
ROMAN MILITARY EQUIPMENT FROM TYRAS¹

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ABSTRACT:

Finds of weaponry, military equipment, and supplies represent an important indicator of a military presence. This article presents artefacts discovered at various times in Tyras. They were found either within the Roman citadel or in areas located nearby. The archaeological context of some items remains unknown.

Particularly noteworthy are weapons such as iron anti-cavalry caltrops (*tribuli*), iron spearheads, and bone chapes from the scabbards of Roman long swords (*spatha*). Elements of military dress are represented by bronze fittings of the belt (*balteus*) – including terminals, pendants, and decorative plates – as well as hinged and T-shaped fibulae. A component of horse harness is represented by an openwork bronze pendant (*lunula*).

These items of equipment have numerous parallels in Roman military camps of the 2nd to the first half of the 3rd century AD across the Empire: along the Upper German-Raetian and Danubian *limes*, in Britain, Syria, and the Northern Black Sea region. Their chronology corresponds to the period of the Roman military presence in the city.

REZUMAT: ECHIPAMENTUL MILITAR ROMAN DE LA TYRAS

Descoperirile de componente ale armamentului, echipamentului militar și proviziilor constituie un indicator important al prezenței militare. În acest articol sunt prezentate artefacte descoperite în momente diferite în Tyras. Acestea au fost găsite fie în cetatea romană, fie în zone aflate în apropierea acesteia. Contextul arheologic al unor piese rămâne necunoscut.

Se remarcă în special armele: capcane anticarierie din fier (*tribuli*), vârfuri de suliță din fier și vârfuri din os de la teți ale săbiilor lungi romane (*spatha*). Elemente ale echipamentului militar sunt reprezentate prin accesorii din bronz ale centurii (*balteus*) – capete de curea, pandantive și plăcuțe decorative – precum și prin fibule articulate și în formă de T. Un element al harnașamentului ecvestru este reprezentat de un pandantiv ajurat din bronz (*lunula*).

Aceste piese de echipament își găsesc numeroase analogii în taberele militare romane din secolele II – prima jumătate a secolului al III-lea d.Hr., de pe teritoriul Imperiului: de-a lungul limesului germanico-retic și dunărean, în Britannia, Siria și regiunea nord-pontică. Din punct de vedere cronologic, acestea corespund perioadei de staționare a contingentului roman în oraș.

KEYWORDS: Roman Empire, Tyras, army, military equipment, ammunition

CUVINTE CHEIE: Imperiul Roman, Tyras, armată, echipament militar, muniție

Following the Dacian campaigns of Emperor Trajan, detachments from three Roman legions were stationed in the city of Tyras. This deployment is well-documented through epigraphic evidence as well as legionary stamps found on construction tiles. The military presence in the city continued until the mid-3rd century AD.

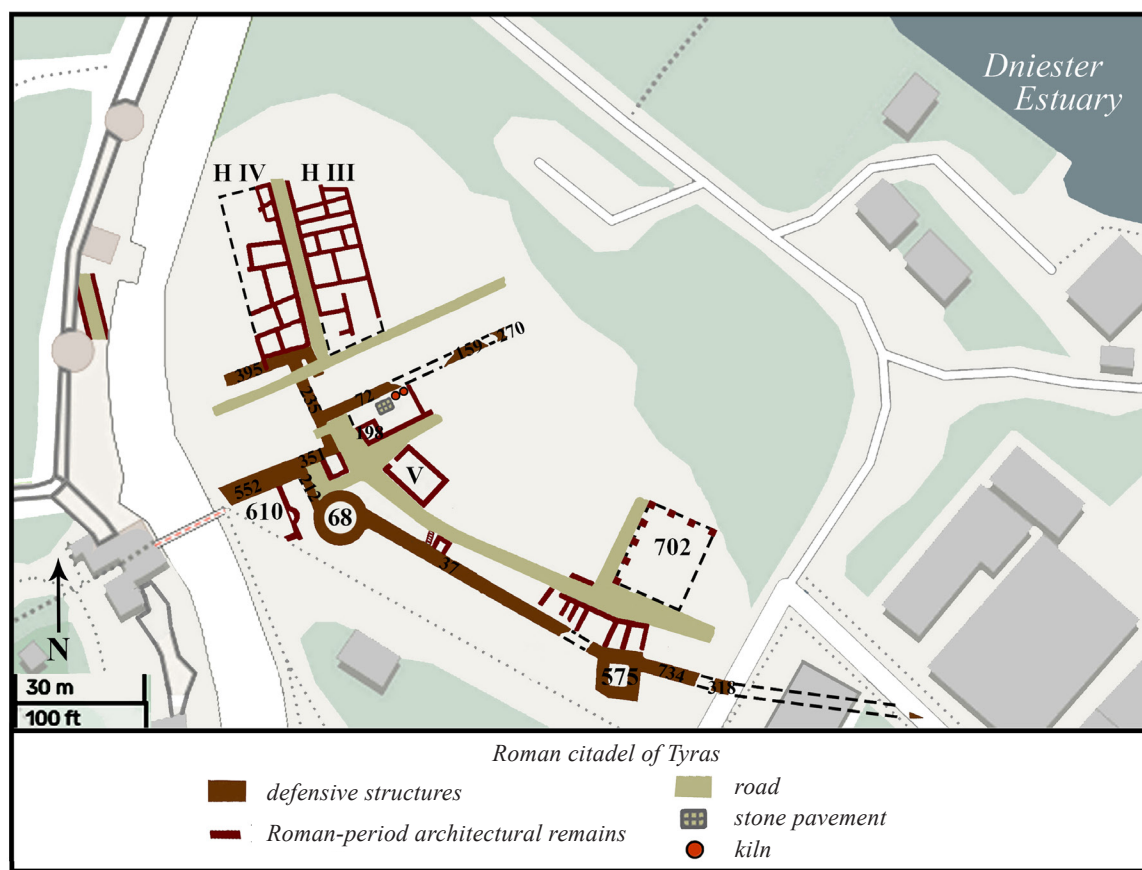
Archaeological data indicate that the military contingent was quartered within the city's citadel, located in its eastern sector (Fig. 1). This arrangement is not without parallels; similar examples of legionary presence within fortified citadels are known from Chersonesus² and Olbia.³

Between 1963 and 1967, excavations within the citadel uncovered a large structure (Building No. V), measuring 10.9 × 6.2 meters. The remains included a collapsed roof composed of ceramic tiles and unbaked clay, with voids left by decomposed straw used in the original construction.

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² Zubar and Sorochan 2008, 156-249.

³ Buisikh and Novichenkova 2021, 11-67.



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Fig. 1. Roman citadel of Tyras. 1 – drawing by Kateryna Savelieva, 2 – drone image by Oleksandr Gimánov (2020), modified by Kateryna Savelieva in 2025.

Several dozen fragments of roof tiles bore stamps containing the initials of a centurion of *Legio I Italica*. Beneath the collapse layer, on the clay floor, poorly preserved iron objects were discovered, including possible spearheads and several iron caltrops (*tribuli*), which were used as anti-cavalry obstacles.

The building yielded coins of Tyras and Roman emperors, glass gaming and counting tokens, oil lamps, fibulae (notably a T-shaped hinged fibula), several sections of a bone comb, and other small finds. The precise function of the building remains undetermined. Isaac Kleiman identified it as a *vexillation* building, suggesting – based on the nature of the finds – that it may have served as an arsenal.⁴

In Tyras, troops affiliated with legions stationed in Moesia Inferior were quartered. The garrison consisted of *vexillationes* (regular field detachments of the Lower Moesian legions), *auxiliares* (auxiliary units), and *classarii* (naval personnel).

Initially, these detachments were commanded by centurions of *Legio V Macedonica*. From the mid-2nd century onwards, the Tyras garrison comprised elements from three legions: *Legio V Macedonica*, *Legio I Italica*, and *Legio XI Claudia*. Until the turn of the 2nd-3rd centuries AD, the garrison was led by centurions of *Legio I Italica*. Subsequently, up to the mid-3rd century, the city was occupied by soldiers of *Legio XI Claudia*.

Undoubtedly, one of the most important indicators of military presence is the discovery of weapon components, military attire, everyday items, and tools related to logistical and domestic activities. Elements of Roman military equipment are found not only in military camps along various sections of the *limes*, but also in ancient cities, including those of the Northern Black Sea region. These finds are not always directly associated with the known locations of military units – some originate from civilian contexts, while others are likely incidental. However, such items are not considered common or mass-produced finds.

With the exception of a few publications focused on individual objects, Roman military equipment from Tyras has never been the subject of a dedicated study. To date, a small but noteworthy collection of artifacts related to the armament and gear of Roman legionaries has been assembled.⁵

Weapons

Tribuli. Several iron four-pronged caltrops were recovered from the fill of the *vexillation* building⁶ (Fig. 2/1-7). Their dimensions are approximately 5 × 5 cm, with some specimens slightly larger. Identical items have been found at various other sites. These objects were used as anti-cavalry devices. When thrown onto the ground, they would rest on three prongs, leaving the fourth pointing upward, ready to injure horses or personnel.

Similar artifacts have been discovered at several sites across Gaul and southern Dacia, as well as in Augsburg-Oberhausen, Siscia, Mogorello, the fort at Newstead, the camp at Haltern, Carnuntum, Northern York, Corbridge, and Enns-Lauriacum. Examples are also held in the collection of the National Museum of Wales,⁷ among others.

Bone Chapes from Long Sword (Spatha) Scabbards. Three chapes have been recovered from the excavations in Tyras. One of them, found within the Roman citadel area during the 1988 excavations, has a rectangular shape with slight tapering on the sides. The upper part features two through-arched cutouts. A small perforation is drilled along the central axial line (Fig. 2/8).⁸ Its dimensions are: height 5.5 cm, width 3.8 cm.

The second *buterole* is held among the objects from the 1949-1962 excavations at Tyras; no data regarding its find context are available⁹ (Fig. 2/9). Its dimensions are: height 6 cm, width 4.4 cm. In cross-section, it has an oval shape. The central part features an oval projection divided by a vertical raised ridge. At the upper part, on both sides of the ridge, there are two through *pelta*-shaped cutouts.

In 2016, another – the tip of a long Roman sword scabbard – was discovered in a Roman-period room near the citadel (Fig. 2/10).¹⁰ It is made from a single piece of ivory and has a rectangular shape with concave sides. The lower part features a slight widening. The surface is finely finished and polished, showing traces of work with a sharp tool. The lateral edges are decorated with incised longitudinal lines. At the upper part, centrally located, there

⁴ Kleiman 1971, 229-238; Kryzhitskiy and Kleiman 1979, 45.

⁵ The materials presented in this article are kept in the collections of Institute of Archaeology of the National Academy of Sciences of Ukraine, Odesa Archaeological Museum of the National Academy of Sciences of Ukraine and the Bilhorod-Dnistrovskiy Museum of Local Lore.

⁶ Kleiman 1971, 233.

⁷ Radman-Livaja 2004, tabl. 34; Filip 2023; Busuladžić 2011, 348, 358, № 9; Curle 1911, pl. XXXVIII, 14; Flügel 2010; Chapman 2005, K.

⁸ Son and Nazarov 1993, 120-121, pl. 1-2.

⁹ Chernenko et al. 1989, 250-252.

¹⁰ Saveliev 2021.

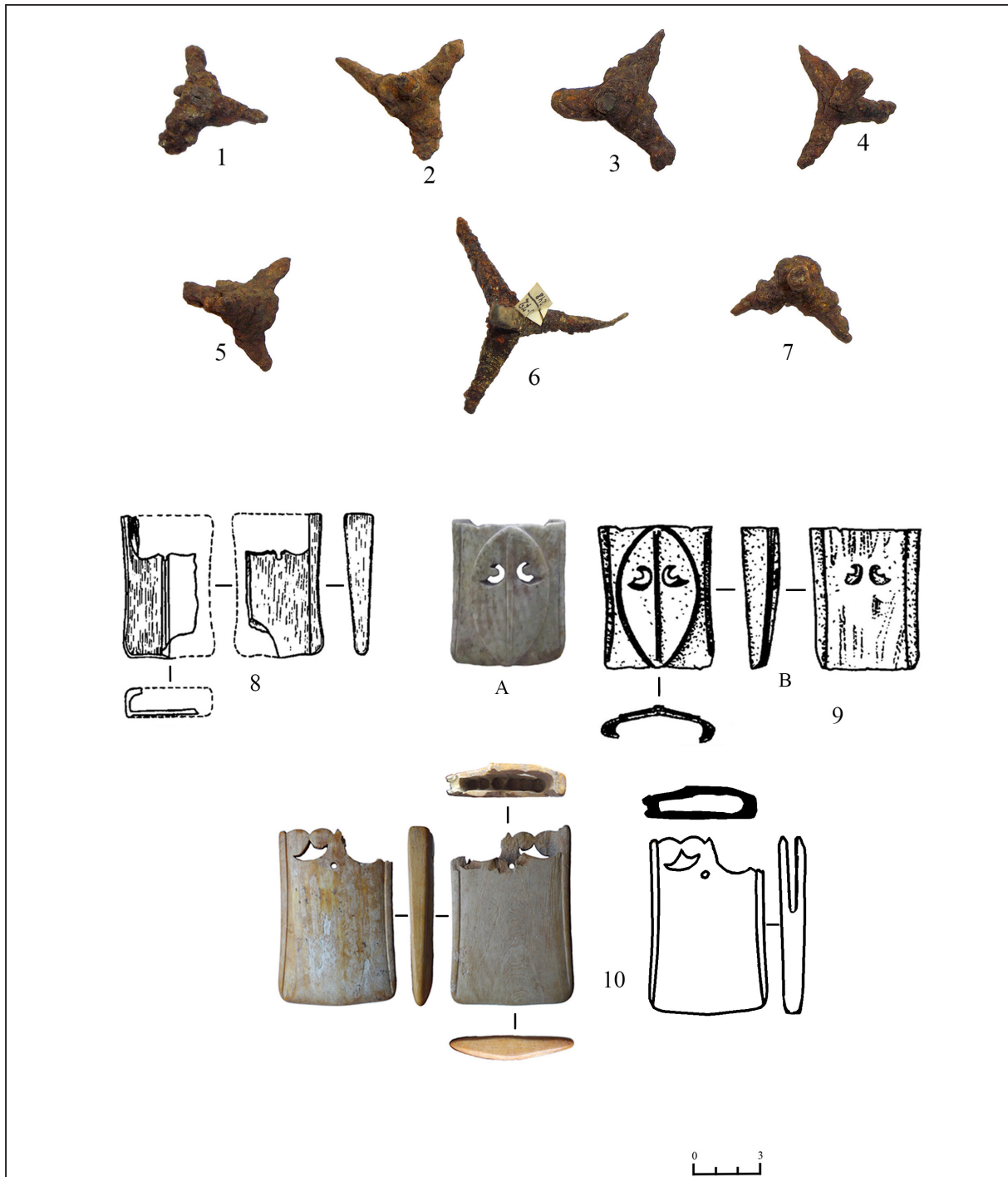


Fig. 2. Weapons. 1-7 – caltrops (tribuli) (after: Saveliev 2019), 8-10 – bone chapes – parts of Roman long sword scabbards (8 – after: Son and Nazarov 1993, 9A – photo by the author; 9B – after: Chernenko et al. 1989, 3 – after: Saveliev 2021).

is a round perforation intended for a rivet to secure it to the scabbard, as well as a decorative *pelta*-shaped cutout (the second, parallel cutout, is no longer preserved). Dimensions: height 7.8 cm, width at the middle 5.1 cm.

The chapes similar to those found in Tyras are typically discovered at sites associated with the deployment of Roman military units. Such items are known, in particular, from military camps along the Lower Germanic and Upper Germanic-Rhaetian *limes* (Valkenburg, Niederbieber, Zugmantel, Saalburg, Holzhausen, Hedderheim, Stockstadt, Osterburken, Arzbach, Augusta Raurica),¹¹ in Britannia (Colchester, London, Malton, Silchester,

¹¹ Nicolay 2007, Fig. 6.4, 1-2; Jacobi 1897, fig. 78, 5-6; Oldenstein 1977, 116-120, Taf. 25-27; Deschler-Erb 1998, Taf. 42, 4015-4021; Carnap-Bornheim 1994, Abb. 12.

Exeter, York, Chester, Verulamium, Caerleon, Richborough, South Shields),¹² as well as from Pannonia (Brigetio, Aquincum),¹³ Dacia (Potaissa),¹⁴ Syria (Dura-Europos),¹⁵ and other locations. In the Northern Black Sea region, analogous objects have been found at Olbia and Chersonesus.¹⁶

The specimens from Tyras belong to some of the latest types and are dated to the second half or end of the 2nd century through the mid-3rd century AD. This dating is generally corroborated by the associated finds from the layer where the third *buterole* was discovered: fragments of amphorae of the types Shelov C and Shelov D, Zeest 72, Zeest 79 / Kapitän II, Zeest 90 / Dressel 24, Pontic sigillata, “Kozyrka” type pitchers, a single-handled cup with a white paint inscription, pottery lamps of the “Tyrasian” type, among others.¹⁷

It is believed that such components of military equipment were used by auxiliary troops. As is known, the *vexillatio* stationed at Tyras included personnel from such units, which is confirmed by epigraphic evidence. This new find provides a valuable source for the study of the characteristics of Roman military equipment and for understanding the nature of Roman military presence in the region, particularly in Tyras during the 2nd to first half of the 3rd century AD.

The Spearheads. During the excavations of Room No. 24 in residential building No. IV-F, a heavily fragmented iron spearhead was discovered.¹⁸ Additionally, in the lower horizon of the ancient layer, predominantly containing 2nd-century AD finds, numerous poorly preserved iron objects resembling spearheads were uncovered.¹⁹

Elements of Military Attire

The military equipment includes bronze components of the soldier’s attire –parts of the belt (*balteus*): buckles, belt fittings, strap terminals, pendants, as well as fibulae.

Harness Fitting. This object is a rectangular plate featuring a central *pelta*-shaped element and a hinge on one side (Fig. 3/1). Dimensions: length 5.7 cm, width 3.7 cm. It likely functioned as a harness clasp. A similar item is known from Novi Banovci (*Burgenae*).²⁰

Belt Terminals and Pendants. The belt terminal ends in a ring with a long protrusion at the bottom, while the upper part is widened and bifurcated. It was attached to the belt using a rivet (Fig. 3/2). Length: 7.2 cm. Terminals of this type are attributed to the Roman tradition, although they were also widely used among Germanic peoples. Similar examples are known from Pfünz, Dura-Europos, Porolissum, Potaissa, and Acidava.²¹

Belonging to a Two-Part Terminal. This pendant features a rhomboid shape in the central section, narrowing toward the loop, and ending with a rounded protrusion at the bottom. The body is clearly defined (Fig. 3/3). Length: 2.5 cm. Similar pendants have been found at Vindobona, Carnuntum, Siscia, Buciumi, Dura-Europos, Porolissum, and Novae, and are also present in collections of Roman artifacts from Novi Banovci (*Burgenae*), Salona, Burnum, and the National Museum of Wales.²² Several pendants have been found at various archaeological sites in Serbia.²³

Another pendant has an elongated, teardrop-shaped form (Fig. 3/4). Length: 4 cm. Like the previous examples, such pendants are also widely attested throughout the territory of the Roman Empire.²⁴

¹² Greep 1983, fig. 127, fig. 128, 11-17; Bishop and Coulston 1993, Fig. 90, 10; Marchant 1991, pl. 7, 2-3, fig. 5. 1-4; Chapman 2005, 16-17.

¹³ Biró 1987, 156, fig. 2. 8-9; Biró 1994, Pl. IV, 21; Zsidi 2013, fig. 19, c.

¹⁴ Bărbulescu 1997, 81, Abb. 29, 19; Fodorean 2017, 77-78, pl. XXXVII, 12.

¹⁵ James 2004, fig. 46, 370.

¹⁶ Son and Nazarov 1993, 121-122, pl. 3-4; Nazarov 1998, 181, fig. 1, 1; Zubar and Antonova 2001, 122-125; Kostromichev 2011, 49-50, рис. 21, 2.

¹⁷ The classification of amphora types for the field catalogues was done by Denis Masiuta.

¹⁸ Furmanskaia 1964, 63. The structure suffered extensive damage due to an assault and subsequent fire dating to the mid-3rd century AD. A spearhead was discovered in close proximity to a human skeleton within the building. The spearhead is fragmentary and its precise typology cannot be established. Consequently, it remains uncertain whether the weapon belonged to the individual defending the premises or to the assailant.

¹⁹ Kleiman 1971, 233.

²⁰ Radman-Livaja 2008, № 66.

²¹ Bishop and Coulston 1993, 152, № 15; Gudea 1989, pl. CCXII, 34; Fodorean 2019, pl. LXXIV, 4; Grosu 2013, pl. 8, 5.

²² Maspoli 2014, taf. 16, 114-117; Boulasikis et al. 2012, 126, taf. LXVIII, BZ 103, 143-11, 160, 804; Radman-Livaja 2004, tabl. 41, cat. 317; Gudea and Pop 1972, Taf. LXXI, 2, 9, 18; Genčeva 2000, tab. V, 6; James 2004, fig. 40, № 154; Hoss 2014, Taf. 78, № 143; Radman-Livaja 2008, № 51-65; Ivčević 2022, 407, № 17; Šeparović and Uroda 2009, 48, № 77; Chapman 2005, Wa 9-10, 26.

²³ Redžić 2013, t. LXIX, №798-804, t. LXX, 805-825.

²⁴ Cheben and Rutkay 2010, abb. 4, 6; Hoss 2014, Taf. 76-79; Radman-Livaja 2008, № 48-50; Maspoli 2014, taf. 16, 118-120; Ivčević 2022, 407-408, №№ 16, 18; Redžić 2013, t. LXX, 826-840.

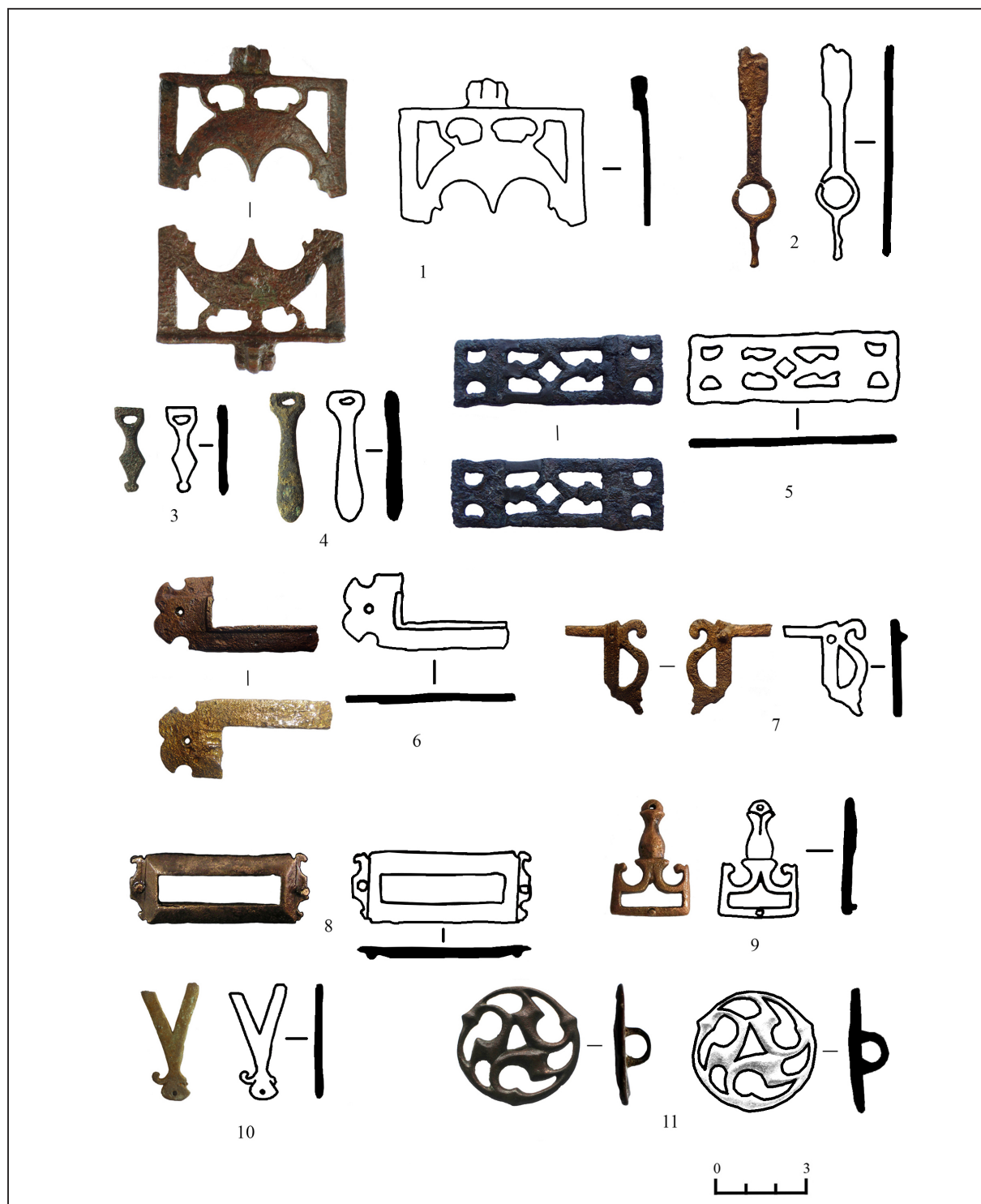


Fig. 3. Details of a military uniform. 1-11 (after: Saveliev 2019).

Fittings. A rectangular fitting with shaped *pelta*-like cutouts along the edges (Fig. 3/5) represents a typical component of a Roman belt set. Dimensions: length 6.8 cm, width 2.4 cm. A wide range of similar items is known, differing mainly in the design of the central motif, and originating from sites in Germania, Dalmatia, Belgica, Noricum, Raetia, Pannonia, Britannia, and Moesia Inferior²⁵. The closest parallels to the fitting from Tyras are a complete plate from Enns (Austria)²⁶ and a fragmentary plate from the post on the Vysota Kozatska.²⁷

²⁵ Hoss 2014, Taf. 44-50; Ciugudean 2017, pl. I, 1-4.

²⁶ Hoss 2014, Taf. 46, № № 985.

²⁷ Gawroński and Karasiewicz-Szczypiorski 2015, fig. 4, 1.

A rectangular fitting with a rectangular cutout in the central part; on the short side, it features a double rostral projection with a central perforation (Fig. 3/6). Dimensions: length 5.6 cm, width 2.6 cm. Similar fittings are known from Berezan, Gerulata, and Kopačeni.²⁸

A fragment of a rectangular fitting featuring an S-shaped projection on the short side and a pin on the reverse (Fig. 3/7). Dimensions: 2.7 × 3.1 cm. This fragment shows certain similarities to elements of fittings from the *VTERE FELIX* type belt set.

A rectangular fitting with a rectangular cutout in the centre, but unlike the previous examples, it has a pyramidal truncated shape. Along the edges are decorative projections, each featuring small rivets in the centre (Fig. 3/8). Dimensions: length 5.9 cm, width 2.3 cm. Similar fittings of this form are known from Aquileia²⁹ and Viminacium.³⁰

An appliqué, anchor-shaped belt fitting with a mounting hole (Fig. 3/9). Dimensions: length 3.8 cm, width at the lower part 2.6 cm. Similar fittings without cutouts are known from Singidunum,³¹ Solin,³² and generally from the Noric-Pannonian region.³³ They date to the second half of the 2nd century to the first half of the 3rd century AD.

A fragment of a V-shaped fitting ending in a widened section with a small hole and curved lateral projections (Fig. 3/10). Length: 3.8 cm. Fittings with this type of ending are known from several sites in Germania.³⁴ It is also possible that this piece is part of a *VTERE FELIX* type belt set.

Round Plate. A bronze decorative object in the form of a ring with an openwork interlacing of three elements in the well-known *Trompetenornament* motif (Fig. 3/11).³⁵ Diameter: 4.6 cm. This plate has also been interpreted as a piece of horse harness decoration.³⁶ Similar rings are well-known from finds in Roman military camps and date from the mid-2nd to mid-3rd centuries AD (Zugmantel, Böming, Dura-Europos, Siscia, Banasa, Chersonesus).³⁷

Details of military attire are often discovered in the archaeological layers of sites. This is unsurprising, as such small components frequently detached from clothing and were lost. Soldiers could replenish these losses locally by commissioning repairs or replacements from local craftsmen. Additionally, during military campaigns, supply trains were often accompanied by private vendors and blacksmiths who could meet the needs for repair or replacement of fittings. Small private armouries existed, competing with workshops in major cities. It is quite possible that blacksmiths were part of the garrison, repairing and producing new accessories. The majority of metal fittings finds come from sites associated with Roman military presence – towns, *castella*, and *castra*. Nevertheless, such items, albeit in smaller numbers, also appear in non-military contexts, further attesting to the mobility of soldiers.

Among the finds from Tyras, there are several fibulae that may have been associated with Roman military attire. The fashion for fibulae was widespread throughout the Roman Empire and among the civilian population. Nevertheless, the discovery of fibulae within the Roman citadel, along with numerous parallels from Roman military sites, strongly suggests a probable connection to the military.

Knee-shaped Fibulae. A two-part bronze fibula with a sharply bent, knee-shaped bow ending in a terminal knob; it features a high catch plate. The foot plate is decorated with a “caterpillar” stamp pattern (Fig. 4/1). Length: 4 cm. A large number of such fibulae originate from sites along the Danube, particularly from the Roman castellum layers at Iža and Iatrus, as well as from Vindobona, Durostorum, Olbia, and Roman forts at Newstead and Sorviodurum.³⁸ They are primarily dated to the 2nd century AD, although some examples are known from the following century as well.

A bronze fibula with a sharply bent, knee-shaped bow ending in a terminal knob. The head is rectangular in plan and widened (Fig. 4/2). Length: 2.4 cm. An identical fibula was found at the castellum in Iža.³⁹ Such fibulae were common in Moesia, Dacia, Pannonia, and Britannia, mainly during the second half of the 2nd century to the first half of the 3rd century AD.⁴⁰

²⁸ Kozlenko 2022, 29-30, fig. 2, 1; Kreković 1994, fig. 5, 6; Hoss 2014, Taf. 48, № 1105.

²⁹ Buora 2001, 46, tab. 1, 6.

³⁰ Redžić 2013, 197, t. XLVII, № 435.

³¹ Crnobrnja, Krnić 1997, 288, № 486-487.

³² Ivčević 2022, 405-406, №№ 13-14.

³³ Hoss 2014, 199-200, taf. 59, B. 1626-1634, taf. 60, B. 1635-1647.

³⁴ Hoss 2014, Taf. 51, №№ 1220-1235.

³⁵ Kleiman and Son 1983, 54.

³⁶ Zubar and Son 1999, 121; Treister 2000, 156-157.

³⁷ Oldenstein 1976, Taf. 69, 902-904; James 2004, 74, fig. 36, 24-25; Košćević 1991, 78, 546; Vujović 2003, t. II, 6; Kostromichev 2006, pl. 13, 14; Hoss 2014, 181, taf. 55, B. 1429.

³⁸ Rajtár 1992, 157, Abb. 15, 3-8; Gomolka-Fuchs 2007, Taf. 1, № 1447; Schmid 2010, taf. 20-21; Nuțu and Elefterescu 2018, pl. 6-8; Buiskikh and Novichenkova 2021, 46, fig. 31, 6-7; Curle 1911, pl. LXXXVII, 30; Walke 1965, taf. 93, 12.

³⁹ Rajtár 1992, 157, Abb. 15, 2.

⁴⁰ Gudea 1989, pl. CLXXXVI-CLXXXVII; Cociș et al. 2024, 82, pl. II, 18-23; Protase et al. 2008, pl. XI, 1-3; Nemeti 2017,

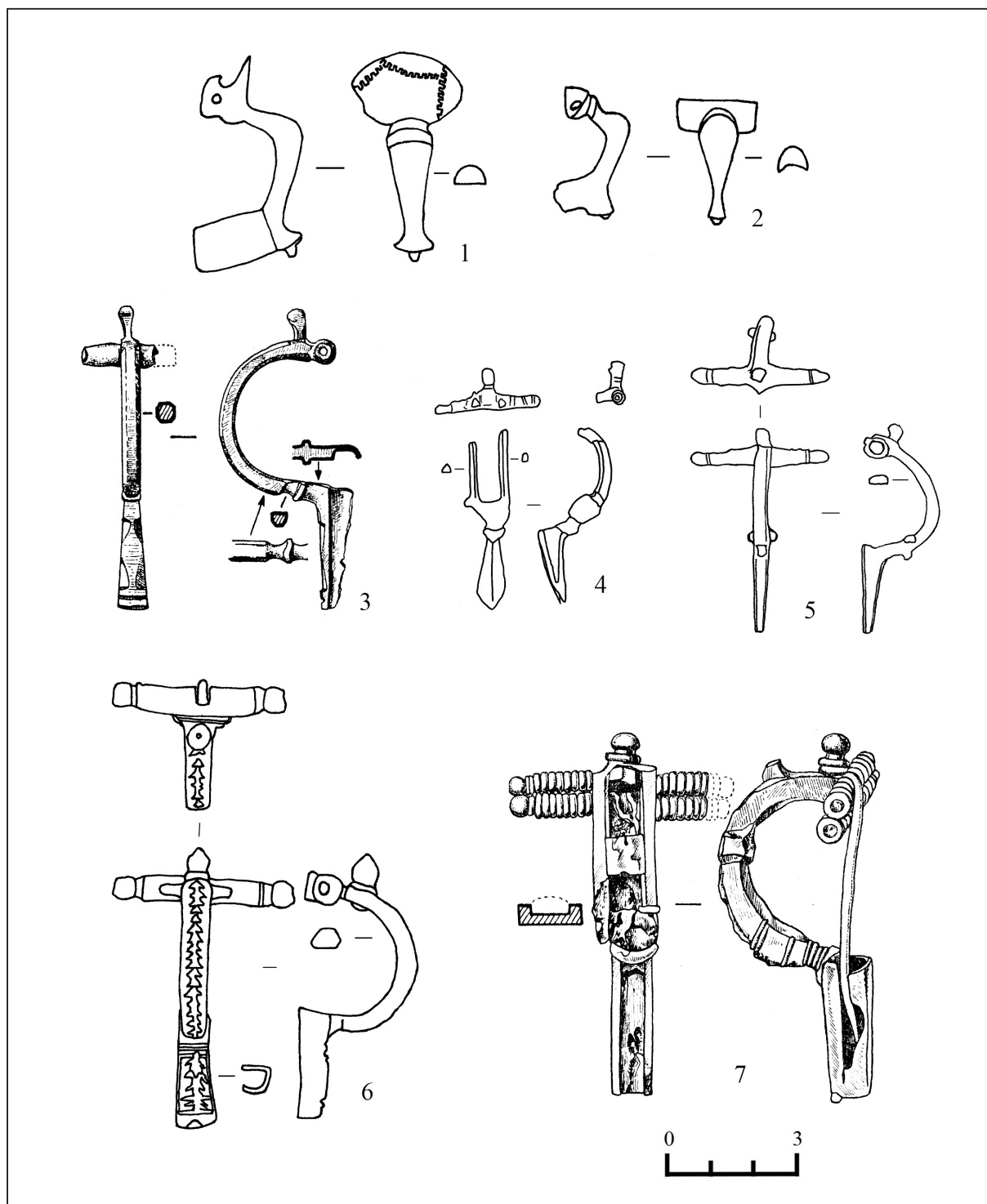


Fig. 4. Fibulae. 1-2, 4-6 (after: Saveliev 2013), 3, 7 (after: Gorokhovskiy and Son 1989).

Another fragmented fibula, featuring a triangular-shaped body and a decorative knob on the foot, has been tentatively assigned to the group of knee-shaped fibulae.⁴¹

T-shaped Fibulae. Five T-shaped fibulae have been found at Tyras,⁴² including both hinged and spring types. The hinged fibulae can be divided into several types.

1. XXVI, 5; Nuțu and Elefterescu 2018, pl. 9; Cociș 2019, 26.

⁴¹ Gorokhovskiy and Son 1989, 73, pl. 1, 4.

⁴² The overall number of fibulae of this type is higher; however, they date to a later period, after the Roman garrison had already left Tyras.

Scharnierarmfibel-Type Fibulae. These are two-part hinged fibulae featuring a short hinge and a prominent raised knob on the head (Fig. 4/3). One example has a bow and foot decorated with faceted designs of various shapes. Length: 6.7 cm. This type of military fibula is well known in the western provinces, particularly in Augusta Raurica,⁴³ but numerous examples are also attested in the eastern provinces (e.g., Syria). In the Northern Black Sea region, such fibulae have been found at Chersonesus.⁴⁴ They were mainly in use during the 3rd century AD.

Fibula with Bifurcated Bow. This fibula features knobs on either side of the hinge, and a catch plate shaped like an elongated rhombus (Fig. 4/4). Length: approx. 6 cm. This variant is well known from sites in Germania Superior, Pannonia, Superior and Inferior Moesia, Dacia, and Syria. Like the early T-shaped fibulae, it is dated to the late 2nd century through the middle or third quarter of the 3rd century AD.⁴⁵

Zwiebelknopffibel-Type Fibulae. This type is represented by two examples.

a) A fibula with three knobs on the body – one central and two lateral (Fig. 4/5). Length: 5.5 cm. Fibulae of this type are known from Dacia.⁴⁶ In general, they should be dated to the late 2nd century through the third quarter of the 3rd century AD.

b) A silver fibula with a trapezoidal-profile bow. On the crossbar, there is a central biconical knob flanked by two similar lateral knobs. The bow is decorated with a “fir-tree” motif composed of small triangles, which continues onto the foot and is supplemented with engraved transverse and longitudinal lines (Fig. 4/6). Length: 5.6 cm. According to Philipp Pröttel’s typological classification, it belongs to Type 1, Variant B.⁴⁷

A morphologically similar fibula from a Tetrarchic-period assemblage in Silistra was found together with a coin of Probus. Comparable ornamentation is also present on fibulae from Dura-Europos (destroyed in 256 AD), Nikolaevo, Chersonesus, the National Museum of Belgrade, and Aquincum.⁴⁸ The fibula from Tyras may have remained in use for some time after the fall of the *limes*, but most likely not later than the early 4th century AD.

Spring-Type Fibulae are represented by a silver double-spring fibula. The head features a decorative projection. The bow is bifurcated and has a central groove, which continues along the foot (Fig. 4/7). Length: 5 cm. It is dated to the early 3rd century AD.⁴⁹

Horse Harness Details

Pendant. A bronze openwork pendant made from a thin plate, decorated inside with a vegetal (?) ornamental composition. At the top, there is a loop for suspension (Fig. 5). Size: 5 x 4.2 cm excluding the loop. The pendant belongs to a fairly common type of horse tack detail known from many sites.⁵⁰ However, all known examples have a flat loop, whereas the loop on the pendant from Tyras is positioned perpendicular to the main part.⁵¹ It is possible that it was locally made following an original model.

A distinct group of artefacts is represented by figurines of warriors dressed in Roman military equipment, notable for their articulated (pendant) legs. These figurines offer valuable insights into the military attire and armament of the period. They typically depict a young soldier wearing a cuirass over a tunic, girded with a military belt (*cingulum militare*), and sometimes shown with a sleeveless

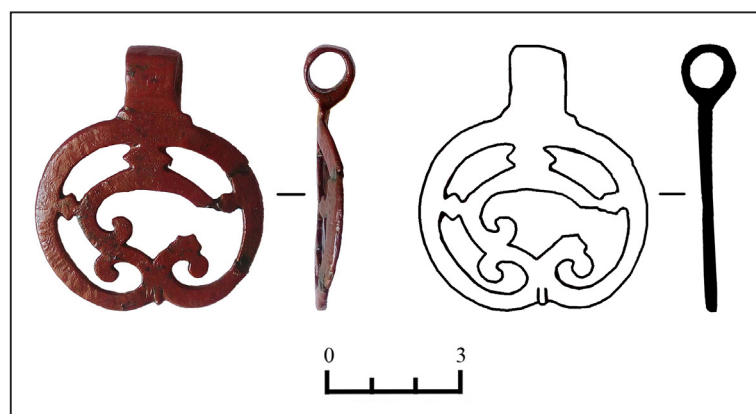


Fig. 5. Part of horse harness (lunula) (after: Saveliev 2019).

⁴³ Riha 1979, Taf. 49, 1427.

⁴⁴ Kostromichev 2011, 81, pl. 31, 1, 2.

⁴⁵ Gencheva 2004, tabl. XIX, 10-11; Cociş 2004, 137, pl. CXVII.

⁴⁶ Cociş 2004, pl. CLIX.

⁴⁷ Pröttel 1991, 351, Abb. 1, 6-8.

⁴⁸ James 2004, 55, f. 29, A; Gencheva 2004, tabl. XX, 3; Kostromichev 2011, 87, pl. 32, 7; Petcović 2010, 261, sl. 83; Burger 1984, pl. 1, 1.

⁴⁹ Furmanska 1962, 128-129, pl. 10, 3.

⁵⁰ Bishop and Coulston 1993, 156, 4; Crnobrnja and Krunic 1997, 301, № 536; James 2004, fig. 44, №№ 332-334, 338.

⁵¹ For example: Lozanov 2011, 97, pl. 3.

cloak fastened at the shoulders with one or more fibulae. The right arm, bent at the elbow, contains a small hole intended for the attachment of a weapon, while the left hand holds an oval shield decorated with relief ornamentation. In some instances, a dagger is suspended at the warrior's side.

The figurines feature a hollow body with three openings: two on the sides, into which a rod was inserted to attach the movable legs, and one at the top of the head, through which a cord was threaded for hanging the figurine. While all examples share a similar overall design, they were produced using different molds. Fragments of seven such figurines have been identified to date.

Notably, these figurines have been discovered in locations associated with the presence of Roman military units. However, the majority of finds are concentrated in the western and north-western Black Sea region – specifically in Olbia and its *chora*, Tyras, Kartal (modern Orlivka), Durostorum, and Tomis.⁵² A similar figurine of a warrior holding a shield was discovered during excavations at the theatre of Parion⁵³. The question of the production centre for these figurines remains unresolved. One possible manufacturing centre for these terracottas may have been Tyras, where the first centuries CE saw a general economic upswing and a high level of development in ceramic production. These terracottas may also have served as children's toys, both in everyday life and in funerary contexts. As we can see, the examined items date to the 2nd to the mid-3rd century CE – that is, to the period when Roman military units were stationed in Tyras. The finds align well with other synchronous evidence, such as epigraphic material and stamped roof tiles.

Given that metal objects in Tyras are often poorly preserved, it is reasonable to assume that more such items may have originally been present. Further research will no doubt expand the corpus of military equipment and accoutrements, enhancing our understanding of the distinctive features of Roman military culture in the garrison at Tyras.

BIBLIOGRAPHY

- Bărbulescu, M. 1997. Das Legionslager von Potaissa (Turda). Zaláu: Editura Academiei Române.
- Biró, T.M. 1987. Bone-Carvings from Brigetio in the Collection of the Hungarian National Museum. *Acta Archaeologica Academiae Scientiarum Hungaricae* 39: 153-192.
- Biró, T.M. 1994. The Bone Objects of the Roman Collection. Budapest: Magyar Nemzeti Múzeum.
- Bishop M.C. and Coulston J.C. 1993. Roman Military Equipment from the Punic Wars to the fall of the Rome. London: B.T. Batsford.
- Blavatskii, V.D. 1954. Ocherki voennogo dela v antichnykh gosudarstvakh Severnogo Prichernomoria. Moskva: Akademiia nauk SSSR.
- Boulasikis, D., Eitler, J., Seidel, Y. And Stökl, S. 2012. Teil 2: Fibeln, Metallfunde, spätlatènezeitliche und mittelalterliche Keramik. *Carnuntum Jahrbuch*: 84-152.
- Buiskikh, A. and Novichenkova, M. 2021. The Roman Citadel in Pontic Olbia. *Ancient Civilizations from Scythia to Siberia* 27: 11-67.
- Buiskikh, S.B. 1991. Fortifikatsiia olviiskogo gosudarstva (pervye veka nashei ery). Kiev: Naukova dumka.
- Buora, M. 2001. *Militaria* in Aquileia. *Jahresbericht / Gesellschaft Pro Vindonissa*: 41-52.
- Burakov, A.V. 1988. Terakota voina z poselennia Kozyrka. *Arheologia* 63: 73-74.
- Burger, Sz. A. 1984. Kesőromai sirok Aquincumban. *Spatromische Graber in Aquincum*. Budapest Regisegei 35: 65-118.
- Busuladžić, A. 2011. Neki primjeri rimske vojne opreme iz Mogorjela, in: D. Tončinić (ed.) *Rimska vojska u procesu romaniziranja provincije Dalmacije*: 345-359. Zagreb: Arheološki muzej u Zagrebu.
- Carnap-Bornheim, C. 1994. Die beinernen Gegenstände aus Kastell und Vicus in Niederbieber. *Bonner Jahrbücher* 194: 341-395.
- Chapman, E.M. 2005. *A Catalogue of Roman Military Equipment in the National Museum of Wales (BAR 388)*. Oxford: Archaeopress.

⁵² Savelieva 2018, 481-484; Burakov 1988, 73-74; Buiskikh 1991, 123; Blavatskii 1954, 133, pl. 60; Savelieva and Saveliev 2012; Elefterescu and Șerbănescu 2009, 175-176; Kozlenko and Puklina 2021, 111-113.

⁵³ Kasapoğlu 2018, 261, cat. 19.

- Cheben, I. and Rutkay, M. 2010. Römische Militärausrüstungsgegenstände aus dem germanischen Grubenhaus in Cífer. *Slovenská Archeológia* 58: 309-336.
- Chernenko, E.V., Zubar, V.M. and Son, N.A. 1989. Buterol iz Tiry. *Sovetskaia arkheologia* 2: 250-252.
- Ciugudean, D. 2017. Roman bronze Military Equipment and Harness in the Collections of the Alba Iulia Museum. I. Belt and Baldric Plates. *Apvlvm* 54: 341-408.
- Cociș, S., Panczel, S.-P. and Sidó, K. 2024. The Typology and Production of Brooches on the Eastern Limes of Dacia Superior on the Brâncovenești Sector. *Journal of Ancient History and Archeology* 11/1: 80-100.
- Cociș, S. 2004. *Fibulele din Dacia Romană*. Cluj-Napoca: Mega Publishing House.
- Cociș, S. 2019. *The Brooch Workshops from Dacia and the other Danubian Provinces of the Roman Empire (1st c. BC – 3rd c. AD)*. Cluj-Napoca: Mega Publishing House.
- Crnobrnja, A., Krunić, S. 1997. Vojna oprema i konjska orma. In: Krunić, S. (ed.) *Antička bronza Singidunuma*: 263-302. Beograd: Muzej grada Beograda.
- Curle, J. 1911. *A Roman Frontier Post and its People: The Fort of Newstead in the Parish of Melrose*. Glasgow: James Maclehose and sons.
- Deschler-Erb, S. 1998. Römische Beinartefakte aus Augusta Raurica. Rohmaterial, Technologie, Typologie und Chronologie (Forschungen in Augst 27/1). Augst: Boehm-Hutter AG.
- Elefterescu, D. and Șerbănescu, D. 2009. Piese de epocă romană aflate în colecțiile Muzeului Civilizației Gumelnița Oltenița. *Peuce* 7: 171-192.
- Filip, G. 2023. Caltrops (tribuli) from Southern Dacia, in: A. Bărbulescu (ed.) *Roman Dacia and the roman army: 87-92*. Cluj-Napoca: Mega Publishing House.
- Flügel, C. 2010. *Tribuli – Römische Krähenfüße*. *Bayerische Vorgeschichtsblätter* 75: 143-146.
- Fodorean, F.-G. 2017. Piese de echipament militar și harnașament confecționate din bronz, in: S. Nemeti and I. Nemeti (eds.) *Studii asupra granițelor romane din Dacia. Castrul Legionar de la Potaissa. I. Centiriae din Praetentura Sinistra*: 67-80. Cluj-Napoca: Mega Publishing House.
- Fodorean, F.-G. 2019. Arme, in: M. Bărbulescu (ed.) *Termele din castrul legionar de la Potaissa*: 266-277. Cluj-Napoca: Mega Publishing House.
- Furmanska A.I. 1962. Rozkopky v Tiri v 1958 r. *Arkheolohichni pamiatky URSR* XI: 122-137.
- Furmanskaia, A.I. 1964. Issledovanie Tiry. In Sinitsyn, M.S. (ed.) *Kratkie soobshcheniia Odesskogo gosudarstvennogo arkheologicheskogo muzeia 1962*: 56-63. Odessa: Maiak.
- Gawroński, R. And Karasiewicz-Szczypiorski, R. 2015. The Role of Early Empire Roman Cavalry in the Defence of Tauric Chersonesos, in: A. Tomas (ed.) *Ad Fines Imperii Romani*: 325-340. Varsaviae: Archeobooks.
- Genčeva, E. 2000. Metalowe części wyposażenia żołnierskiego z *Novae*. *Novensia* 12: 49-98.
- Gencheva, E. 2004. Rimskite fibuli ot Bulgaria ot kraia na I v. pr. n.e do kraia na VI v. na n.e. Veliko Tyrnovo: Faber.
- Gorokhovskiy, Ye.L. and Son, N.O. 1989. Fibuly z Tiry. *Arheologia* 3: 69-78.
- Gomolka-Fuchs, G. 2007. Die Kleinfunde, in: G. Bülow, B. Böttger, S. Conrad and others (eds.) *Iatrus-Krivina: Spätantike Befestigung und frühmittelalterliche Siedlung an der Unteren Donau*: 265-304. Mainz am Rhein: Philipp von Zabern.
- Greep, S.J. 1983. *Objects of Animals Bone, Antler, Ivory and Teeth from Roman Britain*. Phd Thesis. Cardiff: University College.
- Grosu, A. 2013. Cercetările arheologice efectuate în castrul și vicus-ul militar Acidava. *Muzeul Oltului* 3: 31-62.
- Gudea, N. 1989. Porolissum. Un complex arheologic daco-roman la marginea de nord a Imperiului Roman (= Acta Muzei Porolissensis 13). Zalău: Muzeul Județean de Istorie și Artă Zalău.
- Gudea, N. and Pop, C. 1972. Waffen und Ausrüstungsgegenstände, in: E. Chirilă (ed.) *Das Römerlager von Buciumi. Beiträge zur Untersuchung des Limes der Dacia Porolissensis*: 62-78. Cluj: Muzeul de Istorie și Artă.
- Hoss, S. 2014. *Cingulum Militare. Studien zum römischen Soldatengürtel des 1. bis 3. Jh. n. Chr.* Leiden: Universiteit Leiden.
- Ivčević, S. 2022. Nalazi dijelova vojničkog pojasa s područja Salone iz razdoblja 2. i prve polovine 3. stoljeća. In Cambi, N. and Matijević, I. (eds.) *Salona od 119. Godine prije Krista do kasne antike*: 389-419. Split: Književni Krug.

- Jacobi, L. 1897. Das Römerkastell Saalburg bei Homburg von der Höhe. Homburg von der Höhe: Im selbstverlage des Verfassers.
- James, S. 2004. The Excavations at Dura-Europos conducted by Yale University of French Academy of Inscriptions and Letters 1928 to 1937. The Arms and Armour and other Military Equipment. R. VII. London: The British Museum.
- Kasapoğlu, H. 2018. Parion Theater Terracotta figurines, in: C. Başaran and H. Ergürer (eds.) Roman Theater of Parion: Excavations, Architecture and Finds from 2006–2015 Campaigns: 237-276. Çanakkale: İçdaş.
- Kleiman, I.B. 1971. Raskopki pomeshcheniia veksiliatsii Pervogo Italiiskogo legiona v Tire. Materialy po arkheologii Severnogo Prichernomoria 7: 229-238.
- Kleiman, I.B. and Son, N.A. 1983. Zapadnopontiiskie i provintsialnorimskie kulturno-ekonomicheskie sviazi Tiry. In Dzis-Raiko H.O. (ed.) Materialy po arkheologii Severnogo Prichernomoria: 47-59. Kyiv: Naukova dumka.
- Koščević, R. 1991. Antička bronca iz, Siska: Umjetničko-obrtna metalna produkcija iz razdoblja Rimskog Carstva. Zagreb: Odjel za Arheologiju Inst. za Povijesne Znanosti Sveučilišta u Zagrebu.
- Kostromichev, D.A. 2006. Rimskoe voennoe snariazhenie iz Khersonesa. Materialy po arkheologii, istorii i etnografii Tavrii 12: 43-128.
- Kostromichev, D.A. 2011. Rimskoe voennoe prisutstvie v Khersonese v nachale I – pervoi polovine V vv. (po dannym arkheologii). Stratum plus 4: 15-164.
- Kozlenko, R. 2022. The Roman Military Presence on the Berezan Island. Arheologia 1: 26-38.
- Kozlenko, R.O. and Puklina, O.O. 2021. Terakoty rymsskoho chasu z Nyzhnoho mista Olvii v zibranni Natsionalnoho muzeiu istorii Ukrainy. Arheologia 1: 108-117.
- Kreković, E. 1994. Military Equipment on the territory of Slovakia. JRMES 5: 211-225.
- Kryzhitskiy, S.D and Kleiman, I.B. 1979. Raskopki Tiry v 1963 i v 1965–1976 gg. In Karyshkovskiy, P. (ed.). Antichnaia Tira i srednevekovyi Belgorod: 19-54. Kiev: Naukova dumka.
- Lozanov, I. 2011. Kôsnorimski sgradi pri s. Černa gora, obšina Bratia Daskalovi, Starozagorska oblast. In Tonkova, M. (ed.). Trako-rimski dinastičen centôr v rajona na Ćirpanskite vôzvîshenia: 93-99. Sofia: Obšina Bratia Daskalovi.
- Marchant, D.J. 1991. Roman weaponry in the province of Britain from the second century to the fifth century AD. Vol. I. Durham: Durham University.
- Maspoli, A.Z. 2014. Römische Militaria aus Wein. Die Funde aus dem Legionslager, den canabae legionis und der Zivilsiedlung von Vindobona (Monografien der Stadtarchäologie Wien 8). Wien: Museen der Stadt Wien – Stadtarchäologie.
- Nazarov, V. 1998. Weapons from the Post-Getic Times in Olbia. in: Zahariade, M. and Opreș, I. (eds.) The Roman Frontier at the Lower Danube 4th – 6th centuries: 181-185. Bucharest: S.C. Vavila Edinf S.R.L.
- Nemeti, I. 2017. Fibule. In: Nemeti, S. and Nemeti, I. (eds.) Studii asupra granițelor romane din Dacia. Castrul Legionar de la Potaissa. I. Centiriae din Praetentura Sinistra: 56-60. Cluj-Napoca: Mega Publishing House.
- Nicolay, J. 2007. Armed Batavians: Use and Significance of Weaponry and Horse Gear from Non-military Contexts in the Rhine Delta (50 BC to AD 450). Amsterdam: Amsterdam University Press.
- Nuțu, G. and Elefterescu, D. 2018. Fibulele de la Durostorum-Ostrov. Iași: Al. I. Cuza.
- Oldenstein, J. 1977. Zur Ausrüstung römischer Auxiliareinheiten. Studien zu Beschlägen und Zierat an der Ausrüstung der römischen Auxiliarenheiten des obergermanisch-raetischen Limesgebietes aus dem zweiten und dritten Jahrhundert n. Chr. Bericht Römisch-Germanischen Kommission 57: 49-284.
- Petković, S. 2010. Rimske fibule u Srbiji od I do V veka n.e. Beograd: Arheološki institut.
- Protase, D., Gudea, N. and Ardevan, R. 2008. Din istoria militară a Daciei Romane. Castrul roman de interior de la Gherla (Bibliotheca historica et archaeologica Banatica 46). Timișoara: Mirton.
- Pröttel, P.M. 1991. Zur Chronologie der Zwiebelknopffibel. JRGZM 35: 347-372.
- Radman-Livaja, I. 2004. *Militaria Sisciensia* – Nalazi rimske vojne opreme iz Siska u fundusu Arheološkoga muzeja u Zagrebu. Zagreb: Arheološki muzej u Zagrebu.
- Radman-Livaja, I. 2008. Roman belt-fittings from Burgenae. JRMES 16: 295-308.
- Rajtár, J. 1992. Das Holz-Erde-Lager aus der Zeit der Markomannenkriege in Iža. In Godłowski, K. and Madyda-Legutko, R. (eds.) Probleme der relativen und absoluten chronologie ab Laténezeit bis zum frühmittelalter: 149-170. Kraków: Secesja.

- Redžić, S.T. 2013. Rimske pojasne garniture na tlu Srbije od I do IV veka. Doktorska disertacija. Beograd: Univerzitet u Beogradu.
- Riha, E. 1979. Die römischen Fibeln aus Augst und Kaiseraugst (Forschungen in Augst 3). Augst: Hochuli AG.
- Saveliev, O.K. 2013. Fibuly z Tiry (znakhidky 1996-2010 rr.). *Arheologia* 2: 100-115.
- Saveliev O.K. 2019. Materialna kultura Tiry (I – pochatok V st. n.e.). Phd Thesis. Kyiv: Instytut arkheologii NAN Ukrainy.
- Saveliev, O.K. 2021. Novaia nakhodka rimskoi kostianoï buteroli iz Tiry. In Smyrnov, O.I. (ed.) *Borysfenika II: pamiati V.V. Krutilova (arkheolohichni doslidzhennia ostrova Berezan u konteksti evropeiskoi istorii)*: 117-118. Mykolaiv: NDTs «Lukomore».
- Savelieva, E.S. 2018. Terrakotovaia statuetka rimskogo voïna iz Kartala. *Starodavnie Prychornomoria* 12: 481-484.
- Savelieva, K.S. and Saveliev, O.K. 2012. Terakotovi statuetki rymskykh voïniv z Pivnichno-Zakhidnogo Prychornomoria. *Arheologia* 3: 42-47.
- Schmid, S. 2010. Die römischen Fibeln aus Wien (Monografien der Stadtarchäologie Wien 6). Wien: Robitschek & Co.
- Šeparović, T. and Uroda, N. 2009. Antička zbirka Muzeja hrvatskih arheoloških spomenika (izbor). Split: Muzej hrvatskih arheoloških spomenika.
- Son, N.O. and Nazarov, V.V. 1993. Znakhidky rymskoi zbroi v Tiri ta Olvii. *Arheologia* 1: 120-123.
- Treister, M. Iu. 2000. K nakhodkam metallicheskich detalei rimskogo voennogo kostiuma i konskoi zbrui v Severnom Prichornomorie. *Rossiiskaia arkheologia* 2: 156-164.
- Vujović, M. 2003. Касноримске појасне фалере на тлу Србије. In Tasić, N. (ed.) *Рад Драгослава Срејовића на истраживању античке археологије*: 211-223. Крагујевац: Srpska akademija nauka i umetnosti.
- Walke, N. 1965. Das Römische Donaukastell Straubing-Sorviodurum. Berlin: Gebr. Mann.
- Zsidi, P. 2013. An early roman military complex in the area of Aquincum (Budapest, Óbuda, Filatori-gát). Preliminary report. *Budapest Régiségei* 46: 99-120.
- Zubar, V.M. and Antonova, I.A. 2001. Buterol nozhen dlinnogo rimskogo mecha iz Khersonesa. *Rossiiskaia arkheologiiia* 2: 122-125.
- Zubar, V.M. and Son N.O. 1999. Novi arkheolohichni dani pro rymsku zalohu Tiry. *Arheologia* 3: 118-123.
- Zubar, V.M. and Sorochan, S.B. 2008. Osnovnye etapy arkheologicheskogo izucheniiia pamiatnikov na territorii tsitadeli Chersonesa Tavricheskogo. *Bosporskie issledovaniia* 19: 156-249.

Lista ilustrațiilor:

- Fig. 1. Cetatea romană de la Tyras. 1 – desen realizat de Kateryna Savelieva, 2 – imagine aeriană realizată cu drona de Oleksandr Gimantov (2020), modificată de Kateryna Savelieva în 2025.
- Fig. 2. Arme. 1-7 – *tribuli* (după: Saveliev 2019), 8-10 – capete de teci din os – elemente ale tecilor de spadă romană (8 – după: Son și Nazarov 1993, 9A – fotografie realizată de autor; 9B – după: Chernenko et al. 1989, 3 – după: Saveliev 2021).
- Fig. 3. Detalii ale uniformei militare. 1-11 (după: Saveliev 2019).
- Fig. 4. Fibule. 1-2, 4-6 (după: Saveliev 2013), 3, 7 (după: Gorokhovskiy și Son 1989).
- Fig. 5. Element al harnașamentului ecvestru (*lunula*) (după: Saveliev 2019).

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