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# PROJECT TILURIUM - ROMAN MILITARY EQUIPMENT\*

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In addition to a high number of new finds of a military nature, systematic archaeological research and scholarly analysis of discovered materials, conducted since 1997 at Gardun, near Trilj, at the site of the Roman military camp Tilurium, also accorded new significance to finds from earlier periods, discovered during the nineteenth and twentieth centuries. Presented here are the results of a research project (Roman Military Camps in Croatia) underwritten by the Ministry of Science, Education and Sports of the Republic of Croatia.

The featured items of a military nature - weapons, protective equipment, pieces of military attire and riding gear - mostly date to the first century, which is to be expected when taking into account that the Roman Seventh Legion (Legio VII) was stationed in this camp. After the departure of Legio VII in the mid-first century, the camp retained a significant military garrison until the mid-third century. As inscriptions testify, there was also a beneficiary station there. Late Antique materials, present to a significantly lesser extent, confirm the already known fact that life continued in Gardun throughout Late Antiquity, when it was most probably used as a defensive fortress.

## WEAPONS

The preserved assault gear includes arrows and spears, ballistic projectiles, parts of swords and a dagger. The archery gear may be classified as incendiary projectiles (cat. no. 1, P. 1.1.), and its dimensions and weight lead to the conclusion that it was crafted to be fired from a bolt shooter. Given that this type of weaponry (from all units stationed in Gardun) can be attributed only to the legions, these may be dated no later than the eighth decade of the first century. After this time, only auxiliary units were stationed at the camp. The same holds true for the iron ballistic projectile heads, of which two have socketed iron bolts, and one belongs to a somewhat rarer version with a tanged bolt (cat. no. 2-4, P. 1. 2-4). The tanged javelin head dates to the second and third centuries, while various types of arrows, flat-bladed socketed arrowheads (cat. no. 8, P. 2.4), trilobate tanged arrowheads<sup>1</sup> and bone-reinforced composite laths<sup>2</sup> are difficult to accurately determine within the Roman Empire period. Even though a cohort of archers was stationed in Gardun in the first century (cohors II Cyrrhestarum), this is

\* The results presented derived from a scientific project (Roman Military Camps in Croatia), conducted with the support of the Ministry of Science, Education and Sports of the Republic of Croatia.

<sup>1</sup> IVČEVIĆ in print.

<sup>2</sup> RADMAN-LIVAJA 1998, 231, P. 1. 4, 7.



Fig. 1. Decorative mount from a sword scabbard, cat. no. 10

not a firm enough basis for dating, since we know that archery was practiced by members of various units. Spearheads and reinforced spears belong to the usual repertoire of Roman camps (cat. no. 5-7, 9, P. 2. 1-3, 5), while iron reinforced javelin butts such as that found in Gardun are rarer finds at Roman sites.<sup>3</sup>

Besides components of arrows and spears, military assault gear also includes parts of swords: bronze scabbard tips and scabbard mounts. The reinforced bottom of a sword scabbard belongs to the Mainz sword type, on which the scabbard edges are protected with metal grooves along its entire length. They date to the first half of the first century. Scabbard mounts like those found in Gardun persisted from the last quarter of the first century BC to the end of the first century AD. These types of scabbard mounts were used on the Pompeii and Mainz gladii. Given that both examples here are only partially preserved, their type cannot be precisely identified. A palmette-shaped scabbard mount is a standard part of scabbard decorations on the Pompeii sword type (cat. no. 10, Fig. 1).

Besides being effective in combat, the military dagger was also worn as a status symbol, so a great deal of at-

<sup>3</sup> ŠEPAROVIC 2003, P. 3. 3, 4

tention was accorded to the appearance and ornamentation of the dagger's scabbard. A very well maintained dagger with a scabbard decorated by floral motifs, which were made using inlay technique, belongs to the Mainz type (cat. no. 11, Fig. 2), and its dating framework corresponds to the time when Legio VII was stationed at the camp. Enamel decoration was preserved on a scabbard rivet.

#### PROTECTIVE GEAR

Military equipment, besides weapons, also consisted of gear used to protect soldiers in combat. Among the finds from Gardun, helmets, shields and armour belong in this group.

The almost completely preserved left cheek piece belonged to an iron infantry helmet of Weisenau type (cat. no. 12, Fig. 3). This type emerges at the end of the first century BC, and persisted until the beginning of the second century, and there were many variations of this type which mutually differed, including the shape of the cheek piece. Analogies to the Gardun example can be found among helmets from various sites, which are generally dated to the first century. Decorative rivets shaped like rosettes, which held up the bronze plate from inside of the cheek, as well as a mount for the helmet strap were also discovered in Gardun. The plume/crest holder belongs to the same helmet type. A single fragment of shield binding is the only preserved remnant of a shield. As for armour, pieces of chainmail and segmented armour have been preserved. A serpentine chest hook (cat. no. 17, Fig. 4.3) dates to the first century, and no later than the second century. Although this type of armour was in use from the Republican period to Late Antiquity, protection of the shoulder with the help of a plate dates to the first century. It was replaced with two chest plates already by the onset of the second century. Throughout the second century, fastening hooks were entirely removed from use.

A significantly higher number of armour components belong to mail armour. Tie hooks (cat. no. 16, Fig. 4.2) for connecting the girdle plates of the left and right side of the lower section of the armour may have belonged to any of the three versions of the Corbridge armour type. In the Gardun materials, hinged buckles (cat. no. 13-15, Fig. 4.1) are well represented, which were used to connect parts of the Corbridge A and B/C armour, and date to approximately the first century.

Armour shoulder<sup>4</sup> hinges served to connect the upper shoulder guards, while the chest plate and upper shoulder plates of the collar assembly are components

<sup>4</sup> ŠEPAROVIC 2003, P. 3. 5, 6.



Fig. 2. Military dagger (pugio), cat. no. 11

of the Corbridge armour type. They belong to the Thomas F iv type, with prominent volutes, which date to the first century.

An essential component of military gear was the belt used to carry weapons, specifically the sword and dagger; it also eased wearing of the armour. Although their appearance and ornamentation altered over the centuries, they were always different from civilian belts, so that the wearer could be identified as a soldier at first sight. Its symbolic value, together with its actual value, explain why a great attention has been accorded to the ornamentation of the belt, regardless of whether or not one or two were worn. Among the Gardun materials, D-buckles with volutes, a characteristic shape of military buckles in the first century (cat. no. 18-22, Fig. 5.1a-e), are particularly well-represented. Hinged frogs for daggers or swords appeared in regions throughout the Roman Empire, a majority of them dating to first half of the first century, while they were rare in the Flavian era. Given its purpose, it is to be expected that a larger number of such items would be found, and when there is a relatively small number of such finds it is assumed that button and loop fasteners were used for the same purpose - these finds are relatively numerous at Roman military sites, and are well-represented among the Gardun materials.

Three hinged frogs from Gardun have been preserved, but only one is whole with a mount (cat. no. 26, Fig. 5.3). A square mount with a straight polished surface is decorated with incisions and niello. Decorations on the Gardun mount consist of rosettes and checkerboards framed by a series of triangles, which is one of the common motifs for mount hinges in the first century. The parts of the belt that are preserved include square apron studs (cat. no. 23-25, Fig. 5.2), which were used throughout the first century.

#### RIDING GEAR

Riding harness pendants (cat. no. 27-34, Fig. 6. 1-8)<sup>5</sup> are the most numerous riding gear finds at Roman military sites. The earliest pendants appeared in the Augustan era, and they persisted through the second century. As of the latter half of the second century, pendants fell out of fashion and decorative plates take their place. Lunular pendants, in addition to being decorative, also had a protective role for the horse and rider, especially the lunular phallic pendant, whose potency, in some examples, was reinforced with a fist making the *mano-fica* sign. They date from the Augustan

<sup>5</sup> Nalazi rimske vojne opreme u Hrvatskoj 2010; IVČEVIĆ 2010; 2004; ŠEPAROVIC 2003.



Fig. 3. Helmet cheek-piece, cat. no. 12

tan era and persisted throughout the second century. Most of the Gardun examples of lunular pendants are turned in an upward curving crescent with the ends of the arms in the shape of *mano-fica* fists on one side and phalluses on the other (cat. no. 33, Fig. 6.7).<sup>6</sup> In earlier versions, lunular pendants included pendants whose arms are turned downwards with the central ornament in the shape of a palmette (cat. no. 29, Fig. 6.3). These are dated to the reigns of Augustus and Tiberius.

In the first century, numerous “trefoil” pendants appeared in the Tiberian-Claudian era, were used in the Flavian era, and disappeared from use thereafter. Silver coated and decorated with stylized floral motifs, the Gardun example (cat. no. 28, Fig. 6.2) represents an earlier version of this type of pendant. Judging by its dimensions, one may assume that the pendant was a frontal section or part of a chest ornament. Other examples with smaller dimensions (cat. no. 27, Fig. 6.1) were also decorated with floral motifs.

<sup>6</sup> IVČEVIĆ 2010, 141, P. 2. 12-15.

Only one example represents pendants with ovoid bodies with a palmette on the bottom,<sup>7</sup> which are usually dated from the Claudian era to the end of the Flavian era, but more recently their appearance has been placed at the beginning of the first century.

Leaf - pendants,<sup>8</sup> characterized by a variety of shapes, are well represented among the finds at Gardun, and mainly belong to the common type of leaf-pendants (cat. no. 30, 31, Fig. 6.4, 5). They lasted from the Claudian era to the beginning of the second century. Pendants decorated with engravings and kidney-shape perforations (cat. no. 32, Fig. 6.6) are something of a less common variant, which are rarely found at Roman sites, and date to the latter half of the first century.

Teardrop pendants (cat. no. 3,4, Fig. 6.8)<sup>9</sup> are represented in several different examples. Such pendants are commonly found at Roman sites, which is not surprising considering their long use. The most numerous are from the Claudian to Trajanic eras, but they persisted until the end of the second century. “Bird-shaped” pendants, otherwise the most numerous type of pendant for riding harness ornamentation in the pre-Flavian period, are not present among the Gardun materials, however two pendants that generally have a teardrop shape indicates a connection with bird-shaped pendants. The saddle plate is made in a jour technique and also belongs to the first century (cat. no. 35, Fig. 7). Some parts of the harness, such as the saddle fitting and the harness buckle, date to the latter half of the second and third centuries.

## TOOLS

An indispensable find at the military camp was the pickaxe (*dolabra*), a tool which is found almost exclusively in military contexts. It was used to dig trenches, clear forests, work lumber, in construction, but also as a weapon. Classical writers mentioned it in a military context. Taking into account the size and position of the shank in relation to the axe, its location within the Tilurium military camp, as well the shape of the socket, this may be classified as a first-century military pickaxe (cat. no. 36, Fig. 8).

<sup>7</sup> ŠEPAROVIĆ 2003, P. 5.4.

<sup>8</sup> IVČEVIĆ 2004, 166, 167, P. 1. 20, P. 2. 21-23; IVČEVIĆ 2010, 140, P. 1.7.

<sup>9</sup> IVČEVIĆ 2010, 141, P. 1.8, 141, P. 2. 9; IVČEVIĆ 2004, 166, P. 1. 19.

Fig. 4. 1 a-c. Buckle (*lorica segmentata*) = cat. no. 13 - 15; 2. Armour tie-hook = cat. no. 16; 3. Chest hook for chainmail = cat. no. 17 (Photo: T. Seser)

Fig. 5. 1 a-e. Belt buckle = cat. no. 18-22; 2 a-c. Belt mount from a military apron = cat. no.23-25; 3. Belt buckle with mount = cat. no. 26 (Photo: T. Seser)



Fig. 6. 1-2. Three-part leaf-shaped pendant from a riding harness = cat. no. 27-28; 3. Lunular pendant from a riding harness = cat. no. 29; 4-6. Leaf-shaped pendant from a riding harness = cat. no. 30-32; 7. Lunular pendant from a riding harness = cat. no. 33; 8. Pendant from a riding harness = cat. no. 34 (Photo: T. Seser)



Fig. 7. Mount from a saddle strap = cat. no. 35 (Photo: T. Seser)



Fig. 8. Pickaxe (dolabra) = cat. no. 36 (Photo: T. Seser)



Fig. 9. Amphora-shaped belt strap end = cat. no. 37 (Photo: T. Seser)

#### LATE ANTIQUE MATERIALS

Three belt buckles with mounts, two belt tangs, as well as a spear and arrowhead, date to Late Antiquity. The buckles date to the latter half of the fourth and fifth centuries.<sup>10</sup> Amphora-shaped strap ends, such as those found in Gardun, are numerous on the territory of the entire Roman Empire, and they made up part of the "belt set" of military belts during the Dominate. On the basis of their typology, they are dated to the fourth century (cat. no. 37, Fig. 9).

The arrowheads belong to flat-bladed socketed group; their dating otherwise varies among Roman sites. Such a shape is not usable in a projectile device. Its dimensions and weight also indicate that it was probably an arrow for a manual bow. Although this type of weapon cannot be dated according to typology, our example (cat. no. 8) has been precisely dated due to the circumstances surrounding the find. Namely, it was found in Gardun in 1921, along with a tip of a spear and Justinian coins dated in his thirtieth year of rule (556/557). This allowed dating to the early Byzantine Justinian period. The spear-tip was also dated to the sixth century, based on the coins found adjacent to it, although the basic features do not differentiate it from other examples found at the same site, but which were dated to an earlier period.

<sup>10</sup> IVČEVIĆ in print.

The swallowtail arrowhead belongs to the early medieval period.<sup>11</sup> It is not possible to accurately date the arrowhead based on typology, and since there is no precise information for the Gardun example regarding the circumstances of the find, only an approximate date may be proposed. They are the most common types of arrowheads, and such arrows in some localities already date to the fifth century, while they also appear in Late Antique fortresses where they are dated to the sixth century, as well as in graveyards from the seventh and eighth centuries, and in old Croatian cemeteries from the eighth and first half of the ninth centuries.

<sup>11</sup> IVČEVIĆ 2010, 141, P. 2. 16.

## CATALOGUE

## 1. Incendiary projectile, P. 1.1

Inv. no. MCK B-910

Material: iron

Dimensions: length 14.2 cm, diameter of socket 1.1 cm, weight 65 g

Description: Socketed projectile (so-called malleolus) has cage-like tip consisting of six bars, four of which are still preserved. It was used for firing from a catapult.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 57, cat. no. 4; RADMAN-LIVAJA 1998, 219-222, P. 1. 2.

References: JAMES 1983, 142-143; COULSTON 1985, 266; BISHOP - COULSTON 2006, 134-135.

## 2. Catapult bolt-head, P. 1.2

Inv. no. MCK B-923

Material: iron

Dimensions: length 10.7 cm, diameter of socket 1 cm, weight: 40 g

Description: Catapult bolt-head with rectangular cross-section and typical oblong bodkin-shape. It is socketed and given its dimensions it was presumably a ballistic projectile.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 56, cat. no. 2; RADMAN-LIVAJA 1998, 223, P. 1.3.

References: BISHOP - COULSTON 2006, 88-89, 135, 168-170.

## 3. Catapult bolt-head, P. 1.3

Inv. no. AMS H 6174

Material: iron

Dimensions: length: 7.6 cm, length of head: 5.2 cm, length of tang: 2.4 cm, width of head at widest point: 1.3 cm, width of tang at widest section: 0.4 cm, weight: 40 g

Description: Javelin head and tang have a rectangular cross-section; the tang is wider near the head, which has an oblong pyramidal shape. The tip is flattened. It belongs to a relatively rare variant with a tang, with a head twice the length of the tang, a feature that dates it to the imperial period. As in the Roman army, only the legions, praetorians and navy used catapults, this piece can be dated to the first two thirds of the first century, i.e., the period when the legion was posted in Gardun.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 56, cat. no. 1; IVČEVIĆ 2004, 167, P. 2. 24.

References: BEHRENS 1912, 9, fig. 6. 41; RITTERLING 1913, 160, P. XVII. 26, 28; TUDOR 1964, 241, P. 3. 17, 18; JAMES - TAYLOR 1994, 94, fig. 1; ZANIER 1994, 589, fig. 2; HARNECKER 1997, 34, 93, P. 79. 848, 849; SIVEC 1997, 146, P. 1. 6; UNZ - DESCHLER-ERB 1997, 9, 24, P. 22. 431-458; DESCHLER-ERB 1999, P. 3. 44-46; RADMAN-LIVAJA 2001, 135, P. 3, 5; BUORA - JOBST 2002, 245, IV a, 125.

## 4. Catapult bolt-head, P. 1.4

Inv. no. MCK B-924

Material: iron

Dimensions: length 9.4 cm, diameter of socket 1 cm, weight 50 g

Description: Bodkin-shaped head and socket; the weight and size of this object corresponds to typical Roman catapult projectiles.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 57, cat. no. 3; RADMAN-LIVAJA 1998, 223, P. 1. 5.

References: BISHOP - COULSTON 2006, 88-89, 135, 168-170.

## 5. Spearhead, P. 2.1

Inv. no. AMS H 5995

Material: iron

Dimensions: length 29.2 cm, length of socket 11.5 cm, length of head 17.7 cm, diameter of socket at widest part 2.2 cm, width of head at widest part 3.6 cm, weight: 155 g

Description: Socketed leaf-shaped spearhead, with damaged edges and a very prominent longitudinal mid-rib. In the Roman army, spears were wielded by the infantry and cavalry, and its various shapes and sizes were dictated by its function, since it was used for throwing as well as for close combat. Although this type of weapon cannot be dated on typological grounds, this piece has been precisely dated thanks to the circumstances of the find. It was found in Gardun in 1921, together with an arrowhead (AMS inv. no. H 6010) and a Justinian coin dated to the thirtieth year of his reign (556/557). This allows dating to the early Byzantine Justinian period.

Dating: 6<sup>th</sup> cent.

Publication: RADMAN-LIVAJA 2010, 61, cat. no. 12; IVČEVIĆ 2004, 167, P. 2. 26.

References: BEHRENS - BRENNER 1911, 115, fig. 28. 4; RITTERLING 1913, P. XVII. 11; HENDERSON 1949, 152, P. LVIII. 287; FINGERLIN 1972, P. 14. 3; PETRU 1972, P. XC. 1; FISHER 1973, fig. 43. 1; REDDE et al. 1995, 145, fig. 35. 10, 12-13; HARNECKER 1997, 90, P. 75. 800, 804; UNZ - DESCHLER-ERB 1997, 20-

21, P. 16. 255-258, P. 17. 262-269; DESCHLER-ERB 1999, P. 6. 66-68; BUORA - JOBST 2002, 231, IVa.11; RADMAN-LIVAJA 2004, 151, P. 2. 8-9; for its use in Late Antiquity: CHADWICK HAWKES 1964, P. 7. 7, 8; MILOŠEVIĆ 1998, 230, 374.

## 6. Spearhead, P. 2.2

Inv. no. AMS H 5996

Material: iron

Dimensions: length 22.4 cm, length of socket 8.5 cm, length of head 13.9 cm, diameter of socket 1.4 cm, width of head at widest part: 3.3 cm, weight: 75 g

Description: Leaf-shaped spearhead with a considerably damaged socket. Part of the socket is missing. Along the length of the head a barely visible rib runs.

Dating: Roman period

Publication: RADMAN-LIVAJA 2010, 62, cat. no. 13; IVČEVIĆ 2004, 167, P. 2. 27.

References: BEHRENS - BRENNER 1911, 115, fig. 28. 4; RITTERLING 1913, P. XVII. 11; HENDERSON 1949, 152, P. LVIII. 287; PETRU 1972, P. XC. 1; FISHER 1973, fig. 43. 1; REDDE et al. 1995, 145, fig. 35. 10, 12-13; HARNECKER 1997, 90, P. 75. 800, 804; UNZ - DESCHLER-ERB 1997, 20-21, P. 16. 255-258, P. 17. 262-269; DESCHLER-ERB 1999, P. 6. 66-68; BUORA - JOBST 2002, 231, IVa.11; RADMAN-LIVAJA 2004, 152, P. 3. 10.

## 7. Spearhead, P. 2.3

Inv. no. AMS H 5998

Material: iron

Dimensions: length 20.2 cm, length of socket 7.3 cm, length of head 12.9 cm, diameter of socket at widest part 1.5 cm, width of head at widest part 2.1 cm, weight 60 g

Description: Leaf-shaped spearhead with damaged socket and a mid-rib.

Dating: Roman period

Publication: RADMAN-LIVAJA 2010, 62, cat. no. 14; IVČEVIĆ 2004, 167, P. 2. 28.

References: BEHRENS - BRENNER 1911, 115, fig. 28, 4; RITTERLING 1913, P. XVII. 11; HENDERSON 1949, 152, P. LVIII. 287; PETRU 1972, P. XC. 1; REDDE et al. 1995, 145, fig. 35. 10, 12-13; UNZ - DESCHLER-ERB 1997, 20-21, P. 16. 255-258, P. 17. 262-269; DESCHLER-ERB 1999, P. 6. 66-68; BUORA - JOBST 2002, 231, IVa.11; RADMAN-LIVAJA 2004, 151, P. 2. 8-9.

## 8. Arrowhead, P. 2.4

Inv. no. AMS H 6012

Material: iron

Dimensions: length 8.6 cm, length of head 3.9 cm, length of socket 4.7 cm, width of socket 0.9 cm, width of head 1.6 cm, weight 20 g

Description: The tip of the arrow with a rhombic head and a socket are preserved. It belongs to the group of arrows with a flattened head, a shape that was not used for ballistic devices. Its size and weight are another indication that this object was probably an arrow for a bow. The head has a rhombic shape and flat cross-section. Even though this type of weapon cannot be dated by typological features, this piece has been dated with precision due to the circumstances of the find. To be precise, it was found in Gardun together with a spear tip (cat. no. 5, P. 2.1) and a Justinian coin dated to the thirtieth year of his reign (556/557). This allows dating to the early Byzantine Justinian period.

Dating: 6<sup>th</sup> cent.

Publication: RADMAN-LIVAJA 2010, 58, cat. no. 5; IVČEVIĆ 2004, 167, P. 2. 25.

References: BEHRENS - BRENNER 1911, fig. 28. 7; HENDERSON 1949, 152, 153, P. LIX. 293; GALLIAZZO 1979, 210-211, fig. 92. 9; SIVEC 1997, P. 1. 1; UNZ - DESCHLER-ERB 1997, 23, 24, P. 361., 362; HARNECKER 1997, 4, 91, P. 77. 812, 814; BEKIĆ 1998, P. 2. 8; DESCHLER-ERB 1999, P. 6.72; VOIROL 2000, 11, P. 537.

## 9. Spear butt, P. 2.5

Inv. no. AMS H 6011

Material: iron

Dimensions: height 9.2 cm, width 3.3 cm

Description: Cylindrical bottom of spear; there is a slot where the shaft was connected lengthwise.

Dating: 1<sup>st</sup>-5<sup>th</sup> cent.

Publication: IVČEVIĆ 2004, 167, P. 2.29.

References: BEHRENS - BRENNER 1911: 115, fig. 28. 18; HARNECKER 1997, 92, P. 78. 825; UNZ - DESCHLER-ERB 1997, 21, P. 18. 301; SIVEC 1997, 146, T.10; BEKIĆ 1998, 235, P. 2. 9; ŠEPAROVIĆ 2003, 237, 238, P. 3, 2.

## 10. Decorative mount from a sword scabbard, Fig. 1

Inv. no. MCK B-870

Material: bronze

Dimensions: height 5 cm, width 4.2 cm, thickness 0.2 cm

Descriptions: Decorative mount from a sword scabbard with rhomboid shape, decorated with incised lines, with a perforation on top.

Dating: Latter half of 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 66, cat. no. 22.

References: UNZ - DESCHLER-ERB 1997, 15, P. 9. 150, 2082; DESCHLER-ERB 1999, 75, 137, fig. 86. 121, P. 9. 124; RADMAN-LIVAJA 2004, 40, 128, P. 12. 49; BISHOP - COULSTON 2006, 81, fig. 41. 5.

#### 11. Military dagger (pugio), Fig. 2

Inv. no. MCK 5103

Material: iron, wood, leather, silver, copper alloy, enamel

Dimensions: total length 26.9 cm, length of grip 10 cm, thickness of cross-guard: 1.5 cm, length of scabbard 16.9 cm, width of scabbard 5.6 cm, thickness of scabbard: 1.5 cm, weight 290 g

Description: Military dagger with scabbard. It consists of a hilt with a cross-guard and a blade in a sheath. The lower part of the scabbard is missing. The grip begins with a pommel that has three rivets on top, set next to each other and decorated with red enamel. On the semi-circular plate of the pommel there are another two rivets separated by a trident motif rendered in copper wire inlay. An elliptical widening with a rivet in the middle runs along the centre of the grip. The grip is decorated with inlaid linear motifs in silver and copper wire. Two rivets on the back of the grip connected the outer mount with the tang and wooden plates. The grip tapers gently from the pommel to the cross-guard, and it has a convex cross-section down its entire length. The lateral sides of the dagger are reinforced with mounts at places where the scabbard is widest. The mounts are supported with rivets identical to those on the grip of the dagger, and decorated with red enamel. Each of the lower two mounts has one preserved link in the eye. The entire front of the scabbard is richly decorated with inlaid silver and copper threads and divided into four fields. The back of the scabbard is undecorated.

Dating: End of 1<sup>st</sup> cent. BC

Publication: RADMAN-LIVAJA 2010, 74, cat. no. 38; MILOŠEVIĆ 2009, 176, 177, fig. 16.

References: RADMAN-LIVAJA 2004, 51, 52, fig. 8, 9, P. 15. 59, P. 16. 60; BISHOP - COULSTON 2006, 86, 87, Fig. 44, 45.

#### 12. Helmet cheek-piece, Fig. 3

Inv. no. MTK 973

Material: iron, bronze

Dimensions: height 14.4 cm, width 12 cm, thickness 0.2 cm

Description: On the upper part there is a preserved socket with a rod and a part of the mount by which the cheek-piece was attached to the dome of the helmet. The cheek-piece gently tapers towards the lower part,

then it becomes wider on both sides. There were two rivets (a bronze pin of one of these remains) next to the edge on the upper part. There is one rivet-hole at the base of the cheek-piece.

Dating: mid-1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 74, cat. no. 38; Ivčević, "Metalni nalazi". In: *Tilurij 3* (in preparation). References: HARTMANN 1983, 6, fig. 2; WAURICK 1988, 333, fig. 3. 2-3; HARNECKER 1997, 95-96, P. 82. 870a; RADMAN-LIVAJA 2004, 74-75, fig. 16. 176, P. 27. 128; BISHOP - COULSTON 2006, 103, fig. 59. 4.

#### 13. Buckle (lorica segmentata), Fig. 4.1a

Inv. no. AMS H 4439

Material: bronze

Dimensions: height of frame: 2 cm, length of frame: 1.5 cm, height of mount: 1.5 cm, length of mount: 2.15 cm, length of pin: 1.7 cm

Description: Frame of a D-shaped buckle with circular cross-section; it tapers towards the ends and has openings for the bar on which the buckle mount is attached so that it bends over the bar, and it is reinforced with a rivet in the centre; on the outer side of the mount there is a flattened loop for connecting to another mount; the pin slightly widens toward the top and it is slightly bent. Buckles of this type were used for attaching segments of laminated armour (Corbridge A and B/C). They belong to type Thomas A ii.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 69, cat. no. 28; IVČEVIĆ 2004, 166, P. 1. 13.

References: BEHRENS 1912, 87, fig. 3, 13; 8; RITTERLING 1913, P. XI, 12,13, 15-19; BEHRENS 1914, 68, fig. 2. 7; FINGERLIN 1972, fig. 11. 8; UNZ 1972, fig. 4, 27; PETRU 1972, P. XXIX, grave 450, 22; NEDVED 1981, 180, fig. 8. 317; KOŠČEVIĆ 1991, 67, P. XXV. 362, 363; UNZ - DESCHLER-ERB 1997, 30, 31, P. 33, P. 34, 783-790; SIMPSON 2000, P. 25. 7; MATEŠIĆ 2005, P. 9. 103.

#### 14. Buckle (lorica segmentata), Fig. 4.1b;

inv. no. AMS, H 4204

Material: bronze

Dimensions: height of frame 1.7 cm, length of frame 1.35 cm, height of first mount 1.35 cm, length of first mount 2.2 cm, height of second mount 1.4 cm, length of second mount 2.2 cm, length of pin 1.6 cm

Description: Frame of a D-shaped buckle with circular cross-section; it tapers towards the ends and has openings for the bar on which the buckle mount is attached so that it bends over the bar; on the outer side

of the mount there are flattened loops through which the bar passes; the bar provided support for the second mount, which has two circular openings; the pin slightly widens toward the top and it is slightly bent. Buckles of this type were used for attaching segments of laminated armour (Corbridge A and B/C). They belong to type Thomas A ii.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 71, cat. no. 30; IVČEVIĆ 2004, 166, P. 1. 15.

References: BEHRENS 1912, 87, fig. 3. 13; RITTERLING 1913, P. XI, 12,13, 15-19; BEHRENS 1914, 68, fig. 2., 7.-8; FINGERLIN 1972, fig. 11. 8; PETRU 1972, P. XXIX, grave 450, 22; UNZ 1972, fig. 4. 27; NEDVED 1981, 180, fig. 8. 317; KOŠČEVIĆ 1991, 67, P. XXV. 362-363; UNZ - DESCHLER-ERB 1997, 30-31, P. 33., T. 34. 783-790; THOMAS 2003, 13, fig. 2.

#### 15. Buckle (lorica segmentata), Fig. 4.1c

Inv. no. AMS H 1601

Material: bronze

Dimensions: height of frame: 1.9 cm, length of frame: 1.3 cm, height of mount: 1.5 cm, length of mount: 1.8 cm, length of pin: 1.5 cm

Description: Frame of a D-shaped buckle with circular cross-section; it tapers towards the ends and has openings for the bar on which the buckle mount is attached so that it bends over the bar, and it is reinforced with a rivet in the centre; on the outer side of the mount there is a flattened loop for connecting to another mount through which the bar passes; the pin slightly widens toward the top and it is slightly bent. Buckles of this type were used for attaching segments of laminated armour (Corbridge A and B/C). They belong to type Thomas A ii.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 70, cat. no. 29; IVČEVIĆ 2004, 166, P. 1. 14

References: BEHRENS 1912, 87, fig. 3. 13; RITTERLING 1913, P. XI, 12-13, 15-19; BEHRENS 1914, 68, fig. 2. 7, 8; FINGERLIN 1972, fig. 11. 8; PETRU 1972, P. XXIX, grave 450, 22; UNZ 1972, fig. 4, 27; NEDVED 1981, 180, fig. 8. 317; KOŠČEVIĆ 1991, 67, P. XXV. 362-363; UNZ - DESCHLER-ERB 1997, 30-31, P. 33., P. 34. 783-790; SIMPSON 2000, 151, P. 25. 7; THOMAS 2003, 13, fig. 2; MATEŠIĆ 2005, P. 9. 103.

#### 16. Armour tie-hook, Fig. 4.2

Inv. no. AMS H 3127

Material: bronze

Dimensions: length 4.6 cm, width 1.6 cm

Description: Eye-hole made of bent wire with irregu-

lar circular shape, mount rectangular, rounded edges on one side, wavy edges on other. Mount was fastened with two rivets, of which one has been preserved.

Dating: 1<sup>st</sup> cent.

Publication: IVČEVIĆ 2010, 140, P. 1. 4; RADMAN-LIVAJA 2010, 69, cat. no. 27.

References: RITTERLING 1913, P. XI, 1, 2; FRERE - JOSEPH 1974, Fig. 26. 31; UNZ - DESCHLER-ERB 1997, P. 32. 670-672, 675-681, 684-691; VOIROL 2000. 49, Pl. 7. 47; FEUGERE 2002, 105, Fig. 130; RADMAN-LIVAJA 2004, 180, P. 31. 182, 183; MATEŠIĆ 2005, 103, P. 9. 112-114.

#### 17. Chest hook for chainmail, Fig. 4.3

Inv. no. AMS H 4053

Material: bronze

Dimensions: length 8.2 cm

Description: Serpentine hook, one end expanded with engravings that constitute the head, body decorated with engraved lines.

Dating: 1<sup>st</sup> cent.

Publication: IVČEVIĆ 2010, 140, P. 1. 3; RADMAN-LIVAJA 2010, 68, cat. no. 26.

References: UNZ - DESCHLER-ERB 1997, P. 35: 861, 862; RADMAN-LIVAJA 2004, P. 27. 130-132; BISHOP - COULSTON 2006, 96, Fig. 51: 4; KOŠČEVIĆ 2008, 263, Fig. 59.

#### 18. Belt buckle, Fig. 5.1a

Inv. no. AMS H 6176

Material: bronze, silver

Dimensions: height 3.1 cm, length 2.7 cm, thickness 0.4 cm

Description: Buckle has a semi-circular frame with inward-curving ends; the bar of the buckle is depressed at the place where the pin stood; the bar has two loops through which the axis for the mount passed; the semi-circular part of the buckle frame has a semi-circular cross-section; the pin is missing; traces of silver coating are preserved on the front.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 77, cat. no. 44; IVČEVIĆ 2004, 166, P. 1. 4

References: BEHRENS 1912, 87, fig. 3. 15; RITTERLING 1913, P. XI, 14. 20-21; BEHRENS 1918, 28, fig. 8, 1-2; PETRU 1972, P. XCIII. 26; OLDENSTEIN 1976, 211-212, P. 74. 971; SAGADIN 1979, 312-313, P. 9. 15; NEDVED 1981, 180, fig. 8. 316; KOŠČEVIĆ 1991, 66-67, P. XXVI. 365; UNZ - DESCHLER-ERB 1997, 32-34, P. 43.1138-1163, P. 44. 1164-1182; VIŠIĆ-LJUBIĆ 2006, 165, fig. 3a-3b.

## 19. Belt buckle, Fig. 5.1b

Inv. no. AMS H 6177

Material: bronze

Dimensions: height 3.6 cm, length 3.1 cm, thickness 0.5 cm

Description: Buckle with a semicircular frame whose ends curve inward. The bar of the buckle is depressed at the place where the pin stood; the bar has two loops through which the axis for the mount passed; the semi-circular part of the buckle frame has a triangular cross-section; there is a prominent rib in the interior; the pin is missing.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 76, cat. no. 41; IVČEVIĆ 2004, 166, P. 1. 1

References: BEHRENS 1912, 87, fig. 3. 15; RITTERLING 1913, P. XI. 14, 20-21; BEHRENS 1918, 28, fig. 8. 1-2; PETRU 1972, P. XCIII. 26; OLDENSTEIN 1976, 211-212, P. 74. 971; SAGADIN 1979, 312-313, P. 9. 15; NEDVED 1981, 180, fig. 8. 316; KOŠČEVIĆ 1991, 66-67, P. XXVI. 365; UNZ - DESCHLER-ERB 1997, 32-34, P. 43. 1138-1163, P. 44. 1164-1182; DESCHLER-ERB 1999, P. 16. 278-282; SIMPSON 2000, 151, P. 25. 21-22; VOIROL 2000, 51, P. 9. 65; RADMAN-LIVAJA 2004, 184, P. 35. 202.

## 20. Buckle with button, Fig. 5.1c

Inv. no. AMS H 3217

Material: bronze

Dimensions: height 2.1 cm, length 3.6 cm, thickness 0.2 cm

Description: Cordate buckle frame with two openwork peltate motifs, with two loops on the bar of the buckle; the pin is considerably bent, and the button on the tip of the pin is missing.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 80, cat. no. 50; IVČEVIĆ 2004, 166, P. 1. 6

References: BEHRENS 1918, 28, fig. 9. 2; UNZ - DESCHLER-ERB 1997, 37-38, P. 45. 1232; VOIROL 2000, P. 9. 67; MATEŠIĆ 2005, P. 20. 254-255.

## 21. Belt buckle, Fig. 5.1d

Inv. no. AMS H 4453

Material: bronze

Dimensions: height 3.4 cm, length 2.3 cm, thickness 0.4 cm

Description: Buckle with a semi-circular frame with thinned inward-curving ends; the bar of the buckle curves outward at the ends; a piece is missing in the central part where the pin was; only traces of the axis

loops are visible; the semi-circular part of the buckle frame has a triangular cross-section; there is a prominent rib in the interior; the pin is missing.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 77, cat. no. 43; IVČEVIĆ 2004, 166, P. 1. 3

References: BEHRENS 1912, 87, fig. 3. 15; RITTERLING 1913, P. XI. 14, 20-21; BEHRENS 1918, 28, fig. 8. 1-2; PETRU 1972, P. XCIII. 26; OLDENSTEIN 1976, 211-212, P. 74. 971; SAGADIN 1979, 312-313, P. 9. 15; NEDVED 1981, 180, fig. 8. 316; KOŠČEVIĆ 1991, 66-67, P. XXVI. 365; UNZ - DESCHLER-ERB 1997, 32-34, P. 43. 1138-1163, P. 44. 1164-1182; DESCHLER-ERB 1999, P. 16. 290-291; RADMAN-LIVAJA 2004, 184, P. 35. 205; VIŠIĆ-LJUBIĆ 2006, 164, fig. 2.

## 22. Belt buckle, Fig. 5.1e

Inv. no. AMS H 1599

Material: bronze, tin

Dimensions: height 2.5 cm, length 2.6 cm, thickness 0.4 cm

Description: Buckle has a semi-circular frame with inward-curving ends; the bar of the buckle is depressed at the place where the pin stood; the bar has two loops through which the axis for the mount passed; the semicircular part of the buckle frame has a triangular cross-section; there is a prominent rib in the interior; the pin is missing; the entire front surface of the buckle is tin-coated.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 76, cat. no. 42; IVČEVIĆ 2004, 166, P. 1. 2

References: BEHRENS 1912, 87, fig. 3. 15; RITTERLING 1913, P. XI. 14, 20-21; BEHRENS 1918, 28, fig. 8. 1-2; PETRU 1972, P. XCIII. 26; OLDENSTEIN 1976, 211-212, P. 74. 971; SAGADIN 1979, 312-313, P. 9. 15; NEDVED 1981, 180, fig. 8. 316; KOŠČEVIĆ 1991, 66-67, P. XXVI. 365; UNZ - DESCHLER-ERB 1997, 32-34, P. 43. 1138-1163, P. 44. 1164-1182; DESCHLER-ERB 1999, P. 16. 278-282; SIMPSON 2000, 151, P. 25. 21-22; VOIROL 2000, 51, P. 9. 65; RADMAN-LIVAJA 2004, 184, P. 35. 202.

## 23. Belt mount from a military apron, Fig. 5.2a

Inv. no. AMS H 2580

Material: bronze

Dimensions: length 3.9 cm, height 1.5 cm, thickness with the pin: 0.7 cm

Description: Rectangular mount with one end widened and decorated with incisions; there are four pins on the back.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 82, cat. no. 53; IVČEVIĆ 2005, 166, P. 1. 8

References: OLDENSTEIN 1976, 191, 265, P. 59. 743; UNZ - DESCHLER-ERB 1997, 52, P. 69. 1984; DESCHLER-ERB 1999, P. 20. 383-389; VOIROL 2000, 19, P. 9. 71, 73, 75-77.

## 24. Belt mount from a military apron, Fig. 5.2b

Inv. no. AMS H 3674

Material: bronze, silver

Dimensions: length 4.4 cm, height 1.6 cm

Description: One end of the mount is widened and decorated with incisions; it has four pins on the back, while a silver plaque is applied on the front.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 81, cat. no. 52; IVČEVIĆ 2004, 166, P. 1. 7

References: OLDENSTEIN 1976, 191, 265, P. 59. 743; UNZ - DESCHLER-ERB 1997, 52, P. 69. 1984; DESCHLER-ERB 1999, P. 20. 383-389; VOIROL 2000, 19, P. 9. 71, 73, 75-77.

## 25. Belt mount from a military apron, Fig. 5.2c

Inv. no. AMS H 1832

Material: bronze

Dimensions: length 2.7 cm, height 1.6 cm, thickness with the pin: 0.6 cm

Description: Rectangular mount without decoration; there are four pins on the back.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 82, cat. no. 54; IVČEVIĆ 2004, 166, P. 1. 9

References: OLDENSTEIN 1976, 191, 265, P. 59. 743; UNZ - DESCHLER-ERB 1997, 52, P. 69. 1984; DESCHLER-ERB 1999, P. 20. 383-389; VOIROL 2000, 19, P. 9. 71, 73, 75-77.

## 26. Belt buckle with mount, Fig. 5.3

Inv. no. AMS H 4382

Material: bronze, niello

Dimensions: button: diameter: 2 cm, thickness 0.6 cm; buckle mount: length 10.35 cm, height: 3.15 cm, thickness: 0.15 cm

Description: The head of the button is decorated with vegetable motifs; it is hinged to the rectangular belt mount with visible rivets by which it was attached to the belt; the rectangular field on the front is decorated with a rosette in the middle, surrounded by a chequered pattern framed with the dents-de-loup motif. All incised motifs are niellated. Buckles of this type were situated on a dagger or sword strap and were used for fastening the weapons to the belt. They ap-

pear throughout the Roman Empire and mostly date from the first half of the first century, whereas in the Flavian era they were rare. In the typology worked out for Britain by Francis Grew and Nick Griffiths, the mounts are divided into two basic types based on the shape and method of decoration (GREW - GRIFFITHS 1991, 49). This piece, based on its features, matches type A, which includes rectangular mounts with a flat polished surface, frequently decorated by punching, incision and niello. They were attached to the belt either by rivets passed through perforations on the corners—as in the case of this mount—or by prongs on the back. The most frequent decoration on belt mounts like our one were incision and punching, as well as niello. The decoration on the mount from Gardun consists of a rosette and a chequered pattern framed with a series of triangles, which is a usual motif on buckle mounts in the first century.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 78, 79, cat. no. 46; IVČEVIĆ 2010, 140. P. 1.1.

References: BEHRENS 1918, 28, fig. 9; HENDERSON 1949, P. XXXIII. 72; UNZ 1972, 55, fig. 4. 12; UNZ - DESCHLER-ERB 1997, P. 40. 1012, 1020; P. 45. 1211, 1232-1233; DESCHLER-ERB 1999, P. 19. 354; SIMPSON 2000, 151, P. 25. 29; IVČEVIĆ 2004, 166, P. 1. 6; BISHOP - COULSTON 2006, 108, fig. 62. 3, 21.

## 27. Three-part leaf-shaped pendant from a riding harness, Fig. 6.1

Inv. no. AMS H 2125

Material: bronze

Dimensions: height 3.6 cm, width 3,35 cm

Description: Three-part leaf-shaped pendant; the suspension loop was made by bending toward the back of the pendant, there is a groove on either side of the shoulder, the central part has a triangular ending, ending in the shape of a palmette on both sides; there are two openings on the upper part of the pendant, the surface is decorated with irregular incised lines, and the motif is not discernible. It belongs to Bishop type 1, variant 1s. They appeared from the Claudian to Flavian eras, after which they mostly fell out of use. They were hung on the straps by phalerae, and they are almost invariably decorated with incision, silvering and niello. There are many variants of their shape, the central part is generally leaf-shaped, and the basic decorative motifs are vegetable.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 93, cat. no. 81; IVČEVIĆ 2010, 140, P. 1. 6.

References: DIXON - SOUTHERN 1992, 69, fig. 38; VANDEN BERGHE 1996, 89, P. 17. 4; UNZ - DESCHLER-ERB 1997, P. 51, 1390.

28. Three-part leaf-shaped pendant from a riding harness, Fig. 6.2

Inv. no. AMS H 4617

Material: bronze

Dimensions: height 7 cm, width 6.3 cm, thickness: 0.1 cm

Description: There are two peltate perforations on the upper part of the pendant, and the same design is formed by lateral arms that curl outwards and again connect with the pendant; the middle arm ends in the shape of a palmette, while the lateral ones taper towards the top; the front is decorated with incised vegetable motifs and with dotted lines along the edge; remains of silvering are visible at several places; a loop at the top of the pendant served for affixing the pendant to the phalera.

Dating: Latter half of the 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 98, cat. no. 92; IVČEVIĆ 2004, 166, P. 1. 19.

References: RITTERLING 1913, 178, P. XII. 37; Petru 1972, P. XCV. 21; BOUBE-PICCOT 1964, 159, fig. 1. 6; LAWSON 1978, 15, fig. 9. 7-8; KOŠČEVIĆ 1991, 49, P. XV. 220; MACKENSEN 1991, 174, fig. 4. 4; DIXON - SOUTHERN 1992, 69, fig. 38; UNZ - DESCHLER-ERB 1997, P. 51, 1384; ŠEPAROVIĆ 2003, 243, P. 5. 2; IVČEVIĆ 2004, 237, 241, fig. 9.

29. Lunular pendant from a riding harness, Fig. 6.3

Inv. no. AMS H 3556

Material: bronze

Dimensions: height 4.6 cm, width 3.9 cm

Description: Lunular pendant with arms turned downward ending with a decorative knob; the central palmette-shaped decoration is hinged to the phalera.

Dating: Augustan-Tiberian period

Publication: RADMAN-LIVAJA 2010, 97, cat. no. 88; IVČEVIĆ 2010, 141, P. 2,11.

References: UNZ - DESCHLER-ERB 1997, P. 48. 1319; VOIROL 2000, 52, P. 10. 89; MULLER 2002, P. 51. 557; FAHR 2005, 129, fig. 9. 5.

30. Leaf-shaped pendant from a riding harness, Fig. 6.4

Inv. no. AMS H 6179

Material: bronze

Dimensions: height 4.3 cm, width 0.9 cm, thickness 0.15 cm

Description: Pendant with undulating edges, the front is decorated with incised lines and dots, the end is spherical, the loop formed by bending the wire upon itself.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 99, cat. no. 94; IVČEVIĆ 2004, 166, P. 2. 22.

References: UNZ - DESCHLER-ERB 1997, 47, P. 56.1533.

31. Leaf-shaped pendant from a horse harness, Fig. 6.5

Inv. no. AMS H 2482

Material: bronze

Dimensions: height 4.8 cm, width 1.25 cm, thickness: 0.1 cm

Description: Pendant with undulating edges decorated with concentric circles; the front is decorated with incised lines, the lower part of the pendant is flattened in the form of a rhomb, ending with a decorative knob, the loop consists of a bent wire.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 99, cat. no. 95; IVČEVIĆ 2004, 167, P. 2. 23.

References: UNZ - DESCHLER-ERB 1997, p. 47, P. 56, 1537.

32. Leaf-shaped pendant from a riding harness, Fig. 6.6

Inv. no. AMS H 1612

Material: bronze

Dimensions: height 2.35 cm, width 1.7 cm

Description: The pendant is a variant of the leaf-shaped pendants; the suspension loop is made by bending backward, the lower part is missing, the decoration is executed with incised lines and kidney-shaped perforations. These pendants are rarely found on Roman sites, and the type features certain differences. They appear in somewhat larger number in western Gallia, which is why scholars trace their origin there. They are dated to the Flavian era, i.e., the latter half of the first century. Similar pendants are attributable to Bishop type 5, with a basically teardrop body tapering towards the lower part. In view of the fact that the Gardun piece lacks the lower part, the possibility that it belonged to that type should be left open.

Dating: Latter half of the 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 96, cat. no. 87; IVČEVIĆ 2010, 141, P. 2.10.

References: UNZ 1974, fig. 11. 132; OLDENSTEIN 1976, P. 30. 207; UNZ - DESCHLER-ERB 1997, P. 56. 1555-1556; DESCHLER-ERB 1999, P. 28. 574; POUX - ROBIN 2000, 205, fig. 16. 5; MATEŠIĆ 2005, 111, P. 13. 180; KOŠČEVIĆ 2008, 261, fig. 50.

33. Lunular pendant from a riding harness, Fig. 6.7

Inv. no. AMS H 3557

Material: bronze

Dimensions: length 6.7 cm, height 4.55 cm

Description: Upward-facing lunular ornament, with a fist on one side and a phallus on the other; incised lines are on the front.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 97, cat. no. 89; IVČEVIĆ 2010, 141, P. 2.12.

References: UNZ 1972, 58, fig. 7. 71; FRANKEN 1996, 109, fig. 207.; DESCHLER-ERB 1999, P. 27, 539-540; UNZ - DESCHLER-ERB 1997, P. 58. 1616; MÜLLER 2002, P. 46. 515.

34. Pendant from a riding harness, Fig. 6.8

Inv. no. AMS-70561

Material: bronze

Dimensions: height 4.6 cm, height with button 6.65 cm, width 2.4 cm

Description: Teardrop pendant ending with a decorative knob, the loop at the top was made by bending backwards, the circular head of the button with the loop, used to attach the pendant to the belt, is missing a small piece.

Dating: Latter half of 1<sup>st</sup> cent./2<sup>nd</sup> cent.

Publication: RADMAN-LIVAJA 2010, 95, cat. no. 85; IVČEVIĆ 2010, 141, P. 1.8.

References: BEHRENS 1912, 88, fig. 4. 16; UNZ 1974, 39, fig. 11. 131; fig. 12. 133; NEDVED 1981, 157, fig. 2. 71; DEIMEL 1987, P. 83.2; KOŠČEVIĆ 1991, P. XIII. 204; UNZ - DESCHLER-ERB 1997, P. 55. 1479; VOIROL 2000, 55, P. 13. 113; DESCHLER-ERB 1999, P. 30. 589, 594; FEUGERE - POUX 2001, 83, fig. 5.7; ŠEPAROVIĆ - URODA 2009, 45, fig. 64.

35. Mount from a saddle strap, Fig. 7.

Inv. no. AMS H 2958

Material: bronze, tin

Dimensions: length 9 cm, height 5 cm

Description: Openwork mount from a saddle strap, with four loops belonging to a hinge on one side and with a missing edge on the other side. Eight rivets, five of which are preserved, were lined along the hinge of the mount. Such mounts were usually used as decorative items on the straps hanging from the saddle. The peculiarity of the Gardun piece is that it is bent on one side and has loops for a hinge. They formed part of the equipment of early imperial horsemen. Securely dated specimens belong to the period from Tiberius to Nero, with tentative evidence of use during the Flavian era.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 105, cat. no. 109; RIEGL 1901, P. XIV. 8.

References: UNZ - DESCHLER-ERB 1997, P. 65. 1877, 1884; DESCHLER-ERB 1999, P. 39. 732

36. Pickaxe (dolabra), Fig. 8.

Inv. no. AMS H 4911

Material: iron

Dimensions: length 47 cm, length of blade of axe 13.4 cm, diameter of the shaft hole 5 x 3.5 cm, weight 1900 g

Description: The shaft hole is oval; a gently curved point is on one side and a flattened trapezoidal axe on the other. Dolabra (Roman military axe) was a part of military equipment, used for digging trenches, forest clearing, lumber work, construction works, but also as a weapon. Ancient writers mention it in military contexts. Taking into consideration the size and position of the point with regard to the axe, as well as the fact that it was found at Gardun, one may conclude that it was a military axe. The form of the shaft hole allows its dating to the first century.

Dating: 1<sup>st</sup> cent.

Publication: RADMAN-LIVAJA 2010, 105, cat. no. 110; IVČEVIĆ 2004, 167, P. 2. 30.

References: HOFFILLER 1911, 174, fig. 17; PIETSCH 1983, 16, 17, P. 3. 45; VANDEN BERGHE 1996, 91, P. 18. 4; BISHOP - COULSTON 2006, 118, fig. 68. 2, 5.

37. Amphora-shaped belt strap end, Fig. 9.

Inv. no. AMS H 4898

Material: bronze

Dimensions: height 4.8 cm, width: 2.1 cm, thickness 0.2 cm

Description: There is a kidney-shaped openwork design in the centre and on either side in upper part, and the entire surface is covered with impressed concentric circles; only a small part of the suspension loop or a rivet has remained.

Dating: Latter half of 4<sup>th</sup> cent./first half of 5<sup>th</sup> cent.

Publication: RADMAN-LIVAJA 2010, 92, cat. no. 78; IVČEVIĆ 2004, p. 166, P. 1. 10.

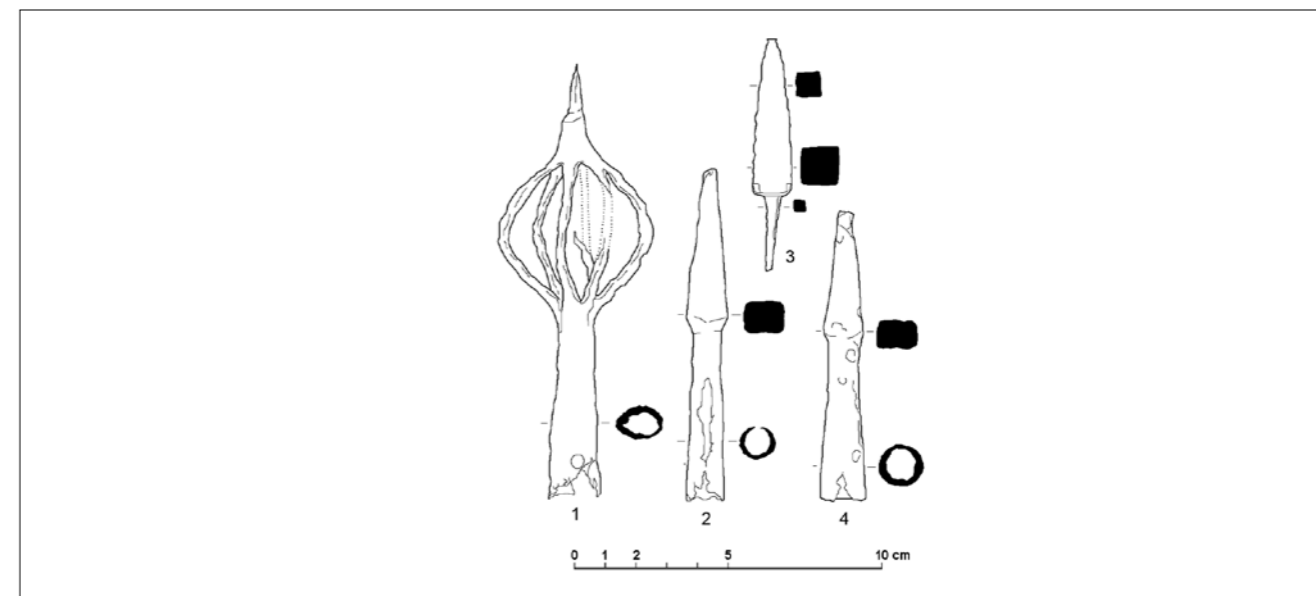
References: BEHRENS 1918, 28, fig. 8. 6; HENDERSON 1949, 129, P. XXXVI. 112-113; BULLINGER 1969, P. XII. 1-1a; P. XIII. 5-5a, fig. 116, grave 270, 6; SAGADIN 1979, 315, P. 10. 4; P. 10, 6; KOŠČEVIĆ 1991, 70, P. XXVII. 379; VIŠIĆ-LJUBIĆ 1994, 227, 231, cat. no. 7; BUORA 2002, 196, P. V. 53.



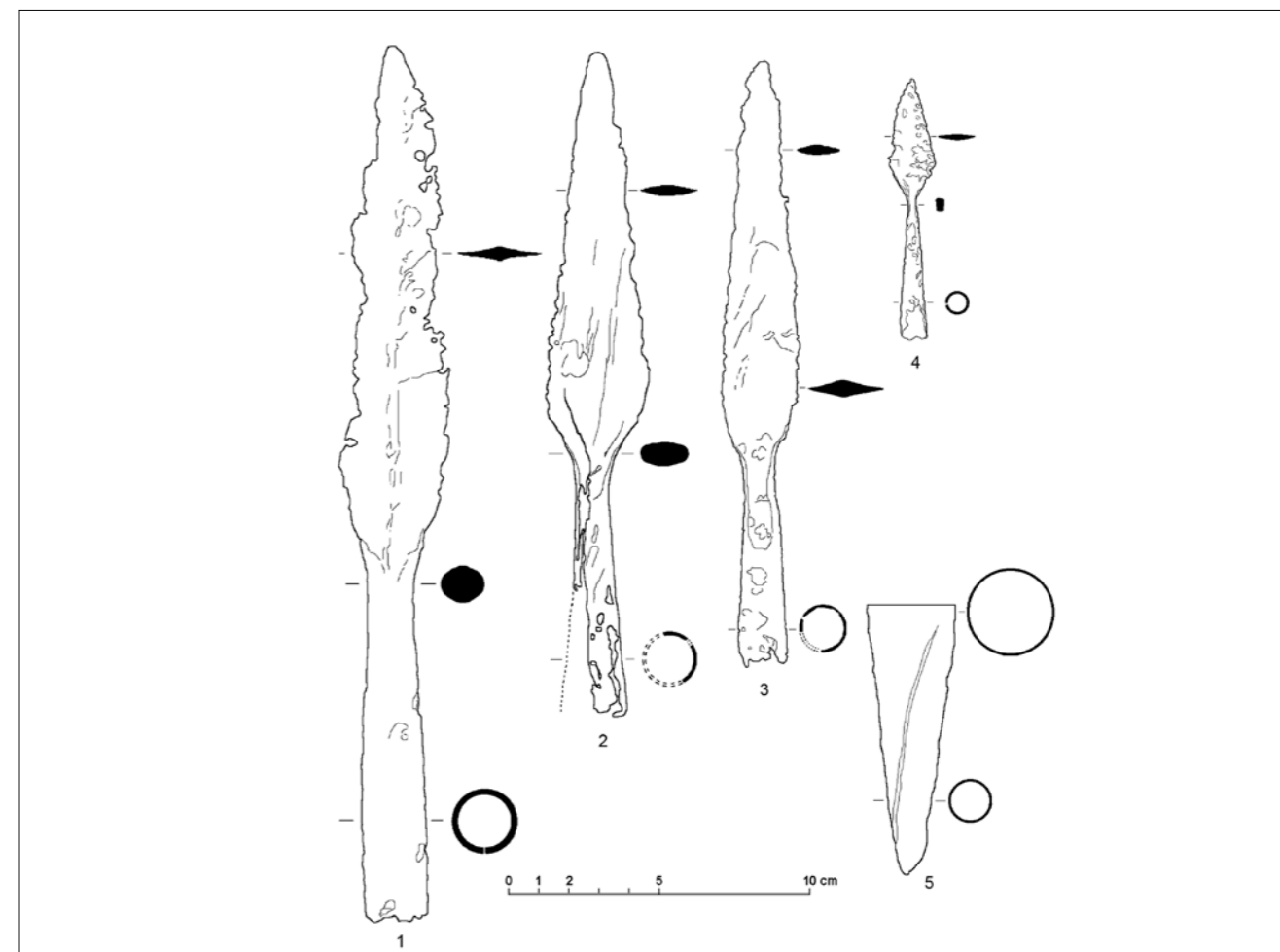
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P. 1 / 1-4



P. 2 / 1-5