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ORIGINAL RESEARCH PAPER

A 6th–7th century solitary burial of a warrior with his horse at Tiszagyenda

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ABSTRACT

The site of Tiszagyenda-Búszerző dűlő became known during the archaeological and field surveys prior to the construction of the Tiszaroff Dam. The site covered the northern part of a large contiguous Migration Period settlement, the southern extents of which were discovered within the same project.

The settlement occupying both banks of the Tisza River's backwater had been inhabited for centuries. The first settlers in the Bronze Age (leaving behind three burials) were followed by the Sarmatians (seven burials), Gepids (nineteen burials), Avars (seven burials) and finally tribes of Hungarian conquerors (81 burials). Besides of the linear graveyards of common people, solitary, richly-furnished graves of the Gepid and the Avar Periods were also found.

The solitary grave of an armed man was unearthed on the west bank of the Tisza's backwater. His horse and his dog, cut in half and thrown over the horse, were buried a couple steps away in a separate grave. Grave No. 1660 is of especially outstanding archaeological value. Dated by the solidus of Byzantian Emperor Maurikios Tiberius (582–602), the grave held rich finds decorated with Early Christian symbols. The mounts of the swordbelt and his belt-set refer to Lombard and Merovingian connections. The Gepid-Germanic warrior of Gyenda was buried in the early Avar period after the collapse of the Gepid Kingdom in 567–568, in the first decade of the 7th century.

KEYWORDS

Gepid burial site, solitary grave, insular horse and dog burial dated by coin, shield, copper jug, damascened spatha, spear, pyramid mount, box type mounts on swordbelt, belt set of four, metal inlays, mushroom pattern, 4+1 pattern, Early Christian iconography

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The Tiszagyenda-Búszerző site was discovered during an archaeological ground survey[1] and excavation carried out in 2006–2007, prior to the construction of the Tiszaroff reservoir (Fig. 1 and 2). The area, covering 26,200 m^2, was found to contain 972 archaeological features. The Tiszagyenda-Búszerző site comprised the northern part of an extensive, contiguous migration-period settlement whose southern part was also revealed during this same project[2] (Fig. 3).

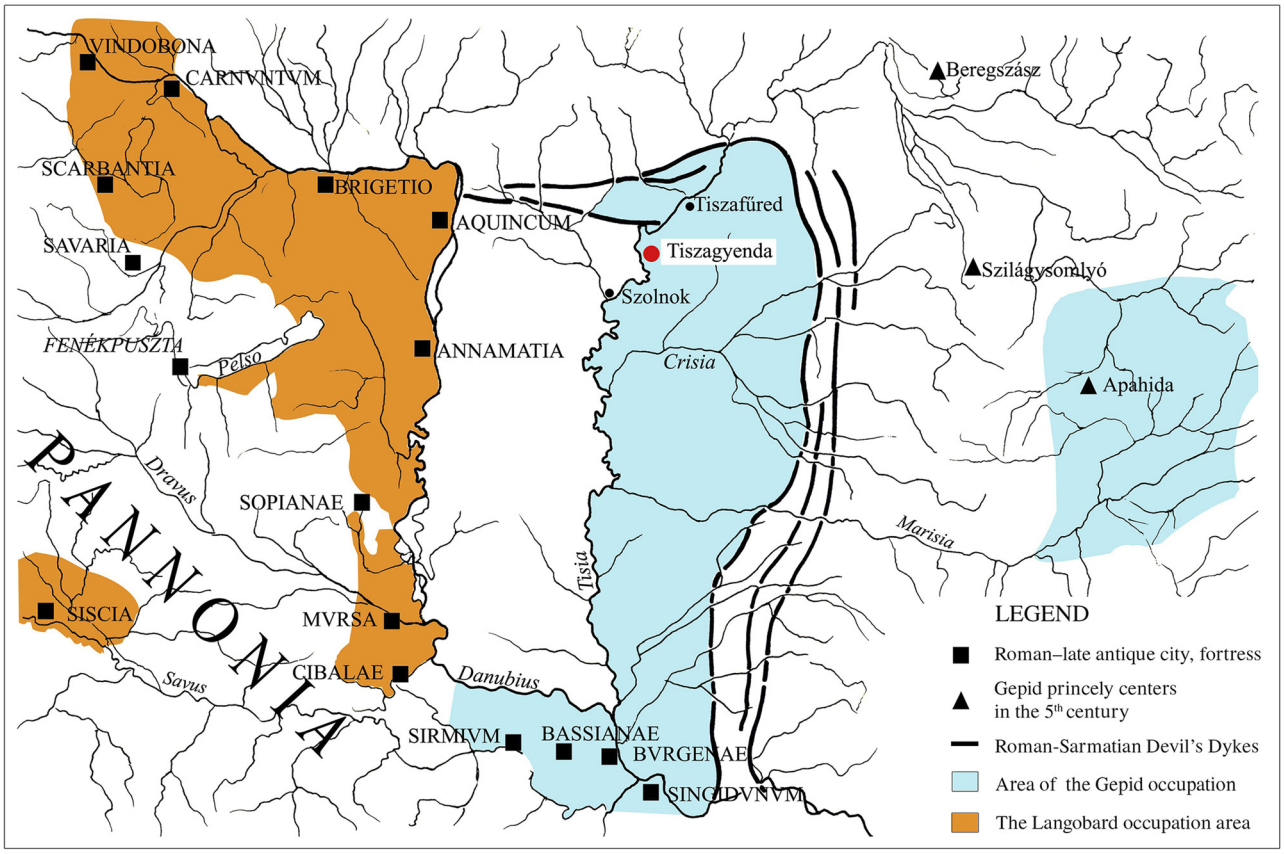

Fig. 1. The site's location in the 6th-century Carpathian Basin

Both banks of the former backwater of the Tisza were inhabited for centuries, serving without interruption as home to Bronze-Age (3 graves), later Sarmatian (7 graves), Gepidic (19 graves), and Avar (7 graves) and then conquest-period (81 graves) populations. In addition to row graves for commoners, there were some lavishly furnished solitary graves from the Gepidic and Avar periods.

Two male warriors were buried in solitary graves, with their horses buried just a few feet away in separate pits. The horse of the warrior in grave 188 was interred in grave 189, while the horse of the warrior in grave 1660 was buried in grave 545 (Figs 4–6). Grave 1660 stands out in particular because of its exceptional archaeological value; the wealth of goods that came to light take us back to the late 6th century and the first decades of the 7th century[3] (Fig. 47).

[1]The staff of the Damjanich János Museum in Szolnok carried out the archaeological work done prior to the construction of the dam. During the ground survey, they identified seventeen archaeological sites along the planned path of the dam. Of these, the National Museum excavated site 17 on the border of Tiszabő and another four sites along the border of Tiszagyenda: Búszerző dűlő 1, 2 (sites 11–12–13), Lakhaton dűlő (site 14).

[2]Site 14. Tiszagyenda Lakhaton dűlő. Excavated by Zsuzsa Hajnal.

[3]Archaeologists Maxim Mordovin, Csaba Kiss, Orsolya Kerekes, Attila Beck and András Tóth and technician Dénes Szabó participated in the excavation of grave 1660.

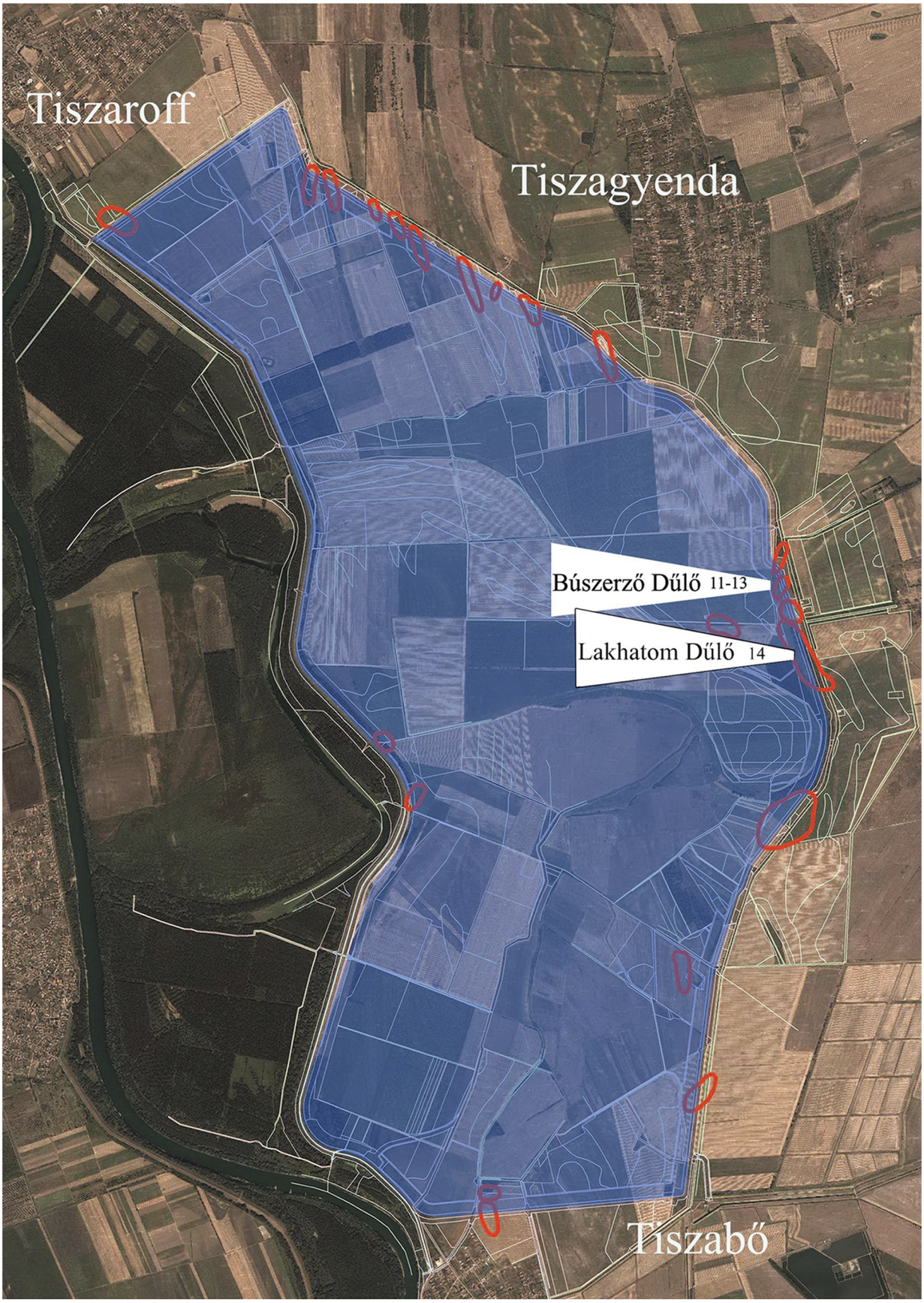

Fig. 2. Aerial view of the planned dam and Tiszaroff reservoir, including the location of the two sites, Búszerző dűlő (11–13) and Lakhatom dűlő (14)

Fig. 3. Aerial view of cite during excavation, including block K34–K35 in the former basin of the Tisza backwater

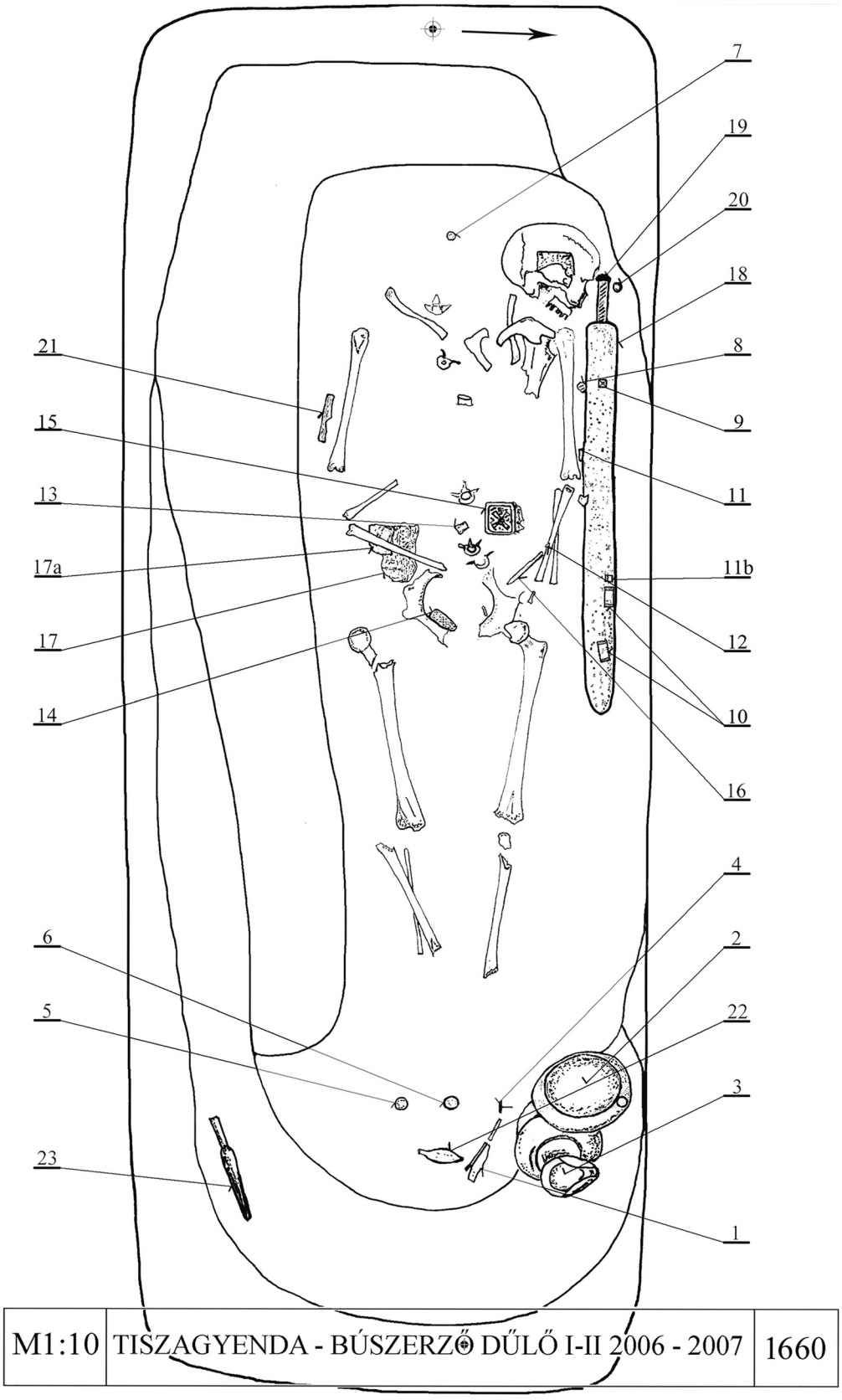

Fig. 4. Drawing made during excavation of grave 1660

Fig. 5. Photograph taken during excavation of grave 1660

DESCRIPTION OF THE BURIALS

Grave 1660 in the Tiszagyenda-Búszerző site

On the western side of the riverbed of the Tisza's former backwater, a large, rectangular contour of a grave-pit with a west-east orientation was found. The rectangular pit had rounded corners and was 285 cm long and 106 cm wide. As the grave was uncovered, an unusual form of fill was noticed. At the eastern end, the grave expanded in a barrel shape. Here, a copper jug came to light before the bones were unearthed. Next to the vessel, a shield boss, a gilt bronze button and, beneath them, parts of a shield handle (made of iron) were found. The surviving skeleton and the majority of the grave goods were unearthed in a narrower, 70 × 246 cm, irregular rectangular grave pit within the larger pit; the deceased was not arranged on the longitudinal axis but was displaced to the north, lying asymmetrically against the wall of the larger pit. Thus, an irregular, 35- to 40-cm-wide bench was formed about 87 cm from the surface (with the humus layers removed)[4] and 15–22 cm from the bottom of the pit. The grave goods described above (bronze vessel, parts of a shield) were found on this bench, on the eastern side of the pit, before the bones of the deceased were uncovered. No traces of a coffin were found.

The skeleton of the deceased, a 35- to 39-year-old man[5] in a stretched-out position, was in poor condition, the bones ravaged by animals. His skull leaned to the left. Almost none of his vertebrae were in the original position. His right upper arm was a little farther from his body. His pelvic bones were crumbling. His right femur was turned outwards. The ends of his long bones were also much worn. His foot and hand bones are almost completely missing. The length of the skeleton is 156 cm (Fig. 5).

Grave goods in order of their discovery and entry into the catalogue: (Fig. 4)

1. Fragment of a shield grip (Fig. 29.2)

Size: 99 × 9, 5 × 10 mm.

The shield grip fragment is made of iron and belonged to the shield boss (item 2) listed below. The shank tapers into a slight, rounded cone shape. The rough surface where it broke from the shield does not match with the broken surface of the shank fragment attached to the shield boss.

2. Shield boss (Figs 28 and 29.1) and fragment of the grip

Diameter: 230 mm; diameter of boss: 127 mm; width of flange: 35–37 mm; height: 65 mm, thickness: 3 mm.

The boss is made of iron with a round flat flange and a conical bell-shaped body with neck.[6] The surface is heavily mottled with iron corrosion. Four flat, round gilded bronze rivets are located along the axes of symmetry and secure the umbo in place. The gilded bronze rivets survived in relatively good condition in an iron-oxide environment (Figs 28.2,3,4,5 and 46.4,5,6,7).

Two pieces of the shield grip survived in their original condition and location on the back of the boss (item 1). The grip consisted of an extended, curved metal plate that widened in the middle. Two rivets fastened it to the boss and the shield board, and another two flat-headed rivets (see grave goods 5 and 5b) attached it to the planks of the shield board. The imprint of the planks can be seen on the flange of the shield boss, on the surviving iron-oxide surface (Fig. 29.2).

Shield grip measurements: length: 339 mm; shank: 7 × 10 mm; length of grip: 95 mm, width of grip: 32 mm, height of the actual handle part: 15 mm.

The grip had a shank with a square cross-section with rounded corners that expanded into a 20 × 20 mm slightly

[4]We were required to employ 'humus' technology in order to protect the arable soil. This entailed the removal of the black humus layer, and with it the cultural layers of archaeological interest. Therefore, only the structures embedded in the undisturbed yellow subsoil could be researched. As a result, the depth of the grave from the original surface could only be estimated: in this case it was approximately 240–250 cm.

[5]*Antropológia* 2009, 7, Hungarian National Museum (MNM) archives: Gy. Sz. 6473/2016.

[6]'Helmet'-shaped iron shield bosses similar to the one from Tiszagyenda have been found in areas once occupied by German populations, such as the grave good catalogued as R. 867, discovered in present-day Kálvária Hill in Gyula in 1903 (Bóna–Nagy 2002, 21, Tab. 2/9, 276) or the shield find from grave 168 in Szolnok-Szanda (Bóna–Nagy 2002, 224; Tab. 49, 323).

conical shape in the area where the rivets penetrate it; located at the centre is a bronze rivet shank (Fig. 29.2). The handle, which presumably had a wooden insert at its centre, expands into a U shape and its open side turns toward the bell. Item 1 is part of the same shield grip and is a continuation of the shank.

3. Copper jug (Figs 30, 40 and 41)

Height: 283 mm, diameter at the bottom: 171–173 mm, diameter at the shoulder: 167 mm, diameter at the neck: 79 mm, diameter of neck under the lip: 52–61 mm, width of lip: 88 mm, height of lip 92 mm, weight: 1,523.5 g.

The jug is made of copper, with a flat bottom that is convex towards the edges, a concave cylindrical body, a cylindrical neck that also tapers towards the mouth, and a splayed lip; the body is perhaps made from two plates (Fig. 30.2–3). The lip originally splayed horizontally; on two sides the lip was bent upwards to form a 'V', thereby creating a spout (Fig. 30.1). The bottom is flat at the centre but curves upwards towards the edges then turns up at a sharp angle where it connects to the walls of the vessel. The bottom plate was fashioned by hammering along a spiral path. Its perimeter connects to the slightly inward curving walls along a sawtooth joint (Figs 30.4 and 12) that was then soldered. The cylindrical body is concave and attaches at a sharp angle to the rounded, ribbed shoulder. The neck curves more gently toward the ring around the neck, which is made of the same material as the jug, but compressed. The ring also serves as the upper limit of the iron handle fragment (Fig. 14). The wrought iron handle is 1.2 mm thick and 17 mm wide; towards the two ends, the flat plate narrows, and it may have continued into a twisted, wire-like extension that supported the handle (Fig. 7). Beyond the ring, the neck becomes increasingly narrow and the material is compressed, as is indicated by the marks left by the metalworking tools. The thickness of the material is much greater than in other parts of the jug. Beneath the lip, the neck takes on an oval shape. The metal sheets that curve upwards symmetrically to form the triangular, horizontally splayed lip do so in such a way that the spout would have been along the same axis as the jug-handle. The evidence suggests[7] the jug was made from one or perhaps two sheets of metal. Traces of the metalworking tools can be clearly seen on the bottom, the body of the jug and on the neck, perhaps as decorative elements (Fig. 13).

4. Shield rivet (Figs 28.6 and 46.8)

Diameter: 28–29 mm, length: 13 mm, thickness: 2 mm.

The shield rivet, made of bronze, is flat, slightly oval, with punched decoration and gold plating on its surface. The reverse is also flat, and in the middle is a shank with a circular cross-section that tapers to a point. Presumably this rivet served only a decorative purpose. Its ornamentation matches that of the rivet used to fasten the shield boss (item 2) in place.

5. and 5/b. Rivets used to attach a shield grip (Figs 28.7–8 and 46.9–10)

Diameter: 25–27 mm; length: 9–10.5 mm, thickness: 1.5 mm.

Fragments of two bronze shield grip rivets with flat heads in the shape of irregular circles and remnants of punched decoration and gold plating. The fragmented decoration corresponds to the ornamentation on the rivet used to fasten the shield boss (item 2) in place.

The reverse is flat, with traces of the metalworking tools visible on the surface. In the centre are the remains of a 7-mm-long, slightly tapering rivet shank with fragmented end. The continuation of the rivet can be found in the cup shaped part of the iron shield grip.

6. Shield rivet (Figs 28.9 and 46.11)

Diameter: 30 mm, length: 12 mm, thickness: 2.5 mm.

The shield rivet is made of bronze with a round head and punched decoration and gold-plating on the surface. Of the rivets found, this is the most complete. The reverse is flat with a 10-mm-long shank with circular cross-section that tapers to a point. Presumably this rivet served a decorative function. Its ornamentation corresponds to that on the rivet used to fasten the shield boss (item 2) in place.

7. Solidus[8] (Figs 36.1 and 46.2)

Gold coin issued during the first years of the reign of Byzantine emperor Maurikios Tiberius (582–602). MIB 4, Aug 582–Aug. 583[9]

Weight: 4.35 g, diameter: 21.46–22.08 mm.

8. Square bronze buckle (Figs 36.2 and 46.1)

Length: 19 mm, width: 19 mm, height: 7 mm; total height: 9 mm; thickness: 0.6–8 mm.

Cast iron buckle in the shape of a truncated pyramid, with the lower edge widening slightly to form a flat rim. The upper part tapers into a 5 × 9 mm opening and is topped by the tongue, which has an oval cross-section that thins at the end. The buckle shows signs of wear.

9. Pyramid-shaped suspension mount (Figs 31.3 and 44.3)

19 × 19 mm, length: 7 mm.

Bronze scabbard suspension mount in the shape of a truncated pyramid. Its four sides are carved with a three-armed star motif. The fire gilding on the surface is worn. The areas above and below the pair of lines engraved along the rounded edges are filled in with gold as are the four dots adorning the rounded apex of the mount. There, the bronze

[7]Along the perimeter of the bottom, where the sides of the vessels are folded under it, traces of a toothed seam have been identified, which means that the jug was assembled from at least two pieces. Therefore, the body and neck of the vessel should also show traces of a seam. However, not even the most careful examination could confirm evidence of a seam on the concave body or on the neck and shoulder. Consequently, the technological method of constructing the vessel, of joining the various parts, still remains a mystery.

[8]The graves of German military leaders and chieftains always contained just one Roman gold decorative coin (Hammersdorf, Wienerneudorf, Galați, Borozsice, etc.) Bóna 1974, 59.

[9]The coin was not a standard issue. Such non-standard issues were minted in the first year of the emperor's rule in the 9th *officina* of Constantinople. I am grateful to Péter Somogyi for this identification.

patina background is a brownish green. The method by which it was attached to the scabbard is indicated by the presence of a narrow hook at the base of the pyramid (Fig. 17/b).

10/a Rectangular, bronze mount with metal inlays. First sword belt mount (Figs 31.4, 32.6 and 44.5)

Length: 49 mm, width: 21 mm, thickness: 5 mm.

Bronze mount is belonging to a sword suspension belt. Cast, 1 mm thick, rectangular; its base has a slightly widening frame enclosing an iron insert, adorned with *"Tauschierung"* (metal inlays) motifs. The insert is framed with straight and wavy lines and decorated with a three-part design consisting of a "mushroom" and other geometric motifs. At the two ends, five bronze and five silver ball decorations were placed on the box's slightly longer base sheet, which forms the lower part of the box (two balls are missing on one side). Four ball decorations, one at each corner, also served as rivets securing the mount to the belt. The insert is partially sunken into the surface of the box. The mount was found *in situ* on the scabbard. The width of the mount probably corresponded to the width of the sword suspension belt (21 mm).

10/b Rectangular bronze mount with metal inlays motifs. Second sword belt mount (Figs 31.5, 32.9 and 44.6)

Length: 50 mm, width: 21 mm, thickness: 5 mm.

See the description above. The mount was found *in situ* on the sword sheath. The decoration on the iron insert is different from that on the mount above (item 10/a): it has five sections, with the centre section containing a cross with arms of equal length enclosed in two semi-circles. The decoration is flanked by semi-circles, linear step patterns and mushroom motifs. The metal inlays insert in this mount has not sunken into the surface of the bronze box-mount but is in its original condition, flush with the surface.

11/a Sword suspension belt mount. Gilded bronze mount with niello and glass inlays (Figs 32.4 and 44.4)

Width: 20 mm, height: 15 mm, thickness: 3.7 mm, total width: 8 mm.

Sword belt mount, bronze, rectangular box shape. The box is hollow, with narrow plates at both ends, each with three rivets with ball-shaped heads. The rectangular surface of the box is adorned with very finely applied niello. Around the perimeter is a thin frame with a zigzag motif. In the centre, the rectangular cell containing the glass inlay is framed by a wider zig-zag motif. The face of the mount shows traces of fire gilding. The mount was affixed to a 3-mm-thick belt with 4 rivets with ball-shaped heads, one in each corner. We can infer the thickness of the belt from the length of the complete rivet shaft.

11/b Sword suspension belt mount. Gilded bronze mount with niello and glass inlays (Figs 32.5 and 44.4)

Width: 21 mm, height: 15 mm, thickness: 4 mm, total thickness: 6.5 mm.

Sword suspension belt mount, bronze, rectangular box shape. It was fashioned in the same way as the previous mount (11.a). On the reverse, only the stumps of the rivet shanks used to fasten the mount have remained. Traces of the fire gilding can be seen only on the side of the mount, on the ball decorations and the side plates.

12. Fragment of a knife tip (Fig. 35.3)

Length: 21 mm, height: 14 mm, width: 7.5 mm.

Knife tip (sax) fragment, made of iron; the corroded body has a triangular cross-section.

13. 'Y'-shaped iron mount with gold and silver inlays. First sword belt distributor (Figs 32.1 and 45.2)

Length: 24 mm, width: 23 mm, total thickness: 7.4 mm, thickness: 4 mm.

The belt distributor is made of iron and has a rectangular body that narrows into a curved 'Y' shape. On the side that widens to 24 mm, two larger and two smaller flat rivets with semi-spherical heads were used to attach the mount to the belt. At the narrower, 15-mm wide end of the mount, another two smaller flat rivets with semi-spherical heads also served the same purpose. On the reverse, the remains of the organic material of the original belt can be seen. The surface of the mount is richly decorated with gold and silver inlays. The ornamentation includes geometric elements. The contours are indicated with silver inlays and emphasized with a series of gold dots. On the side of the mount that widens, the motif is composed of gold dot inlays, a silver-plated surface and again a curved row of gold dot inlays. On all four oblique sides of the mount, a comb pattern consisting of vertical, striated silver inlays can be seen.

14. Iron belt end with metal and glass inlays (Figs 34.2 and 45.5)

Length: 76 mm, width: 33 mm, thickness: 7 mm.

The iron belt end is rectangular but with rounded corners at one end and at the other, where it attaches to the belt, is a box structure. Three decorative nails with round heads were used to affix the mount to the belt. The longitudinal sides of this belt end are slightly curved, while the face is slightly convex, and the surface has gold and silver damascene and glass inlays. The entire surface is covered in an 'hourglass-almond form', version of pure braid ornamentation (without zoomorphism) (Nagy 1998b, 383, Fig. 30, types 1–5). The outer part of the two-part ribbons was decorated with silver, and the inner with gold. The six points of intersection of the patterns are emphasized by rhombus-shaped silver inlays. The oval and rhomboid spaces between the ribbons contain cells with thin gold plating [impressed gold foil] in which amber and glass were inlaid. In the centre part and at the rounded end, the perimeter is decorated with silver inlays in a comb pattern. The back plate is made of a smooth, undecorated, 0.7-mm-thick sheet.

15. Back mount[10] of a waist belt (Figs 34.1 and 45.6)

Length: 60 mm, height: 48 mm, thickness: 3.2 mm, total thickness: 10 mm.

A rectangular iron mount with curved edges and decorated with silver, gold and glass inlaid in settings.

[10]Judit Lőrincz excavated the back mount from the clay mass impregnated with iron oxide and also the restoration. I am indebted to her for this work.

The mount was attached to the belt by four silver-plated, flat, iron nails. One of the more intact nails contains the visible remains of a round, glass inlay in the head. The front plate of the mount had four band motifs of equal size and in the middle a fifth larger band motif, all comprising rhombuses in a grid pattern (Nagy 1998b, 381, Fig. 18, 1–4). The rhombuses are connected by a curved pattern along the outer edge of the mount. Silver inlays adorn the areas where the bands intersect, and the inner surface is filled with gold inlays in the form of tiny cubes. The inner part of the rhombuses is divided into two cells filled with yellowish-green glass inserts. In the larger central rhombus, a circular cell with yellowish green glass inlay is connected to a silver inlay divided into four parts. The curved bands along the edge frame green enamel inlays. Several parts of this pattern were damaged. The intact side of the mount has inlays in a dense striped pattern.

15/b 'Y'-shaped iron mount with silver inlays. Second belt distributor (Figs 32.2 and 45.1). It is the companion to grave good 13.

Length: 24 mm, width: 22 mm, total thickness: 7.5 mm, thickness: 3 mm.

This rectangular, iron belt distributor tapers in an arc into a 'Y' shape. The 24-mm-wide end of the mount was attached to the belt by four flat, silver nails with semi-spherical heads, while the narrower 15-mm-wide end was attached to the belt by another two flat nails with semi-spherical heads. This decoration on this mount is similar to that on item 13; however, in this case, less care seems to have gone into modelling the geometric pattern (there are fewer areas of silver plating).

16. Knife (Fig. 35.4)

Length: 118 mm, width: 24 mm, thickness: 9 mm, width of blade: 17 mm, thickness of blade: 8 mm.

This fragment of an iron knife/dagger is severely corroded. Its tang has a rectangular cross-section and was fashioned from a thin layer folded into a 'U' shape and welded together. The narrow blade has a triangular cross-section. The iron tang thickens as it approaches the blade but then thins suddenly in a gentle curve of both the upper and lower surfaces when it joins the significantly narrower blade fragment. The blade tip and the end of the tang are missing.

17. Iron buckle, silver and gold inlays, setting with stone inlay[11] (Figs 33.1 and 45.3)

Thickness: 102 mm, length: 41 mm, buckle frame width: 63 mm, height: 20 mm; buckle plate length: 57 mm, width 50 mm, height: 4 mm.

The oval frame has an asymmetrical 'D' cross-section; its tongue has curved edges and widens at the base. The tip of the tongue curves deeply into the frame. The outer edge of the buckle frame has a repeating pattern of fan-shaped stones and half-moon gold inlays enclosed in a silver inlaid decoration. The fan-shaped settings contain brownish-red glass(?) inlays. The wider base of the tongue is decorated with the confronted profiles of animal heads[12] with long jaws. The ends of their jaws are connected by a pointy band motif. The contours are defined by silver inlays and the interior parts of the jaws are filled with gold inlays. The eyes are made of greenish yellow enamel in a gold setting. The area between the two heads contains a rhombus and a fan-shaped gold setting, both inlaid with glass. The rest of the tongue is decorated with inlaid parallel lines and a zig-zag pattern.

Attached to the buckle frame was a $57 \times 50 \times 4$ mm curved, shield-shaped, slightly convex plate that was affixed to the strap with three flat, round, silver-headed rivets. The width of the strap was 50 mm wide and, as inferred from the length of the rivet shank, 2.3 mm thick. The decoration on the plate consists of two figure eights with stylized animal figures (Jankovich buckle plate type, Nagy 1992, 26, Fig. 10.3,3e). The eyelids of the confronted animals curve and the lower ends fold inward. The eyes are represented by a pair of glass inlays in round gold settings. The upper jaw attached to the eyes is short; the lower jaw creates a figure eight and indicates the body of the animal. In the middle of the plate, in the area between the bodies of the two animals are glass inlays in gold settings; the tear-shaped interior of the lower part of the figure eight is decorated in the same way. The bodies are connected by a curved ribbon motif adorned with a striated pattern.

A smooth silver line creates the contours of the animal figures. Gold inlays accentuate certain parts of the animal (outline of the eyes, jaws, and parts of the figure-eight bodies). The side of the mount is decorated with a silver-inlaid striated motif.

17. b. Counter plate with gold and silver and glass inlays (Figs 33.2 and 45.4)

Length: 57 mm, width: 47, thickness: 4 mm.

This counter plate is the companion to 17 a, with its nearly identical decoration and curved edges. Furthermore, it was also attached to an approximately 2.3- to 2.5-mm-thick leather belt with three silver, round-headed rivets. The decoration differs in the ribbon that forms the animal bodies, which is not striated but rather has gold and silver inlaid dots. The area between the two animal bodies, represented by ribbons in a figure eight, is a rhombus shape divided into semi-circular gold cells inlaid with glass.

18. Iron sword (Figs 31.1 and 44.1)

Total length: 878 mm, length of blade: 765 mm, width of blade: 63 mm, thickness of blade: 15 mm; length of tang: 93 mm, width of tang: 28 mm, thickness of tang: 15 mm.

A double-edged sword *(spatha)*, made of iron, with remains of the wood sheath visible on the surface. The chape is missing. The remains of a copper scabbrad mount at the opening of the scabbard can be seen in the form of a 1-mm thick plate, which in its present state is largely covered by the remains of the wooden scabbard impregnated with iron oxide. Located on the surface of the wooden scabbard, 115 mm from the opening, is a square,

[11]I am grateful to Balázs Lenz for restoring the buckle of the waistbelt and also for performing the supplementary work on the grave goods.

[12]Or as based on an other possible interpetation it is a snake head.

gilded stud (pyramid mount) for suspending the scabbard (see Fig. 31.1,8–9). Beneath the pyramid mount, along the longitudinal axis is a 12- to 13-mm-wide and approximately 55-mm-long contour composed of a different material than that of the scabbard: presumably the organic remains of a scabbard slide (Fig. 8). At 490 mm from the mouth of the scabbard another two rectangular iron sword-strap mounts richly decorated with metal inlays were found (Figs 31.1a, 32.5–6,9 and 44.1,3,5–6). In the small patches on the reverse of the scabbard, near the opening, the remains of the thin leather covering have been identified. Although the blade is covered by the surviving pieces of scabbard, the contours suggest a double-edged sword with a fuller in the centre and nearly parallel edges that narrow slightly toward a short, rounded tip. One of the X-rays taken of the sword prior to restoration revealed a fishbone pattern along the fuller of the heavily corroded steel blade. The X-ray suggests the damascening was applied to the blood groove (Fig. 9).

The tang, a grip stub with a rectangular cross section that narrows towards the end, would originally have terminated in a pommel (item 19). The X-ray taken before cleaning reveals that in the process of preserving the scabbard, several other finds cemented to the scabbard were discovered.[13]

19. Sword pommel (Figs 31.2 and 44.2)

Length: 31 mm, width: 16 mm, height: 9 mm; total height: 10.5 mm.

The pommel is made of bronze with a hollow tip in the shape of a truncated pyramid. It has a wide rectangular base with sides that show signs of wear. One of the longitudinal sides is curved. The opening in the upper part of the pyramid contains a broken off portion of the tang, made of wrought iron.

20. Whip handle pommel (Figs 36.3 and 46.3)

Width: 25 mm, height: 18 mm, thickness: 20 mm.

Fragment of the bone pommel at the end of a whip handle (?), ring shaped and strongly abraded, wide 'D'-shaped cross-section. The 16 × 14 mm inner part is oval with straight sides and one side showing signs of extreme wear. The intact part of the pommel has a slightly off-centre, cross-bore 5 mm in diameter. The perimeter of the drill hole shows signs of wear.

21. Fragments of a bone comb with iron nails (Fig. 36.6)
a: 72 × 20 × 21 mm; b: 38 × 19 × 24 mm; c: 19 × 17 × 3,2 mm; d: 22 × 19 × 15 mm; e: 31 × 12 × 3 mm
a. Bone plate fragment to which another plate was attached crosswise with an iron rivet that is flat on one side and spherical on the other. The perpendicular plate is a bladelike thin fragment with a flat, oval cross-section.
b. A bone plate broken in two pieces with a strongly corroded iron rivet in the centre. On one side of the bone fragment, the centre has a polished surface and there are signs of rough burnishing.
c. Fragment of a bone plate. On one side the centre is polished and there are signs of rough burnishing.

22. Jug handle (?) (Fig. 35.5)

Length: 75 mm, width: approximately 30 mm, thickness (?) mm.

Jug handle (?) fragment made of iron, leaf-shaped, with slight tapering at one end. The iron fragment disappeared during excavations.

23. Iron spearhead (Figs 35.1 and 46.12)

Length: 240 mm, blade length 145 mm, blade width: 29 mm, blade thickness: 8.5 mm, diameter of socket: 93 mm, inner length of socket: 80 mm.

The iron spearhead is strongly corroded. The reed-shaped blade presumably had an oval cross-section; its edges are parallel and later taper towards the tip. The socket grows narrower towards the neck and has a round cross-section. The lower end of the socket has a 9-mm-wide ring-like band that slightly protrudes from the corroded surface; this ring is interrupted by a rivet head along its perimeter.

24. Rectangular bronze sword belt mount with metal inlays (Figs 32.3 and 44.7)

Length: 48 mm, width: 21 mm, thickness: 5 mm.

The rectangular sword suspension belt mount is made of bronze and boxlike in shape and slightly widens at the bottom. It has an iron insert with silver inlays. It is nearly identical to items 10/a, and 10/b. This specimen reveals clearly the method by which it was made, its form and how it was attached to the strap. At the bottom, the slightly expanding side wall of the bronze box extends at each end, creating an 'omega' shape. Five spherical, cuplike bronze funnels filled with silver were placed along these extensions. In the four corners of the mount, four ball decorations were added. It was discovered that these balls belonged to thin, 0.8-mm-thick rivet shanks. The thickness of the belt can be inferred from the length of the shanks in their unbroken state: 4.5 mm. The interior of the box presumably contained a leather or wood spacer that would have supported the iron insert, which is covered in metal inlays creating a three-part 'mushroom' patterned, geometrical design (as described above for item 10/a).

25. Iron buckle (Fig. 32.8)

Length: 46 mm, width: 36 mm, thickness: 13.5 cm; catch plate width: 23 mm, length: 22 mm.

The iron buckle is oval with a flat body and a flat tongue, tapering at the tip. A plate folded into a 'U' shape and held together by two flat-headed bronze rivets is attached to the buckle. The upper part of the plate is fragmented. Organic material measuring 3 mm in thickness was found between the lower and upper parts. On the lower part, the imprint of wrinkled textile was preserved in the iron oxide environment. The buckle was part of the sword suspension belt that was attached to the scabbard. It was discovered in an oxidized state stuck to the scabbard in sword find 1660/18.

26. Shield-on-tongue type buckle tongue (Fig. 32.7)

Length: 35 mm, width: 19 mm, height: 11 mm.

The fragment of the shield-on-tongue fragment is made of bronze, with a curved 'D' shaped cross-section. Half of the hinge attached to the shield plate is broken off and missing.

[13]These other grave goods are listed and discussed later.

The buckle tongue was discovered in an oxidized state stuck to the scabbard (Fig. 9).

27. Iron rivet (Fig. 36.4/b)

Length: 17 mm, width: 22 mm, thickness: 8 mm.

The rivet with a loop is made of iron and has a 'T'-shaped, corroded body. On the iron oxidized surface of the lower part, about 10 mm of organic material were found. The upper part of the shank is curved, shaped into a loop suitable for receiving a chain link. The size of the surviving organic material, the loop formation of the rivet and the surviving chain fragment[14] may have played a role in suspending some kind of wooden object. The rivet came to light when the bottom of the pit was investigated, after the bones and other artefacts had been removed.

28. Two links of an iron chain (Fig. 36.4/a)

Length: 22, width: 19 mm, thickness 8 mm.

The chain fragment is made of iron with two interlocking links. The oval shaped links have round cross-sections, and their thickness gradually increases and decreases symmetrically. Presumably they were connected to the iron rivet above (item 27). After the bones and other artefacts were removed, the iron chain fragment came to light in a clay lump along with the rivet (item 27) when the bottom of the pit was investigated.

29. Iron knife (sax) (Fig. 35.2)

Length: 78 mm, height: 30 mm, width: 7 mm.

The sax blade fragment is made of iron with a wedge-shaped body. One end of the fragment expands and forms a handle with a rectangular cross-section. At the other end, the straight top of the blade begins to curve towards (what has survived of) the tip. Perhaps the blade arced into a sickle shape. After the bones and other artefacts were removed, the iron fragment came to light when the bottom of the pit was investigated.

30. Twine (Fig. 36.5)

Contour of the braided remains of twine on the scabbard (item 18). The imprint of the twine was found in an X-ray done prior to restoration and was represented in an idealized drawing that accentuates its features.

GRAVE 545 IN THE TISZAGYENDA-BÚSZERZŐ SITE

Almost 3 m (2.7 m) to the southeast of the warrior grave, the deceased's horse with harness and dog were discovered in a separate grave (grave 545).

The orientation of the grave is east-west. The grave itself has an irregular, elongated, slightly elliptical shape. A bench runs the length of the grave pit along the wall, and encloses a second pit that forms a nearly regular rectangular with rounded corners. The skeletons were found in this pit. The total length of the pit is 227 cm, the width is 124 cm and the width of the bench is 15–20 cm. In each of the four corners of the inner pit, a post hole was found measuring 20 cm in diameter. The length of the inner pit is 192 cm and the width 94 cm (Fig. 6). The grave contained the skeletons of a horse and a dog. The skeleton of the horse[15] occupied the entire length of the pit. The animal had been placed on its belly, with its legs folded under the body. Its head and neck were not in line with the body. The neck bends back toward the eastern wall, presumably because the horse did not fit lengthwise in the grave. The skull was separated from the body. The skull lay inverted with the top of the head on the ground and the nose pointed toward the neck. The neck vertebrae, spine, ribs and shoulder bones were in their correct anatomical positions. The total length of the horse skeleton is approximately 172 cm. The bones are moderately well preserved. From the horse's position it can be inferred that the animal was not placed in the grave after it was slaughtered. Instead, it was butchered in the pit, where it dropped to its belly and afterwards it was disjointed, its head removed and its neck positioned.

The dog's skeleton[16] lay in the western part of the grave, partially on top of the back part of the horse skeleton. Its skull rested on its right side; its teeth were intact. The neck vertebrae, a section of the ribs and the shoulder bones (scapulae) were in their anatomically correct positions. The front legs are present, although the bottom parts were severed and the toe bones are missing. The back part of the spine and the two hind legs, however, are completely missing (severed?). From the position of the dog skeleton, it can be inferred that, unlike the horse, the dog, which had been cut in two, was tossed into the grave after it had been killed. The length of the truncated skeleton is approximately 52 cm (Fig. 6).

[14] A similar rivet and spearhead fragment in the grave of a young girl (grave 221) in Zamárdi-Rétiföldek. See: Bárdos–Garam 2009, 41, Tab. 26, p. 226.

[15] I am very grateful to Annamária Bárány for her examination and analysis of the animal bone finds in grave 545: nearly the entire skeleton of the horse was found. The bones were arranged in the correct anatomical positions in the grave. The animal was in a collapsed position in the grave, with its head bent back. The hip bone (ilium) reveals that the animal was female; the calcification of the bones suggest it was an adult. The height at the withers, determined by measuring the six long bones (humerus dext., radius dext., metacarpus dext., tibia sin., metatarsus sin-dext.) was 137.8 cm. Its size placed it at the larger end of the small horse category. The animal was moderately slender according to the metacarpal slenderness index. The metatarsal slenderness index indicates a very slender animal (Fig. 6).

[16] The examination performed by A. Bárány of the dog bones tossed onto the horse skeleton yielded the following results: the partial skeleton of the dog lay on the hipbone and folded hind legs of the horse. The skull and neck and back section of the spine and the upper and lower (metacarpus) front legs were found. The age was only 0.5–1 year. The height at the withers could be estimated based only on the right shoulder bone remains: 54.6 cm. The skull of the small dog was relatively long and narrow. Its long, straight jaw had widely spaced teeth, typical of today's greyhound or collie. The dog found in the grave was more similar to today's collie, with its thicker bones, than to a greyhound. The insignificantly small proportion of bones from the back end of the dog do not indicate clearly that the dog was cut in two; however, on the left side, on the back of the most outer metatarsal bone (metatarsus V. sin.), traces of two deep, oblique incisions made from the side can be seen.

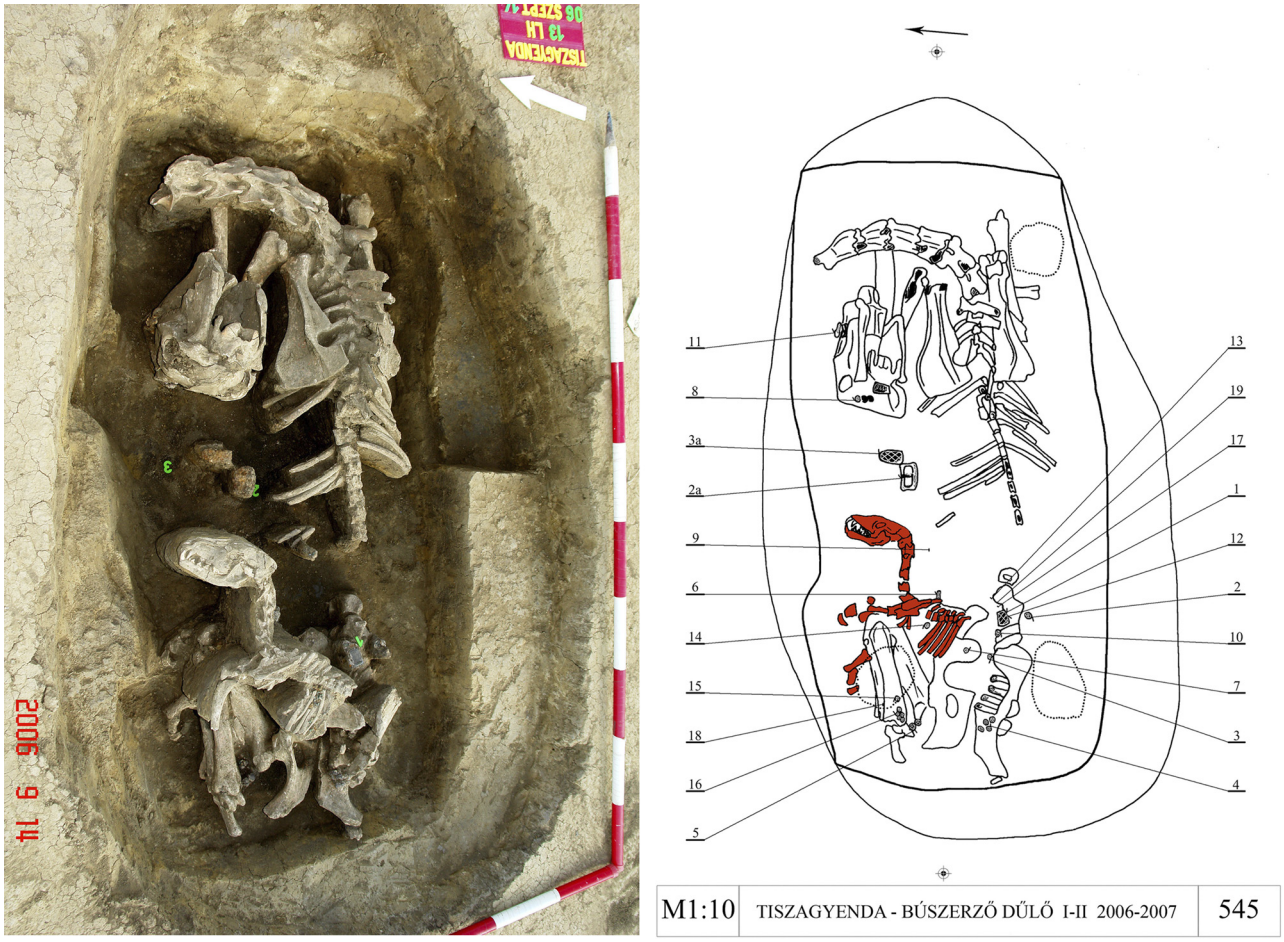

Fig. 6. Drawing and photograph of the horse-dog burial, grave 545

Grave goods from burial 545 of the horse and dog belonging to the warrior in grave 1660

Altogether 39 objects, all part of the horse tack were found. In addition to an iron jointed snaffle bit, thirty silver rivets with ball tops as well as silver belt mounts, rectangular iron buckles and silver and iron rein ends came to light. A stirrup was not found.

1. Rectangular bronze mount (Fig. 37.4)

Length: 43 mm, width: 29 mm, Height: 11 mm. thickness: 6.5 mm.

Cast bronze rectangular, bulky body. Slightly convex edges, bevelled with a smooth surface. One of the shorter sides is decorated with a moulded, curved rib. In three corners on the back, a fastening rivet with a rectangular cross-section has survived; the rivet shanks with hammered ends indicate the belt was 4-mm thick. Between the rivets at each end was a cross-plate.

2/a Rectangular iron buckle (Fig. 37.6)

Total length: 51 mm, length: 43 mm, width: 38 mm, height: 13 mm, thickness 10 mm.

A rectangular iron buckle with a cross-section in the shape of a rectangle with rounded corners; the frame is undecorated. A bulky, band-like tongue whose cross-section is in the shape of a rectangle with rounded corners attaches to the frame along the central axis. The end of the tongue curves over the body of the buckle frame.

2/b. Rhombus-shaped iron buckle (Fig. 37.7)

Total length: 56 mm, length: 52 mm, width: 48 mm, height: 13 mm, thickness: 11 mm.

The iron buckle is rhombus-shaped with a frame with an oval cross-section. On the centre axis is a hinge-like tongue. At the hinge part, the tongue is square and widens slightly before narrowing at mid-length and then bending toward the buckle frame. The rounded rectangular shape of the buckle frame's cross-section expands and thickens proportionally, with the cross-section becoming oval at the outside edge of the buckle frame, where the tongue rests.

3/a. Iron strap end (Fig. 37.3)

Length: 73 mm, width: 33 mm, thickness 2.3 mm.

The iron strap end is long, narrowing slightly and rounding at the end; its surface is strongly corroded. The upper plate is straight, splitting in two to form a 'V' at

the end, where two bronze rivets secured to the end. At the rounded end of the strap end, an open surface shows the original thickness of the plate.

6. Bronze buckle plate or strap end (Fig. 37.2)

Length: 27 mm, width: 16.5 mm, Thickness: 4 mm.

The fragment of a buckle plate/strap end is made of bronze, narrows slightly and is rounded at the end. The buckle part, if it had one, is missing. The mount is hollow, the edges are bevelled, and the surface is uneven from corrosion. The fragmented upper, straight-cut part has a niche where the tongue may have rested. Next to this item, a 6 × 15 × 8 and a 6 × 8 × 8 mm bronze plate fragment were found. The fragment of a 12-mm-long bronze rivet with round head and a 1.2 × 2 mm rectangular cross-section, folded at a right angle, also came to light.

11. Bit (Fig. 39.1)

Length: 152 mm, height: 49 mm, width: 10 mm.

The jointed bit with outer rings is made of two wrought iron parts. The bars have a square cross-section with rounded edges, while the almost round outer ring at each end has 'D' shaped cross-sections.

12. Fragment of a metal inlaid mount (Fig. 37.5)

The mount fragment is made of iron (?) covered in silver sheet. It is rectangular with a curved surface, and on the reverse, at both ends, is a bulky rivet with round cross-section. The surface is covered in two silver, rectangular, slightly convex plates laid next to each other and separated by a pair of inlaid lines. The reverse is strongly corroded.

13. Bronze mount fragment covered in silver sheet (Fig. 37.1/b)

Length: 30 mm, width: 17 mm, height: 10 mm, thickness: 5 mm.

The mount fragment is made of bronze, with one end rounded, the other end missing. The reverse is hollowed out. There, an attachment rivet with square head can be found. The bronze mount is covered in a polished silver sheet that creates a concave surface.

14. Bronze mount fragment covered in silver sheet (Fig. 37.1/a)

Length: 38 mm, width: 18 mm, height: 9 mm, thickness: 5.5 mm.

Mount fragment made of bronze (?), rectangular in shape but with curved longitudinal edges. The end is intact. On the reverse are the remains of the still existing attachment rivet. The surface is covered in polished silver sheet in such a way that the perimeter of the mount has a protruding frame while the interior surface becomes concave. The reverse is strongly corroded.

Button mounts, recrystallized, made of silver of varying quality.

2. Button mount (1 piece) (Fig. 39.14)
3. Button mounts (2 pieces) (Fig. 38.19–20)
4. Button mounts (4 pieces) (Fig. 38.15–16–17–18)
5. Button mounts (3 pieces) (Fig. 38.1–2–3)
7. Button mount (1 piece) (Fig. 39.5)
8. Button mounts (3 pieces) (Fig. 39.7–8–9)
9. Button mounts (2 pieces) (Fig. 39.10–11)
10. Button mount (1 piece) (Fig. 39.6)
11/a. Button mounts (3 pieces) (Fig. 39.2–3–4)
15. Button mounts (2 pieces) (Fig. 38.13–14)
15+. Button mount (1 piece) (Fig. 38.9)
15++. Button mount fragments (Fig. 38.10–11)
16. Button mounts (4 pieces) (Fig. 38.4–5–6–7–8)
17. Button mount sliver
18. Button mount (1 piece) (Fig. 39.12)
18a. Button mount (1 piece) (Fig. 38.12)
19. Button mount (1 piece) (Fig. 39.13)

Diameter of the buttons: 18–21 mm, total height: 15 mm, height: 10 mm.

The button mounts have round, flat cup shapes and irregular edges. The surfaces are polished and the bodies are solid. They have bulky rivet shanks with hammered ends indicating the straps they pierced were 5 mm thick.

Total number of button mounts: 30 pieces plus 5 nails.

During the excavation of the horse skull, which was extracted and boxed in its *in situ* condition and 'unearthed' in the restoration workshop of the National Museum, a snaffle bit (item 11) and another three button mounts with semi-spherical heads (11/a) were found in the horse's mouth.

EVALUATION

Copper jug (Figs 30, 40, 41 and 10)

The first items were discovered during excavation of grave 1660, in the north-eastern corner of the grave pit on a bench, before the bones of the deceased had appeared. In the corner was a copper jug with its mouth facing upwards along with parts of a shield that had at one time stood in the corner, concealing the jug.

In addition to an analysis of the forms of copper jugs, jars and bottles, a determination of their function and analysis of their size can provide further guidance on how they were used.[17]

The chased copper pots, jugs and bottles appeared in large quantities in the Mediterranean region beginning in the 6th century. Many variations of vessels related in terms

[17]In the case of the bottles, we are talking about, for example, 20-cm tall pilgrim bottles (Pitarakis 2005, 18–21, figs 9–21) and then for heating water. The bottoms of the Niederstotzingen and Cesena vessels are concave (Schulze-Dörrlamm 2010, Abb. 23.) and the bottom joins the side along a straight edge, which could only be achieved by soldering the two parts together, while the Tiszagyenda vessel has a convex bottom, which indicates a different manufacturing technology was employed and the vessel served a different function. The two jugs from Niederstotzingen and Cesena, for example, may have been used for heating water. Almost every example presented by Pitarakis is a copper vessel with profiled bottom that was assembled from several parts. Pitarakis 2005, 13, fig. 2.

Site	Bottle height:	Jar height:	Remarks	Publications
Sardis		>30.0	In 2 parts	Waldbaum 1983, 93, Pl. 34, 523
Sardis		>23.0	In 2 parts	Waldbaum 1983, 93, Pl. 34, 524
Sardis		32.5	In 2 parts, iron band, handle, rivet	Waldbaum 1983, 93, Pl. 34, 525
Sardis		23.8	In 2 parts, iron band, handle	Waldbaum 1983, 93, Pl. 35, 526
Sardis	20.8		In 2 parts+lid, iron band, handle	Waldbaum 1983, 94. Pl. 35, 528
Sardis	28.5		In 2 parts	Waldbaum 1983, 93, Pl. 35, 529
Sardis	25.0		In 2 parts+lid, vas handle	Waldbaum 1983, 93, Pl. 35, 530
Niederstotzingen	24.5		In 2 parts iron band and handle	Schulze-Dörlamm 2010 Abb. 23.1
Cesena	26.0	.	2 iron band	Schulze-Dörlamm 2010, Abb. 23.2
Istanbul, coll. Haluk Perk	30.5		Iron band, handle	Pitarakis 2005, 15, fig. 4.
Istanbul coll. Haluk Perk		43.0	Iron band, handle	Pitarakis 2005, 16, fig. 5.
Pergamon - Izmir, Museum of Archaeology	26.0		Lid, iron band handle	Pitarakis 2005, 16, fig. 8.
Istanbul, Museum of Archaeology	19.5		Lid, iron handle	Pitarakis 2005, 18, fig.9.
Boston, Museum of Fine Arts	20.5		Lid, medallion, handle	Pitarakis 2005, 18, fig. 10.
Alassa, Basilica, Cyprus	29.0		Lid, medallion, handle	Pitarakis 2005, 18, fig. 11.
Istanbul, Museum of Archaeology	17.0		Lid, 'Holy Rider' medallion, handle	Pitarakis 2005, 19, fig. 12.
Munich, coll. Chr. Schmidt	17.0		Lid, 'Holy Rider' medallion, handle	Pitarakis 2005, 20, fig. 14.
London, British Museum	14.0		Lid, 'Holy Rider' medallion, handle	Pitarakis 2005, 20, fig. 15.
New York, Metropolitan Museum of Art	12.5		Lid, 'Holy Rider' medallion, handle	Pitarakis 2005, 21, fig. 16.
London, Victoria & Albert Museum	17.0		'Holy Rider'medallion, handle	Pitarakis 2005, 21, fig. 17.
Athens, Canellopoulos Museum	15.0		'Holy Rider' medallion, handle	Pitarakis 2005, 21, fig. 18.
Athens, coll. M. Latsi		35.0	Medallion, 2 handles	Pitarakis 2005, 22, fig. 19.
New York, Sotheby's		40.6	Medallion, 2 handles	Pitarakis S 2005, 23, fig. 20.
Umm al-Walid (Jordan) 1992	41.8		-	Bujard 2005, 136, fig.1/5 Museum with no Frontiers
Amman, Citadella, Spanish Mission	40.0		Lid, medallion, handle	Museum with no Frontiers
Amorium, Anatolia	22.5		-	Lightfoot 2007, 282, fig. 12, 13
Hippos – Sussita	21.0		In 2 parts, iron handle	Segal–Schuler–Eisberg 2010, 58, Fig. 84
Umm al-Walid (Jordan) 1991	small		-	Bujard 2005, 136, fig. 4.
German private collection		27.9	Identical in form to the Tiszagyenda jar	Item No.:114010
Horgesti (Romania)		22.0	In 2 parts	Mustea 2010, 106, Abb. 2
Kibyra (Anatolia)		-	The formation of the mouth is similar to that of the Tiszagyenda jug	Demirer 2013, 189
Korbous, Leptis Magna Museum		-	Identical in form	Jacquest–Baratte 2005, 124, Fig 2.
Stara Zagora	39.0		Bronze handle	Ileva–Cholakov 2005, 55, fig. 7.
Stara Zagora	32.0		Bronze handle	Ileva–Cholakov 2005, 55, fig. 8.
Stara Zagora		44.0	Iron band, 2 iron handles	Ileva–Cholakov 2005, 55, fig. 9.

(continued)

Continued

Site	Bottle height:	Jar height:	Remarks	Publications
Louvre	25.0		Handle	Ridder 1915, 111, Pl. 98, 2700.
Louvre		25.0	Handle, with the inscription 'AQUA' on the side	Ridder 1915, 111, Pl. 98, 2701.
Durostorum (Bulgaria)		-	-	Angelova–Bucharov 2007, 82, Fig 12/1
Durostorum (Bulgaria)	-		-	Angelova–Bucharov 2007, 82, Fig 12/2
Durostorum (Bulgaria)	-		-	Angelova–Bucharov 2007, 82, Fig 12/3

of form, material and manufacturing technology are known from the 6th to 9th centuries within the Byzantine sphere of influence.[18] Examples found to the north of this region, however, have only been partially examined;[19] a comprehensive study is yet to come.[20] At present, we know of four specimens that have been published.[21] They were found in geographically diverse locations within Europe but all date to approximately the same time horizon, the last third of the 6th and the first half of the 7th centuries. Thus far, two main types can be distinguished: the bottle-like jug that widens at the shoulder and has a cap and profiled bottom and the cylindrical jug with flat or slightly convex bottom. Related to the bottle-like jugs are the so-called pilgrim bottles, much smaller but similar in form. The jugs are typically cylindrical, and the majority have concave sides, wide shoulders and cylindrical necks with lips of various forms. These types do not have lids. The clover-shaped rim designs are either slightly flared[22] (and in this case, a curved handle typically connects the lip to the side of the vessel) or, as in our specimen, the clover-shaped rim splays horizontally. Perhaps the horizontally splayed rim design was a modified version of the slightly flared rim. This jug shape was known one thousand years earlier as the *oenochoe* form, a wine jug with one handle, and earthenware versions of it were used widely throughout the antique Mediterranean region. Both types were made of 98% or even purer copper plate that was chased. Their type was defined only by the presence or absence of such features as a handle, lid, or chain attached to the lid or by a variation in material used – iron or bronze.[23] The observation has been generally accepted that the vessels were made of several parts: appropriately shaped copper plates soldered together along a sawtooth-patterned mating surface. However, the jugs from Tiszagyenda, Kibyra[24], and Korbous[25] and one from a private collection[26] (Fig. 42) suggest a workshop operating at a higher technological level where one or two plates were used to create vessels similar in shape to the Tiszagyenda jug.[27] The traces of chasing on these objects reveal a high level of technical expertise. The regularity

[18] Ileva–Cholakov 2005, 55–59.

[19] Pitarakis 2005, 11; most recently: Vida 2016a.

[20] We should recognize T. Vida's recently published survey as addressing a gap in the literature since it mentions the jug (1660/3) from Tiszagyenda. Vida 2016a, 73–74.

[21] 1. Niederstotzingen, (Germany), Schulze-Dörrlamm 2010, Abb 23/1; 2. Cesena (Italy) Schulze-Dörrlamm 2010, Abb. 23/2, Maioli 1997, 110; 3. Horgesti, (Romania) Musteaţă 2010, 106; 4. Prittlewell (England) Webster 2011, 266.

[22] For example, the jug in the Haluk Perk collection in Istanbul; see: Pitarakis 2005, 16, Fig 5.

[23] Pitarakis 2005, 13, Fig 2.

[24] Demirer 2013, 25, 189, Table 1.

[25] Jacquest–Baratte 2005, 124. Fig 2. The jug can be found in the Leptis Magna Museum. The drawing of the object was made in 1908.

[26] Large Byzantine bronze *oinochoe*. Item Number: 114010. Provenance: Ex-private German collection, acquired at auction: http://www.artemisgallerylive.com/Large-Byzantine-Bronze-Oinochoe.html. At the moment (September 2017), it can be found in a private collection in Annapolis, Maryland, USA.

[27] See the Sardis find; although it contains some severely damaged vessels, the features that reveal the objects analogous relationship to the Tiszagyenda jug can still be identified. Waldbaum 1983, 93, Kat. Nr. 523, Kat. Nr. 524, Pl. 34, Kat. Nr. 526, Pl 35. Or see the Dor vessels, which include objects similar to the Tiszagyenda jug. Musteaţă 2010, Abb 5.4–5.

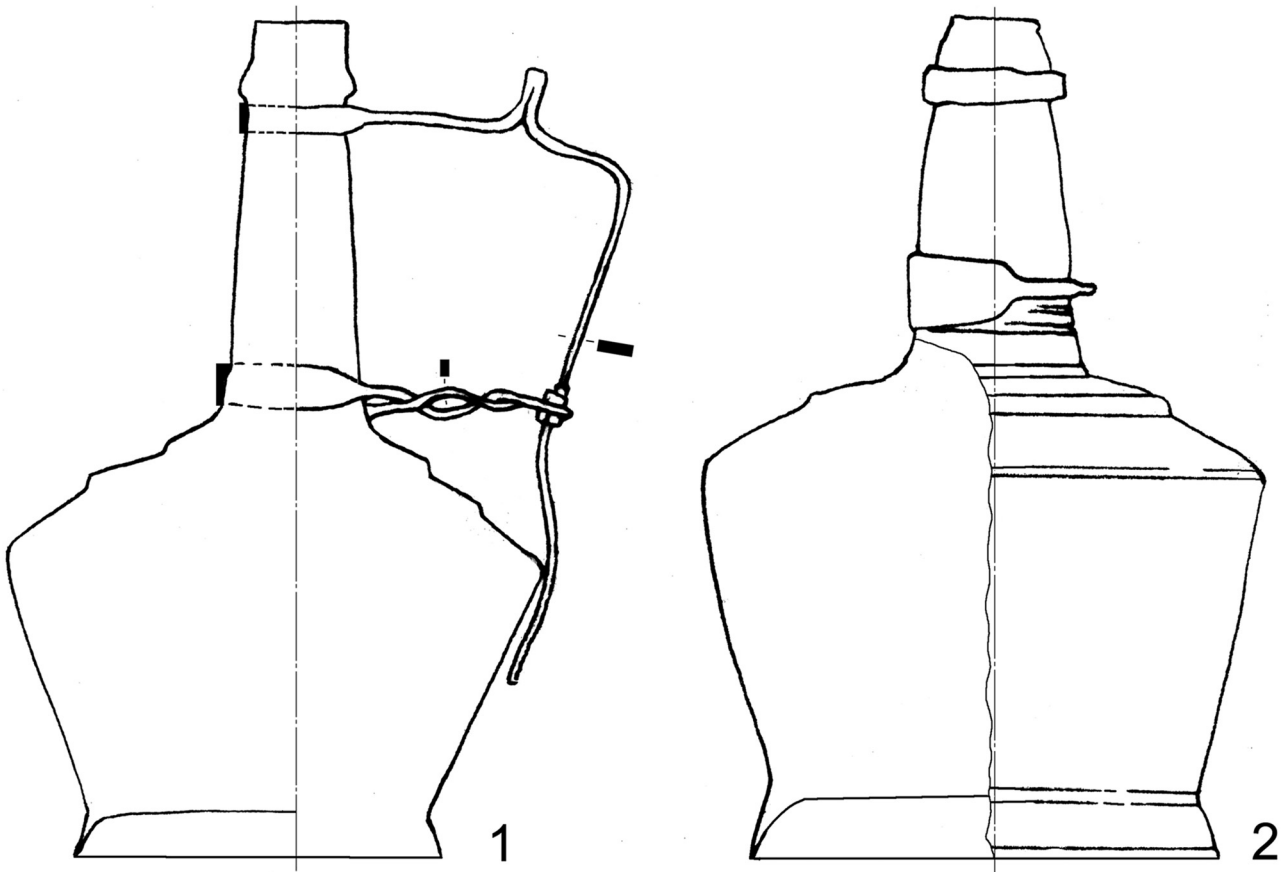

Fig. 11. The handle structure on the chased copper bottles from the Cesna cemetery and grave 9 of the Niederstotzingen cemetery. Schulze-Dörlamm 2010, 271, Abb. 23.1

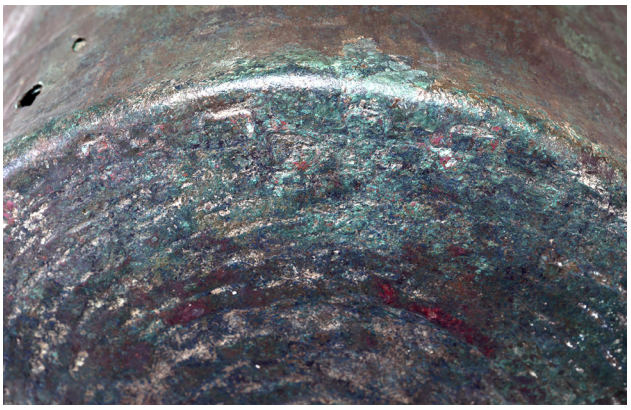

Fig. 12. Traces of the sawtooth joint on the bottom of the jug (1660/3)

Fig. 13. Chased neck of the copper jug (1660/3)

of the hammer marks on the concave bottom, the wrought concave cylindrical sides[28] and the slightly oval, cylindrical neck suggests they are decorative (Fig. 13).

The iron ring around the neck is presumably a remnant of the structure used to attach the handle to the jug (Fig. 14).

Fig. 14. Iron band around the neck of the jug with the surviving stub of the handle (1660/3)

Among the jugs made of cylindrical, chased plates and identified as analogies in terms of shape, not one has a handle or handle fragment similar to the fragment on the Tiszagyenda vessel (item 22, Fig. 35.5). We found the closest analogy to the iron ring around the vessel's neck on the bottles wrought from metal sheets, such as the Cesena bottle or the one found in grave 9 in Niederstotzingen[29] (Fig. 11). The band enclosing the neck of the bottle was generally made of bronze. In these cases, the handle fastener that replaced the iron band had three or more apotropaic medallions attached to it.[30] Such a handle, but without any medallions, was presumably attached to the tapered[31] ends of the iron band around the neck of the Tiszagyenda jug (Fig. 7).

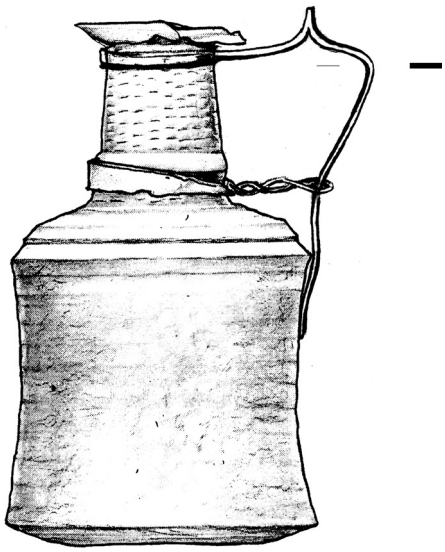

Fig. 7. Reconstruction of the handle on the copper jug from 1660/3

Fortunately, photo documentation was done of an item – originally from a German private collection but now in Annapolis, Maryland – that appeared in the June 2016 auction at the Artemis Gallery in Erie Colorado, USA (Fig. 42). The imprint found in the side of the vessel may serves as a guide to the reconstruction of the handle. Under the shoulder, a square indent points to the presence of an iron handle with square cross-section. The iron handle was attached to the vessel by the simple twisting of the two ends of the iron band, which had been thinned into wires. This procedure had been performed with such force on this particular vessel that the sides were indented where the handle met the body (Fig. 42.6).

At my request, the experts at the Artemis Gallery[32] sent higher resolution photos of the bottom of the vessel, and thus it was possible to determine that the bottom was made of a separate sheet that had been attached with a sawtooth joint (Fig. 42.4).

Chemical analysis of the material used in the Tiszagyenda vessel showed that it was composed of copper (more than 98% copper).[33] Alongside the copper, the following contaminants were found in quantities that naturally occur in copper (several hundred ppm): iron, antimony, bismuth, lead zinc, nickel and manganese. There were no differences

[28]See note 7.

[29]Schulze-Dörrlamm 2010, Abb. 23, 271.

[30]Pitarakis 2005, Boston, Museum of Fine Arts: fig.10; Alassa: fig.11; Istanbul Archaeological Museum: fig. 12; Munich – Christian Schmidt Collection: fig. 14; London, British Museum: fig. 15; New York, Metropolitan Museum of Art: fig. 16; London, Victoria and Albert Museum: fig. 17, Athens, Canellopulos Museum: 18–21, fig. 18.

[31]The area where the iron bands-cushions thinned into wire and were presumably once twisted together is a 'weak' point that broke easily; this is why complete handle fittings did not survive on these types of vessels.

[32]The vessel entitled Large Byzantine Bronze Oinochoe (no. 114010) was later sold, but we were still given access to the existing documentation on the object and its bottom. I am grateful to Mr. Andrew Williamson of the Artemis Gallery for providing the photographs and information.

[33]I am thankful to Zoltán May and Viktória Mozgai, who carried out the non-destructive chemical analysis of the jug using a handheld Thermo Scientific Niton X13t GOLDD+ X-ray fluorescence (XRF) spectrometer. The device operates with a 50 kV Ag-anode X-ray tube equipped with an energy dispersive large drift detector (LDD) (resolution: 180 eV). The points were measured using two energy filters ('Main' and 'High') for a duration of 50 seconds ('General Metals' calibration package) with factory-fitted calibration. The measurement area was a circle 8 mm in diameter. Quantification was performed using the basic FP method installed in the device.

in the components of the various parts of the vessel. Any small differences were the result of corrosion (the surface of the jug is covered in patina). The band around the neck was more than 90% iron. The copper content on the surface of the iron band was the product of copper corrosion.

Measurements taken on various parts of the vessel (Fig. 10).

Fig. 10. Places where measurements were taken on the surface of the copper jug from grave 1660/3.

Areas measured	Cu	Fe	Sb	Sn	Bi	Pb	Zn	Ni	Mn	V	Ti
1. Shoulder	98.71	0.54	0.05	0.03	0.02	0.46	< DL	0.06	0.03	0.05	0.05
2. Neck	98.14	0.64	0.05	0.04	0.04	0.76	0.07	0.05	0.09	0.05	0.08
3. Body	98.81	0.21	0.04	0.04	0.03	0.49	0.13	0.04	0.10	0.04	0.06
4. Bottom	98.62	0.17	0.07	0.10	0.03	0.84	< DL	< DL	< DL	0.04	0.09
5. Iron band	7.36	90.76	< DL	< DL	< DL	0.04	1.05	< DL	0.20	0.05	0.02

The following were found on the jug but below the detection limit (DL): silver, gold, cobalt, manganese, chromium, and aluminium. All five of the vessels examined by Pitarakis and placed in groups I and II were classified as bottles. The copper used in every specimen was determined to be 98–99% pure.[34]

When it was excavated, the Tiszagyenda jug was empty. Soil or other filling had not made its way into the vessel. However, endoscopic examination of the interior showed several spots of discoloured copper oxide precipitate,[35] which was then sampled, prepared and measured using infrared vibration spectroscopy (FTIR). It was determined to be a kind of acetate which may have resulted from the prolonged storage of wine or beer. Comparison of the sample with the data stored in the spectral library confirmed the presence of borate, clearly indicative of wine stone deposits; we can thus conclude that the vessel most likely had once contained wine.

This type, as Pitarakis' map also shows, was an eastern Mediterranean mass-produced item that only rarely made it to Europe, as opposed to the jugs among the cast 'Coptic bronze pots'. Therefore, it was not a trade good, that is, not a status item worth acquiring. If it did reach Europe, though, it had a special role as a container of holy oil or wine. The Tiszagyenda jug may have been among the loot obtained when some Church was plundered during the Avar–Byzantine wars.[36]

Shield

During burial, after the inner grave was covered, the shield was placed on the bench in the north-eastern corner of the grave, next to the boards over the inner grave, above the left leg of the warrior. The shield boss was turned toward the deceased, partially concealing the copper jug (item 3). From the positioning of the shield's metal components (items 1, 2, 4, 5 and 6), it was possible to determine that the entire circular shield had a diameter of 3 feet (90 cm) and was thus of a form in general use at the time. The thickness of the shield was 10–12 mm and it was composed of 12- to 17-cm-wide wooden boards.[37] In the absence of a perimeter mount, the boards in shields fashioned this way were presumably held together by an organic substance (belt) along the perimeter[38] (Fig. 15).

[34] Pitarakis 2005, 22.

[35] Many thanks to Judit Mihály, the Institute of Materials and Environmental Chemistry of the Hungarian Academy of Sciences for making the measurements.

[36] Vida 2016a, 73–74.

[37] The surviving wetland finds indicate that the shield boards were glued together and a metal rim mount or strap was wrapped around the rim as a brace. Raddatz 1987, 53–56, Kat. Nr. 387–393, Taf. 84–85.

[38] The shield and its fittings had a triple function: a protective tool, a defensive weapon, and a tool for identifying the warrior. For more, see Kocsis 1994, 13–50 and further literature. Bartosz Kontny reached a similar conclusion when analysing the functions of a shield, although he did not grasp its role in identification. Kontny 2008, 122–126.

Fig. 15. Surviving wooden shield from the Thorsberg wetlands: RADDATZ 1987, 56, Taf. 85/1, No. 393.

The shield boss[39] and the shield were held together and decorated with a total of eight flat-headed gilt bronze rivets with punched decoration. Of these, four were used to affix the shield boss to the body of the shield (Figs 29 and 46.4–7). On the back of the shield boss flange, the iron oxide has preserved the imprint of the original board and the bucked end of the rivet (Fig. 29.2). This allows us to reconstruct the thickness of the shield boards and the method of attachment: the fastening rivet fixed the *umbo* to the shield and then to the iron handle. Finally, an 8.5 × 7 mm washer with a thickness of approximately 0.6 mm was placed at the end of the rivet shank, which was then bucked on the inner side of the 10- to 12-mm-thick body of the shield. The shield handle, placed vertically across the planks, was fastened by two more rivets, one at each end, in addition to those that simultaneously joined the boss, shield body and handle together. The six rivets used thus far served both as fasteners and as decoration. The two remaining rivets, however, had a purely aesthetic function.[40]

The rivets are 27–30 mm in diameter and their total length is 20 mm; the diameter of the shank is 3.5 mm. Only the purely decorative rivets (items 4, 6) had a shorter length (11 mm) and the shank differed, having a pointed end (Fig. 28.6,9). The slightly convex, gilded surface of the rivets was polished and decorated with a punched design. The edges of the rivet heads are bevelled and decorated with a string-of-pearls pattern. The main motif on the head is a punched 'Y'-shaped design (Fig. 43.3a–b).[41] Some of the rivets appear to have been replacements, as evidenced by the rough fashioning of two (item 5, 5/b, Fig. 28.7–8) used to attach a shield grip. In any case, the design on the replacements, however fragmented and rough, is proof of how important it may have been to decorate on the rivet head.[42]

[39]'Helmet'-shaped iron shield bosses similar to the Tiszagyenda specimen (1660/2) were found in areas with a German population, for example grave good R. 867 found in 1903 in Gyula-Kálvária. BÓNA–NAGY 2002, 21, Taf. 2/9, 276. Also the shield find from grave 168 in Szolnok-Szanda, BÓNA–NAGY 2002, 224, and 323, Taf. 49, or the shield boss types discovered in the grave groups dated to the late 6th and early 7th centuries in the cemetery of Schreizheim. See KOCH 1977, Stufe-4, 37.

[40]Is it really just about aesthetic function? Vegetius, in his famous work written 180 years before the shield boss was made (*Epitoma rei militaris*), also discussed the significant role of the shield in identifying the warrior: '*Sed ne milites aliquando in tumultu proelii a suis contubernalibus aberrarent, diuersis cohortibus diuersa in scutis signa pingebant, ut ipsi nominant, digmata, sicut etiam nunc moris est fieri. Praetrea in aduerso scuto uiuscuiusque militis erat nomen adscriptum, additio et ex qua esset cohorte quaue centuria'. Vegetius*, II:18, 49–50. 'And so that the soldiers should not drift away from their tent-mates during the tumults of battle, within certain cohorts, they painted distinguishing signs, or *digmata* as they called them, on their shields. In addition, every soldier wrote his name on the inside of his shield, including which *cohort* and which *centuria* he belonged to.' VÁRADY 1963, 788 (from the Hungarian translation by László Váradi). The shield served this function over the millennia and even to this day. Another function of shields was to acclaim triumphant military leaders and chieftains. Coats of arms for kings, families and settlements (especially this last-mentioned) experienced a renaissance. As a result, the loss of a shield was an unforgivable offence.

[41]Halfmoon-shaped punched decoration appears in large numbers in finds from the Avar cemetery of Csákbererény-Orondpuszta: the belt ends from grave 154 (257, Taf. 14; 308, Taf. 63), grave 397 (278, Taf. 35, 361, Taf. 115) and grave 411 (280, Taf. 37, 367, Taf. 121; LÁSZLÓ 2015). Similar punched decorations and string-of-beads and halfmoon motifs were discovered on a silver gilt mount from Italy, from the grave of a Langobardic nobleman buried with his weapons, helmet, shield and fittings for his horse (The Metropolitan Museum of Art: Inv. No.: 95.15.97c). Last accessed March 2018: http://www.metmuseum.org/art/collection/search/469031?sortBy=Relevance&what=Belts&ft=*&offset=80&rpp=50&pos=122. The reverse of a gilded bronze buckle, one of the outstanding objects from grave B 85 of Kölked-Feketekapu, was decorated in a similar fashion, with a 'Y'-shaped punched pattern. In this case, the string-of-beads motif was created from punched triangles arranged in two rows, which enclosed the punched 'Y' design. The triangle motif appears again in the centre of the 'Y' design, created from smaller, punched triangles. See: BÓNA 1974, 79; KISS I. 2001, 293–303; KISS II. 2001 Grab 85, Taf. 29/8, Taf. II, 1–4, 40, 182.

[42]The decoration on the shield rivets from the Tisza region all have unique designs, although the metalworking technique was often similar (halfmoon, triangular and circular dots). Two more shield buttons with decorations that are waiting for analysis are known from graves 1 and 7 in Hódmezővásárhely-Kishomok, 280, Taf. 6.13/c, and 283, Taf. 9. 21/c. BÓNA–NAGY 2002, 41–43. Because the *digma* – the painted symbol that helped to identify the warriors – was destroyed, only analysis of the occasional decorations on the metal fittings of the shield – the umbo and the rivets used to fasten the handle to the shield – can help in determining the ethnicity of the warrior, especially as the three artefacts all had their own unique designs.

Sword

The double-edged *spatha* belongs to type V.I.A. (E.I.A.),[43] swords with wide fuller, in Csiky's system of classification (Fig. 31.1). Altogether fifty-two early Avar-period swords found in the Carpathian Basin are of this type.[44] Their regional distribution was concentrated in Transdanubia, with 70 % of all such swords found there. Meanwhile, Transylvania was home to 20% and in the mid-reaches of the Tisza, the cemeteries of Tiszafüred, Tiszagyerzs and Tiszagyenda yielded five specimens, making up 11% of the total.[45]

The sword find from grave 1660 of Tiszagyenda, dated using the Maurikios coin, and another from Tiszafüred[46] show that use of *spathae* had continued into the 7th century. Their use, however, was limited to the Central Tisza region, which during the Avar period was still inhabited by Germanic populations, and to Transylvania and Transdanubia (the latter home to Gepids and Langobards).

The *spatha* was placed along the left arm of the warrior, with the tip pointed at his feet and the hilt near his head (Figs 4 and 5). A portion of the belt mounts that would have been used on a sword suspension belt were found on the scabbard[47] (Figs 31.1–a and 44.1,5–6), informing us that the sword and its accessories were not placed in the grave in the same position in which they were worn; the placement thus provides no basis for reconstructing the method of wearing the sword. Instead we have to rely on visual depictions,[48] analysis of the accessories,[49] and observations made during the excavation process.

A detailed analysis of the X-ray image of the *spatha* blade 'in situ' revealed traces of a damascened fishbone pattern in the fuller near the surviving pyramid mount (Fig. 9). Traces of damascening on other parts of the blade are obscured by the wooden case covering it.[50]

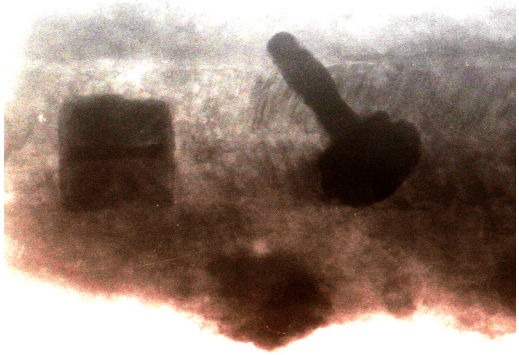

Fig. 9. X-ray image of damascene inlaid scale motif on the fuller of the sword blade from grave 1660. The shadow of a buckle prong (item 26) can be seen on the surface

The majority of the damascening patterns which entailed welding together several thin iron and steel wires and rods of varying carbon content, were found in the fuller. The simplest design that can be created with the damascene technique is the fishbone or comb motif and this constitutes the most prevalent form of damascene decoration in the Early Middle Ages.[51] Thus far, in addition to the specimen found in grave 1660 of Tiszagyenda, further early Avar-period *spathae* or double-edged swords with damascening fishbone motifs have been found in the Carpathian Basin in Langobard cemeteries: on a specimen from grave 31 in Kajdacs-Homokbánya,[52] a double-edged sword with fuller from grave 7 in Kádárta-Ürgemező,[53] the double-edged sword from grave 24 in Tamási-Csikólegelő,[54] and the mid-

[43]It appears with this classification code in the English-language publication of the book in 2015. See Csiky *et al.* 2015, 154.

[44]Csiky 2009, 108; within several years 59 specimens were discovered. See Csiky *et al.* 2015, 154.

[45]Csiky 2009, 110.

[46]Garam 1995, 424.

[47]A similar solution was used when placing the warrior's sword in grave 380 in Straubing, where the sword belt was wrapped onto the scabbard; thus the three box-shaped (but not actual boxes) mounts remained *in situ* on the scabbard, as did the strap end at the top the belt buckle. See: Geisler 1987, Taf. VI, 62. a–d, 283.

[48]Csiky 2009, 231, note 1402.

[49]Primarily the sword scabbard mounts and the buckles and mounts on the sword belt provide aid in determining the method of suspension. See: Menghin 1973, 37, Taf. 33. p; Menghin 1983, 114–115; Vida 1998, Csiky 2009, 175, 231; Csiky 2013.

[50]Forging techniques could be used to create the damascening, which increases the flexibility and durability of the *spatha* blade. The striking designs also at one time indicated the quality of the blade. Because of centuries of wear, however, examining them is complicated and results in damage to the object; for this reason, we only rarely recognize a damascened blade. On this see: Menghin 1983, 17; Csiky 2009, 192–193.

[51]Menghin collected the types of limited damascene forms which did not affect the entire cross-section of the *spatha* blade. See: Menghin 1983, 16–17, Abb 3; Csiky 2009, 42–43.

[52]Bóna–Horváth 2009, 70, Taf. 26, 261.

[53]Bóna–Horváth 2009, 81, Taf. 29, 264.

[54]Bóna–Horváth 2009, 150, Taf. 66, 301.

part of the fuller of a *spatha* blade from grave 1 of the Kehidakustány-Központi Tsz. Major site.[55] This damascening technique was common in contemporary Merovingian Europe, too.[56]

The sword hilt of cast bronze formed a truncated pyramid with a rectangular base. It was hollow and ended in a pommel.[57] (Figs 31.2 and 44.2) The MG.4 type pommel in the Csiky system of classification was used widely on Merovingian-period Gepidic and Langobardian *spatha* from the first half of the 6th century through the early 7th century.[58]

Spatha belt

One of the most striking mounts placed on the sword's wooden scabbard was a pyramid-shaped one about 12 cm from the scabbard mouth above the fuller.[59] (Figs 31.1, 3 and 44.1,3) According to the X-ray image, the direction of the loop in the lower plane of the pyramid mount follows the line of the fuller. In this position, it is very likely that it played a role in fastening the 12-mm wide belt that crossed and wrapped around the scabbard. According to the proposed reconstruction (Fig. 17), this belt and two buckles

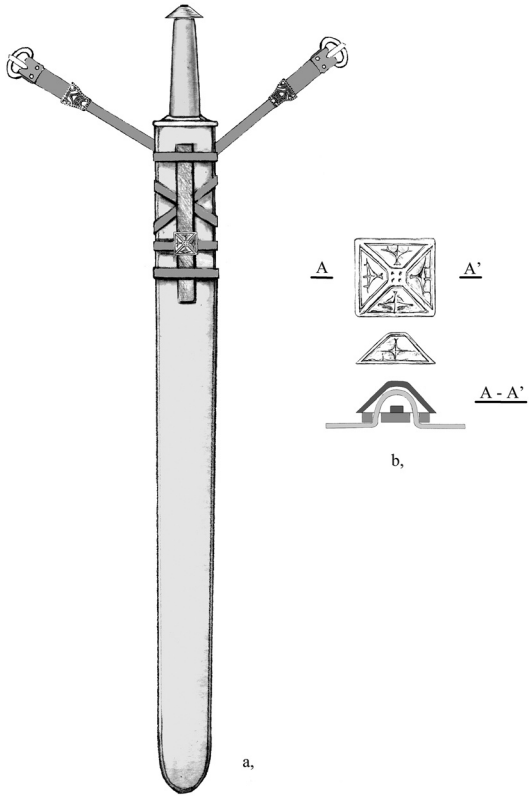

Fig. 17. Reconstruction of the sword and a one-point suspension belt (1660/18)

assisted in attaching the scabbard to the fitted weapon belt slung over the shoulder. Menghin also devised a reconstruction of the pyramid mount's function,[60] but this included two pyramid mounts. These reconstruction proposals may be valid for the 7th-century Merovingian world, but they do not work for just one pyramid mount.[61] Pyramid mounts that were similar in shape to this specimen had entirely different functions; they are better described as pyramid-shaped button which were used to fasten the sword blade in the scabbard.[62]

[55] Szőke 2002, GM.R. 2001.1.12, 77.

[56] Csiky 2009, 193. Damascening could be observed on the double-edged sword from grave 97 in Környe and on the two other swords. Therefore, damascening was not an exclusive feature of *spathae* in the early Avar period but can also be found on other double-edged swords.

[57] Truncated pyramid-shaped, cast bronze pommels were widespread in southern Italian cemeteries and the Italian Langobard finds from the early period. Menghin (Menghin 1983, 76–77, 320) posited that they spread under Byzantine influence. Pommels from the early Avar period were found in the Carpathian Basin in both Gepidic and Langobardic environments. For a summary, see: P. Kiss 2014, 215. This pommel type was found on swords from the Gepidic cemetery of Szőreg-Téglagyár, in the Tisza region, in graves 68, P. Kiss 2014, 131, Taf. 59, 289 and 128, 134, Taf. 64, 294. Here we can examine the distribution map of bronze, truncated pyramid-shaped pommels. See: Bóna–Nagy 2005, 172. The brass pommel found in grave 31 of the Langobardic cemetery of Kajdacs-Homokbánya (Bóna–Horváth 2009, 70, Taf. 26, 261), the pommels from grave 7 in Kádárta-Üregmező (Bóna–Horváth 2009, 81, Taf. 29, 264) and graves 44 and 49 in Szentendre-Pannóniatelep (Bóna–Horváth 2009, 113, 117, Taf. 46, 281, Taf, 48, p. 283), and finally the pommel of the sword with damascened blade from grave 24 (Bóna–Horváth 2009, 150, Taf. 66, 301) and another sword from grave 42 in Tamási-Csikólegelő (p. 160, Taf. 74, 309.

[58] Csiky 2009, 158.

[59] We can follow the distribution of pyramid mounts in diagram 28, Menghin 1973, 31.

[60] Menghin 1973, Taf. 33, 37.

[61] Research on pyramid-shaped *spatha* mounts that played a role in suspending the sword has revealed two main types among the Merovingian-period materials: the truncated-pyramid fitting, generally discovered in pairs during excavation (and which Menghin successfully reconstructed: Menghin 1973, 37; Menghin 1983) and another button-like type that was generally found alone, with a much narrower suspension loop and a full pyramid shape. These types may have been buttons that helped keep the sword in the scabbard. For more see: Menghin 1983, 150, and Csiky 2009, 176.

[62] The flat, cylindrical limestone beads found next to the swords in Langobard cemeteries played a similar role in keeping the sword in the scabbard. Limestone beads came to light in Szőreg-Téglagyár (Bóna–Cseh–Nagy 2005) in grave 23 (2 specimens): 281, Taf. 51 grave 64: 288, Taf. 58,; and grave 69: 288, Taf. 58; in Szolnok-Szanda (Bóna–Nagy 2002) in grave 6: 305, Taf. 31,; grave 88: 314, Taf. 40,; grave 95: 315, Taf. 41,; grave 168: 323, Taf. 49 and also in Tiszafüred-Nagykenderföldek in grave 1: 333, Taf. 59 and in Hódmezővásárhely-Kishomok in grave 64: 292, Taf. 18. For more on this, see: Csiky 2009, 177.

The most puzzling question, given the artefacts discovered, was how the sword was attached to the sword suspension belt. The known analogies involved the use of two pyramid mounts. In our case, however, a single pyramid mount was discovered in situ, placed along the longitudinal axis of the scabbard.[63] This excludes the possibility[64] that perhaps two pyramid mounts had existed, but one was lost.

Interpretation of the two 'Y' mounts,[65] items 13 and 15/b, was similarly problematic. The function of the mounts was clear: they played a role in increasing or decreasing the width of the strap.[66] At the wider, 22-mm end, two larger and two smaller flat, semi-spherical headed silver rivets indicate the method by which the mount was fastened. Similarly, at the narrower, 12-mm end, only two flat silver-headed rivets were used to fasten the strap. The reconstruction is complicated, however, by the discovery of these two 'Y' mounts beneath the deceased, at his back, near to the back mount; meanwhile the sword suspension belt, as suggested by the mounts, was wrapped around the scabbard.

During the cleaning of the scabbard, an iron buckle (item 25, Fig. 32.8) was found. This artefact, whose purpose was only established later, supports the hypothesis that the sword belt was slung over the shoulder (a baldric). Another buckle (item 26), already identified in the X-ray image, further supported this identification as a baldric, although only the buckle's shield-on-tongue tongue survived (Fig. 32.7). The above help to create an image of a sword belt consisting of two parts: one part was mounted on the scabbard and had buckles at each end (Fig. 17), while the other was slung over the shoulder (Figs 18 and 19). This shoulder strap, when unbuckled, was wrapped around the scabbard. Based on the two 'Y' mounts (13 and 15/b) discussed above, the width of this could be precisely determined as 22 mm.

Both 'Y' mounts have almost identical ornamentation (Fig. 32.1–2). All four bevelled edges have vertical notches inlaid with silver, creating a comb pattern.[67] A crucial element in the design is the centrally positioned, colonnaded building, a temple, on a stylized hill[68] (Fig. 43.2/a–b). An evaluation of the pictorial program, the central motif surrounded by silver and gold dot inlays, falls beyond the scope of this study and is therefore discussed in greater detail in a separate paper.[69]

Two forms of mounts comprise the sword suspension belt decoration. One type is a rectangular, bronze, box-shaped mount (Fig. 32.3) consisting of two parts: the lower, filigreed bronze frame is adorned at both shorter ends with five rivets with spherical heads, while the upper part consists of an inlaid iron insert bearing the decorative motif (items 10/a, 10/b, and 24).[70]

Mount 10/b was discovered in its original position on the unbuckled sword suspension belt (Fig. 31.1–1a), which was wrapped around the scabbard when the burial took place. Here it is possible to observe the structural composition of the mount. The filigreed bronze frame makes up the lower part, while, in this case, the iron insert recessed in the box makes up the upper part. The silver inlays appear in the five fields on this iron sheet (Fig. 32.9). A cross with arms of equal length occupies the central position on the sheet (Fig. 43.5a–b). Two arrow-shaped symbols pointing toward the cross connect the final pair of symbols, the so-called mushroom motifs.[71]

Mounts 10/a and 24 have identical designs. The composition in both has three sections (Fig. 43.6/a–d). The central part has a symmetrically arranged pattern of four mushrooms pointing in four directions.[72] Surrounding the mushroom motifs are four rectangular forms with tiny stems, which are enclosed in circular fields. The entire composition is a repeat of the image scheme on the back mount (1660/15), but with different iconography.[73] The next two communicative elements of the pictorial program on the insert are located at the two ends. On both sides the focal point of the pattern is a

[63]In one case, a scabbard fitted with a pyramid was found, but instead of lying along the axis of the blade, it had shifted to the right. See: Kiss 1996, 455, Kölked-Feketekapu, grave A-142, Taf. 41.

[64]In most cases, the two pyramid mounts were placed symmetrically on the scabbard. On this, see: Menghin 1973, 37–38.

[65]An undecorated bronze mount that narrowed the width of the 'Y' strap was found in grave 2 and another in grave 3 of the Langobardic cemetery in Tamási-Csikólegelő. See: Bóna–Horváth 2009, 137, 294, Taf. 59.

[66]We could consider its use as a belt end, but a pair of belt-fastening rivets were found at both ends thus disproving this hypothesis.

[67]The comb pattern appears on the tauschierung sides of the iron mounts. Their occurrence was not too common. A few examples can be identified among the finds from grave 173 of cemetery B in Kölked (Kiss 2001/I, 134; Kiss 2001/II, Taf. 46, 6a, 152, Taf. 5/a, 187,Taf. VII 3/b) and from graves 862 and 1071 of the cemetery in Zamárdi, which has yielded the most early Christian analogies. Bárdos–Garam 2009. They have cropped up in larger numbers in the Alemannic territories in continental Europe. See: Muhl 1994, distribution map, 34.

[68]The 'hill-mount' symbol occupies a prominent position in early Christian symbolism. Mount Zion is the most famous and holiest among the Biblical mountains (Temple Hill). According to Scripture, God chose this mountain as his permanent residence on Earth. In the New Testament, Zion is the symbol of salvation and represents the home of the redeemed man and heaven. See: Hebrews 12:22, Rev. 14:1.

[69]The content represented in the pictorial program employs early Christian iconography.

[70]Similar items knows as Bülach-Nocera type mounts are present all over Europe, see the distribution map, Menghin 1983, 357, Karte 20.

[71]Fittings decorated with a mushroom pattern crop up rather infrequently in the Hungarian region. An inlaid version of the motif was found on a small belt mount from grave 30 of the Szentendre-Pannonia settlement. Bóna–Horváth 2009, 106. Taf. 43, 278. Another version was found on fragments of a silver mount belonging to a wooden plate found in grave 119 in Kölked-Feketekapu. Kiss 2001/I, 331, Abb. 148, 150; Kiss 2001/II, Taf. 35/9, 10, 11, 49; Koncz 2015, 319, fig. 1.

[72]The four cardinal points. The four-mushroom composition is discussed in the literature as a four-lobed cell shape. See: Adams 2016, 88.

[73]See the discussion of the motifs, the pictorial program, on the objects catalogued under 1660/15 as well as the back mount and the 'Y' fitting.

stylized human figure[74] with open arms created from the mushroom motif (Fig. 43.6/b,d).

In the Anglo-Saxon world items with red garnet or glass inlaid in cells already displayed one of the most popular decorative elements, the mushroom-shaped setting, while in continental Europe this cloisonné technique was replaced by silver and gold inlays on men's belt fittings.[75] (Fig. 22).

One of the most valuable metal detector finds of the past few decades was the gold and red garnet cloisonné pommel discovered in Dinham (Shropshire), England.[76] The characteristic red garnet inlay in mushroom-shaped cells appears with Greek and Latin crosses,[77] as well as the symbol of the Trinity and the New Testament[78] on the other side. This clearly demonstrates the connection

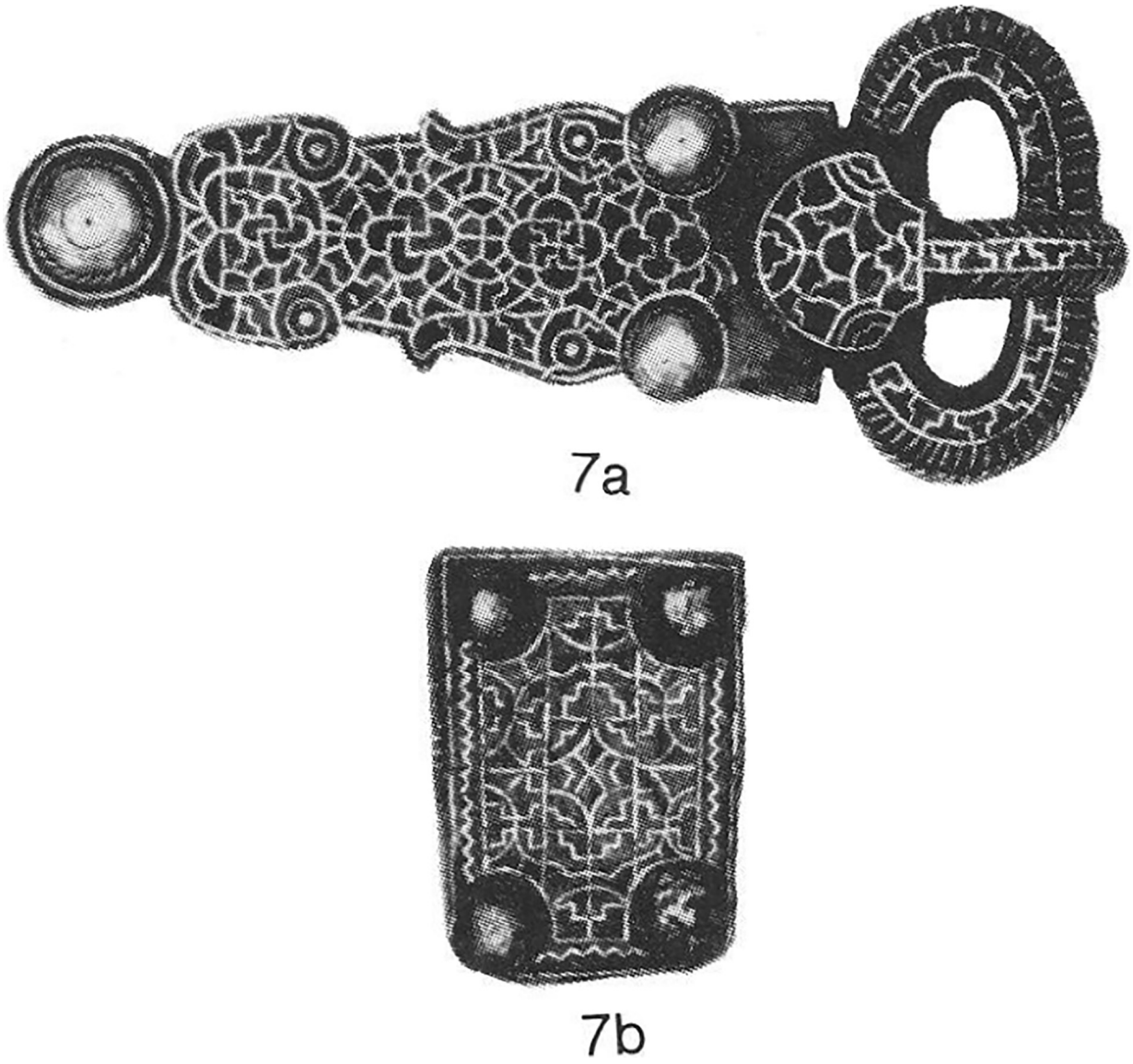

Fig. 22. The 'mushroom pattern' and Hercules knot on the inlaid buckle of the warrior from the second quarter of the 6th century buried in grave 9 in Niederstotzingen: Niederstotzingen Grab 9 (Kr. Heidenheim, Baden-Würtenberg). MENGHIN 1983, 246–247, Abb. 104

[74]In this composition, the image refutes the assertion that there were no depictions of humans among the red garnet and inlaid decorations of the period. See: ADAMS 2016, 107.

[75]WERNER 1953, 40, Taf. XXI, XXX. For damascene inlaid objects such as buckles and belt mounts, we find easily identifiable mushroom patterns in the princely graves 1, 9 and 12 b/c in the Niederstotzingen cemetery, which for the time being have been dated to the period between 580 and 600. See: PAULSEN 1967, Taf. 31, Abb 12. Adams considers the mushroom patterns created from precious metal inlays, which appeared in continental Europe in the mid-6th century, imitations of mushroom-shaped cells with red garnet inlays. See: ADAMS 2016, Fig. 30.

[76]The find came to light in 1994. The object is in the Ludlow Museum in Shropshire, inv. no. A.06000. See: ADAMS 2016, 102, fig. 9.

[77]The relationship between the mushroom pattern and the cross can be discerned on a scabbard mount too. See: ELBERN 2003 II, 139–140, Abb. 19.

[78]See the discussions above concerning the back mount and sword strap mount from grave 1660.

between the mushroom-shaped cells and early Christianity (Figs 25–27).

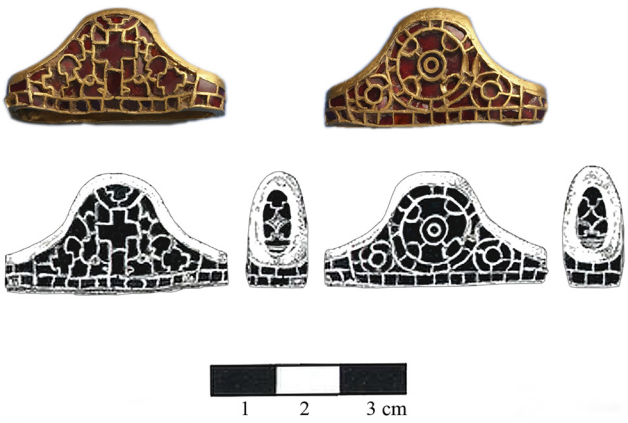

Fig. 25. On one side of a gold and red garnet inlaid pommel of a *spatha*, the cross motif and mushroom pattern are presented in the same composition, while on the other side, the 4 + 1 motif appears, thus proving the two symbols were in simultaneous use. A pommel found in Dinham-Ludlow at the bridge over the River Teme. Based on the drawing by Charlotte M. Baron. Ludlow Museum, The Buttercross, Ludlow, Shropshire, SY8 1AW, https://www.artfund.org/supporting-museums/art-weve-helped-buy/artwork/5578/sword-pommel-1995-unknown-artist (Accessed: January 2019)

Fig. 26. The mushroom motif appears together with the cross motif on the gold disc brooch inlaid with red garnet. Marilles, (Walloon Brabant), Art & History Museum, Inv. No: B000787-007, Parc du Cinquantenaire 10, 1000 Brussels

Fig. 27. Cross pendant (Wilton Cross) containing a Heraclius solidus (610–641) has mushroom-shaped cells inlaid with red garnet on the arms, demonstrating the connection between the mushroom pattern and Christianity. British Museum, Inv.No: 1859.0512.1

Whether the red garnet cloisonné or the inlay technique is used to create the mushroom pattern, in the vast majority of cases the design is directly connected to an established early Christian symbol.[79] It thus follows that each mushroom shape in the pattern, as a stylized head, could represent a saint [80] (Fig. 21).

The other type (11/a–11/b) is also a rectangular box shape (Figs. 32.4–5 and 44.4) but placed crosswise on the strap.[81] Traces of fire gilding can be seen on the cast bronze mount. The surface of the box has a rectangular glass insert placed in a decorative frame consisting of three rows of silver inlays arranged in a zigzag pattern.[82] As in the large mounts, here too, two opposing sides are decorated with spherical-headed rivets (three on each side). In both mount types, the spherical-headed rivets are longer and play a role in attaching the mount to the strap.

[79] See mount 1660/10b, Fig. 32.9, or the Dinham pommel cap (Fig. 26) or the Marilles disc brooch (Fig. 27) or the Wilton cross (Fig. 28).

[80] One of the most striking representations of the four evangelists can be seen in the contemporary Rabbula Codex (586) preserved in Florence. There, the evangelists appear as silhouettes in a stylized 'mushroom' form (Fig. 21).

[81] An X-ray image of the sword showed that fitting 11/b, which had remained in situ on the strap, was 3 cm from fitting 10/b.

[82] Bálint 2010, 153.

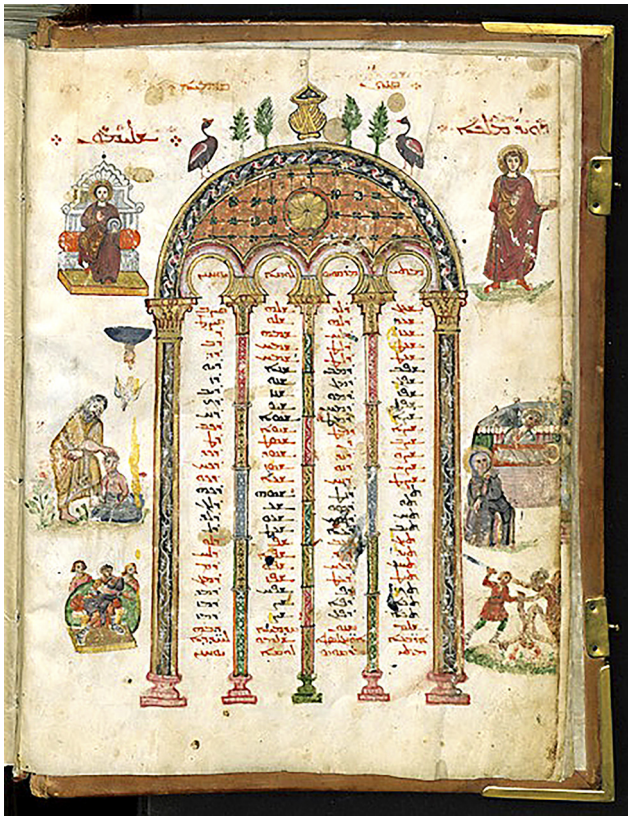

Fig. 21. The contemporary Rabbula Codex was made in 586 in Syria. The depiction of the four evangelists: Folio 4v Firenze, Bibliotheca Mediciae Laurenziana *(Plut.I.56)*

Proposed reconstruction of a one-point scabbard suspension

The wooden scabbard remains beneath the pyramid mount are not uniform. The uneven surface of the wood and leather-covered scabbard is impregnated with iron oxide. A 12- to 14-mm-wide vertical strip appears on the part above the fuller (Fig. 8). Beneath the pyramid mount, the strip is

Fig. 8. Strip of organic material that differs from the surrounding material, identified on the wooden scabbard of the sword from grave 1660. Presumably this is the remnants of a slider

approximately 60–70 mm long, while above it and a little to the left, the strip continues another 80 mm. This surviving imprint of 7–8 cm, plus another 8 cm on the wooden scabbard, may have been left by a wooden slide. The question of how this scabbard was suspended might be considered unresolved but for the pyramid mount centrally positioned in the lower quarter of the slider. What we know (as discussed above) and the information provided by photographs of the details allow for the following reconstruction: the pyramid mount was placed on the lower part of a 13–14 mm wide 'slider' that was fixed in place by a strap at each end (Fig. 17/a). The 12-mm-wide sword belt could then be threaded underneath the mount (Fig. 17/b). The pyramid mount in fact holds the belt in place underneath the slider, preventing it from shifting. The belt criss-crosses on the back side of the scabbard and then runs around to the front under the slider, where it again criss-crosses and wraps around to the back. From there, two short 20- to 25-cm strap sections lead to the Y mounts, where they are each nailed to the narrower side of the mount. Nailed to the wider side of each 'Y' mount is a 22-mm-wide and 18- to 22-cm-long section ending with a buckle[83] (Fig. 17/a).

These buckles may have been used to connect the sword suspension belt slung over the shoulder (the baldric), which was decorated with five box mounts (three large and two

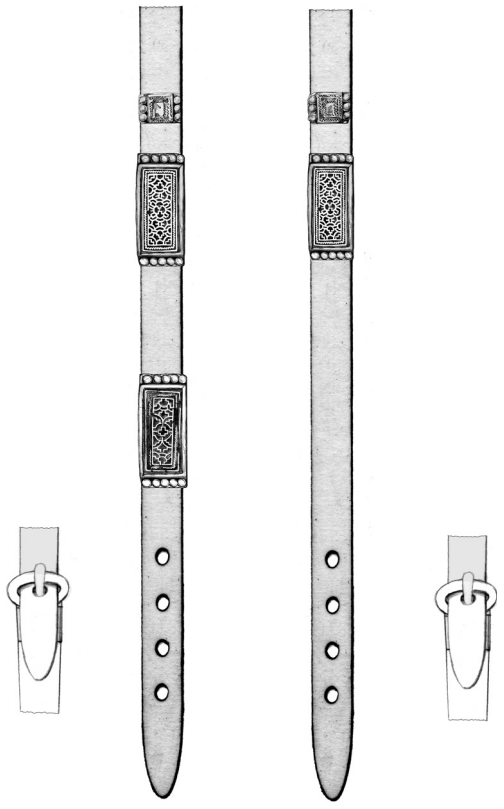

Fig. 18. The placement of the mounts on the sword suspension belt

[83]One of the buckles was found on the scabbard and recorded as item 26, while the other is represented by just its bronze prong, also found on the scabbard, and recorded as item 27.

small), to the sword suspension apparatus mounted on the scabbard.[84] The position of the box mounts[85] recorded during excavation confirmed the existence of a separate sword suspension belt (Fig. 18). Fig. 19 presents a

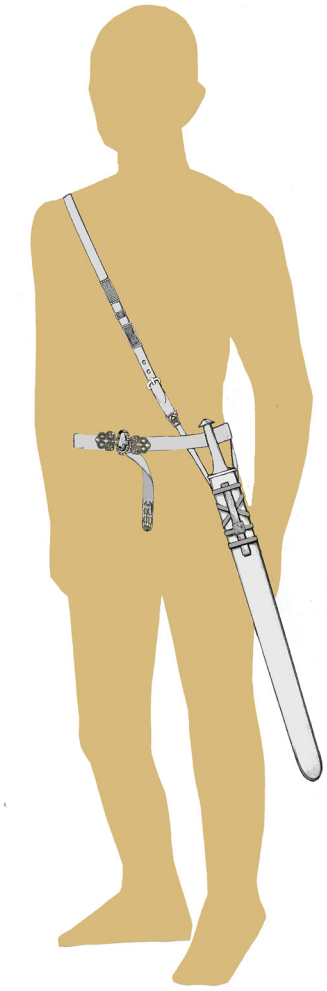

Fig. 19. Reconstruction of the waistbelt and sword suspension belt.

reconstruction of a *spatha* worn using the one-point-suspension method.

The pyramid-shaped sword suspension buttons can be dated to the first half of the 6th century and the first two-thirds of the 7th century.[86]

Belt fittings

The belt had a set of four fittings,[87] each richly decorated with inlays: the buckle (item 17) with plate, the counter plate (item 17/b), the strap end (item 14), and the back mount (item 15) (Fig. 16). While the decorations on the buckle and counter plate present a unified concept, those on the strap end and back mount, although of equal quality[88], differed in design. Their pictorial programs and the messages they wished to convey were distinct and thus so too were the necessary repertoire of symbols and ornamentation. The ornamentation on the buckle, plate and counter plate consists of stylized animal figures arranged in double figure eights. Their mode of representation is almost identical. A close analogy is the braid scheme on the buckle plate in the Jankovich Collection, although here the foot motif does not appear.[89] The double figure eight braid pattern fills almost the entire irregular, square image field. To create the desired composition, the remaining empty spaces are filled with precious stones[90] or silver-gold inlays. On the oval buckle

Fig. 16. Reconstruction of the set of belt fittings from grave 1660 (1660/17, 17/b, 14, and 15)

[84]The X-ray image of the sword reveals the shadow of a 9- to 10-mm-wide cord in an 'X' pattern along the pyramid mount in the direction of the bone(?) button (which is similar to item 20).

[85]Items 10/a, 10/b, 11/a, 11/b, 24 and the buckle, item 25.

[86]Csiky 2009, 177.

[87]For a list of further analogies, see Martin 1996, 351.

[88]For all four fittings, the goldsmith used the same technique for inlaying the gold and silver dots and selecting and inserting the precious stones. The same comb motif appears on the sides of each object. What is different is the message conveyed by the pictorial representations.

[89]Nagy 1992, 28.

[90]For an overview of the question of glass and/or precious stone inlays in early Avar-period metalwork, see: Bálint 2010, 152.

head, however, the smooth, two-dimensional design is transformed into a more plastic, three-dimensional form. The buckle head itself, coiling into the buckle ring, appears sculpturesque in its highly unusual, unprecedented shield-on-tongue solution. The zoomorphic tongue already appears on the buckle head and continues to form the sculptured, flat snakehead base of the tongue.[91] This buckle solution naturally affected how the belt was worn. According to the proposed reconstruction (Fig. 16), the belt and the strap end did not need to be threaded through the buckle frame; instead, with the help of a hook, the strap could be fixed in place on the tongue. This solution allowed for the full display of the buckle frame and the zoomorphic tongue.

On the lateral part of the plastically formed buckle body the motif of a gold-and-silver inlay calix (chalice) and the cup within a cycle can easily be connected closely to old Christian iconograhy[92] (Figs 43 and 7/a–b).

The next item in the set is the counter plate, attached to the belt at three points (item 17/b). Its appearance and material are identical to those of the buckle plate. Its execution however is finer and more detailed. More careful observation of the curved patterns reveals a crocodile-like creature biting into its own body[93] (Figs 43 and 7/a–b).

The next element is the strap end[94] (item 14). The braided ornamentation that nearly fills the entire surface can be classified in the 'hourglass-almond shape' group[95] (Fig. 34.2), but even within this, it is unique in its formulation[96] and bears the marks of Christianization.[97] Some elements of early Christian symbolism can also be observed in this object (Fig. 43.1). The decorative pattern in the field framed by silver thread consists of opposing amphora[98] and fish motifs, created from a pattern of silver and gold dot inlays.[99] In Christian iconography, in addition to the cross, dove, lamb and peacock, the fish is the most popular Christian symbol, in particular because it symbolized Christ himself[100] (Fig. 43.1/a–b).

The last element in the set of belt fittings is the back mount[101] (item 15). It was attached to the belt by four rivets, whose positions are adjusted to the irregular rectangular shape of the mount. The surface is covered in a pattern of bands forming a rhombus-shaped grid. The squares along the edges are separated from each other by silver thread and double rows of gold dot inlays. At the centre of the design is an oval stone inlay with gold frame, which is accentuated by silver plating in the shape of a cross with arms of equal length. Around the central rhombus pattern are four more surfaces with glass inlays and framed by double rows of gold dot inlays, forming a 4+1 pattern.[102] The decoration on the back mount, however, is much more than a simple geometric motif. Here, we can identify far deeper content and meaning[103] (Figs 34.1, 45.6, 43.4/a–b, 23–25).

[91]None of the known European analogies have any features that allow us to infer prototypes of a shield-on-tongue buckle with a snakehead tongue base or a snake-shaped buckle. In this case, perhaps this sculptural snakehead belt structure could be an expression or interpretation of the stylised 'snakehead' on a shield-on-tongue buckle.

[92]The identified early Christian motifs of items in Grave 1660 will be discussed later.

[93]A snake-like creature biting into its own body also appears on an inlaid buckle mount from grave 85 of cemetery B in Kölked Feketekapu. On the back of the Bülach-Nocera Umbra type mount, a 4 + 1 motif fashioned from punched triangles and halfmoon patterns appears. See: Kiss 2001/I, 304; Kiss 2001/II, Taf. 29/9, Taf. 108/2, Taf. III.1–2.

[94]This strap end type is known from several cemeteries. The closest analogy in the belt end from grave 85 of Kölked-Feketekapu. Kiss 2001/I, 319, Abb. 141, Taf. 108/3. The other analogies are from graves 621 and 809 from Zamárdi and grave 203 from Halimba as well as another from a private collection in Switzerland. The motifs on this last-mentioned belt end show a close relationship to the decoration on the object in question.

[95]Nagy 1998b, 382, 30, Fig. 5, 8, 9.

[96]A cast belt end with a four-band pattern from an unknown location bears the same features as the closest analogies to our belt end. See: Nagy 1998b, 382, 27, ill. 5.

[97]The braided ornamentation with roots in the Mediterranean and produced by Germanic goldsmiths has a demonstrable connection to Christianity. See: Nagy 1999, 294.

[98]In Christian iconography the amphora, *vas spirituale* or *vas honorabile* (spiritual vessel), symbolizes Mary, the mother of God. Dávid 2008, 148.

[99]The various elements of the buckle mount show that the goldsmith explored Christian motifs within a lucid, unified pictorial program. Evidence of syncretism can clearly be seen in the buckle (Fig. 43/a–b, chalice/calix and patent, buckle plate and counter plate, while the strap end shows only early Christian symbolism. An analysis of the pictorial program on the back mount confirms a complete identification with Christianity (Fig. 43.4/a–b 4+1 pattern) and points beyond simple syncretism as an explanation for the repertoire of motifs.

[100]A similarly conceived, damascene inlaid belt end showing the vessel and the inverted fish is known from grave 85 of cemetery B of Kölked-Feketekapu. See: Kiss 2001/II, grave 85, Taf. 30/45, Taf. 108/3, Taf. III/4. In this grave, another object decorated with early Christian symbolism was found. Goods from grave 119 also bore this kind of decoration.

[101]A slightly larger back mount with almost identical decoration was found in grave 227, in cemetery A of Kölked-Feketekapu. Kiss 1996, Taf. 52, 466.

[102]The '4+1' pattern was one of the prominent schemes in the decoration of goods from grave 1660. See the interpretation and discussion of its early Christian origins later.

[103]The composition on the back mount was thus a well-thought-out and conspicuous, wordless declaration of faith in which the foundations of Christian beliefs are expressed. Its appearance coincided with that of the mushroom pattern. It often occurred as an independent pattern (Fig. 43a–b) but it has been found together with or composed from the 'mushroom pattern' (Fig. 25). The design consists of one symbol in each corner of a rectangle, enclosing a fifth symbol in the centre. When we attempt to decipher the '4+1' pattern by identifying the symbols, we arrive at just one interpretation: it is a symbol of the New Testament. Whether we identify the symbols in the corners as the gospels with Jesus Christ at the centre, or the four evangelists and the Church at the centre, we have 4 + 1. From the mid-4th century to present times, this 4 + 1 pattern as a symbol of the New Testament has been one of the most popular decorative schemes among goldsmiths, artisans, bookbinders and architects (Figs 23–25). It can be found in the ground plan of buildings and on objects in ecclesiastical use, jewellery, weapons and also on book covers for Bibles, thus indicating that the book itself is the New Testament. The discussion of the 'Y' mount for an evaluation of the early Christian pictorial program see later.

Fig. 23. In this mosaic in the Cathedral of San Vitale in Ravenna, one of the prelates in the retinue of Justinian I is holding the New Testament. On the cover of the book is the 4 + 1 motif, the symbol of the New Testament. Photographed by: Carole Raddato – https://www.flickr.com/photos/carolemage/24076831650, CC BY-SA 2.0, https://commons.wikimedia.org/w/index.php?curid=55431986

Fig. 24. Depiction of the *Pantocrator* on the Hungarian Holy Crown: Jesus Christ is holding the New Testament in his left hand. On the book cover is the 4 + 1 motif

Knife (Sax)

Three iron fragments belong to this group: item 12, a fragment of a knife tip (Fig. 35.3); item 16, perhaps the tang of a knife or sax (Fig. 35.4); and item 29 (Fig. 35.2), the fragment of a single-edged blade. Two fragments (12 and 16) were found on the left side of the deceased, between the body and the sword, while the third (item 29) was found during the cleaning of the grave pit. It is uncertain whether the three pieces belonged together, as they do not match up along their broken surfaces. The short tip fragment (Fig. 35.3) in theory could belong to the blade fragment (item 29, Fig. 35.2); however, this would result in a 10-cm-long,[104] single-edged knife blade with curved upper edge. Fragment

[104] According to the classification system based on length and width, stab-bing-cutting weapons with short blades belong to the knife category (Csiky *et al.* 2015, 219).

16, which we determined to be a tang, has the remnants of a much narrower[105] single-edged blade base as one end, and thus presumably belonged to another cutting weapon.

Spear

Although the spear was damaged by severe oxidation and the iron core, which would have allowed us to determine more accurately the shape of the blade during cleaning, also only partially survived; nevertheless the formal characteristics and appearance of the spear allowed us to clearly identify it as an early Avar weapon (Figs 35.1 and 46.12). Only one side of the neck has survived in the zone where the broad, closed socket and the blade meet: thus the joining element is also missing. Despite all this, the characteristic features of an early Avar spear can be identified. Although the blade is longer than the closet socket, the parallel edges, the rhombus-oval cross-section of the blade and the short tip all indicate the spear's place among the reed-shaped I/3-d group[106] (L.I.)[107] in the Csiky classification system.

The spear's placement in the warrior's grave is in keeping with the arrangement employed in the Carpathian Basin. It therefore belonged to the largest group, in which the tip of the spear was directed toward the feet of the warrior (68.37%), moreover at the right foot.[108] In our case, the tip of the spear was located along the upper edge of the grave pit, above the right foot, indicating the spear handle had been placed on an incline. This suggests that the Avar spear was not placed as a weapon[109] in the grave of this ethnically German, high-status warrior, but rather as a form of representation.[110] It served simultaneously as an insignia of rank but also as a symbol of the wearer's social status.[111] From the early written sources, it is well known that the Avar army was not a homogenous entity; it should instead be viewed as numerous cooperative units that employed all of the weapons in use at that time. The army included warriors from a variety of ethnic groups (Avars, Kutrigars, Gepids,[112] Slavs and even Byzantine traitors).

Vegetius distinguished between three kinds of military signals: voiced, semi-voiced and mute signals. Among the mute signals were pennants, flags and cavalry standards.[113] Use of the spear as a symbol of power can be dated to the early Middle Ages. Paulus Diaconus describes its use during the inaugurations of Langobard kings.[114]

Placement of the spearshaft near the right hand does not reflect an inverted world view, nor a sword placement by the left hand.[115] Instead, it has been observed in both cases that weapons were placed in the position of normal wear in accordance with the customs of the Merovingian period.

Whip handle knot

In Tiszagyenda, the bone knot (item 1660/20)[116] was discovered near the sword pommel, according to the find documentation (Figs 36.3 and 46.3). It has been posited that it may have served to indicate rank;[117] however, grave 321 in Zsebes suggests this item did not appear only in 'wealthy' burials. Whip handles can, therefore, be viewed rather as objects of personal use.[118] In my opinion, the evidence of grave 1660 in Tiszagyenda does not preclude the interpretation of a whip handle as an indicator of rank. Éva Garam distinguished between several forms of Avar-period whip or scourge handle knots made of bone amongst the items she classified, summarising the thirty-five knots in a table. Among the pear-shaped, ovoid or spherical knots, with or without necks, are some with transverse drill holes. The leather strap that looped around the wrist may have been threaded through these holes. Artefact 1660/20 from Tiszagyenda is most closely analogous[119] to a round bone knot with transverse borehole from woman's grave 76 in

[105]Under Merovingian influence during the early Avar period, saxes with short, single-edged blades of narrow width (short saex = Kurzsax: E.IV.A) became widespread in the cemeteries of local warriors of Germanic ethnicity in the Tisza region and Transylvania (Csiky *et al.* 2015, 220–221).

[106]Csiky 2007, 311 and the catalogue, 318.

[107]Csiky 2009, 65.

[108]Csiky 2009, note 1395 with a list of cases, 228.

[109]On the use of the spear as an insignia of rank, see Kőhalmi 1972, 115. In support of this, perhaps, is the historical fact that the Slav tribes, as a result of the Avar-Slave alliance, were led by chieftains from amongst their own people (Bóna 1984, 318). A later source on the flags displayed in the court of Genghis khan noted that his large white banner consisted of nine parts, a main flag with eight smaller ones, all of which were composed of the manes of white stallions and attached with ribbons to the ends of spears. On this, see Göckenjan 2004, 63, MTT 1962, 106, Pintér-Nagy 2014, 49, 55.

[110]From the time of Roman kings to the end of the Middle Ages, the spear was an important symbol of power, playing a demonstrable role in nearly every culture. See: Kovács 2003, 262.

[111]After the fall of the Mongol world empire and the Yuan dynasty, every Mongol prince has had a *Sülde* flag, which even recently has been the cause of numerous skirmishes. See: Göckenjan 2004, 64; Tucci–Heissig 1970, 392.

[112]Csiky 2013, 73. In the 599 battle by the Tisza River, the Byzantines captured Avars, Gepids, and Slavs (Pohl 2002, 216). Gepid forces also took part in the 626 siege of Constantinople (Pohl 2002, 248). Attila Kiss compiled the sources related to the Gepids' survival during the Avar period (Kiss 1992, 35–134; Kiss 1996).

[113]Váradi 1963, 803.

[114]Csiky 2009, 60, 101.

[115]From the Carpathian Basin, fifty-seven such burials are known in which the sword was placed along the left arm of the deceased. Of the six ways of positioning the sword, this was the most common. See: Csiky 2009, 228–229.

[116]Like the bone button, 'whip handle knots' (their caps formed from turning bone on a lathe) were found in several graves in the Zamárdi-Rétiföldek cemetery: Bárdos–Garam 2009, grave 177: 35, Taf. 20, 220; grave 1345: 175, 355, Taf. 152. The Avar-period bone whip or scourge ends were collected by É. Garam. See: Garam 1998.

[117]László 1938, 535–536.

[118]Csiky 2009, 115.

[119]Both objects can be dated to the middle Avar period. See: Garam 1998, composite map in ill. 7, p. 118.

Kisköre-Halastó[120] and another whip handle knot from grave 282 of a warrior in Abony.[121] The short handle could have been used with either a whip or a scourge. The only difference between the two was that the leather strap attached to the whip handle was long and its parts were sometimes joined by rings, while the shorter, thick rope or strap was attached to the short scourge handle.[122]

Sabretache-Satchel

Thus far sabretaches and satchels have been missing from amongst the warrior's equipment. Presumably the storage pouch was made of organic material (leather or linen) and only the parts made of durable material would have survived, such as the small, pyramid-shaped bronze buckle (artefact 8) next to the scabbard (Figs 36.2 and 46.1)[123] and the cord-like object with an 'X' pattern identified in the X-ray image (Fig. 36.5). During excavation, no traces of fire-making tools were identified.[124]

Fragments of iron rivets and iron chains

The fragments of two iron objects catalogued as items 27 and 28[125] are of unknown origin. Both were cemented to the wood scabbard and were found during the cleaning process. Presumably they originally belonged to an object made of organic material.

GRAVE 545 CONTAINING THE HORSE AND DOG OF THE WARRIOR BURIED IN GRAVE 1660

The horse, buried with its legs folded beneath it, was 137.8 cm at the withers (the upper limits of the short horse category); in Hungary this was in the middle size group of German horses.[126] The burial of the horse and the dog (Figs 5 and 6) in a common grave was not unusual in the early Avar period;[127] however, a truncated, partial skeleton of a dog, the animal perhaps cut in two, and the burial of a person and a dog were extremely rare and have been documented from only a later date.[128] The occurrence of a 9th-century dog sacrifice in Mosaburg-Zalavár, as an offering to a building or when an oath was taken, appears confirmed in a letter written by Dietmar, archbishop of Salzburg, in response to Pope John IX in 900. The archbishop notes that the accusation against 'them' (the Franks) that their oath taking entailed the sacrifice of dogs and wolves or other ungodly pagan rituals was actually true of the accusers themselves (the Slavs/Moravians).[129] Of course, dogs or other animals were not killed and buried only as a part of oath-taking.[130] The deceased's position of power or status was also a reason, as can be seen in the example of two dogs[131] buried next to a noble Langobard woman[132] in grave 262 of Ménfőcsanak.

Given the regional distribution of early Avar-period sites in the Carpathian Basin, the occurrence of solitary horse burials suggests that the Avars settling in the area learned the burial custom after their arrival, but it was never widely practiced. During the Avar period, the majority of these rituals were performed by the non-Avar populations. The two examples from the trans-Tisza region come from sites that had clear German connections: the Szőreg-Téglagyár was a Gepid row cemetery in which the presence of several early Avar graves indicate extended use of the cemetery into the Avar period.[133]

In the early Avar period in the trans-Tisza region, solitary graves of warriors that were separate from the horse burials were very rare.[134] The majority of early Avar-period independent horse burials occur in Transdanubia (Pókaszepetk, Kölked, Szekszárd, Budakalász-Dunapart and Linz-Zizlau), but especially in southern Transdanubia (6, Gyönk-Vásártér Street,

[120]Garam 1998, ill. 3/4, p. 112.

[121]Garam 1998, ill. 3/5, p. 112.

[122]Garam 1998, 117.

[123]Similar bronze buckles belong to sabretaches or satchels. A sabretache buckle like those from Tiszagyenda was found together with a striker and firestone in Szolnok-Szanda. See: Bóna–Nagy 2002, grave 34: 207, Taf. 34/3, 308; grave 88: 213, Taf. 40/9, 314; grave 128: 218, Taf. 45/6, 319; grave 192: 228–229, 325, Taf. 51/2. In Grave 93 in the cemetery of Hódmezővásárhely-Kishomok: Bóna–Nagy 2002, 298, Taf. 24/1; in grave 1 in Derecske-Újpatika: Bóna–Cseh–Nagy 2005, 204, Taf. 6/1, 236.

[124]A sabretache or satchel containing fire-making equipment was found in 65–70% of men's graves in the early Avar-period cemeteries published thus far. The sabretache plate indicated the presence of a sabretache while oval or pyramid-shaped buckles provided evidence of a satchel.

[125]Similar rivets and spear fragments survived from a young girl's grave in grave 221 in Zamárdi-Rétiföldek. See: Bárdos–Garam 2009, 41, Taf. 26, 226, grave 511: 75, Taf. 63/5, 264.

[126]Vörös 1999, tables 5.1, 5.3, 128.

[127]Three graves were excavated in the Kossuth L. Street Avar cemetery in Keszthely in which a horse and dog were buried without grave goods. See the analogies collected from this same site (Vörös 1999, 127).

[128]On Árpád-period dog sacrifices, see: Bálint 1971, 295; Vörös 1990, 117. On Conquest- and Árpád-period dog and wolf sacrifices, see: Vörös 1990, 128. In three Conquest-period period graves uncovered during excavations in Szeged-Öthalom, a horse and dog skeleton were found next to the human skeleton; however, significant parts of the dog were missing, which might indicate a partial (perhaps truncated) or destroyed skeleton. See Vörös 1990, note 40, 134 and note 82, note 140; Vörös 1991, 179ff.

[129]Vörös 1990, 139; Györffy 1975, 220.

[130]On the question of grave goods or sacrificial animals, see Tóth 2012, 525–557.

[131]Bartosiewicz 2015, 262. In the burials of northern German tribes, the numbers and variety of animals within the graves may have been very high. The goats and lambs were the most common followed by dogs and fowl. See: Prummell 1992, 157.

[132]Vaday 2015, 189.

[133]Balogh 2013, 59; Nagy 2005, 133, graves 103 and 128.

[134]The nearly 60-year-old summary of independent horse burials classified by Kiss as type VII also reveals a strikingly high number of burials dating to the early Avar period compared with those from the late Avar period.

where a snaffle bit indicates a horse burial.[135] In Kölked-Feketekapu A[136] cemetery on Szekszárd-Bogyiszló Street, two burials containing a warrior and his horse were found next to five separate horse burials with horse fittings.[137])

Two pairs of graves in the cemetery of Szőreg-Téglagyár bear similarities in terms of orientation and the placement of goods within the grave (Fig. 3) and can be linked to graves 1660 and 545 as well as to another pair in Tiszagyenda: warrior burial 188 and its separate horse burial, 189, which at present are still being studied and are not yet published.[138] In both grave pairs in Szőreg-Téglagyár (128 and horse burial 111,[139] 103 and horse burial 116[140]), the horse burial is to the right and in close proximity to the warrior burial. The horse burials and grave 103 had all been disturbed. From grave 103, only the fire-making tools, several rivets and a Byzantine-style buckle have come to light. Grave 128 was far more intact with the deceased's complete set of gear (shield, *spatha*, spear, comb and buckles) discovered. For both warriors, the existence of a satchel can be inferred from the presence of a buckle for closing the pouch and a set of fire-making tools.[141]

The half-spherical rivets were found in horse burials containing snaffle bits, both those with side rings and those with cheek pieces. They were found to be prevalent in the cemetery of Zamárdi-Rétiföldek.[142] They have been found less frequently in Avar-period graves in Kölked,[143] Csákberény-Orondpuszta[144] and within Budapest.[145]

In grave 545 in Tiszagyenda, thirty-nine grave goods, all furnishings for the horse, were found alongside the horse as well as the remains of a juvenile dog cut in two and tossed onto the hind quarters of the horse[146] (Figs 37, 38 and 6). The horse tack consisted of a jointed iron bit with side rings, thirty silver ball-headed rivets, silver and silver-plated belt mounts, belt ends, and buckles with rectangular bodies. Stirrups were not found.

In grave 545, positioning of the silver belt mounts with semi-spherical heads observed during excavation shows that a portion of the fittings were concentrated on the back part of the horse, behind the saddle (Fig. 6). The iron girth buckle (545/2b) and the iron strap end (545/3a) belonged to the girth used to keep the saddle in place on the horse's back. This strap was decorated with iron mount 545/1. A crupper and presumably a breast strap also played a role in fastening the saddle.[147] The placement of these mounts with semi-spherical heads on the horse's body confirm the existence of these straps[148] (Fig. 20).

Fig. 20. An early 8th-century depiction of horse fittings. Stuttgarter Psalter - Cod.bibl.fol.23. Saint-Germain-des-Prés. Würtembergische Landesbibliothek Stuttgart

Like mount 545/12, the similarly silver-plated bronze mounts (545/13–14) presumably belonged together and were part of the bridle.

[135] Bóna–Horváth 2009, 30, Abb. 9, Taf. 3.

[136] Kiss 1996, graves 21 and 22.

[137] The horse with horse tack in a separate grave in the Szekszárd-Bogyiszló Street cemetery. Rosner 1999, grave 126: 24–25, Taf. 10, 176; grave 193: 32, Taf. 14. 180; grave 424: 58. Taf. 30, 196; grave 598: 76, Taf. 39, 205; grave 754: 95. Taf. 50, 216; Warriors with his horse in common burial: grave 335, 44, Abb. 6, 46–47, Taf. 23, 189; grave 785, 95, Abb. 11, 99, Taf. 53, 219.

[138] See the placement of graves 1660 and 545 in the aerial photo and block profile sketch in ill. 3.

[139] Nagy 2005, 133, Taf. 62 and grave 128: 294, Taf. 64.

[140] Nagy 2005, 133, Taf. 63 and grave 103: 292, Taf. 62.

[141] Nagy 2005, 159–164.

[142] Silver and iron rivets with semi-spherical heads that adorned horse tack from the horse burials in Zamárdi-Rétiföldek cemetery: Bárdos–Garam 2009, grave 18: 14, Taf. 2/3–5, 201; grave 34: 16, Taf. 4/9–36, 203; grave 73: 20, Taf. 8/2, 207; grave 177: 35–36, Taf. 20/1–26, 220; grave 186: 36–37, Taf. 21/3–18, 221–222; grave 348: 55–56, Taf. 39/2–4, 239; grave 350: 56, Taf. 40/16–43, 240–241; grave 456/a: 67, Taf. 54/1–7, 255; grave 511: 75, Taf. 63/1,7–11, 264; grave 635: 92, Taf. 81/1–6, 283; grave 663: 95, Taf. 85/1–130, 287; grave 770: 107, Taf. 96/1–10, 298; grave 946: 126, Taf. 110/2–3, 312; grave 1093: 142, Taf. 124/7–45, 327; grave 1,159: 151, Taf. 131/1–5, 334; grave 1,338: 173, Taf. 150/3–11, 353; grave 1,406: 185, Taf. 162/5–7, 365; grave 1,474: 194, Taf. 165/4–12, 368.

[143] Kiss 1996, graves 21 and 22: 436, Taf. 22.

[144] László 2015, grave 141: 255, Taf. 37.

[145] Nagy 1998a, Budapest III, Szőlő Street, grave 1: 44–45, Taf. 38; grave 3: 46, Taf. 40, 48; Budapest XXI, Csepel-Dunai dűlő, grave A: 144, Taf. 107, 115; Budapest, XXII, Vöröskereszt Street, grave 8: 193, Taf. 131, 139.

[146] We have treated the puppy remains as an animal sacrifice. The horse, on the other hand, was clearly meant as a companion to the warrior in the afterlife. On this, see: Vörös 1999, 126–127.

[147] The rectangular 545/2a iron girth buckle does not fit with this picture. In this period, only one girth belt was used to hold the saddle in place, and a crupper and breast strap presumably aided in securing the saddle. Two girth belts, however, could have been used in securing a packsaddle. In this case, the animal was a packhorse and not a saddle horse.

[148] On one of the painted pages of the Stuttgart codex, made about 150 years later, an armed and armour-clad Frankish horseman is depicted, whose horse is fitted with a decorated collar mount and crupper. Württembergische Landesbibliothek Stuttgart, Stuttgarter Psalter – Cod.bibl.fol.23.

SUMMARY

The highborn, culturally Merovingian individual,[149] interred with a complete set of arms and the goods necessary for a journey to the afterlife,[150] would have brought along his dog and horse, buried in a separate but nearby grave. The companion burials in two separate pits are a type of early Avar-period Germanic solitary burial that occurred rather infrequently in the Carpathian Basin.[151]

In summary, we can say that the finds from Tiszagyenda Búszerző dülő I–II have contributed significantly to our body of knowledge about migration and early medieval historical relationships in the central Tisza region. Archaeological research of the burials yielded an example of social stratification. Extensive excavations revealed only partial row graves for the members of the community – with the exception of 10th–11th-century sites. What was found, on the other hand, were the graves of warriors distinguished for their high social rank or excellence. Because of their place in society they were honoured with separate burials with all their fittings and their horses, rather than interment in a community cemetery. Of the known warrior burials, grave 1660 deserves special attention. The weaponry and objects of apparel and personal use and not least of all the solidus of Maurikios Tiberius (582–602), which were found as grave goods, reflect this phenomenon. The gold money is, of course, very important with respect to dating the finds, but the fact that it was unearthed from the grave of a warrior of the Merovingian culture, whose sword suspension belt mounts and belt fittings indicate Langobard and Merovingian connections,[152] increases its significance. The Gepidic-Germanic warrior of Gyenda was buried during the early Avar period, in the first decade of the 7th century, after the collapse in 567–568 of the 'Gepidic Kingdom'.

It is very likely that the warrior belonged to the community whose houses were excavated across a large area. His grave was of particular value to archaeologists because of the crucial information it provided on the further survival of the 'Gepidic-Germanic' culture.

In grave 1660 of Tiszagyenda, the remains of a person in service to the Avars were found. The lavish grave goods demonstrate the presence of pagan customs, although the selection of the grave site[153] and the ornamentation on the decorative waistbelt and sword strap fittings, rich in early Christian symbolism, reveal a person of Christian faith. The presence of goods richly decorated with early Christian symbols can thus be explained as a show of respect by a person of high status to those left behind.[154]

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[149] According to the sources, high-status elites may have used not only the narrowly defined national-type military equipment but also weaponry acquired as booty during warfare or as gifts. See the remarks of Paulus Diaconus about the Langobard king Audoin and his son Alboin at the end of the Langobard–Gepidic war: Alboin was able to sit at the table with his father as an equal partner when he requested and received weaponry from the recently defeated Gepidic king, Turisind. *Paulus Diaconus* 1/23–24, in: Gombos 1901, 95–96.

[150] After the Gepidic kingdom was defeated (567), the either voluntary or forced movement of people in the early Avar period brought about changes in the Carpathian Basin that can be traced in the archaeological remains, too. See: Vida 2008, 13f.; Vida 2009, 233f.; Kiss P. 2010, 119f.; Kiss P. 2014, 228.

[151] In grave 7 in the Hódmezővásárhely-Kishomok site, horse tack was also found alongside the weapons of the deceased warrior. See: Bóna–Nagy 2002, 43–44, Taf. 9, 283.

[152] See close parallels of the Niederstotzingen graveyard (jug, strap end).

[153] As a conscientious Christian, he did not want his final resting place among pagans. See: Vanyó 1988, 42.

[154] See the Christian grave goods found in lavish royal tombs in contemporary Britain or even continental Europe, or a fragment of a lead tablet containing an excerpt from the Gothic Bible found in the 5th- or 6th-century tomb of a 25–30 year old man in Hács-Benedekpuszta and the weaponry revealing the man's high status. Vida 2016b, 97.

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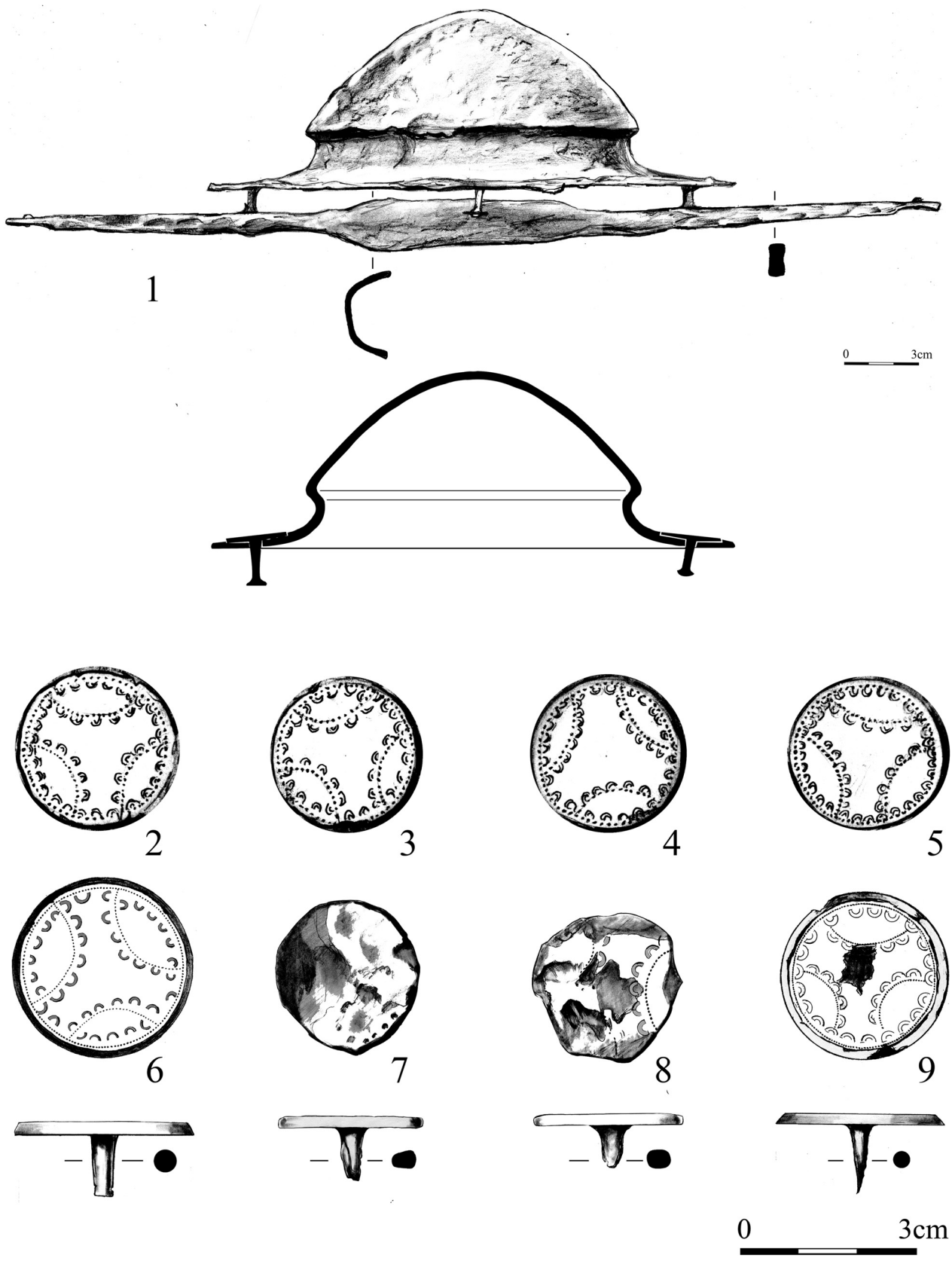

Fig. 28. 1= item 1, 2= item 2/a, 3= item 2/b, 4= item 2/c, 5= item 2/d, 6= item 4, 7= item 5, 8= item 5/a, 9= item 6

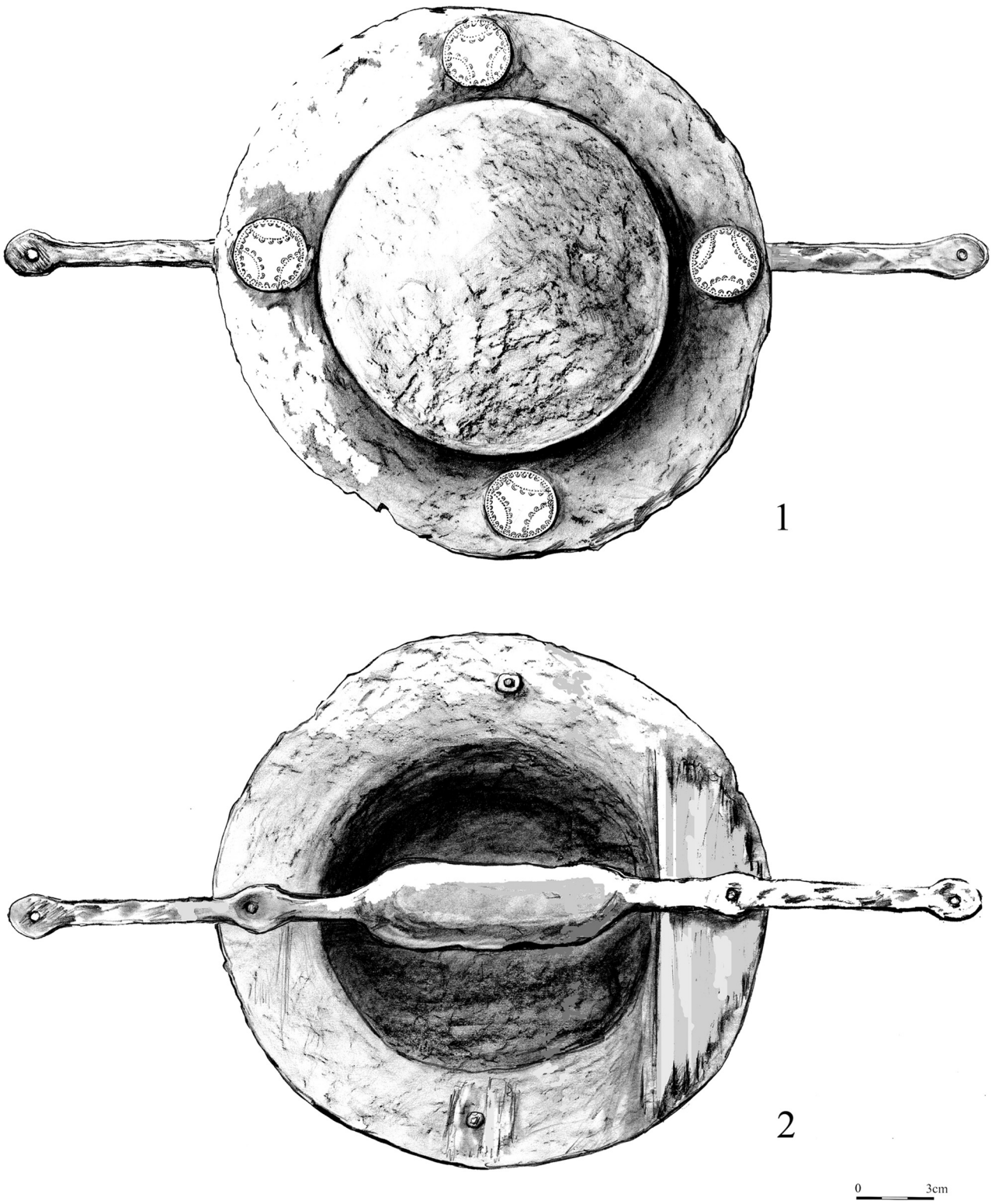

Fig. 29. 1/a= item 1-2, 1/b= item 1–2

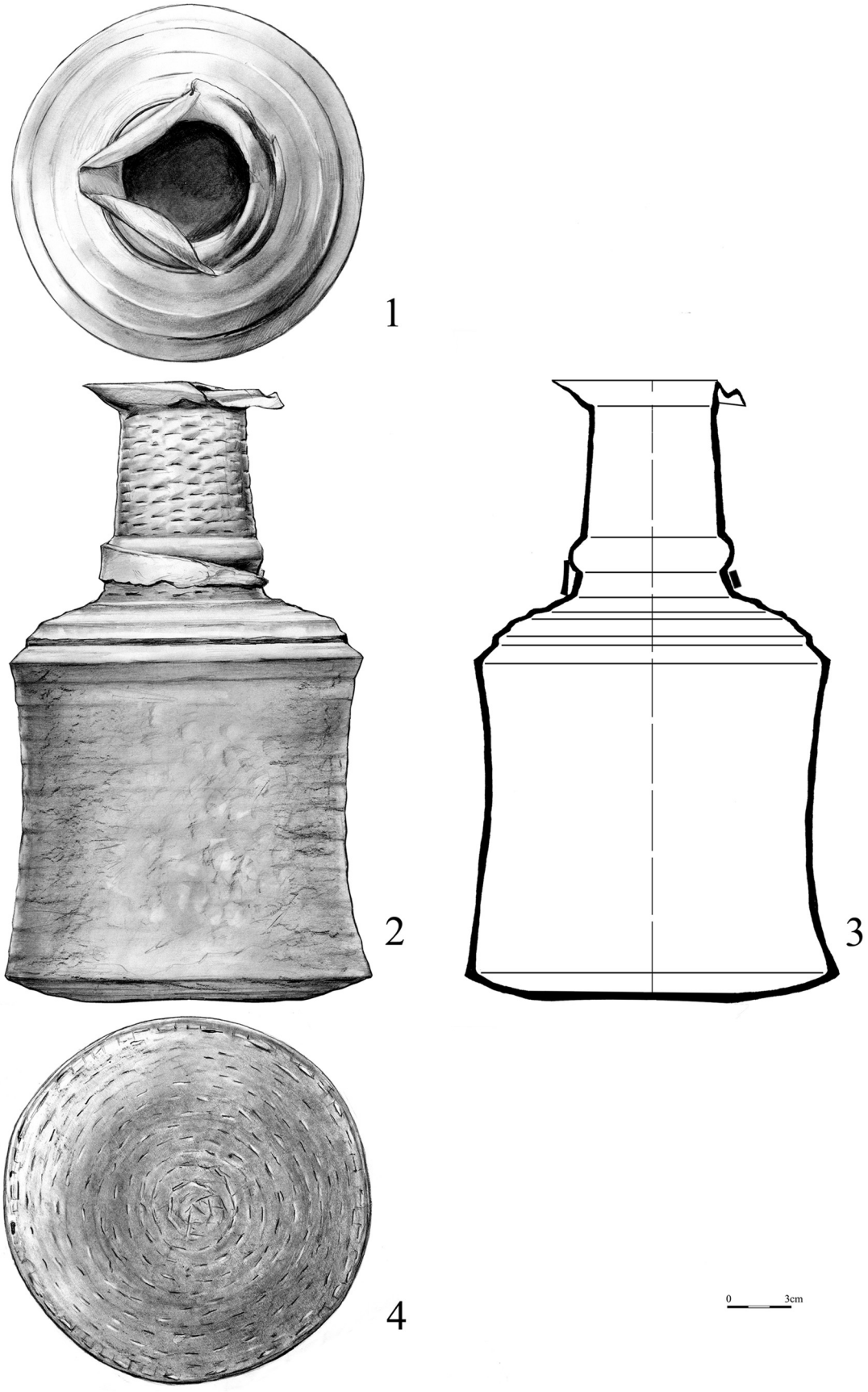

Fig. 30. Item 3. Copper jug seen from the front, bottom and top and a cross-section

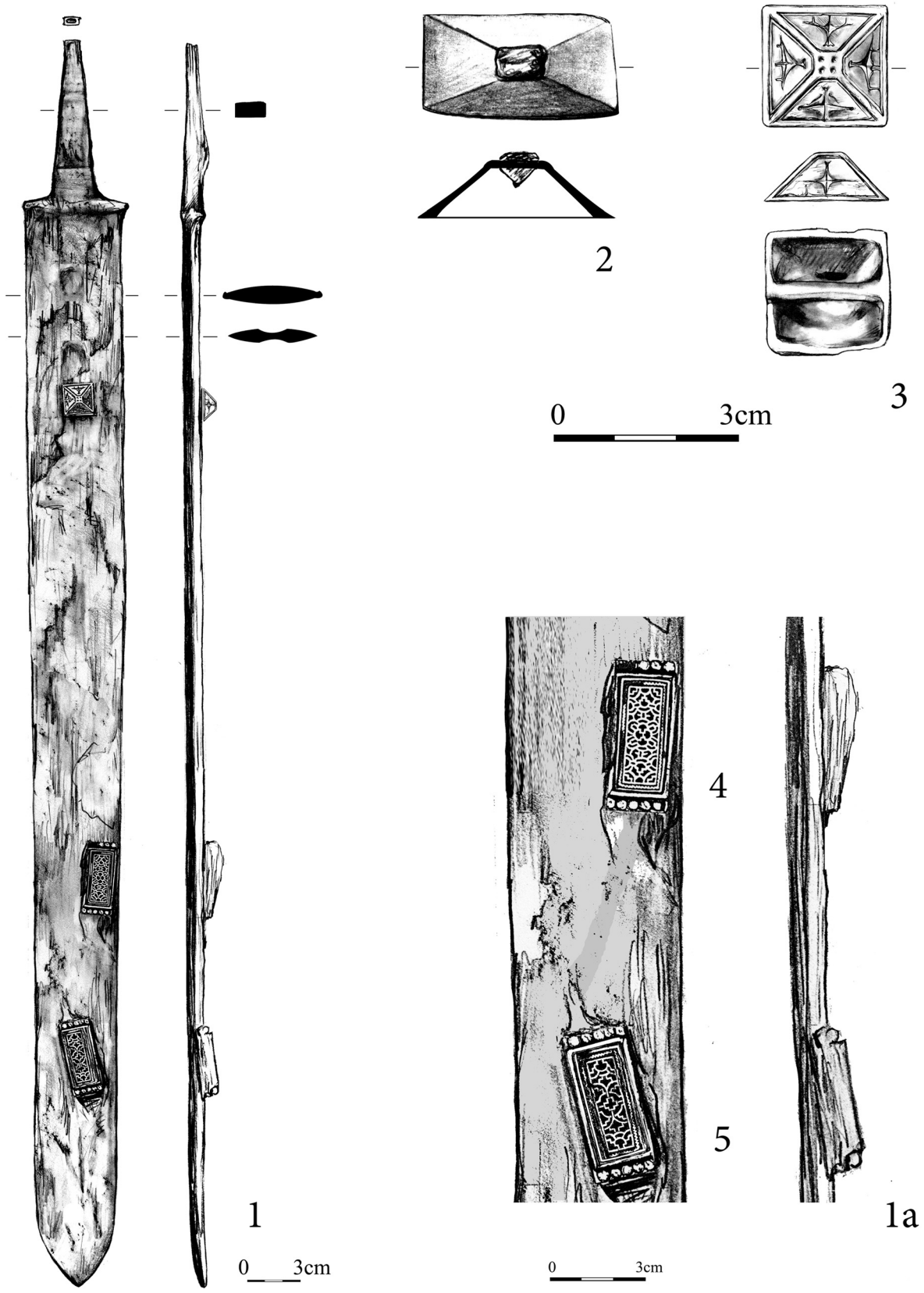

Fig. 31. 1= item 18, 2= item 19, 3= item 9, 4= item 10/a, 5= item 10/b

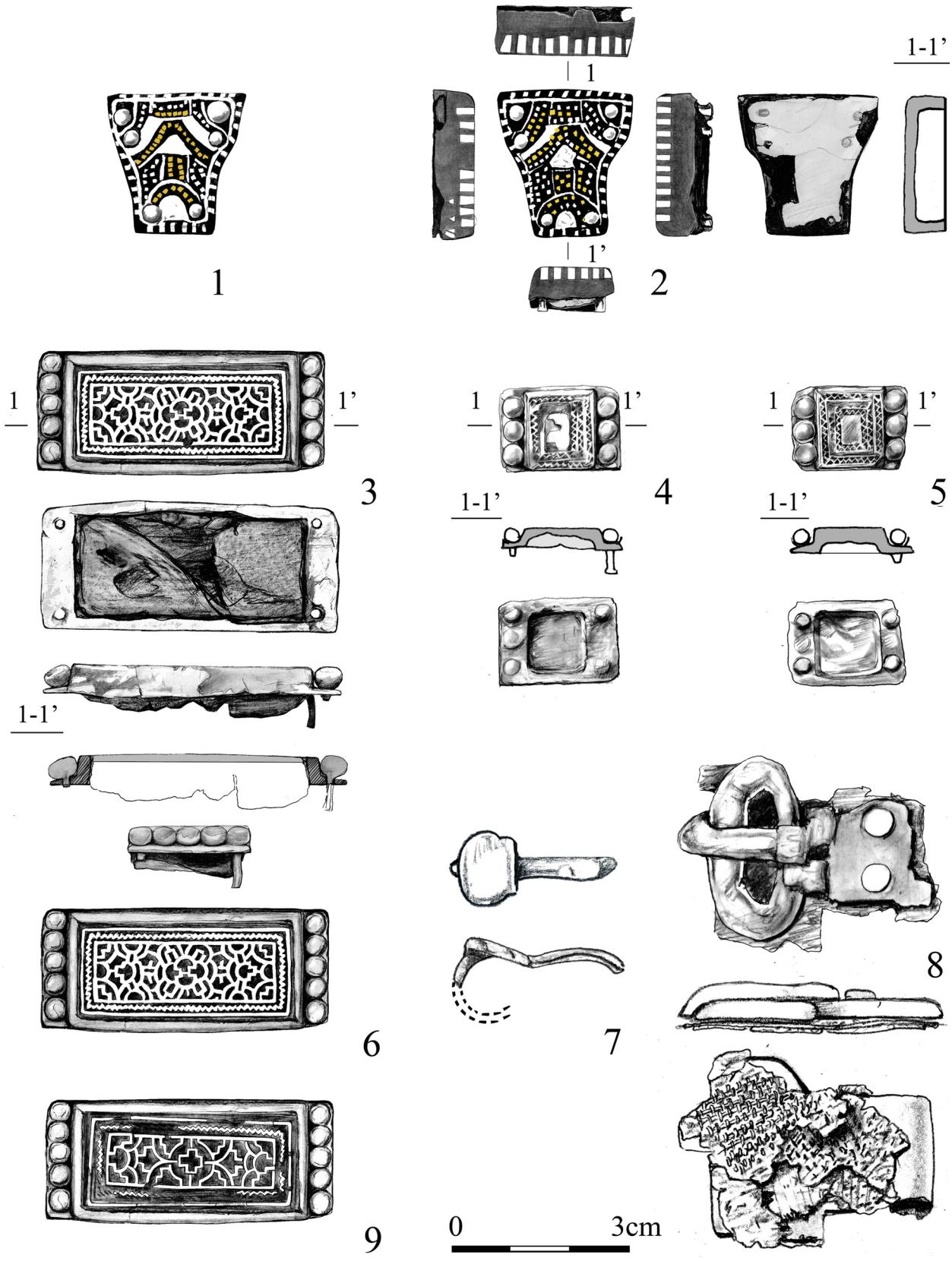

Fig. 32. 1= item 13, 2= item 15/b, 3= item 24, 4= item 11/a, 5= item 11/b, 6= item 10/a, 7= item 26, 8= item 25, 9= item 10/b

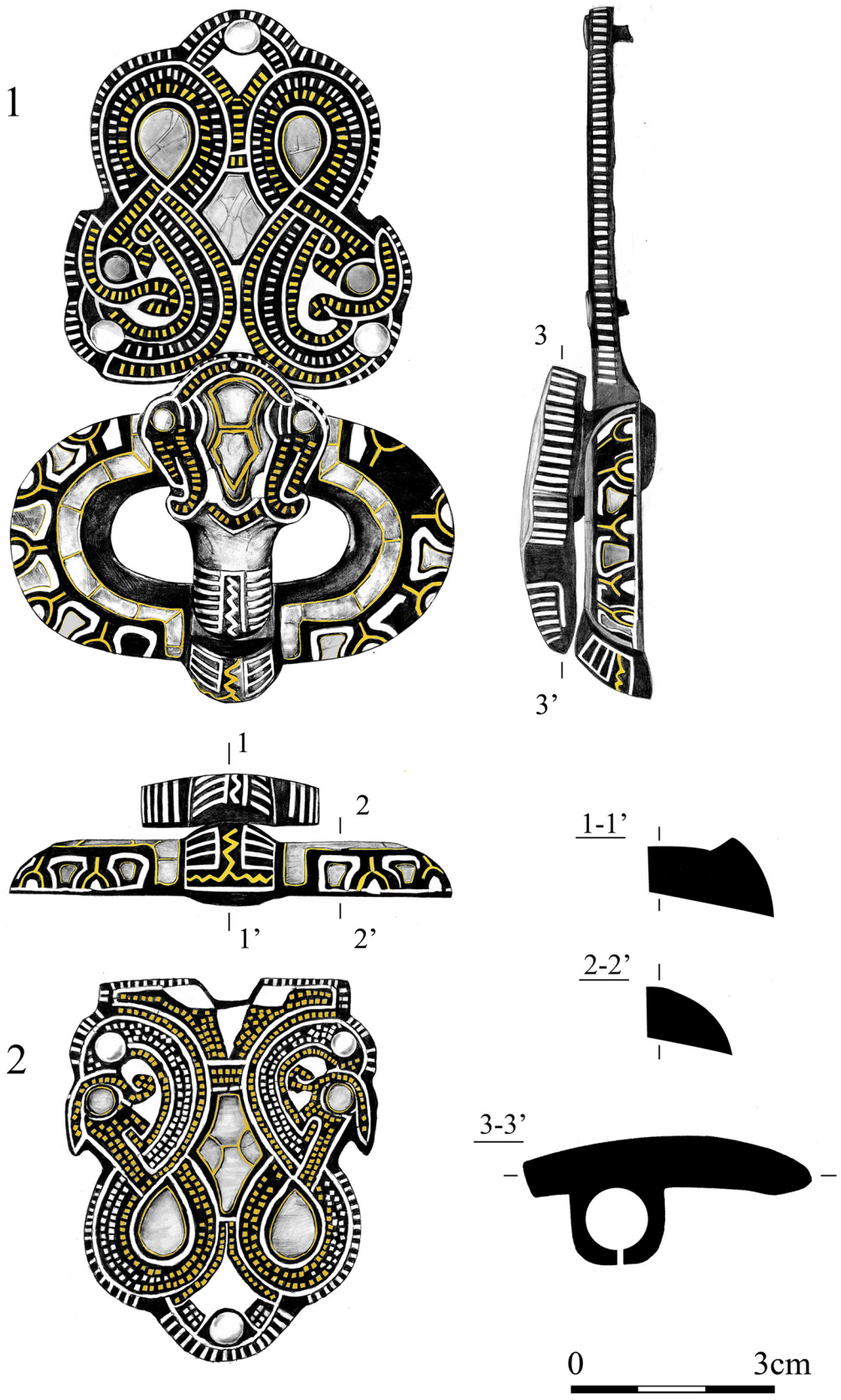

Fig. 33. 1= item 17, 2= item 17/b

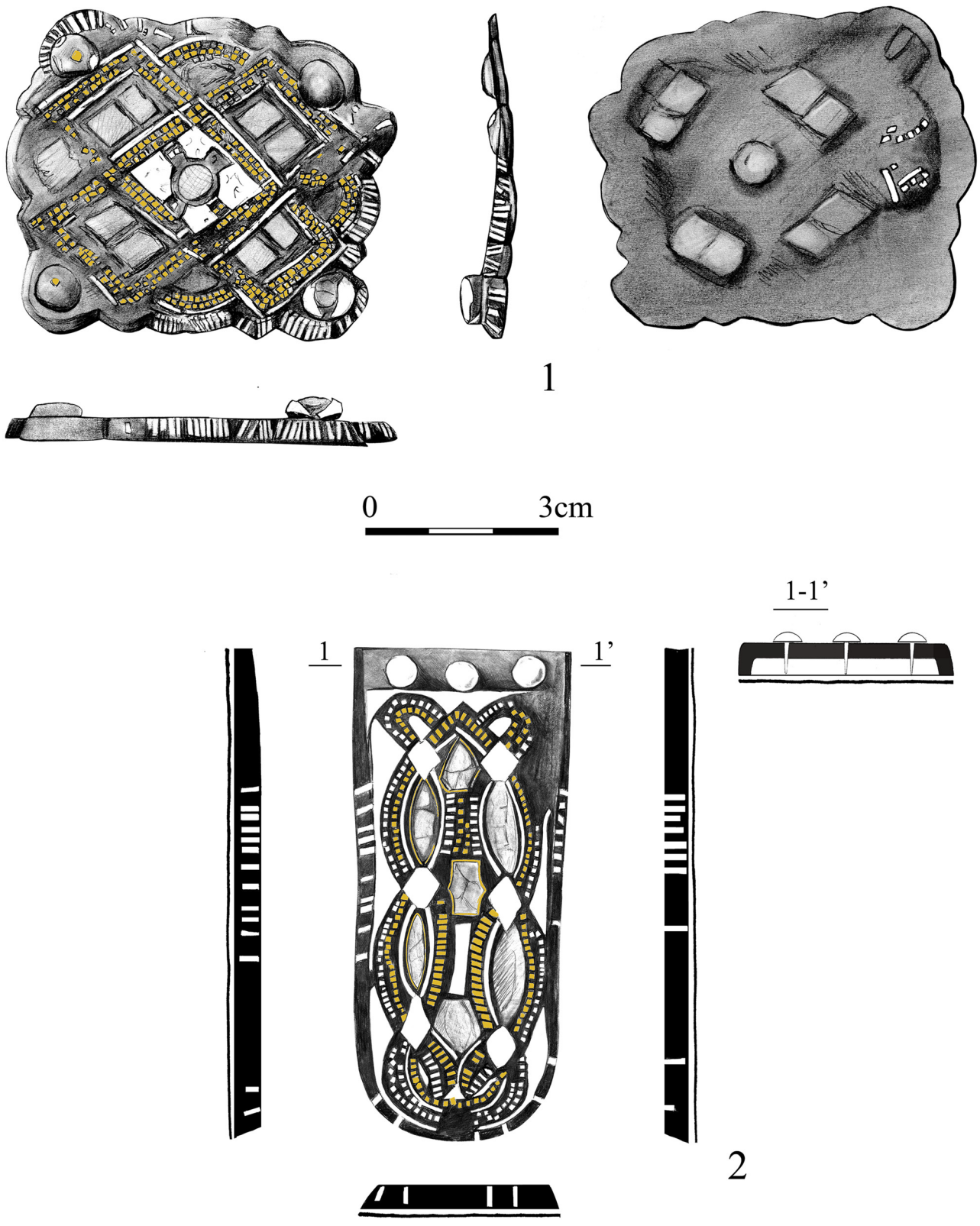

Fig. 34. 1= item 15, 2= item 14

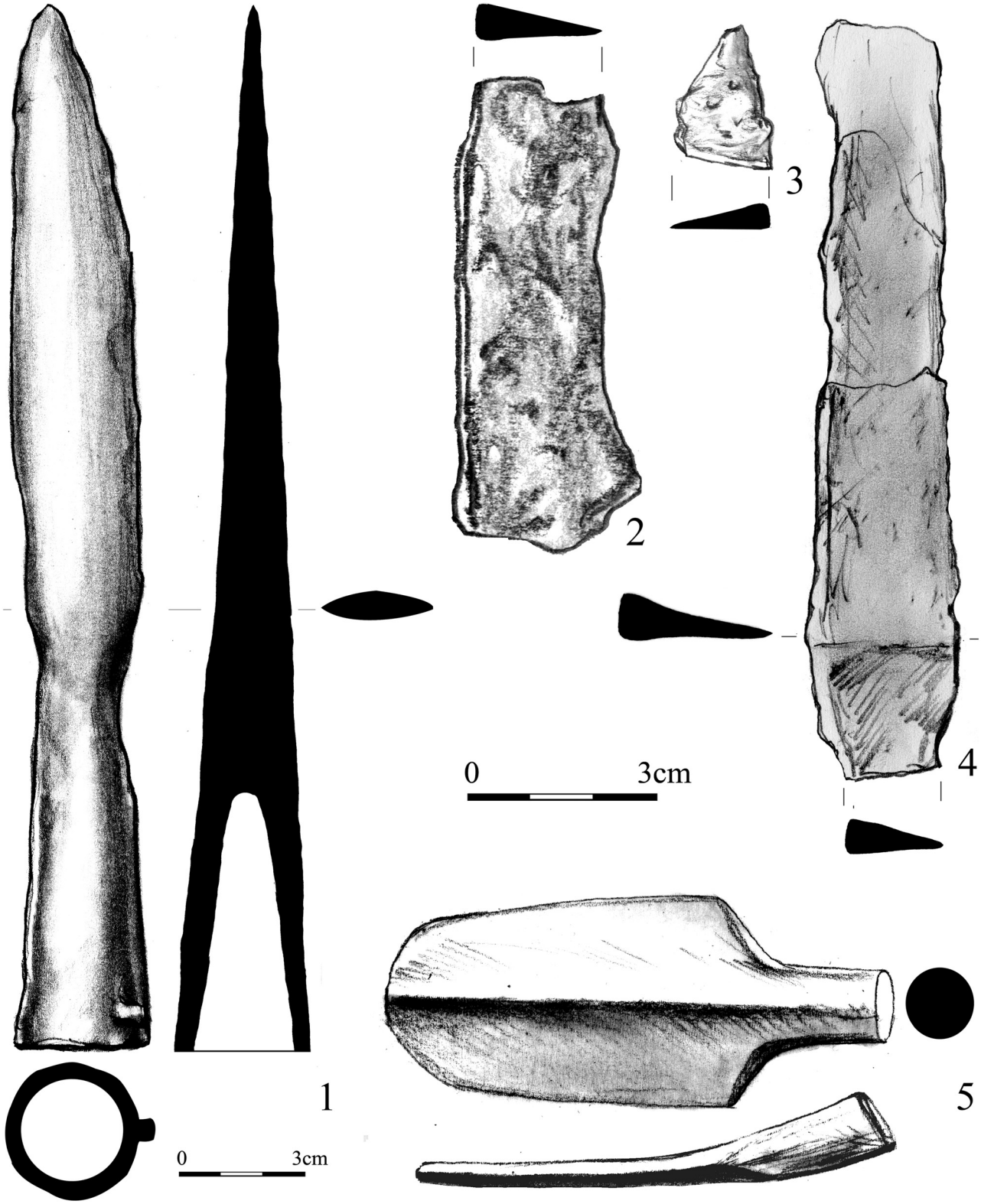

Fig. 35. 1= item 23, 2= item 29, 3= item 12, 4= item 16, 5= item 22

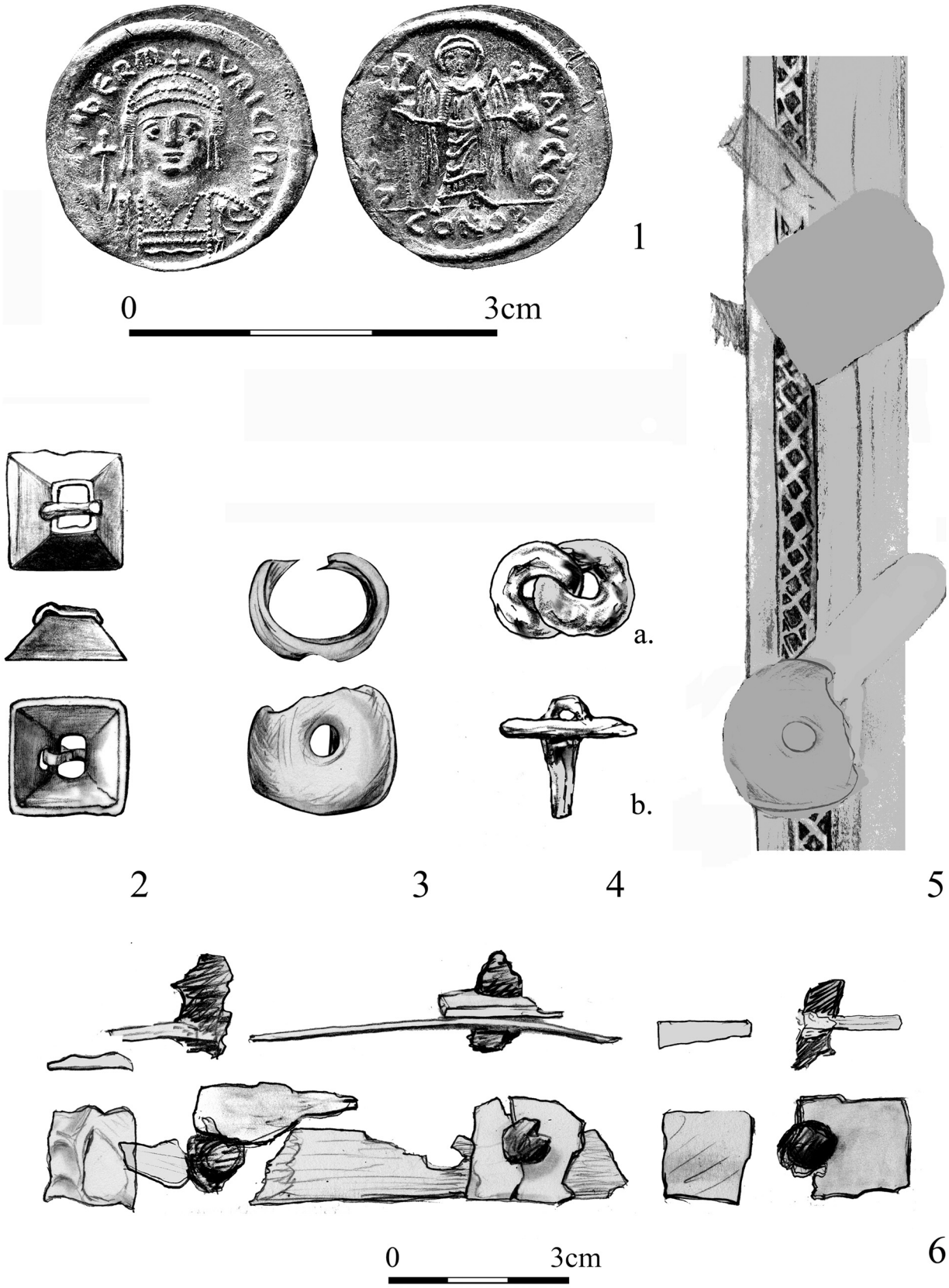

Fig. 36. 1= item 7, 2= item 8, 3= item 20, 4/a= item 28, 4/b= item 27, 5= item XR cord (?) on the scabbard, 6= item 21

Fig. 37. 1/a= item 13, 1/b= item 14, 2= item 6, 3= item 3/a, 4= item 1, 5= item 12, 6= item 2/a, 7= item 2/b

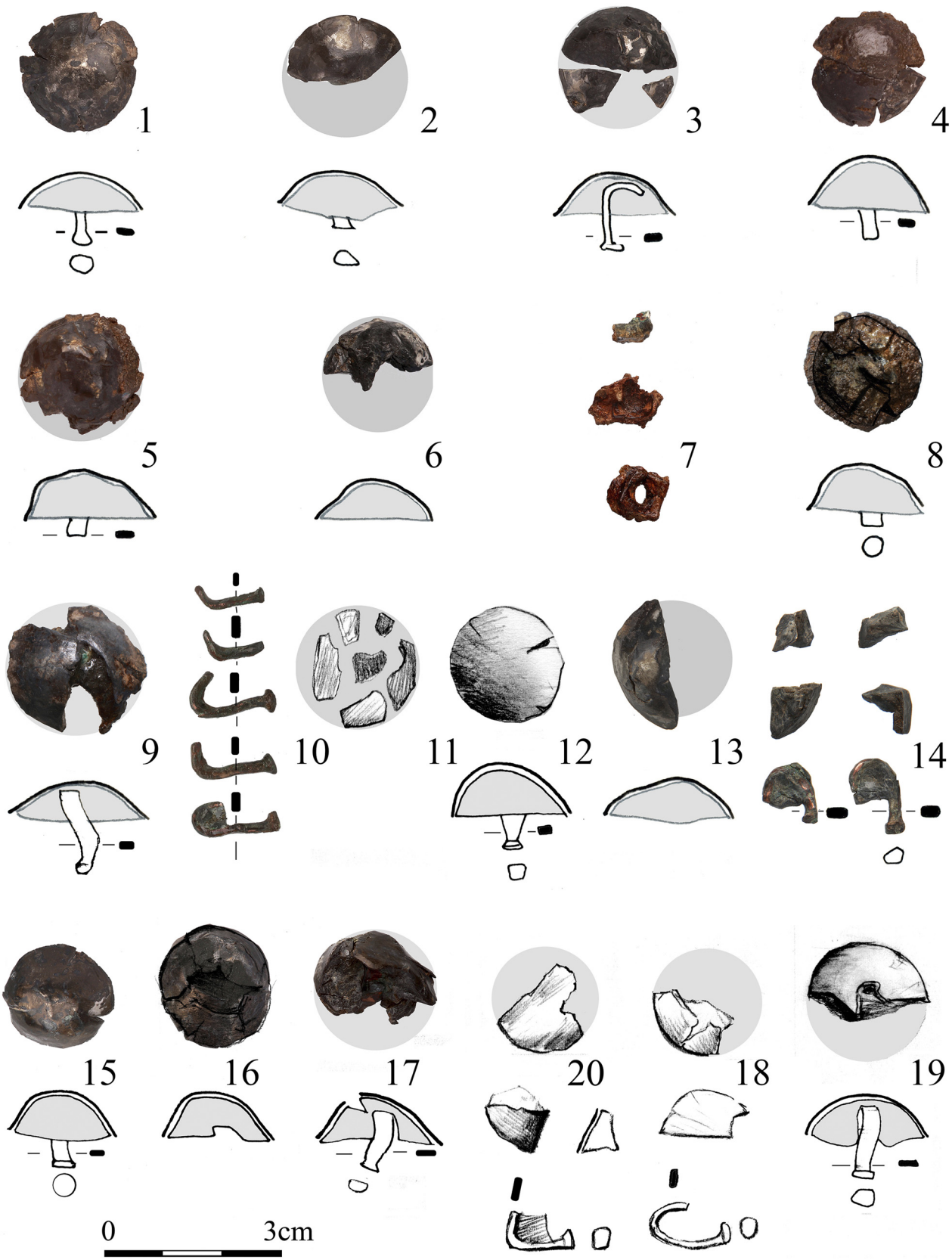

Fig. 38. 1–3= item 5, 4–8= item 16, 9= item 15, 10–11= item 15++, 12= item 18/a, 13–14= item 15, 15–18= item 4, 19–20= item 3

Fig. 39. 1= item 11, 2-4= item 11/a, 5= item 7, 6= item 10, 7–9= item 8, 10–11= item 9, 12= item 18, 13= item 19, 14= item 2

Fig. 40. Item 3. Copper jug, from the front

Fig. 41. Photograph of the cooper jug from four different angles

Fig. 42. Views of the jug in a private collection in Annapolis, Maryland, USA

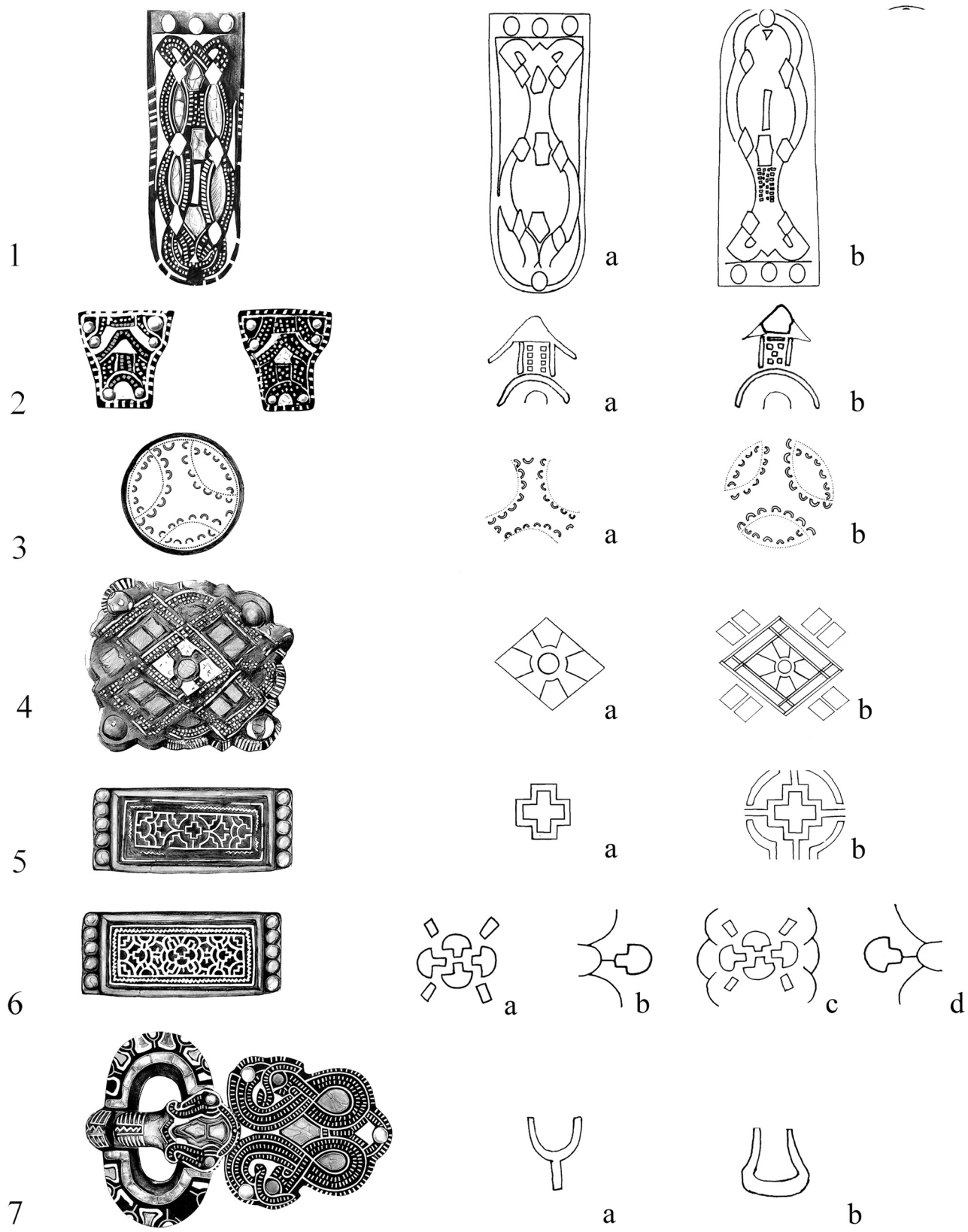

Fig. 43. Early Christian motifs on the munts from grave 1660

Fig. 44. 1= item 18, 2= item 19, 3= item 9, 4= item 11/a-b, 5= item 10/a, 6= item 10/b, 7= item 24

Fig. 45. 1= item 15/b, 2= item 13, 3= item 17, 4= item 17/b, 5= item 14, 6= item 15

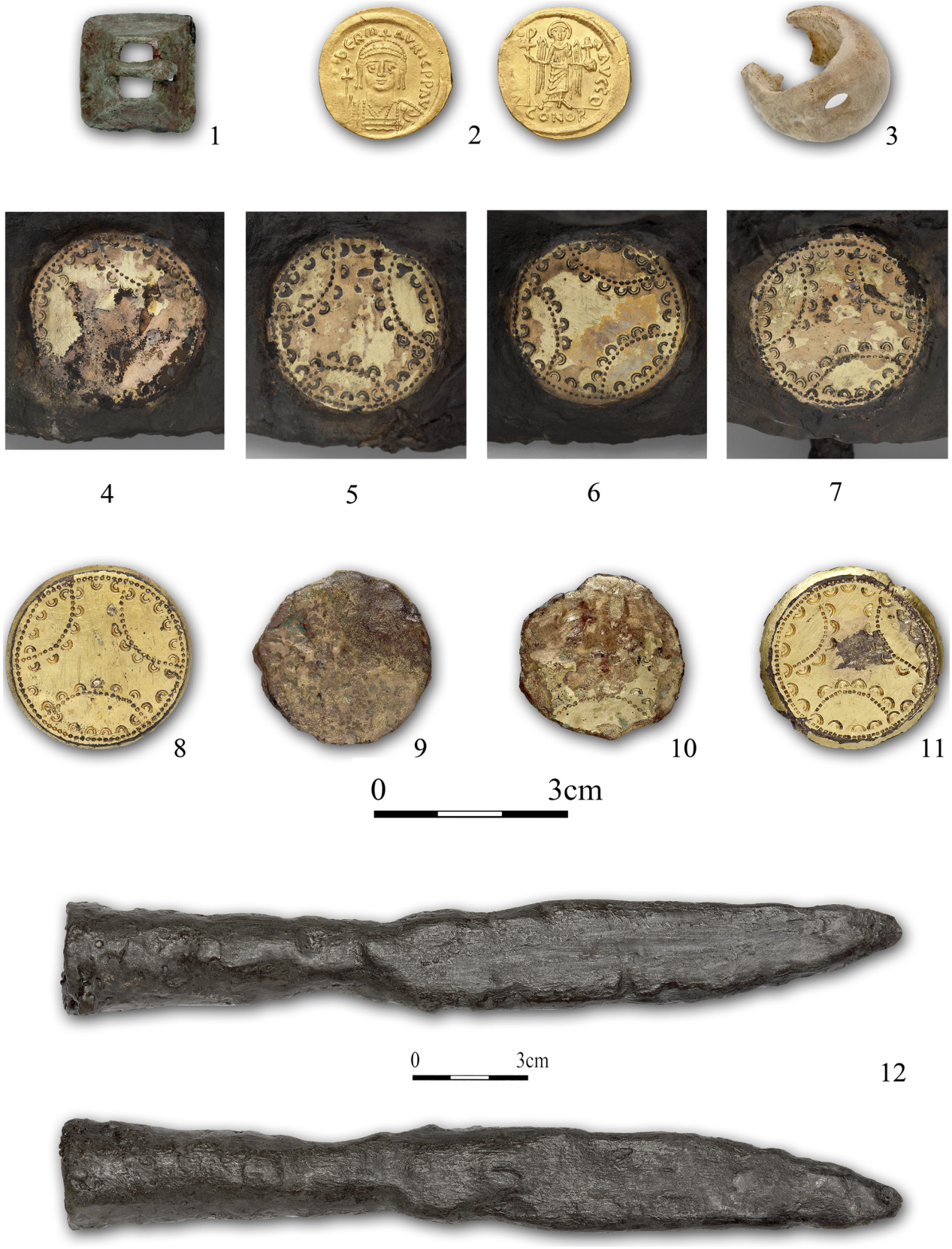

Fig. 46. 1= item 8, 2= item 7, 3= item 20, 4= item 2/c, 5= item 2/b, 6= item 2/a, 7= item 2/d, 8= item 4, 9= item 5, 10= item 5/a. 11= item 6, 12= item 23

Fig. 47. The main artefacts from grave 1660