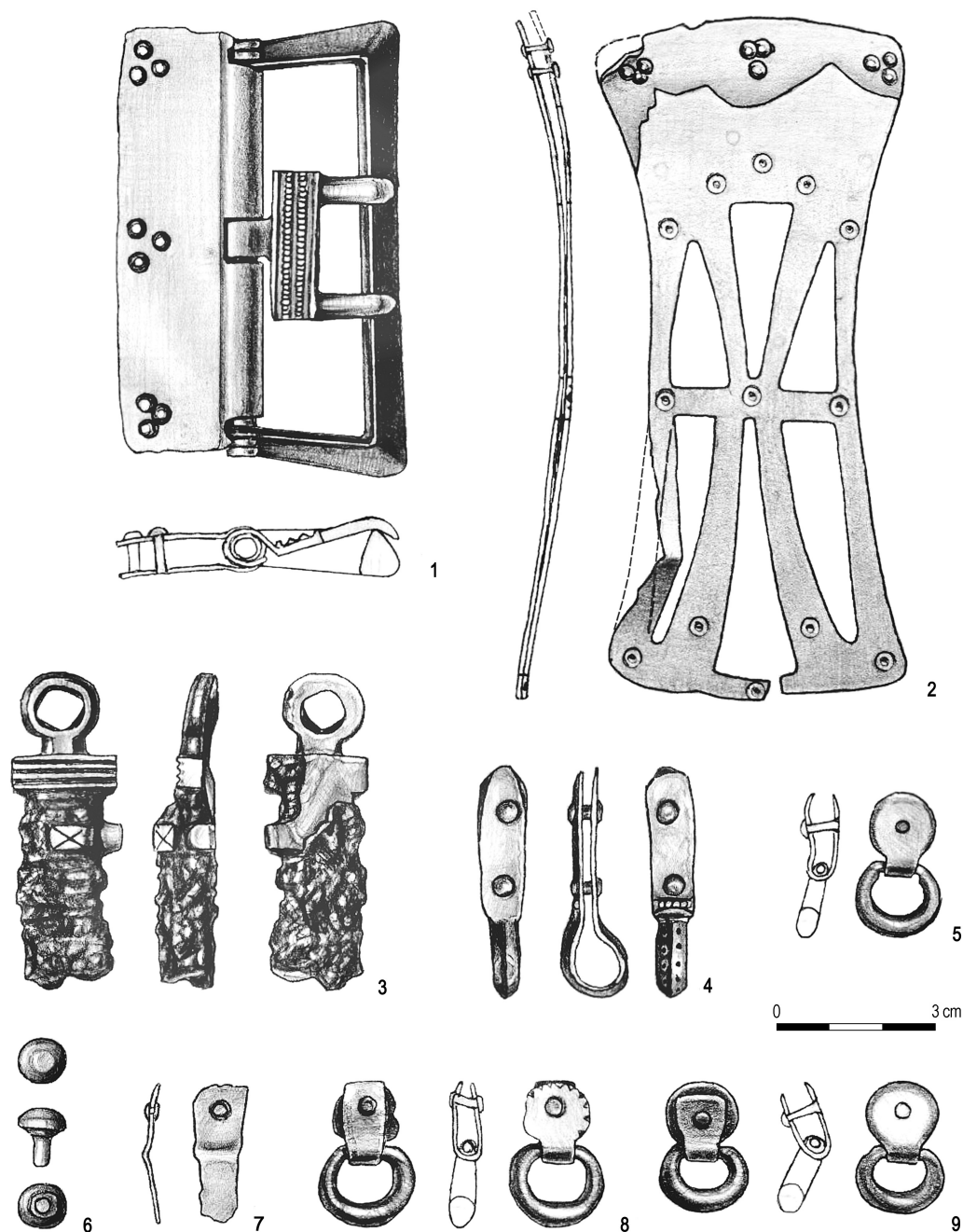


Fig. 3. Kartał, Odessa region. Artefacts from grave 298. 1, 2, 4–9 – copper alloy, 3 – copper alloy/iron. Drawing: L. V. Subbotin.
Ryc. 3. Kartał, obw. odeski. Zabytki z grobu 298. 1, 2, 4–9 – stop miedzi, 3 – stop miedzi/żelazo. Rys.: L. V. Subbotin

suspended on circular loops fastened with single rivets. The edges of two loops are bent in imitation of facetting (Fig. 3:5.9, 5:14.15), while the edges of the third one are decorated with triangular notches (Fig. 3:8, 5:13). Dim.: $\varnothing$ (rings) 1.7 cm, $\varnothing$ (loops) 1.1 cm; **8.** A narrow copper alloy fitting with two rivets, provided with a loop decorated by punching in the upper part and with notches at the base. Dim.: L 4.3 cm, W 0.8 cm (Fig. 3:4, 5:11); **9.** A bimetallic fitting consisting of a copper alloy ring cast in one with two transversal plates: one decorated with transversal notches and the other with a diagonal cross motif. The ring has a square opening. The copper

alloy elements are connected to an iron plate. Dim.: extant L 6.0 cm (Fig. 3:3, 5:10); **10.** A ribbon-like copper alloy fitting with one rivet, fragmentarily preserved (Fig. 3:7, 5:6). Dim.: L 2.5 cm, W 1.0 cm; **11.** A fragment of a copper alloy rivet with a plano-convex head. $\varnothing$ ca 1 cm (Fig. 3:6, 5:7); **12.** An iron buckle with a circular frame, with a partly preserved tongue. $\varnothing$ ca 10 cm (Fig. 4:5, 5:16); **13.** Fragments of a clay spindle-whorl (lost).

Grave 298a. A human skull (with the mandible) was found 50–60 cm to W from grave 298 at a depth of 70–80 cm. Beneath it, an oval grave cut oriented along NE-

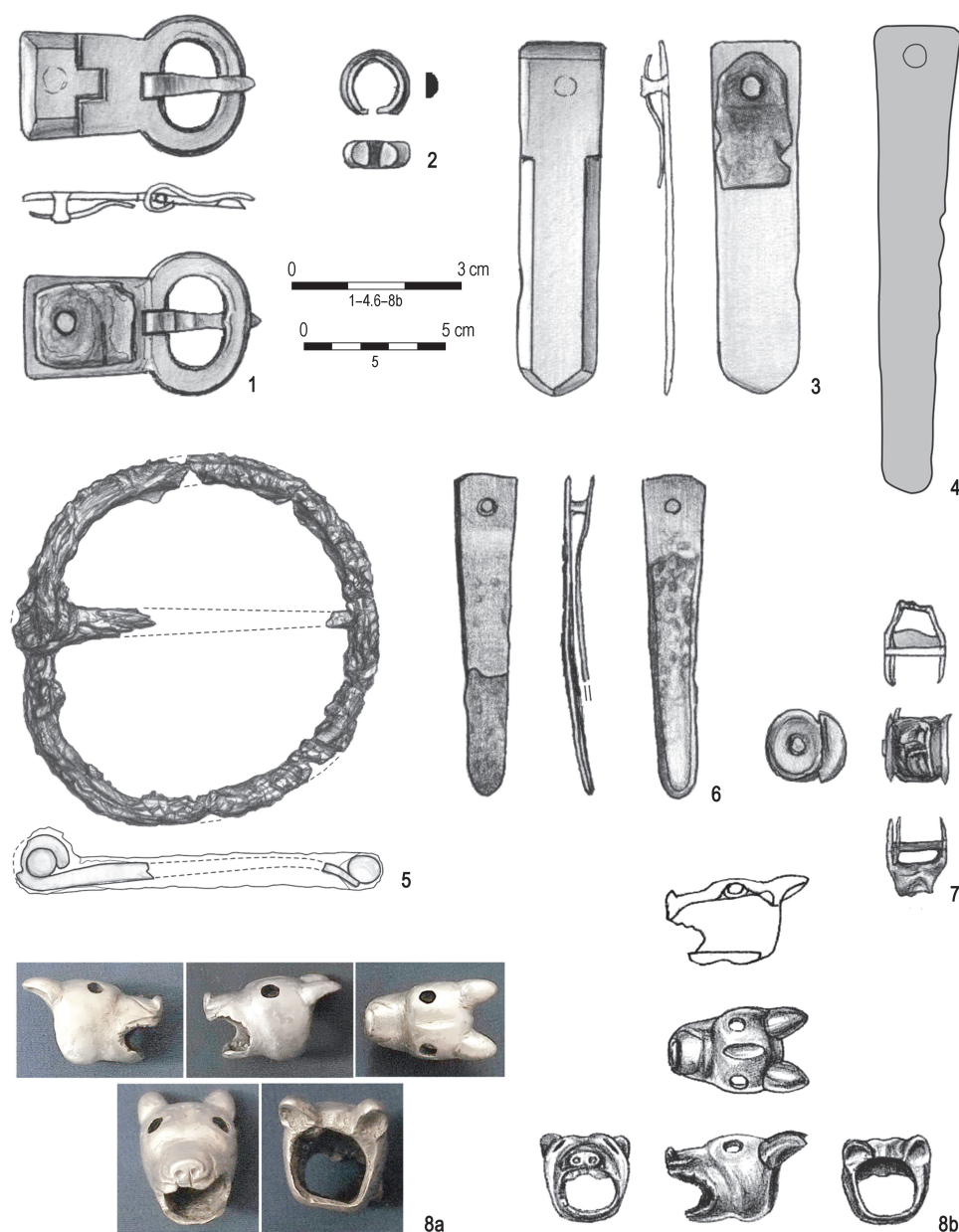


Fig. 4. Kartał, Odessa region. Artefacts from grave 298 (1–5) and from grave 298a (6, 7), and strap button in the shape of a dog's head (8a.b). 1–3, 8a.b – silver, 4, 6, 7 – copper alloy, 5 – iron. Drawing: L. V. Subbotin. Photo: I. Bruąko.
 Ryc. 4. Kartał, obw. odeski. Zabytki z grobu 298 (1–5) i z grobu 298a (6, 7) oraz przewlecżka rzemienia w kształcie gówy psa (8a.b).
 1–3, 8a.b – srebro, 4, 6, 7 – stop miedzi, 5 – żelazo. Rys.: L. V. Subbotin. Fot.: I. Bruąko

SW axis was identified against the bedrock (82–95 cm). The pit had an oval depression along the S (longer) and E (shorter) walls. The step in the E wall had an additional, semi-circular step in it, in which grave 298 was placed. The length of the grave pit was 205 cm with the step and 190 cm without it, and the width was 115–135 cm and 80 cm, respectively. The maximum depth of the pit was 119 cm from the present-day surface, and its thickness varied from 25 to 35 cm, while the maximum depth of the step was 101 cm below the present-day surface, with a thickness of 15–20 cm.

Bones of the skeleton were found in disarray by the northern wall of the grave pit (Fig. 2:2B, 6:1). The skull

lay higher than the remaining bones, at the level at which the grave cut was first identified. The position of the bones within the grave clearly indicates that the burial has been probably ritually disturbed. All that survived from the grave furnishings were two fittings (Fig. 4:6.7, 5:8.9).

Inventory: 1. A tongue-shaped copper alloy fitting, longitudinally faceted, slightly tapering. In the upper part there was a plate for attachment mounted from the bottom side with one rivet. Dim.: L 5.5 cm, W 1.2 cm (Fig. 4:6, 5:8); 2. A silver ring-like fitting, reinforced with a rivet. Dim.: $\varnothing$ 1.0 cm (Fig. 4:7, 5:9).

Approximately 2–2.5 m NE of grave 298a at a depth of 20–30 cm below the present-day ground surface a silver



Fig. 5. Kartal, Odessa region. Artefacts from grave 298 (1-7, 10-16) and from grave 298a (8, 9). 1, 2, 6-9, 11-15 – copper alloy, 3-5 – silver, 10 – copper alloy/iron, 16 – iron. Photo: I. Bruâko.

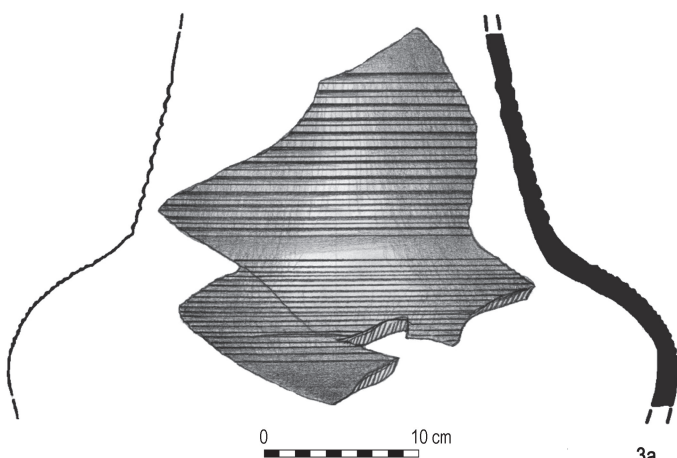
Ryc. 5. Kartal, obw. odeski. Zabytki z grobu 298 (1-7, 10-16) i z grobu 298a (8, 9). 1, 2, 6-9, 11-15 – stop miedzi, 3-5 – srebro, 10 – stop miedzi i żelazo; 16 – żelazo. Fot.: I. Bruâko



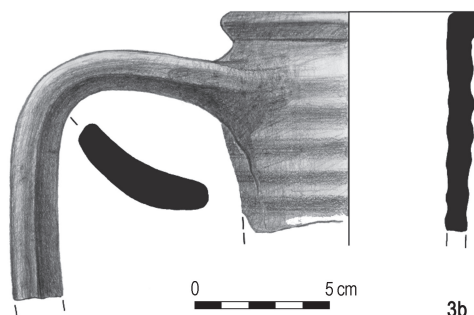
1



2



3a



3b



3c



3d

Fig. 6. Kartal, Odessa region. 1 – grave 298a; 2 – stone construction in ditch; 3a–c – artefacts from ditch. 3a.b.d – clay, 3c – copper alloy.
Drawing: L. V. Subbotin. Photo: I. Bruško.

Ryc. 6. Kartal, obw. odeski. 1 – grób 298a; 2 – konstrukcja kamienna w rowie; 3a–c – zabytki z rowu. 3a.b.d – glina, 3c – stop miedzi.
Rys.: L. V. Subbotin Fot.: I. Bruško

strap button in the shape of a dog's head (L 2.5 cm, H 1.7 cm) was found (Fig. 4:8a.8b). The head has been realistically modelled, with whiskers (or grooves) marked, ears pulled back, and a groove between the eyes. The eyes were probably originally filled with glass or stone. It is highly likely that the artefact originally belonged to the inventory of grave 298a.

It seems most likely that both burials were deposited almost simultaneously and the 'disturbance' of grave 298a was of a probable ritual nature, which means that grave 298 is the outcome of these behaviours.

Another important element of the complex is a circular ditch 10–11 m in diameter which surrounded both graves (Fig. 2:A).² In the northern part of the ditch there was a gap, which perhaps allowed for passage between the area surrounded by the ditch and the area outside it. The ditch itself was very carelessly dug, and its bottom and side walls were not even. Its outline became clearly evident only against the background of the natural bedrock, at a depth of 80–90 cm (Fig. 2). The ditch had a trough-like cross-section and was dug 30–40 cm into the bedrock, while its width averaged 1 m.

In the eastern and southern parts of the ditch small and mid-sized stones were found, which formed a compact layer (Fig. 2:A, 6:2). Concentrations of stones, initially interpreted as a 'stone wall', stretched along a length of more than 3 metres. They lay in the upper part of the fill, at depths ranging from 30 to 60 cm below the present-day ground surface, not reaching the bottom. Roman pottery and fragments of Roman roof tiles were discovered in-between the stones. One can conclude that the stone layer must have been visible in the ditch during the performance of funerary rituals.

In two places at the ditch's bottom remains of a horse skull were found (Fig. 2:A), belonging to a short, adult male (I. V. Bruško, A. N. Dzigovskij, R. Madyda-Legutko 2017, p. 237). The skull with the left part of the mandible was found in the north-western section of the ditch, while the right part of the mandible was found in the southern section, in an intentionally made hollow.

The southern part of the ditch yielded a small bronze fitting (Fig. 6:3c), while in northern part of ditch, and even just outside it, there were fragments of several red-slip plates (of which one has been reconstructed – Fig. 6:3d), a fragment of a jug made from red clay, with a broad handle (Fig. 6:3b), and a body sherd from an amphora of red-brick-red colour, with a grooved surface (Fig. 6:3a). The discovered pottery may be remains of funeral rituals, a so-called *trizna*. A small, rectangular pit (no. 39), only

25 cm thick, discovered outside the passage through the ditch might be linked with the same rituals (Fig. 2:B).

An important aspect of the complex of burials described above is the co-occurrence of artefacts of Central European origin (grave 298; Fig. 3:1.2, 5:1.2) with those typical of the Sarmatian *milieu* of Eastern Europe (graves 298 and 298a; Figs. 3:3–9, 4, 5:3–16).

I. Artefacts typical of the Central European *milieu*

A Central European provenance can be attributed to the set of copper alloy belt fittings from grave 298, comprised of the buckle with slightly trapezium-shaped frame and fork-shaped tongue and the belt end-fitting (Fig. 3:1.2, 5:1.2). The buckle represents group G type 37, i.e. buckles with a rectangular, bipartite frame (set on an axle), with a fork-shaped tongue (R. Madyda-Legutko 1987, p. 53, map 36; 1990, p. 354–357, fig. 2:3). Buckles with a rectangular frame and a double tongue (group G types 35–45) differ in the construction (uni- or bipartite), proportions, and size of the frame, the shape of the tongue (forking or resembling the letter H), the presence or lack of a plate, decoration, as well as in terms of raw material (K. Raddatz 1957, p. 37–43, map 5; R. Madyda-Legutko 1987, p. 52–54, pl. 16, 17, maps 39–41; 1990; J. Andrzejowski, R. Madyda-Legutko 2013; 2018). The vast majority of such buckles found within Central European *Barbaricum* are forms with bipartite frame with rectangular plate, and with fork-shaped tongues. Their average height is around 7 cm, with only a few specimens higher than 10 cm. Among the discussed buckles iron specimens clearly prevail, while those made from copper alloy constitute little more than 13% of the total (J. Andrzejowski, R. Madyda-Legutko 2013, p. 8; J. Andrzejowski 2014, p. 25).

In Central European *Barbaricum*, rectangular copper alloy buckles with double tongues, where the artefact from Kartal belongs (Fig. 7), occur over a territory significantly smaller (Fig. 8) than that of their iron counterparts (cf. J. Andrzejowski, R. Madyda-Legutko 2013, p. 18–19, list 1, fig. 1; 2018, fig. 1; J. Andrzejowski 2014, p. 24–27, fig. 4; I. V. Bruško, A. N. Dzigovskij, R. Madyda-Legutko 2017, p. 257–258, list 1, fig. 6)³. First of all, one has to emphasise the nearly absolute predominance of copper alloy buckles in the Wielbark Culture area (Fig. 7:6–11). Virtually all the buckles discovered there belong to or resemble type G37. In the territory occupied by the West Balts and the Przeworsk Culture (Fig. 7:12), however, copper alloy buckles are far less numerous than those

² The ditch and the area it surrounded were explored during three excavation seasons (2011, 2012, and 2014). The major part of the ditch and both burials were uncovered in 2012, the southern part in 2014, and the northern part, which had not been fully documented during its exploration in 2011, was reconstructed.

³ Two publications cited here (J. Andrzejowski, R. Madyda-Legutko 2013; I. V. Bruško, A. N. Dzigovskij, R. Madyda-Legutko 2017) provide lists of copper alloy buckles with double tongues, with references, which is why source publications have not been referred to here.

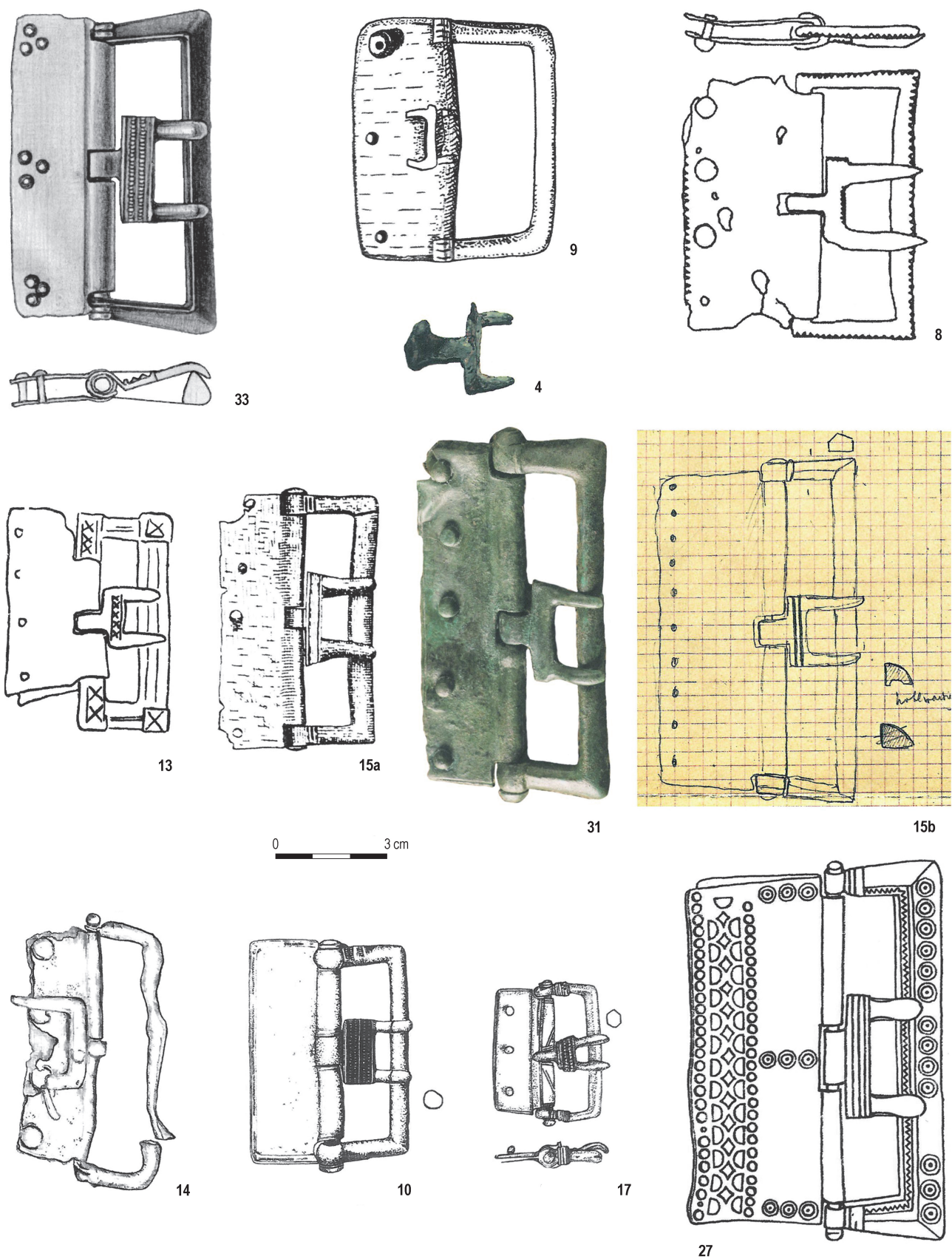


Fig. 7. The copper alloy buckles with rectangular frame and forked-shaped tongue from *Barbaricum* and the northern coasts of the Black Sea (numbers fit with List 1).

Ryc. 7. Prostokątne sprzączki ze stopów miedzi z widelkowatym kołcem z *Barbaricum* i z północnych wybrzeży Morza Czarnego (numery odpowiadają Liście 1)

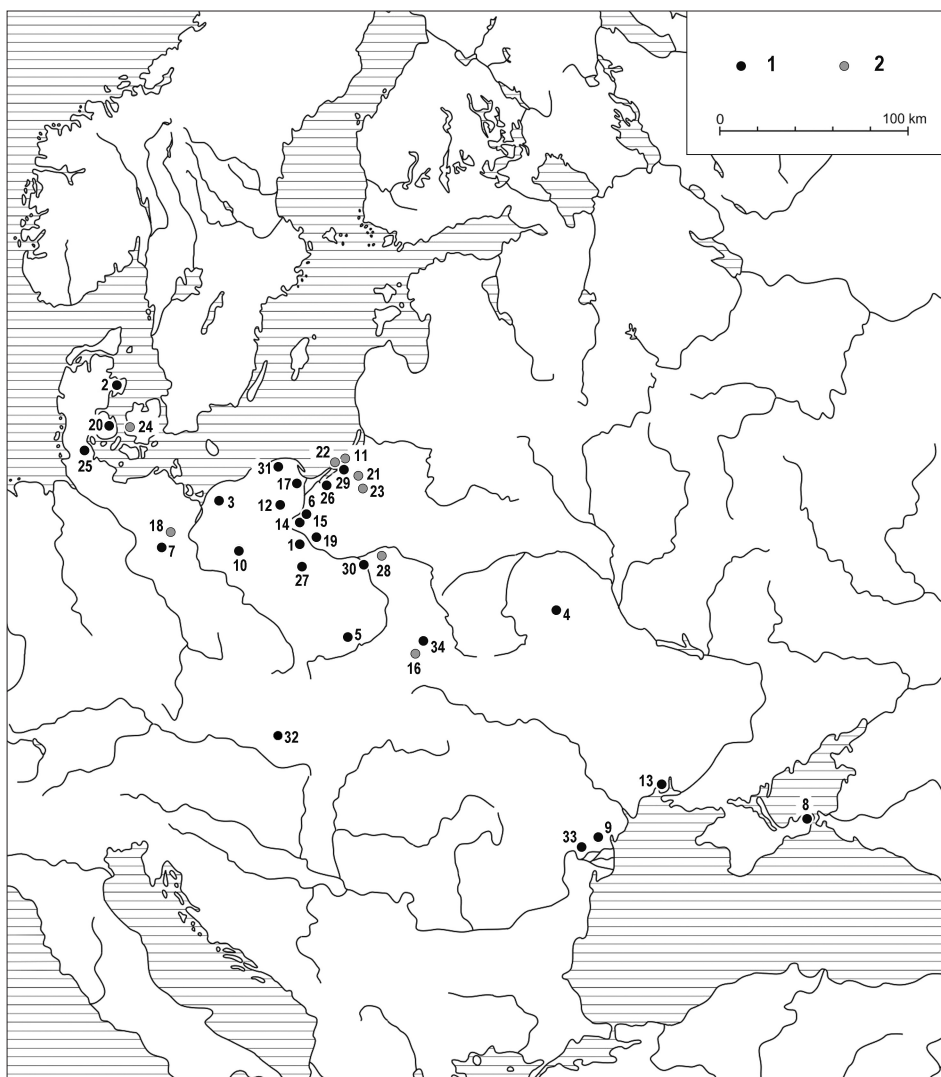


Fig. 8. Distribution of buckles with rectangular frame and double tongue. 1 – types G36, G37 and similar forms (G37/39, G37/40, G37/41); 2 – types G35 and G38–45 (see List 1)

Ryc. 8. Rozprzestrzenienie sprzączek o ramie prostokątnej z podwójnym kolcem. 1 – typ G36, G37 i formy zbliżone (G37/39, G37/40, G37/41); 2 – typ G35 i G38–45 (patrz Lista 1)

made of iron. In the former area copper alloy buckles of the G45 type (with H-shaped tongue) occur, and in the latter also buckles of type G37 occur. Furthermore, single copper alloy buckles are known from Brandenburg (types G37/40 and G45), Schleswig, Jutland, and the Danish Islands (types G36, G37/41, and G42). One specimen comes from the Bohemian Basin (type G37), while no such buckles are known south of the Carpathians, despite the fact that a few iron specimens have been discovered there (cf. J. Andrzejowski, R. Madyda-Legutko 2013, p. 8, note 9).

Noteworthy is the occurrence of rectangular copper alloy buckles with double tongue, with uni- and bipartite frames, on the northern coasts of the Black Sea, in the Sarmatian *milieu* – Kholm's'ke/Холмське, grave 16 (Fig. 7:2), as well as in Olbia (Fig. 7:5) and Kerch (*Pantikapaion*)

(Fig. 7:3). It is with this group that the analysed buckle from Kartal (Fig. 7:1) should be linked. These buckles, together with a copper alloy semi-product of a buckle tongue (of G36/37 type) discovered at Dìvochki/Дівочки in the Ukrainian Polesie region (Fig. 7:4), form a link between copper alloy buckles from the North Pontic area and analogical items from the Wielbark Culture range.

Copper alloy buckles with double tongue known from Central European *Barbaricum* bear distinct individual traits, which probably stems from the properties of the raw material of which they were made. The decoration of the tongue's base with parallel grooves (as in Kartal) may also be seen on the tongues of several other specimens known from the ranges of the Dollkeim-Kovrovo, Wielbark, and Przeworsk Cultures (I. V. Bruâko, A. N. Dzigovskij, R. Madyda-Legutko 2017, p. 243, fig. 7:10–12).

The aesthetic value of the Kartal buckle and its plate is enhanced by the tripled arrangement of rivets which attached the object to a belt. Analogical arrangement of copper alloy rivets is known from a similar set of belt fittings but made of iron, discovered in the Przeworsk Culture cemetery at Czacz, Kościan County (B. Kostrzewski 1956, p. 76, fig. 9:6.12; J. Andrzejowski, R. Madyda-Legutko 2013, p. 20, fig. 5:8; I. V. Bruško, A. N. Dzigovskij, R. Madyda-Legutko 2017, p. 243, fig. 11:1).

The chronology of buckles with double tongue in Central European *Barbaricum*, irrespective of the raw material, spans phases B2b and C1a in K. Godłowski's periodisation (1970). In general, buckles with uni-partite frames and fork-shaped tongues are older than large, massive buckles with bipartite frames and H-shaped tongues (R. Madyda-Legutko 1990, p. 557–565)⁴. Buckles from the North Pontic area are dated relatively late, to the turn of the 2nd and 3rd century AD or the first half of the 3rd century AD (A. B. Gudkova, M. M. Fokeev 1984, p. 16; I. A. Bažan, D. A. Gerciger 1997, p. 107, fig. 1; A. A. Vasil'ev 2005, p. 279, fig. 2:9; A. Vasil'ev 2011, p. 236, fig. 2:17).

An important element of the copper alloy belt set from Kartal is a large, flat, roughly rectangular end-fitting (Fig. 3:2, 5:2) representing type 9/5 acc. to classification of Central European belt end-fittings by R. Madyda-Legutko (2011). The openwork technique used in its decoration allows the item to be classed in variant 1 of this type. Fittings of group 5 are well-evidenced in the horizon of the occurrence of double-tongue buckles, i.e. in phases B2b and C1a (R. Madyda-Legutko 2011, p. 73–77, 84, pl. XXXVIII:5.6, XXXIX:1–3). In that period, openwork decoration features primarily on belt end-fittings in the West Balt area – in the Bogaczewo and Sudovian Cultures and, to a lesser extent, in the Przeworsk Culture (Fig. 9:2–9, 11) (R. Madyda-Legutko 2009, p. 773–786, pl. 1:1a–4b, 2:1–8, 3:1a–4b; 2011, p. 73, 77, pl. XXXIII:7, XXXV:1; I. V. Bruško, A. N. Dzigovskij, R. Madyda-Legutko 2017, p. 245–248, 258, fig. 8, 9:1–9, list 2)⁵. However, despite sharing the same genesis linked with the provincial Roman culture, the motifs used in the West Balt area and the Przeworsk Culture differ significantly (R. Madyda-Legutko 2009, p. 780; O. A. Homáková 2015, p. 190–230). The predominant motif in Balt areas is a triangle, which should be seen as reflecting local stylistic inclinations (Fig. 9:2–4.6.8.9). In terms of style, the Kartal fitting places closer to those from the West Balt Culture Circle (Fig. 9:2.3) than to those from the Przeworsk Culture (Fig. 9:5.7). The same stylistic tendency is referred to by

two copper alloy strap-ends discovered in Kariv/Kapiv, L'viv region (Fig. 10), in western Ukraine⁶.

In phases B2b and C1a, iron and copper alloy rectangular buckles with double tongue together with massive belt end-fittings formed characteristic sets adjusted to relatively broad belts worn by warriors in Central European *Barbaricum* (Fig. 12:2–4). The use of copper alloy, which gave the artefacts an impressive golden shine, emphasised the ceremonial nature of these belts. The fittings from Kartal were part of a set just like this.

II. Artefacts typical of the Sarmatian *milieu*

Particularly noteworthy among the fittings characteristic of the East European Sarmatian *milieu* is the set of silver belt elements from grave 298, comprised of a buckle (Fig. 4:1, 5:3), a belt end-fitting (Fig. 4:3, 5:5), and probably also a small ring-like fitting with tapering, flattened ends (Fig. 4:2, 5:4).

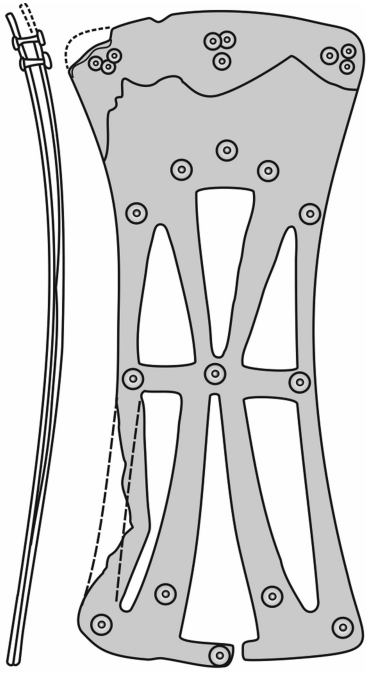
Buckles with integral plate, as in the specimen from Kartal, are known from burials of Sarmatian mounted warriors in the lower Don River basin dated to the late 2nd and the first half of the 3rd century AD. They were found in grave 8 under barrow 16 in the Central'nyj/Cентраль-ный VI cemetery (Fig. 13:3.4; S. I. Bezuglov 1988, p. 111, fig. 3:29.30) and grave 73 in the cemetery accompanying the Kobákovо/Кобяково hillfort (Fig. 13:5.6; V. A. Larenok 2010, p. 295, fig. 4:10.11). Such buckles belong in group IIa in the classification of buckles and fittings proposed by V. Ů. Malašev (2000, p. 199–200), dated to 200/210–240/250 AD. This attribution is additionally supported by features of the Kartal buckle such as the faceted plate and angular frame (cf. V. Ů. Malašev 2000, p. 196, 199, 209, fig. 1). A buckle of a similar construction was discovered on the left bank of the lower Dnestr in Tiraspol/Тирасполь, in the main burial in barrow 1 (Fig. 13:2), allegedly erected at the very close of the 2nd century AD (V. S. Sinika *et alii* 2015, p. 111–112, fig. 4:7).

Apart from areas on the lower Don and lower Danube Rivers, buckles with frame and plate cast in one also occur in the Sarmatian *milieu* in the Tisa River basin. They belong to group 2 type 1 variant 1 of Sarmatian buckles in A. Vadai and V. Kulcsár's classification, typical of the second half of the 2nd century and the first quarter of the 3rd century AD. These buckles were attached to straps on shoes (A. H. Vadai, V. Kul'čar 1984, p. 247, 257–260, fig. 2:1–7.9.11.13.14.16, 9). Despite being similar in terms of construction, Sarmatian buckles from the Tisa basin and those from Eastern Europe reveal fundamental stylistic differences, stemming from the presence of long, narrow plates in buckles from the Tisa basin.

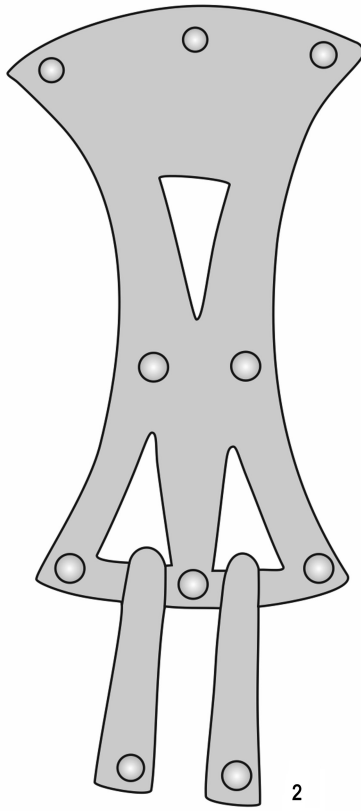
⁴ The only artefact dated to the early stage of phase B2 is a bronze buckle from Pruszcz Gdański, *Gdańsk* (Pruszcz Gdański) County, site 7, grave 149B (J. Andrzejowski, R. Madyda-Legutko 2013, p. 10, fig. 2:a; M. Pietrzak, F. Rożnowski 2015, p. 541–542, fig. 4/149B:1).

⁵ Source publications are quoted in the cited papers.

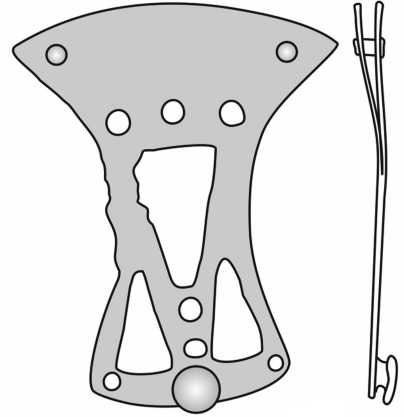
⁶ We would like to thank Āroslav Onišuk PhD from the Ivan Franko University in L'viv for the information about this discovery.



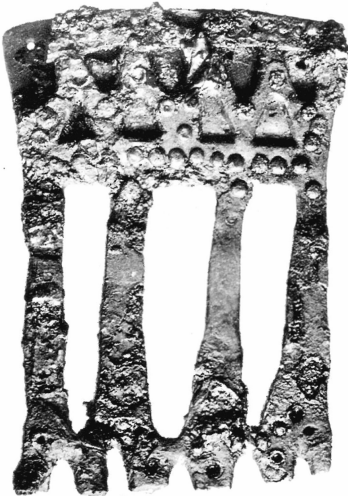
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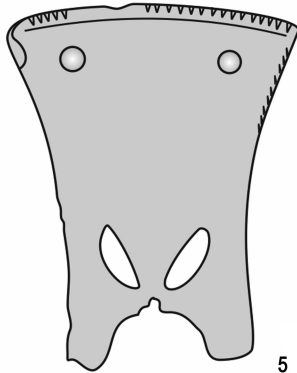
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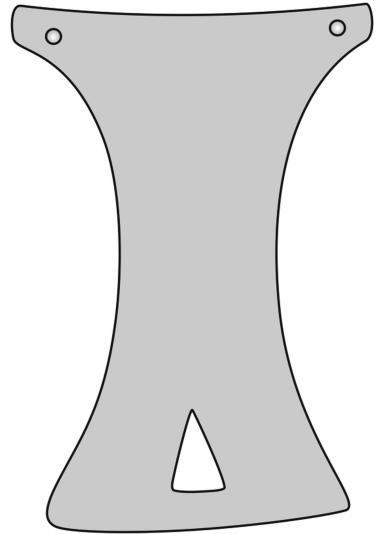
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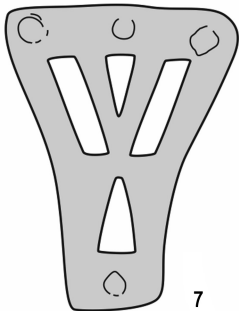
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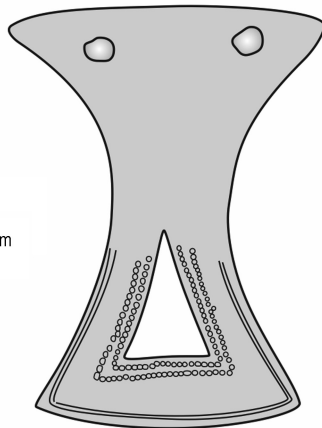


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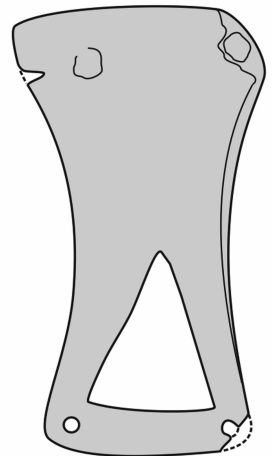


7

0 3 cm



8



9



Fig. 10. Roughly rectangular belt end-fittings with openwork decoration from Kariv, L'viv region.

Photos: A. I. Onišuk.

Ryc. 10. Okucia końca pasa zbliżone do prostokąta z ornamentem ażurowym z Kariva, obw. lwowski.

Fot.: A. I. Onišuk

It is worth noting that in other areas of *Barbaricum*, buckles with oval frame and plate cast in one are rare finds. One can mention here a copper alloy exemplar from the Wielbark Culture cemetery at Kitki in Mława County (Fig. 13:7), found along with a rectangular belt end-fitting (A. Kempisty, J. Okulicz 1965, pl. 94:6.7). This set, standing out among standard belt fittings used at that time in Central Europe, originates from a grave with a male model of furnishing, dated within phases C1b–C2.

Apart from the buckle, the discussed set from grave 298 comprised the silver strap-end (Fig. 4:3, 5:5), representing type N3a acc. to the classification of V. Ū. Malašev (2000, p. 197, fig. 1, 2). Late Sarmatian burials of horsemen warriors in Eastern Europe typically contain several buckles and several strap-ends, whose functions were different. They were used for belts worn on hips, for belts on which weapons were suspended, and also for shoe straps and horse gear (cf. e.g. S. I. Bezuglov 1988, p. 103–104, 111, fig. 2:16.20–23, 3:14.15.20–33).

Strap-ends analogical to that from Kartal are known from late Sarmatian burials from the Budjak/Budzhak steppes, from Crimea, and from the Don basin in particular. For example, in the main burial in barrow 2 in the Nagornoe/Нагорное cemetery in Budjak/Budzhak a similar strap-end (Fig. 14:1) was found together with a glass

Isings 44 beaker, dated within the second half of the 2nd and the first half of the 3rd century AD (A. V. Gudkova, M. M. Fokeev 1984, p. 42–44, fig. 13:1; A. N. Dzigovskij, A. S. Ostroverhov 2000, p. 140, 142, fig. 47:2; A. Simonenko, I. I. Marčenko, N. Ju. Limberis 2008, p. 26, 82, pl. 147:2a.2b; A. V. Simonenko 2011, p. 79, 236, fig. 51:6). In turn, the Nejzac/Нейзац cemetery in the Crimea (Fig. 14:2) yielded a large series of strap-ends, including items typologically akin to the Kartal fitting, which I. N. Hrapunov (2008, p. 66, 70, fig. 2:5–9) distinguished as type II variant 4a and dated to the 3rd century AD. Strap-ends resembling the one from Kartal occur relatively often in late Sarmatian burials of horsemen on the lower Don as well. One should mention here fittings from Rostov-on-Don/Ростов-на-Дону (barrow 6), from barrows of the “Four Brothers”/Четыре брата group (barrow 3, grave 6) (V. Ū. Malašev 2000, fig. 4B:8, 4V:1.2), and those from the necropole of the Kobâkovo/Кобяково hillfort (burial 73) (Fig. 14:4.5; V. A. Larenok 2010, fig. 4:27.28). Also noteworthy are two pairs of silver strap-ends belonging to a horse harness, from grave 8 in barrow 16 in the Central'nyj/Центральный VI cemetery (Fig. 14:3). One pair are small fittings, while the other are more massive items, resembling Malašev type H2, whose external surfaces featured engraved imitations of plates used for strap

Fig. 9. Roughly rectangular belt end-fittings with openwork decoration type 9 var. 4/3 and var. 5/1. 1 – Kartal, grave 298; 2 – Kosewo Stare, grave 777; 3 – Sz wajc aria, barrow L, grave 2; 4 – Jaskowska See/Gąsior, grave 257; 5 – Chmielów Piaskowy, grave 15; 6 – Osowa, barrow 114, grave 2; 7 – Radawa, grave 33; 8 – Bogaczewo - Kula, stray find; 9 – Machary, stray find.

Ryc. 9. Okucia końca pasa zbliżone do prostokąta zdobione ornamentem ażurowym typu 9, var. 4/3 i var. 5/1. 1 – Kartal, grób 298; 2 – Kosewo Stare, grób 777; 3 – Sz wajc aria, kh. L, grób 2; 4 – Jaskowska See/Gąsior, grób 257; 5 – Chmielów Piaskowy, grób 15; 6 – Osowa, kh. 114, grób 2; 7 – Radawa, grób 33; 8 – Bogaczewo - Kula, znal. luźne; 9 – Machary, znal. luźne. After/Wg: I. V. Bruško, A. N. Dzigovskij, R. Madyda-Legutko 2017 (1), A. Juga, M. Ots, P. Szymański 2003 (2), J. Jaskanis 2013 (3), M. Schmiedehelm 2011 (4), K. Godłowski, T. Wichman 1998 (5), J. Jaskanis 1962 (6), G. Kieferling 2001 (7), J. Okulicz 1958 (8), W. Gaerte 1929 (9)

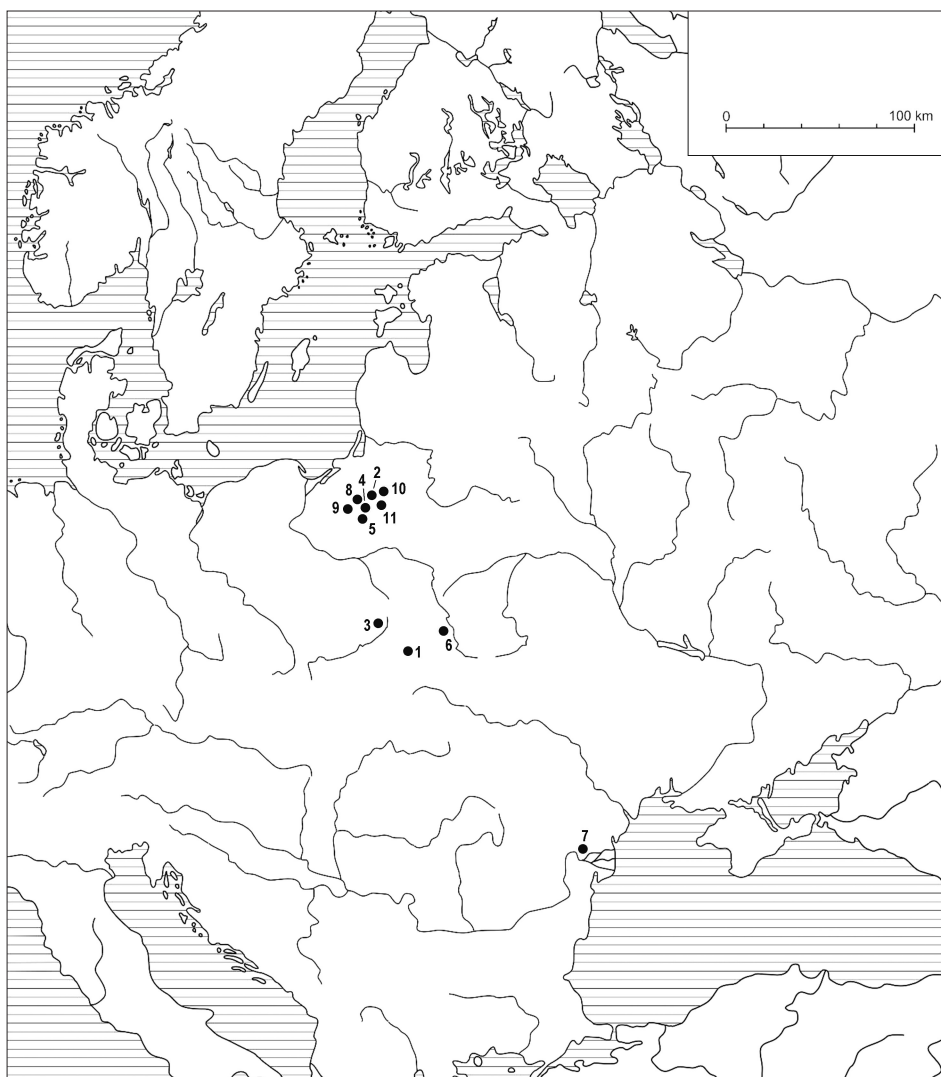


Fig. 11. Distribution of rectangular belt end-fittings with an openwork decoration, type 9, var. 4/3 and var. 5/1 (see List 2)
 Ryc. 11. Rozprzestrzenienie prostokątnych okuć końca pasa z ażurowym ornamentem typu 9, war. 4/3 i war. 5/1 (patrz Lista 2)

attachment; another strap-end of this type belonged to a sword belt (S. I. Bezuglov 1988, p. 103, 111, fig. 3:22–25; V. Ů. Malašev 2000, p. 197, fig. 5A:8.9.11.12; A. V. Simonenko 2010, fig. 188). The style of the fittings from grave 8 in Central'nyj/Центральный VI deserves particular attention, since the buckle plate and strap-end from Kartal were manufactured in a similar style (cf. S. I. Bezuglov 1988, fig. 2:16, 3:22–25.29.30).

As mentioned, the small silver fitting in the form of an open ring with tapering, flattened ends (Fig. 4:2, 5:4) may have been part of the set along with the silver buckle and silver strap-end, although its function is difficult to determine.

Another object with analogies in late Sarmatian burials is the copper alloy strap-end from burial 298 (Fig. 4:4, 5:12), which also belongs to Malašev group IIa (V. Ů. Malašev 2000, fig. 1).

Furthermore, among the artefacts characteristic of the Sarmatian *milieu* in grave 298 from Kartal there are fittings belonging to horse gear. Such a function can probably be assigned to the three relatively massive rings suspended on circular loops. Two of them have their edges bent in an imitation of facetting (Fig. 3:5.9, 5:14.15), a feature characteristic of the times after the mid-3rd century (V. Ů. Malašev 2000, p. 209). The edges of the third fitting are decorated with notches (Fig. 3:8, 5:13). This manner of decoration can be seen on the shield-shaped strap fitting from vault no. 222 from the Nejzac/Нейзац cemetery in Crimea, dated to the first half of the 3rd century or slightly later (I. N. Hrapunov 2006, p. 114, fig. 2:14, 3:15). Copper alloy rings suspended on circular loops, analogous to those from Kartal, have been discovered along with metal accessories of a saddle in the already mentioned grave 8 in barrow 16 from Central'nyj/

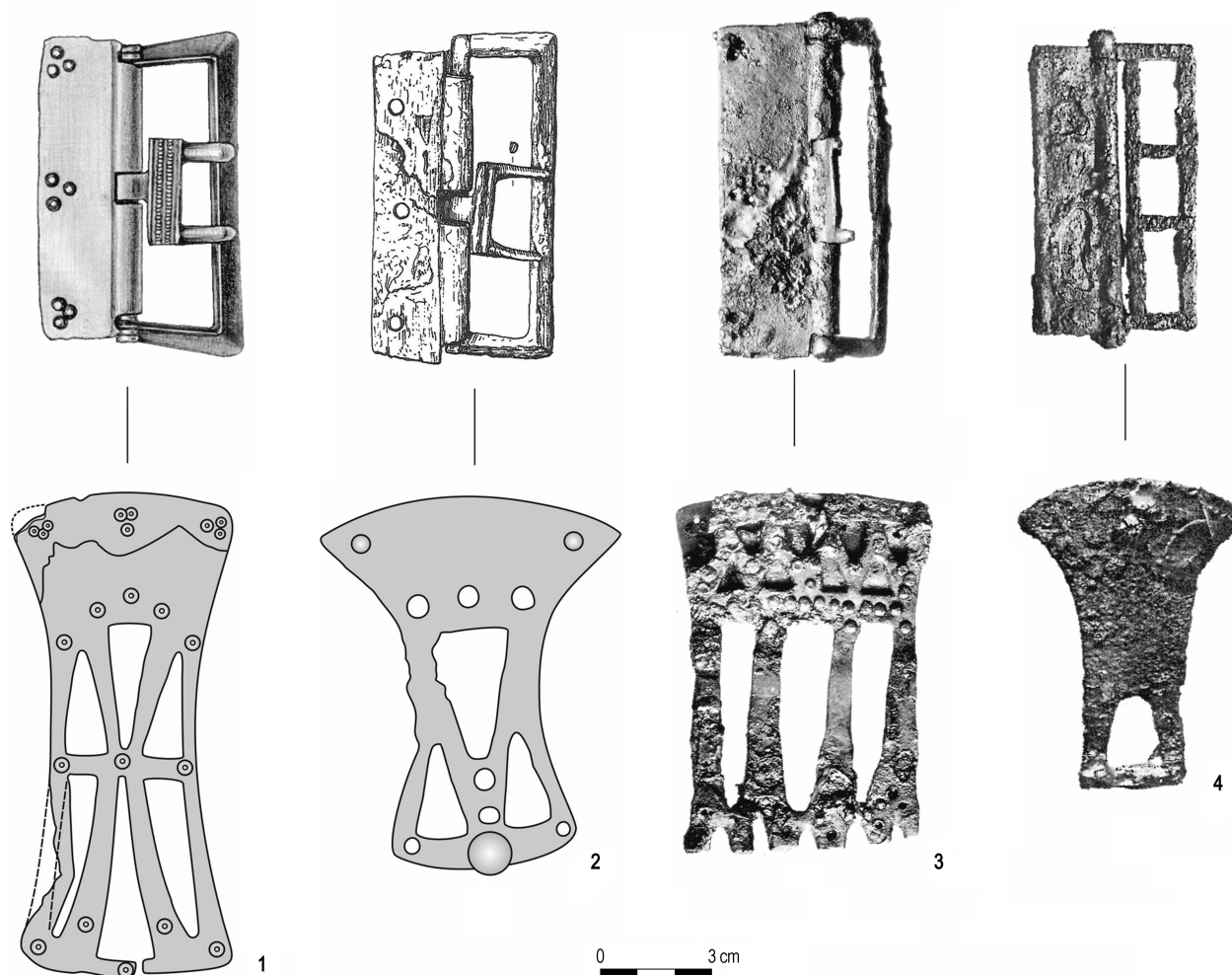


Fig. 12. Belt sets consisting of a buckle with double tongue and an openwork strap-end of type 9. 1 – Kartal, grave 298; 2 – Sz wajc a r i a, barrow L, grave 2; 3 – *Jaskowska See/Gąsior*, grave 257; 4 – Kamień, grave 2c.

After: I. V. Bruąko, A. N. Dzigovskij, R. Madyda-Legutko 2017.

Ryc. 12. Zestawy okuć pasa składające się z sprzączki z podwójnym kołcem oraz ażurowego okucia końcowego typu 9. 1 – Kartal, grób 298; 2 – Sz wajc a r i a, kh. L, grób 2; 3 – *Jaskowska See/Gąsior*, grób 257; 4 – Kamień, grób 2c.

Wg: I. V. Bruąko, A. N. Dzigovskij, R. Madyda-Legutko 2017

Центральный VI (S. I. Bezuglov 1988, fig. 3:18.19, 5; A. V. Simonenko 2010, p. 233–234, fig. 188:12).

Among elements of horse gear one should also include the copper alloy fitting with two rivets (Fig. 3:4, 5:11) from grave 298. Analogical silver fittings of various sizes are known, i.a from a late Sarmatian horseman burial in the cemetery of Vysočino/Высоchino VII (barrow 12, grave 1) on the lower Don River. They served for fastening straps of reins and headstalls (S. I. Bezuglov 1997, p. 134, 136, fig. 1:2.3).

Judging by its dimensions (diameter of ca 10 cm), the large circular iron buckle (Fig. 4:5, 5:16) was probably attached to a broad strap, most likely a girth. Massive iron circular buckles, but slightly smaller, occur among horse gear pieces in late Sarmatian horsemen burials (S. I.

Bezuglov 1988, fig. 3:9; V. K. Guguev, S. I. Bezuglov 1990, fig. 2:16; cf. also A. V. Simonenko 2010, p. 234).

Also belonging to the group of objects from grave 298 at Kartal which are characteristic of the Sarmatian *milieu* are strap fittings of undetermined function: one bimetallic (copper alloy and iron) (Fig. 3:3, 5:10)⁷, another one made of copper-alloy (Fig. 3:7, 5:6), and a rivet fragment with a plano-convex head (Fig. 3:6, 5:7). One should note that rivets of such form do not occur with the artefacts retrieved from grave 298, which suggests the grave originally included other artefacts as well, which have not survived.

⁷ Perhaps the iron part of this fitting is a replacement for a damaged copper alloy element.

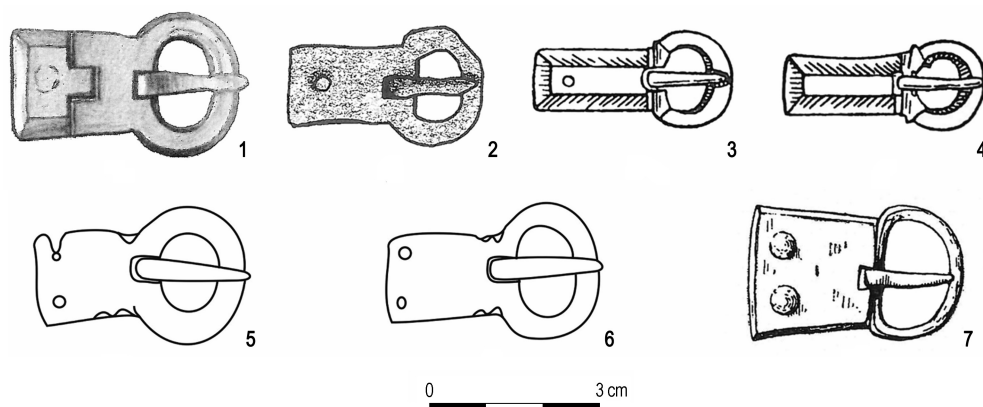


Fig. 13. Buckles with integral plate from the late Sarmatian graves (1–6) and from the area of Wielbark Culture (7). 1 – Kartal, grave 298; 2 – Tiraspol'/Тирасполь, barrow 1, grave; 3, 4 – Central'nyj/Центральный VI, barrow 16, grave 8; 5, 6 – Kobâkovo/Кобяково, grave 73; 7 – Kitki, barrow 1, grave.

Ryc. 13. Sprzączki o ramach odlanych razem ze skuwką, pochodzące z grobów późnosarmackich (1–6) i z terenu kultury wielbarskiej (7). 1 – Kartal, grób 298; 2 – Tiraspol'/Тирасполь, kh. 1, grób; 3, 4 – Central'nyj/Центральный VI, kh. 16, grób 8; 5, 6 – Kobâkovo/Кобяково, grób 73; 7 – Kitki, kh. 1, grób.

After/Wg: I. V. Bruâko, A. N. Dzigovskij, R. Madyda-Legutko 2017 (1), V. S. Sinika 2015 (2), S. I. Bezuglov 1988 (3, 4), V. A. Larenok 2010 (5, 6), A. Kempisty, J. Okulicz 1965 (7)

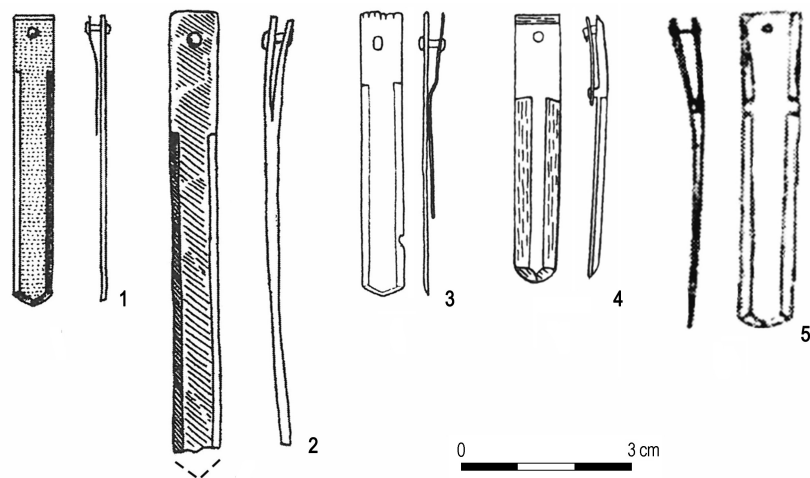


Fig. 14. Strap-ends from the late Sarmatian graves. 1 – Nagornoe/Нагорное, barrow 2, grave 1; 2 – Nejzac/Нейзац, grave 200; 3 – Central'nyj/Центральный, barrow 16, grave 8; 4, 5 – Kobâkovo/Кобяково, grave 73.

Ryc. 14. Zakończenia rzemieni z grobów późnosarmackich. 1 – Nagornoe/Нагорное, kh. 2, grób 1; 2 – Nejzac/Нейзац, grób 200; 3 – Central'nyj/Центральный, kh. 16, grób 8; 4, 5 – Kobâkovo/Кобяково, grób 73.

After/Wg: A. V. Gudkova, M. M. Fokeev 1984 (1), I. N. Hrapunov 2008 (2), S. I. Bezuglov 1988 (3), V. A. Larenok 2010 (4, 5)

All that survived from the inventory of grave 298a, which, as mentioned, was ritually disturbed in antiquity, are the copper alloy strap-end (Fig. 4:6, 5:8) and the silver ring-like fitting (Fig. 4:7, 5:9). The shape of the strap-end and its longitudinal facetting allow the artefact to be included in a group of fittings common in horsemen burials from the first half of the 3rd century AD (V. Ū. Malašev 2000, p. 199, 209–210, fig. 2). The silver fitting may have possibly belonged to a horsewhip. Remains of a horsewhip were found, among other places, in the already mentioned grave 1 of barrow 12 at Vysochino/Высоchino VII (S. I. Bezuglov 1997, p. 136, fig. 2:4).

As mentioned, the unique silver strap button in the shape of a dog's head (Fig 4:8a.8b), an element of horse gear, should probably also be linked with the inventory of grave 298a. Somewhat similar bronze zoomorphic strap buttons are only known from vault 17 in the Nejzac/Нейзац cemetery in Crimea, which is dated to the first half of the 3rd century. In this grave, six items in the shape of a dog's head and one in the shape of a ram's head were found inside a leather purse (Fig. 15) (I. N. Hrapunov 2011, p. 35, 94, fig. 30:4–10; 2013, p. 204). The buttons from Kartal and Nejzac show certain stylistic differences: for example, the muzzle of the dog from Kartal looks

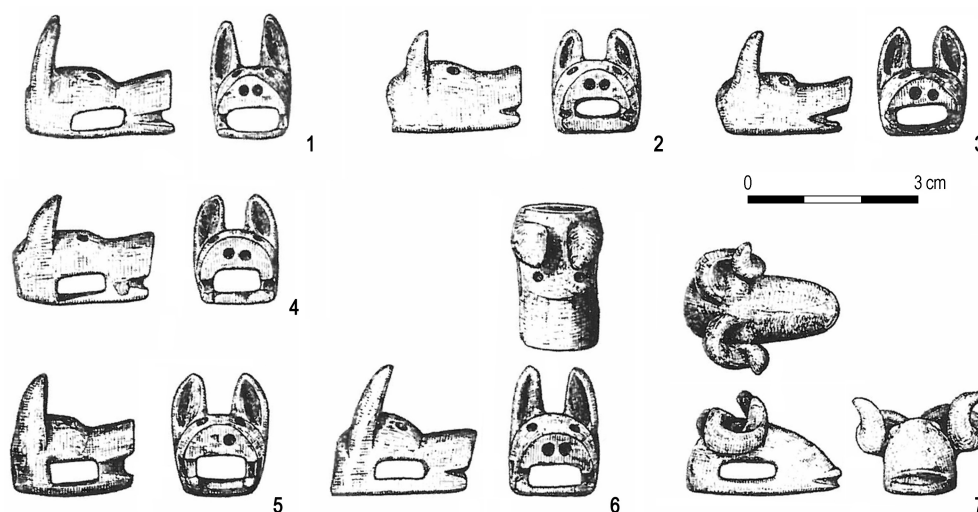


Fig. 15. Zoomorphic strap buttons in the shape of dog's and ram's head from the cemetery at Ne j z a c / Н е й з а ц. 1–7 – copper alloy.
 Ryc. 15. Zoomorficzne przewlecзки rzemieni w kształcie głowy psa i barana z cmentarzyska w Ne j z a c / Н е й з а ц. 1–7 – stop miedzi.

After/Wg: I. N. Hrapunov 2011

more aggressive, and the location of the holes for straps is different. One can assume that grave 298a originally contained more than one zoomorphic button. They probably played a similar role as silver or bronze massive beads which, in groups of six to eight pieces, occur among other elements of horse gear in burials of Late Sarmatian horsemen (S. I. Bezuglov 1988, p. 107–108, fig. 3:13.17; I. N. Hrapunov, S. A. Mul'd 2004, p. 301–302, fig. 11; I. N. Hrapunov 2011, p. 35).

III. Chronology of the complex of burials 298 and 298a

The oldest elements in the inventory of grave 298 are the buckle with a double tongue and the openwork strap-end, both of copper alloy, which date to phases B2b–C1a in Central European periodisation. In the light of the most recent studies on the chronology of phases B2/C1–C1a in Central European *Barbaricum*, the period when belts fastened with double-tongue buckles were in use ends no later than 200 AD (P. Kaczanowski, A. Przychodni 2014)⁸. Meanwhile, these elements of the two inventories (298 and 298a) that are characteristic of the Sarmatian *milieu* have a later chronological position. They find close, sometimes even precise analogies in late Sarmatian cemeteries with military elite burials from the lower Don River and lower Volga River basins, where they are dated to the first half of the 3rd century AD (por. S. I. Bezuglov 1988, p. 103–115; 1997, p. 133–141).

The two burials from Kartal should be interpreted as a single late Sarmatian burial complex and designated as 298/298a. It was most likely founded in the second quarter of the 3rd century AD, and the time gap between the deposition of burial 298 and some undetermined ritual behaviours reflected by burial 298a was most likely very small (see above).

A very similar situation was recorded in the Sarmatian cemetery of Kolobovka/Колобовка III in Volgograd region on the left bank of the Volga River. In one of the latest barrows (no. 1), dated to the second half of the 2nd century – first half of the 3rd century AD, an 'assemblage of finds' was discovered near the main, typically late Sarmatian horseman burial, which included a long iron sword (without a crossbar) and a set of horse headgear fittings (a bit, copper alloy strap-ends, and an axe-shaped pendant). It is worth noting that weapons (a battle knife or dagger) and copper alloy buckles and strap-ends were also discovered in the main burial, which was found undisturbed. The 'assemblage of finds' is assumed to be contemporary with the main burial and interpreted as offerings for the deceased (I. V. Sergackov, V. M. Klepikov 2001, p. 196–197, 202, fig. 1:1–3, 3:1–7, 4:1–7). It is worth emphasising that the custom of placing elements of weaponry within a barrow mound or at ground level under the mound was not uncommon in the late Sarmatian era (cf. M. V. Krivošeev 2014, p. 88). In terms of its composition, the inventory retrieved from barrow 1 at Kolobovka/Колобовка III is very similar to the inventory from 298/298a complex at Kartal, except for that in Kartal we have a warrior's belt instead of items of weaponry. In the opinion of S. A. Âcenko (2014; 2016, p. 315) "belts of warriors and nomads were always the most important markers of social status".

⁸ The dating of phases B2/C1–C1a and the end date of the style characteristic of these phases have raised some discussion in literature (cf. M. B. Šukin 2005, p. 99, 103, fig. 27; V. L. Mýc *et alii* 2006, p. 149).

IV. Discussion

One should ask about the circumstances in which a belt typical of warriors from Central European *Barbaricum* found its way to Sarmatian lands and then to the burial of a Sarmatian mounted warrior. Very likely, this was in result of political developments in Central and Eastern Europe in the second half of the 2nd century and the first half of the 3rd century AD. Among such events one can point to the Marcomannic Wars of 166–180 AD, and in particular the migration of Goths from the southern Baltic coasts to South-East, to the northern coasts of the Black Sea. This last process can be assumed to have played a crucial role.

Among the tribes mentioned in the context of the Marcomannic Wars are not only Germanic tribes but also those of Sarmatians and other peoples (SHA, Iulius Capitolinus, M. Ant. Phil. 22, 1). Along with the Iazyges from the Hungarian Plain (cf. e.g. Dio. Cass. LXXI, 7), the Sarmatians from the North Pontic steppes were most likely also involved. This is confirmed by burials of Sarmatian horsemen discovered on the middle Danube (S. I. Bezuglov 1997, p. 138; 2000, p. 173, 179–180).

One of most notable events of the last quarter of the 2nd century and the early 3rd century AD was the migration of Goths to the land of *Oium*, described by Jordanes (Iord. Get. 27–29). The chronological frameworks and the path of this migration are difficult to precisely determine (M. B. Šukin 2005, p. 88–93; O. V. Šarov 2010, p. 256–261). According to O. V. Šarov (2010), the route led from the territories on the right bank of the lower Vistula, along the western and southern course of the Bug River. The first Goths were said to arrive at the Danubian border of the Roman Empire as early as the 170s and 180s, while others allegedly moved to South-East to the land of *Oium*, identified with the lands between the lower *Borystenes*/Dnieper Rivers and the *Tanais*/Don River, and towards the Sea of Azov (O. V. Šarov 2010, p. 256–257).

A reflection of the sophisticated relationships among different cultural *milieus* during the migration of Goths and other associated tribes towards South-East and South-West is a horizon of single finds revealing Central European traits (including those typical of the Baltic coasts and the Balt area), which date to the second half of the 2nd century and the early 3rd century AD (referred to as phase B2/C1 in Central Europe). This horizon can be observed on the northern coasts of the Black Sea, Crimea included, in the Bosphorus area, as well as on the lower Don River and northern Caucasus foreland. The issue has already been noticed in the literature (O. V. Šarov 2010, p. 261–264, 269–270, 274). Apart from the rectangular buckles with double tongue and belt fittings from Kartal (burial 298) discussed here, one can point to other single dress items, personal ornaments, and pieces of weaponry

in the Sarmatian *milieu* which can be assigned a Central European provenance. One can include here two bronze brooches of Almgren group VII series 1 from grave 19 in the Holms'ke/Холмське cemetery (A. V. Gudkova, M. M. Fokeev 1984, p. 17, fig. 7:2.3), which are typical of the Elbe Germanic Culture and the Wielbark Culture, and penannular/horseshoe brooches decorated with enamel, typical of the West Balt area (K. Hellström 2018, p. 93–94). The latter are known from 'La Stînca' cemetery (barrow 8, grave 5) at Bădragii Noi, in the middle Prut River basin in Moldova (V. Grosu 1995, p. 137, fig. 3:4; S. I. Kurčatov, O. V. Simonenko, A. Ū. Čirkov 1995, p. 224, 229, fig. 3:2; V. Bârcă, O. Symonenko 2009, p. 241, fig. 97:22; O. V. Šarov 2010, p. 263, fig. 4:17, 11), and from Diviziâ/Дивизия cemetery in the Budjak/Budzhak steppes (barrow 2, burial 1; V. Bârcă, O. Symonenko 2009, p. 241, fig. 97:23; O. V. Šarov 2010, p. 263, fig. 4:16, 11). The chronological positions of the mentioned graves differ slightly. The graves from Holms'ke/Холмське and Bădragii Noi date to the second half of the 2nd century or the turn of the 2nd and 3rd century AD (A. N. Dzigovs'kij 2003, p. 149, fig. 32; S. Kurciatov, V. Bubulici 1997, p. 228–230; V. Bârcă, O. Symonenko 2009, p. 243), while the grave from Diviziâ/Дивизия is slightly younger, and is dated broadly to the first half of the 3rd century AD (A. N. Dzigovs'kij 2000, p. 121). In Diviziâ/Дивизия the penannular/horseshoe brooch was accompanied by a bipartite tendril brooch of Ambroz type 15-III, and a unipartite faceted strap-end of Malašev type N3a. These artefacts indicate that the grave cannot be dated earlier than the second quarter of the 3rd century AD, most likely to 230–240 (Ė. L. Gorohovs'kij, N. O. Son 1989, p. 76; O. K. Savel'ev 2009, p. 365–373; A. A. Vasil'ev, O. K. Savel'ev 2008, p. 32–33; V. Ū. Malašev 2000, p. 197, fig. 2).

Within the same horizon of finds fit enamelled pendants discovered in the Sarmatian *milieu* on the lower Don River (Rogožkino/Рогожкино XIII, Rostov region; O. V. Šarov 2010, p. 261–263, fig. 4:8) and in northern Caucasus (Klin-âr/Клин-яр, Stavropol Territory; M. P. Abramova 1997, 29, fig. 30:4; O. V. Šarov 2010, p. 263, fig. 4:11). Northern European connections can also be identified for openwork horse trappings discovered in the Kuban area near Kazanskaâ/Казанская, in Krasnodar Territory in northern Caucasus (O. Šarov 2017, p. 357–364, fig. 3, 4, 7, 8).

One should also note the occurrence in Crimea of single elements of weaponry having Central European analogies and dated to phases B2b–C1a. One can mention here an iron shield boss from grave 306 in Nejzac/Нейзац necropole, representing type Jahn 7a, which is completely foreign to the Sarmatian *milieu* (I. Khrapunov 2013, 178, fig. 1:1), and a pole weapon blade of Kaczanowski type XV from grave 20 in Čatyr-Dag/Чатыр-Дар cemetery

(V. L. Myc *et alii* 2006, 16, pl. 23:1). An Early Roman Period shield boss with a long spike is also known from grave 1 of barrow 2 in Tanais (O. V. Šarov 2010, p. 264, fig. 13:3).

Summing up, it has to be concluded that the necropole situated at the approaches to the Kartal hillfort was most likely established by a small group of Sarmatian people who did not leave the Budjak/Budzak steppes after the outbreak of what is known as the Gothic Wars (late 230s and the 240s). Most likely around the same time they were joined by some other Sarmatian groups arriving from the East (A. A. Vasil'ev, O. K. Savel'ev 2008, p. 36; A. N. Dzigovs'kij 2013, p. 626, 629, note 1). It should be noted that some of the artefacts from the Kartal cemetery find precise analogies in late Sarmatian necropoles on the lower Don River and in Crimea, which confirms this alleged migration from the East. The warrior's belt from grave 298, on the other hand, should be placed among the artefacts evidencing the migration of the Goths under Filimer to the Pontic zone. It was exactly there where the belt may have fallen into Sarmatian hands as a gift or booty. Later, in circumstances now impossible to reconstruct (gift, sale, inheritance, etc.) the belt, already with its Sarmatian owner, found its way to the lower Danube basin and was deposited in grave 298. Discussing complex 298/298a, it is worth turning attention to yet another issue. The Sarmatian cemetery where the belt was discovered lay no more than 300 m from the line of Kartal defences. Sarmatian burials were even discovered in the immediate vicinity of the fortifications, just by the hillfort. Therefore, a question emerges: could the Roman bridgehead and the Sarmatian cemetery indeed have been used at the same time? Given the events that took place in the 3rd century AD, the date of the fall of the Kartal hillfort can be seen as *terminus post quem* for the Sarmatian necropole, the 298/298a complex included. There are currently no grounds to establish the date when the Roman bridgehead at Orlivka/Kartal fell. Initially, R. D. Bondar', who directed the excavations at Kartal, suggested that the hillfort had fallen between 240 and 260 AD (R. D. Bondar' 1984, p. 32). However, the analysis of the coins discovered there allows the fall of the hillfort to be linked with the invasion of the Carpi tribe on

the Danubian limes in 214 (R. D. Bondar', S. A. Bulatovič 2002, p. 175). Based on the chronology of grave complex 298/298a, the fall of the hillfort can be dated to the second or third quarter of the 3rd century AD. The reasons for its collapse should perhaps be sought in a local military operation rather than in military-political developments of the turbulent 3rd century AD. The participants in this operation, and thus the agents directly responsible for the hillfort's fall, may have been the same Sarmatians whose cemetery is situated at the approaches to Kartal. This alleged Sarmatian attack would have taken place soon before the dawn of the period of instability known as the Gothic Wars. In such circumstances, the Roman administration of Lower Moesia Province may have not been able to rebuild the bridgehead and thus regain control over the left bank of the Danube.

Translation: Piotr Godlewski

Igor' Bruâko PhD (Игорь Бруяко)
Odessa Archaeological Museum of the National Academy of Sciences of Ukraine (Одеський археологічний музей Національної академії наук України)
Lanzheronovskaya St., 4
UA 065026 Odessa
ibruyako@yandex.ru

Prof. Alexandr Dzigovskij (Александр Дзиговский)
Odessa I. I. Mechnikov National University (Одеський національний університет імені І.І.Мечникова)
Elizavetinskaya St., 12
UA 65082 Odessa
dzygovskiy@gmail.com

Prof. Renata Madyda-Legutko
Instytut Archeologii Uniwersytetu Jagiellońskiego
Gołębia St., 11
PL 31-007 Kraków
rmlegutko@o2.pl

List 1. Bronze belt buckles type AG35–45

(for the references see: J. Andrzejowski, R. Madyda-Legutko 2013, list 1; I. V. Bruâko, A. N. Dzigovskij, R. Madyda-Legutko 2017, list 1)

1. PL Adolfin, Aleksandrów Kujawski County, grave 1. G37.
2. DK Asdrup (Astrup), Skarresø parish, Randers Province, grave. G36.
3. PL Czarne, Gryfice County, grave. G37/41.
4. UA Divočki/Дівочки, Černâhiv Distr., Žitomir Region, stray find. G36 (?).
5. PL Jakuszowice, Kazimierza Wielka County, stray find. G45.

6. PL Jelonki, Elbląg County, Fund 1. G43.
7. D Kemnitz (Werder [Havel]-Kemnitz), Potsdam-Mittelmark Distr., Brandenburg, grave 356 G37/40.
8. UA Kerch/Керч, Crimea, stray find. G36.
9. UA Holms'ke/Холмське, Arciz Distr., Odessa Region (Budjak/Budzak), grave 16. G37.
10. PL Kowalewko 12, Oborniki County, grave 369. G37.
11. RUS Lazovskoe/Лазовское, Gur'evsk Distr., Kaliningrad Region, stray find. Unique bi-partite buckle with two loose tongues.
12. PL Leśno 1/22, Chojnice County, grave II/1. G37.
13. UA Olbia/Ольвія, Očakiv Distr., Mikolaiv Region, vault 32/1910. G37.
14. PL Papowo Biskupie, Chełmno County, stray find. G37.
- 15a. PL Podwiesk, Chełmno County, grave. G37.
- 15b. PL Podwiesk, Chełmno County, grave from 1876. G37.
16. PL Prusiek, Sanok County, grave 40. G43.
17. PL Pruszcz Gdański 1, Gdańsk County, grave 149B. G37.
18. D Rauschendorf (Sonnenberg-R.), Oberhavel Distr., Brandenburg, grave. G45.
19. PL Ruże, Golub-Dobrzyń County, grave 8. G37.
20. DK Sadderup (Såderup), Kullerup parish, Svendborg Province (Funen), stray find. G37/41 (or G37/40, chapeless).
21. PL Sławosze (Święty Kamień-S.), Kętrzyn County, grave 6. Type unknown.
22. RUS Sovhoznoe/Совхозное (Majskij/Майский), Kaliningrad, Kaliningrad Region, grave 10. G43.
23. PL Spychówko, Szczytno County, grave 12. G45.
24. DK Tårnholm, Tårnberg parish, Sorø Province (Zealand). Stray find from a Bronze Age barrow. G42 (chapeless).
- 25a. D Thorsberg moor, Süderbrarup Distr., Angeln, Schleswig-Holstein, bog find. G45.
- 25b. D Thorsberg moor, Süderbrarup Distr., Angeln, Schleswig-Holstein, bog find. G37/41.
- 26a. PL Weklice, Elbląg County, grave 139. G43.
- 26a. PL Weklice, Elbląg County, grave 448. G37/40.
27. PL Witaszewice, Łęczyca County, grave 22. G37/39.
28. PL Wyszaków, Wyszaków County, stray find. G43.
29. Unprovenanced, former *Ostpreussen* (perhaps Samland). G43 (chapeless).
30. Unprovenanced (collection of the State Archeological Museum in Warsaw). Typ AG37/41.
31. PL Czarnówko, Łębork County, grave 1175. G37.
32. CS Modřice-Sádky, Brno-venkov Distr., grave 1836. G37.
33. UA Kartal/Картал (Orlivka/Орлівка), Reni Distr., Odessa Region, grave 298. G37.
34. PL Ostrów, Przemyśl County, grave. G37.

List 2. The sub-rectangular strap end-fittings with openwork decoration

Type 9 var. 4/3 (after R. Madyda-Legutko 2011)

1. PL Radawa, Jarosław County, grave 33 (G. Kieferling 2001, p. 37, fig. 4:4; R. Madyda-Legutko 2009, p. 778, 780, pl. 3:5; 2011, p. 73, 156, pl. XXXIII:7).

Type 9 var. 5/1 (after R. Madyda-Legutko 2011)

2. PL Bogaczewo Kula, Giżycko County, stray find (J. Okulicz 1958, p. 99, pl. X:4; R. Madyda-Legutko 2009, p. 774, pl. 2:1; 2011, p. 77, 157, pl. XXXVIII:6).
3. PL Chmielów Piaskowy, Ostrowiec Świętokrzyski County, grave 15 (K. Godłowski, T. Wichman 1998, p. 21, pl. XVII: 15/8; R. Madyda-Legutko 2009, p. 778, pl. 3:4b; 2011, p. 73, 157, pl. XXXV:1).
4. PL *Jaskowska See*/Gaśior, Pisz County, grave 257 (W. Gaerte 1929, fig. 174:g; M. Schmiedehelm 1990, p. 60–61, pl. VI:1; 2001, p. 51, pl. XVI:2; R. Madyda-Legutko 2009, p. 777, pl. 2:3b; 2011, p. 77, 157).
5. PL Kamień, Mrągowo County (frm. *Kamien, Kr. Sensburg*), grave 2c (A. Juga, M. Ots, P. Szymański 2003, p. 214, no. 2622:5; R. Madyda-Legutko 2009, p. 774, pl. 1:3b; 2011, p. 77, 157).
6. UA Kariv, L'viv region, from the cemetery: two items. A. I. Onišuk 2018, p. 158, photo 63:3.4, pl. V:7.8.
7. UA Kartal/Orlivka, Odessa region, grave 298 (I. V. Bruško, A. N. Dzigovskij, R. Madyda-Legutko 2017, p. 239, fig. 3:4).
8. PL Kosewo Stare, Mrągowo County (frm. *Alt-Kossewen, Kr. Sensburg*), grave 777 (A. Juga, M. Ots, P. Szymański 2003, p. 212, no. 2622:1; R. Madyda-Legutko 2009, p. 774, pl. 1:2; 2011, p. 77, 157, pl. XXXIX:2).
9. PL Machary, Mrągowo County (frm. *Macharren, Kr. Mohrunen*) (W. Gaerte 1929, fig. 175:f; R. Madyda-Legutko 2009, p. 774, pl. 2:2; 2011, p. 77, 157, pl. XXXVIII:5).
10. PL Osowa, Suwałki County, barrow 114, grave 2 (J. Jaskanis 1962, p. 274–275, pl. VII:9; R. Madyda-Legutko 2009, p. 774, pl. I:4b; 2011, p. 77, 157, pl. XXXIX:1).
11. PL Szwałczaria (Suwałki-Sz.), Suwałki County, barrow L, grave 2 (J. Jaskanis 2013, p. 50–52, pl. LVI:2; R. Madyda-Legutko 2009, p. 773, pl. I:1a [here as grave 1, square 9/IV]; 2011, p. 77, 157, pl. XXXIX:3).

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ELEMENTY PASA POCHODZENIA ŚRODKOWOEUROPEJSKIEGO W SARMACKIM GROBIE Z KARTAL NAD DOLNYM DUNAJEM*

STRESZCZENIE

Na lewobrzeżu delty Dunaju, na przedpolu umocnień Kartal we wsi Orlivka (obw. odeski, Ukraina), które były częścią systemu obronnego limesu Dolnej Mezji, znajduje się płaskie cmentarzysko sarmackie z III wieku po Chr. (Ryc. 1). Składało się ono z grobów otoczonych kolistymi rowami oraz podobnych rowów bez zlokalizowanych w ich obrębie grobów, a także grobów nieotoczonych rowami. Istotną wspólną cechą wszystkich pochówków odkrytych na tym cmentarzysku są sztywne deformacje czaszek pochowanych tu osób (A. A. Vasil'ev, O. K. Savel'ev 2008, s. 29–37; I. V. Bruâko, A. N. Dzigovskij 2008, s. 77; O. K. Savel'ev 2009, s. 365–373; I. V. Bruâko, A. N. Dzigovskij, V. L. Denisûk 2011, s. 341–342). W trakcie wykopalisk prowadzonych w 2012 roku został odkryty m.in. interesujący zespół składający się z dwóch grobów (nr 298, 298a) otoczonych kolistym rowem (Ryc. 2). Grób 298 tworzyło skupisko przedmiotów metalowych wraz z niewielką ilością drobnych fragmentów przepalonych kości (Ryc. 3, 4:1–5, 5:1–7.10–16). W grobie 298a złożono pochówek inhumacyjny, później – zapewne rytualnie – naruszony. Pozostałości szkieletu leżały w nieładzie pod północną ścianą jamy grobowej a czaszka zalegała wyżej od pozostałych kości (Ryc. 2:B, 6:1); spośród elementów wyposażenia grobowego zachowały się jedynie dwa okucia (Ryc. 4:6.7, 5:8.9). Istotnym elementem całego założenia jest kolisty rów o średnicy 10–11 m (Ryc. 2:A). W północnej części tego rowu znajdowało się przejście pomiędzy powierzchnią otoczoną rowem a obszarem rozciągającym się na zewnątrz. We wschodniej i południowej części rowu odkryto dwa skupiska kamieni, nie sięgające jego dna (Ryc. 2:A, 6:2), które podczas odprawiania rytuałów pogrzebowych zapewne znajdowały się na powierzchni. Na dnie rowu w dwóch miejscach natrafiono na pozostałości czaszki konia (Ryc. 2:A). W wypełnisku południowej części rowu odkryto okucie ze stopu miedzi (Ryc. 6:3d), a w północnej fragmenty kilku naczyń glinianych (Ryc. 6:3.3a.3b). Ceramika ta może stanowić pozostałości sprawowanych tu rytuałów pogrzebowych, tzw. trzynny. Zapewne z nimi wiązać można także płytki obiekt (nr 39), odkryty na zewnątrz przejścia przez rów. Na północny wschód od rowu została znaleziona niewielka srebrna zoomorficzna aplikacja rzemienia (Ryc. 4:8a.8b), która prawdopodobnie należała do inwentarza grobu 298a.

Ważną cechą inwentarza grobów 298 i 298a jest współwystępowanie zabytków pochodzenia środkowoeuropejskiego (grób 298; Ryc. 3:1.2, 5:1.2) oraz charakterystycznych dla środowiska sarmackiego Europy wschodniej (groby 298 i 298a; Ryc. 3:3–9, 4:1–7, 5:3–16).

Pochodzenia środkowoeuropejskiego jest zestaw okuć pasa ze stopu miedzi (grób 298), który składał się ze sprzączki o prostokątnej ra-

mie z podwójnym kolcem (grupa G typ 37) oraz prostokątnego okucia końcowego zdobionego ornamentem ażurowym (typ 9 odm. 5/1) (por. R. Madyda-Legutko 1987; 2011). Na terenie *Barbaricum* zasięg występowania prostokątnych sprzączek z podwójnym kolcem wykonanych ze stopu miedzi (Ryc. 8), jest wyraźnie mniejszy niż egzemplarzy żelaznych (por. J. Andrzejowski, R. Madyda-Legutko 2013, s. 18–19, zest. 1, ryc. 1). Prawie wszystkie sprzączki z podwójnym kolcem z terenu kultury wielbarskiej wykonane są ze stopów miedzi (typ G37 lub do niego zbliżone; Ryc. 7:6–11). Występują one także na obszarach zachodniobałtyjskiego kręgu kulturowego (typ G45) i kultury przeworskiej (typ G37; Ryc. 7:12). Pojedyncze sprzączki ze stopów miedzi znane są ponadto z Brandenburgii (typy G37/40 i G45), ze Szlezewiku, Jutlandii i wysp duńskich (typy G36, G37/41 i G42) oraz Kotliny Czeskiej (typ G37). Zwraca uwagę, że na północnych wybrzeżach Morza Czarnego spotykane są wyłącznie prostokątne sprzączki o ramach jedno- i dwudzielnych z widełkowatym kolcem wykonane ze stopów miedzi (Ryc. 7:2.3.5). W tę strefę ich występowania wpisuje się sprzączka z Kartal (Ryc. 7:1). Egzemplarz ten, jak również półfabrykat kolca sprzączki ze stopu miedzi typu G36/37 z Polesia ukraińskiego (Ryc. 7:4), łączą sprzączki z tego surowca z północnych wybrzeży Morza Czarnego z analogicznymi egzemplarzami ze strefy osadnictwa wielbarskiego.

Na terenie środkowoeuropejskiego *Barbaricum* chronologia sprzączek z podwójnym kolcem, bez względu na użyty surowiec, obejmuje fazy B_{2b} i C_{1a}. Sprzączki z terenów nadczarnomorskich datowane są stosunkowo późno, bo na koniec II i początki III wieku oraz na I. połowę III wieku. Istotnym elementem zestawu pasa z Kartal (gr. 298) jest znacznych rozmiarów okucie końcowe zbliżone do prostokąta (Ryc. 3:2, 5:2), charakterystyczne dla faz B_{2b} i C_{1a}. Ornamentyka ażurowa na tego typu okuciach pojawia się głównie na egzemplarzach pochodzących z kręgu zachodniobałtyjskiego (kultura bogaczewska i sudowska), a także, choć rzadziej, z kultury przeworskiej (Ryc. 9:2–9, 11; Lista 1). Stylistycznie okucie z Kartal bliższe jest okuciom o rozbudowanej ornamentyce z motywem trójkąta, znanym z kręgu zachodniobałtyjskiego (Ryc. 9:2.3), niż okuciom z terenu kultury przeworskiej (Ryc. 9:7). Do tej stylistyki nawiązują także okucia ze stopu miedzi z Kariva na zachodniej Ukrainie (Ryc. 10:1.2).

Sprzączka z podwójnym kolcem wraz z okuciem końcowym z grobu 298 tworzy charakterystyczny zestaw przeznaczony dla stosunkowo szerokiego pasa, jaki na terenie środkowoeuropejskiego *Barbaricum* noszony był przez wojowników (Ryc. 12:2–4). Użycie stopu miedzi, nadającego mu efektowny złotawy kolor, oraz trójkowy układ nitów

mocujących skuwkę sprzączki do rzemienia, podkreśla paradny charakter tego pasa.

Wśród okuć charakterystycznych dla sarmackiego środowiska Europy Wschodniej wyróżnia się srebrny zestaw z grobu 298, składający się ze sprzączki, okucia końcowego, a zapewne także z niewielkiego okucia pierścieniowego (Ryc. 4:1–3, 5:3–5). Rama i skuwka srebrnej sprzączki z Kartal zostały odlane razem. Analogiczne sprzączki znane są z inwentarzy grobów sarmackich jeźdźców z terenów położonych nad dolnym Donem, datowanych na koniec II i 1. połowę III wieku po Chr. (Ryc. 13:3–6). Sprzączkę taką odkryto też na lewym brzegu dolnego Dniestru (Ryc. 13:2). Srebrne okucie z tego zestawu (Ryc. 4:3, 5:5), jak i wykonane ze stopu miedzi (Ryc. 4:4, 5:12), należą do typu N3a okuć końcowych charakterystycznych dla późnosarmackiej grupy IIa sprzączek i okuć końcowych według V. Ū. Malaševa, datowanej na lata 200/210–240/250 (V. Ū. Malašev 2000, s. 197, 199–200, ryc. 1, 2). W późnosarmackich pochówkach jeźdźców z Europy Wschodniej zazwyczaj występuje po kilka okuć końcowych i sprzączek, które miały różne przeznaczenie funkcjonalne. Stosowane były do pasów noszonych na biodrach, a także pasów służących do zawieszenia broni, jak również należały do rzemieni obuwia oraz rzemieni uprzęży końskiej. Okucia końcowe, analogiczne do egzemplarza z Kartal, znane są z późnosarmackich grobów ze stepów Budziaku (Ryc. 14:1) i z Krymu (Ryc. 14:2); datowane są na III wiek. Często występują też wśród inwentarzy późnosarmackich grobów jeźdźców z nad dolnego Donu (Ryc. 14:3–5). Trudno natomiast określić przeznaczenie niewielkiego srebrnego okucia pierścieniowego z tego zestawu (Ryc. 4:2, 5:4).

Wśród zabytków charakterystycznych dla środowiska sarmackiego w grobie 298 z Kartal są też okucia wykonane ze stopu miedzi, należące do uprzęży końskiej (Ryc. 3:3–5.8.9, 4:5, 5:10.11.13–16), a mające analogie w inwentarzach późnosarmackich pochówków odkrywanych nad dolnym Donem. Mogły one należeć do rzemieni siodeł, cugli i ogłowia, a także do mocowania popręgu. W zestawie przedmiotów z grobu 298 z Kartal są też pojedyncze okucia rzemieni, których przeznaczenia funkcjonalnego nie można jednoznacznie określić (Ryc. 3:6.7, 5:6.7).

Wąskie okucie końcowe ze stopu miedzi (Ryc. 4:6, 5:8) z grobu 298a jest również charakterystyczne dla inwentarzy grobów jeźdźców z 1. połowy III wieku po Chr. Możliwe, iż srebrne okucie z tego grobu (Ryc. 4:7, 5:9) jest częścią nahajki. Unikatowa zoomorficzna aplikacja rzemienia (Ryc. 4:8a.8b) znajduje analogie jedynie na cmentarzysku w Nejzac na Krymie (Ryc. 15).

Z okuć rzemieni znajdujących się w grobie 298 i 298a najstarszym elementem jest sprzączka z podwójnym kolcem i ażurowe okucie końcowe, datowane w ramach faz B_{2b}–C_{1a}. W świetle najnowszych badań

nad datowaniem faz B₂/C₁–C_{1a} na obszarze środkowoeuropejskiego *Barbaricum*, okres użytkowania pasów zapinanych sprzączkami z podwójnym kolcem nie powinien przekraczać 200 roku (P. Kaczanowski, A. Przychodni 2014). Zabytki charakterystyczne dla środowiska sarmackiego pochodzące z obu grobów (298 i 298a) mają późniejszą pozycję chronologiczną. Znajdują one bliskie, a niekiedy nawet identyczne odpowiedniki na późnosarmackich cmentarzyskach nad dolnego Donu, gdzie datowane są na III wiek, głównie na jego 1. połowę. Na cmentarzyskach tych grzebano także przedstawicieli sarmackiej elity wojskowej.

Oba pochówki z Kartal należy uznać za jeden późnosarmacki kompleks grobowy (nr 298/298a). Jego złożenie miało miejsce najprawdopodobniej w 2. ćwierci III wieku po Chr., przy czym między pochówkiem z grobu 298 a bliżej nieokreślonymi działaniami o charakterze rytualnym, których rezultatem jest grób 298a, albo była niewielka różnica czasowa, albo też oba założenia powstały synchronicznie. Bardzo podobną sytuację zaobserwowano na sarmackim cmentarzysku Kolobovka/Колобовка III, położonym na lewym brzegu Wołgi.

Z dużym prawdopodobieństwem należy przyjąć, iż wskutek wydarzeń politycznych, jakie miały miejsce w Europie Środkowej i Wschodniej w 2. połowie II i na początku III stulecia pas charakterystyczny dla stroju wojowników ze środkowoeuropejskiego *Barbaricum* trafił na tereny sarmackie, a następnie do grobu sarmackiego jeźdźcy. Wśród takich wydarzeń należy wskazać przede wszystkim wędrówkę Gotów z południowych wybrzeży Bałtyku na południowy wschód, na północne wybrzeża Morza Czarnego.

Nekropola, na której odkryto omawiane zabytki, najprawdopodobniej została założona przez niewielką grupę ludności sarmackiej, która pozostała na stepach Budziaku po rozpoczęciu tzw. wojen gockich. Zapewne w tym czasie dołączyły do niej pojedyncze grupy Sarmatów z terenów położonych dalej na wschód. Pas wojownika z grobu 298 należy zaliczyć do grupy artefaktów, które stanowią materialne świadectwo migracji Gotów, którzy pod przewodnictwem Filimera prze-wędrowali przez krainę *Oium* i dotarli na tereny nadczarnomorskie. Właśnie tutaj pas ten mógł trafić w ręce Sarmatów jako trofeum lub podarunek. Następnie, w okolicznościach obecnie niemożliwych do zrekonstruowania, wraz ze swym już sarmackim właścicielem dotarł nad dolny Dunaj i wszedł w skład przedmiotów złożonych do grobu 298.

* Artykuł jest zmienioną i rozszerzoną wersją rosyjskojęzycznej pracy И. В. Бруйко, А. Н. Дзиговский, Р. Мадыда-Легутко, *Studia Baltica et Pontica (Сармато-германский комплекс на городище Картал в низовьях Дуная)*, „Stratum plus” 2017/4, s. 233–264.

WYKAZ SKRÓTÓW TYTUŁÓW CZASOPISM I WYDAWNICTW WIELOTOMOWYCH

ABBREVIATIONS OF PERIODICALS' AND SERIAL PUBLICATIONS' TITLES

AAC	– „Acta Archaeologica Carpathica”, Kraków
AAHung.	– „Acta Archaeologica Academiae Scientiarum Hungaricae”, Budapest
AFB	– „Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege”, Berlin (Stuttgart)
Amtl. Ber.	– „Amtlicher Bericht über die Verwaltung der naturgeschichtlichen, vorgeschichtlichen und volkskundlichen Sammlungen des Westpreußischen Provinzial-Museums für das Jahr...”, (później: „Amtlicher Bericht über die Verwaltung der naturhistorischen, archaeologischen und ethnologischen Sammlungen des Westpreußischen Provinzial-Museums für das Jahr...” oraz „Amtlicher Bericht über die Verwaltung der naturgeschichtlichen, vorgeschichtlichen und volkskundlichen Sammlungen des Westpreußischen Provinzial-Museums für das Jahr...”), Danzig
APolski	– „Archeologia Polski”, Warszawa
APS	– „Archeologia Polski Środkowoschodniej”, Lublin (wcześniej: Lublin-Chełm-Zamość)
AR	– „Archeologické rozhledy”, Praha
B.A.R. Int. Series	– British Archaeological Reports, International Series, Oxford
BerRGK	– „Bericht der Römisch-Germanischen Kommission”, Frankfurt a.M.-Berlin
BJahr.	– „Bonner Jahrbücher”, Köln/Bonn
BMJ	– „Bodendenkmalpflege in Mecklenburg-Vorpommern”, Lübstorf (wcześniej: „Bodendenkmalpflege in Mecklenburg. Jahrbuch ...”, Schwerin/Rostock/Berlin)
CRFB	– Corpus der römischen Funde im europäischen Barbaricum
FAP	– „Fontes Archaeologici Posnanienses” (wcześniej: „Fontes Praehistorici”), Poznań
Inf.Arch.	– „Informator Archeologiczny. Badania rok ...”, Warszawa
InvArch.	– „Inventaria Archaeologica, Pologne”, Warszawa-Łódź
JmV	– „Jahresschrift für mitteldeutsche Vorgeschichte”, Halle/Saale
JRGZM	– „Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz”, Mainz
KHKM	– „Kwartalnik Historii Kultury Materialnej”, Warszawa
KSIA	– Kratkie soobšeniâ Instituta arheologii Akademii nauk SSSR (Краткие сообщения Института археологии Академии наук СССР), Moskva
MIA	– Materialy i issledovaniâ po arheologii SSSR (Материалы и исследования по археологии СССР), Moskva
MatArch.	– „Materiały Archeologiczne”, Kraków
MS	– „Materiały Starożytne”, Warszawa
MSiW	– „Materiały Starożytne i Wczesnośredniowieczne”, Warszawa
MSROA	– „Materiały i Sprawozdania Rzeszowskiego Ośrodka Archeologicznego”, Rzeszów-Krosno-Sandomierz-Tarnów (-Przemysł/Tarnobrzeg)
MZP	– „Materiały Zachodniopomorskie”, Szczecin
PA	– „Památky archeologické” (wcześniej: „Památky archeologické a místopisné”), Praha
PArch.	– „Przegląd Archeologiczny”, Poznań
PMMAE	– „Prace i Materiały Muzeum Archeologicznego i Etnograficznego w Łodzi. Seria Archeologiczna”, Łódź
PomAnt	– „Pomorania Antiqua”, Gdańsk
Prahistoria ziem polskich	– <i>Prahistoria ziem polskich</i> , tom I: <i>Paleolit i mezolit</i> (red. W. Chmielewski, W. Hensel), Wrocław-Warszawa-Kraków-Gdańsk 1975; tom II: <i>Neolit</i> (red. W. Hensel, T. Wiślański), Wrocław-Warszawa-Kraków-Gdańsk 1979; tom III: <i>Wczesna epoka brązu</i> (red. A. Gardawski, J. Kowalczyk), Wrocław-Warszawa-Kraków-Gdańsk 1978; tom IV: <i>Od środkowej epoki brązu do środkowego okresu lateńskiego</i> (red. J. Dąbrowski, Z. Rajewski), Wrocław-Warszawa-Kraków-Gdańsk 1979; tom V: <i>Późny okres lateński i okres rzymski</i> (red. J. Wielowiejski), Wrocław-Warszawa-Kraków-Gdańsk 1981
Prussia	– „Sitzungsberichte der Altertumsgesellschaft Prussia” (później: „Prussia. Zeitschrift für Heimatkunde”), Königsberg.
PZ	– „Praehistorische Zeitschrift”, Berlin-New York
RArch.	– „Recherches Archéologiques”, Kraków
RB	– „Rocznik Białostocki”, Białystok
RGA	– Reallexikon der Germanischen Altertumskunde: 1. ed.: J. Hoops (wyd.), tomy 1–4 (K. J. Trübner, Straßburg 1911–1919), 2. ed.: H. Jankuhn, H. Beck <i>et alii</i> (wyd.), tomy 1–35 (de Gruyter, Berlin-New York 1973–2007).
RO	– „Rocznik Olsztyński”, Olsztyn
RosArh.	– „Rossijskaâ arheologią” (Российская археология), Moskva
SJahr.	– „Saalburg Jahrbuch”, Berlin-New York
SlA	– „Slovenská archeológia”, Bratislava
SovArh.	– „Sovetskaâ arheologią” (Советская археология), Moskva
SprArch.	– „Sprawozdania Archeologiczne”, Kraków
SprPMA	– „Sprawozdania P.M.A.”, Warszawa
WA	– „Wiadomości Archeologiczne”, Warszawa
ZfE	– „Zeitschrift für Ethnologie”, Berlin
ZNUJ	– „Zeszyty Naukowe Uniwersytetu Jagiellońskiego”, Kraków
ZOW	– „Z otchłani wieków”, Warszawa