

ЗБОРНИК НАРОДНОГ МУЗЕЈА СРБИЈЕ  
RECUEIL DU MUSÉE NATIONAL DE SERBIE

СЕПАРАТ / SÉPARÉ

SOFIJA A. PETKOVIĆ AND MIROSLAV B. VUJOVIĆ  
FINDS OF SCALE ARMOUR (*LORICA SQUAMATA*)  
FROM *TIMACUM MINUS*

Софија А. ПЕТКОВИЋ и Мирослав Б. ВУЈОВИЋ  
НАЛАЗИ ЉУСПАСТОГ ОКЛОПА (*LORICA SQUAMATA*)  
ИЗ УТВРЂЕЊА *TIMACUM MINUS*

XXVI – 1  
АРХЕОЛОГИЈА  
ARCHÉOLOGIE



Sofija A. PETKOVIĆ

*Institute of Archaeology, Belgrade*

Miroslav B. VUJOVIĆ

*Faculty of Philosophy, University of Belgrade – Department of Archaeology*

## FINDS OF SCALE ARMOUR (*LORICA SQUAMATA*) FROM *TIMACUM MINUS*

**Abstract:** In a section of the southern gate of *Timacum Minus*, two fragments of *lorica squamata* were discovered during the excavations in 2019 and 2020. Both of them have been found in the destruction layer dated into the end of the 4<sup>th</sup> century, probably caused by barbarian raids from the left bank of the Danube after the Roman defeat in the Battle of Hadrianopolis in 378 AD. This layer was, in fact, created by the burning and destruction of tower S4, a large tower built in the reconstruction of the fortification during the reign of Valentinian I and Valens. This tower, as the one on the western gate and the one on the northern gate, closed the southern gate, creating a new defensive system with two older towers of the same gate (towers S2 and S3) from the mid-3<sup>rd</sup> century. Large tower S4 was completely demolished in the barbarian attack, only her eastern wall has been partly preserved, so the southern gate was opened to invaders and the interior of the fortress was burned down. In this layer, composed of red burned soil, charred wood, soot and ashes mixed with rubble from the towers and the southern rampart, many small finds, indicative for dating, have been discovered, but also two unusual finds. Human osteological remains were found under the rubble of the destroyed western wall of tower S4, in an unarticulated position, probably the remains of a victim of this invasion. Also, inside the fortification, beside the eastern tower of the gate, tower S3, a kind of a cenotaph or a trace of some magical ritual was found: a small ceramic pot was put upside-down and fixed with brick fragments, and a chicken egg, an iron pin and a bronze coin were placed in it. Finally, by analysing the finds from this destruction layer we can assume a fierce barbarian attack occurred, with many victims on both sides, among which also a Roman soldier wearing a *lorica squamata*.

**Key words:** *lorica squamata*, *Timacum Minus*, Late Roman period, Roman fortifications, Battle of Hadrianopolis, barbarian invasion, cenotaph, magical rituals

After an interval of two decades, in the framework of a joint project of the Institute of Archaeology in Belgrade and the Homeland Museum of Knjaževac in 2019, archaeological research was renewed in the sector of the southern gate with the aim of presenting and promoting the fortifications at this site. Incidentally, the excavations of the southern gate began in 1992 and continued in the period 1996–1997.<sup>1</sup>

This paper is dedicated to the find of a scale armour from the Roman fort of *Timacum Minus*, discovered during the 2019–2020 archaeological research campaigns. Long-term systematic research on this site revealed significant architectural remains of this fortification, intended for the accommodation of Roman auxiliary units (*Cohors I Thracum Syriaca*, *Cohors II Aurelia Dardanorum*), as well as a large number of ancient epigraphic monuments, sculptures and various mobile archaeological finds. The finds of weapons and military equipment are not present in large numbers, but they form a special and very interesting part of the inventory that indicates the character, purpose and importance of the military units present.<sup>2</sup> It is particularly interesting that the find of the scale armour was discovered in a closed archaeological unit, in a demolition and burning layer, which was dated by numerous finds.

In the research campaign of 2019, attention was focused on the excavations of a large Late Roman tower (tower S4), which had been confirmed by earlier investigation (Петковић и Јовановић 2001). Namely, during the last major reconstruction of the fortification in the last third of the 4<sup>th</sup> century (364–378), the southern gate of the fort was closed by this tower. The same situation was noted at the previously investigated western gate, most likely also in the area of the northern gate, while the eastern gate has never been excavated (Петровић и Јовановић 1997: 20–21, Fig. 16; Petković et al. 2005: 15, Plan 1). It is logical to assume that at least one gate must have been in operation, and it could have been the eastern gate, naturally defended by the Beli Timok, which flows in the immediate vicinity, almost parallel to the eastern rampart of the fortification (Fig. 1).

The southern gate with the associated towers (S2 and S3), as well as the part of the interior of the fortification with Late Roman buildings from the end of the 4<sup>th</sup> – the first half of the 5<sup>th</sup> century, were archaeologically investigated as early as 1998 (Петковић и Јовановић 2001: 275–280, Fig. 1-3). Considering this fact, it is clear that, otherwise unique in terms of preservation and construction method, the southern gate, built in the middle of the 3<sup>rd</sup> century, is a priority for conservation and restoration works and the presentation of the *Timacum Minus* fortification.<sup>3</sup> In order to create a project for conservation and restoration works on this object, it is planned to investigate the aforementioned Late Roman tower S4 and the junctions

---

1 Project of the Ministry of Culture of the Republic of Serbia: *Archaeological Research, Presentation and Promotion of Roman Fortification and Settlement Timacum Minus in Ravna near Knjaževac*.

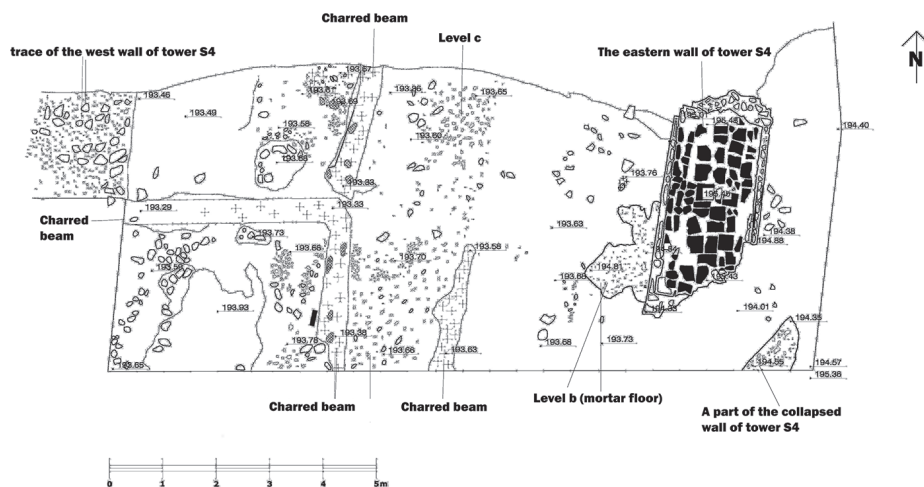
2 The small percentage of weapons and military equipment compared to other types of finds from *Timacum Minus* is similar to the results of research on other Roman fortifications (Vujović 1998: 258). It is interesting, however, that during the previous investigations of this camp with a confirmed auxiliary cavalry crew, horse harnesses were not recorded, although they are present in most other Roman fortifications in Serbia.

3 The southern gate of the fortification was extremely endangered, because even preliminary conservation work had never been carried out on it. Archaeological excavations in this area in the period 2019–2022 enabled the creation of a conservation and presentation project, as well as the accomplishment of conservation and restoration works by the Institute for the Protection of Cultural Monuments in Niš from 2021.

of towers S2 and S3 with the southern rampart, in order to enable an adequate presentation of this part of the fortification.



Fig. 1 *Timacum Minus*, aerial photograph (photo: P. Stevanović)  
Сл. 1 *Тимачум Минус*, аеро-снимак (фото: П. Стевановић)



Plan 1 Layout of trench 1/19 (author: I. Bjelić)

План 1 Основа сонде 1/19 (аутор: И. Бјелић)

Squares N-O-P-Q XXIX-XXX (trench 1/19), opened in 2019, include the area south of the towers of the southern gate (S2 and S3) and the southern rampart, in the area of the large tower S4 of a quadrangular base. In squares N-O XXIX-XXX, a massive eastern wall of the Late Roman tower, built in the *opus mixtum* technique, was discovered, covered with a large amount of building rubble, large broken stones, bricks and pieces of lime concrete. The southern and western walls of this tower were completely devastated, i.e. the western wall is preserved only in traces of

the foundation and a large amount of collapsed construction rubble, which is a consequence of the use of stone from the remains of the fortification *Timacum Minus* for the construction of houses in the village of Ravna in recent times (late 19<sup>th</sup>–20<sup>th</sup> century). Also, a possibility that the tower was mostly destroyed in the ancient times has not been excluded, as evidenced by traces of burning, layers of rubble and baked earth, in its interior (Plan 1, Fig. 2).

A large number of findings, fragments of ceramic and glass vessels, metal objects and bronze coins were discovered in tower S4 and around it, and the most important is the base of a sandstone votive column with carved names of the dedicants: Septimius Maximus, decorated *decurio* of the colony of Ratiaria and Valerius Alexander (Fig. 3):

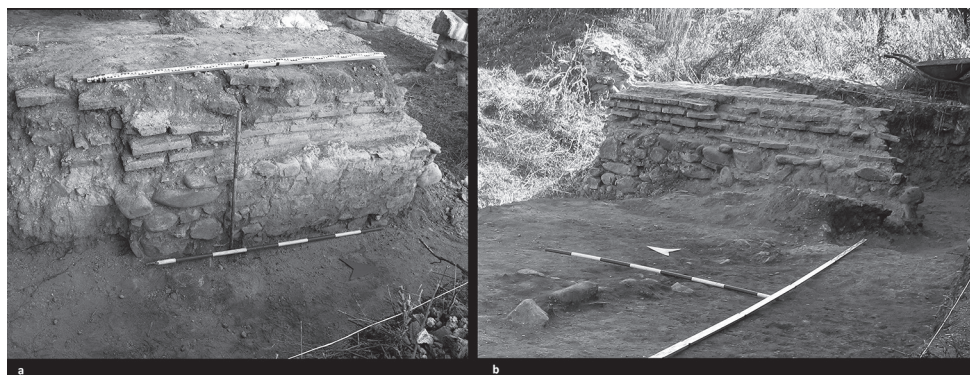


Fig. 2 Eastern wall of tower S4 from the south-east (a), from the south-west (b) (photo: S. Petković)

Сл. 2 Источни зид куле S4 с југоистока (а), са југозапада (б) (фото: С. Петковић)

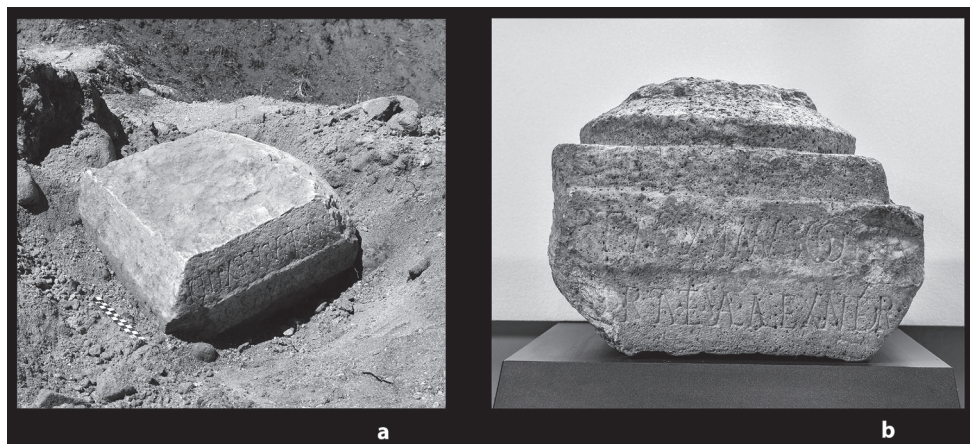


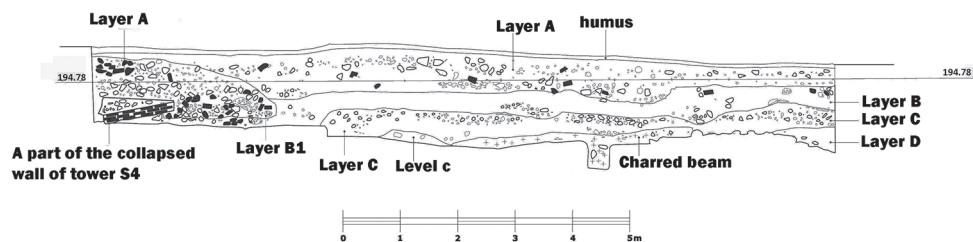
Fig. 3 Pedestal of the votive column *in situ* (a), at the archaeological exposition of the Archaeo-Ethno Park Ravna (b) (photo: S. Petković)

Сл. 3 Постамент вотивног стуба *in situ* (а), у археолошкој поставци Арчео-етно парка Равна (б) (фото: С. Петковић)

This base, discovered in a Late Roman tower, was most likely used as a secondary building material, and originates from a sanctuary in the civil settlement of *Timacum Minus*. The inscription can be dated on the basis of the palaeographic features to the second half of the 2<sup>nd</sup> – the first half of the 3<sup>rd</sup> century (Петровић 1975: 87–93, 100, 103).

Below the foundation level of tower S 4, in squares N-O-P-Q/XXIX-XXX, traces of the foundations of a building made of light material, packed earth and large wooden beams with a quadrangular section, whose position follows the orientation of the fortification, were discovered. It is evident that it is a larger object, which has not been completely discovered, maybe military barracks or even a part of the oldest earthen fortification. For now, a small amount of fragments of ceramic vessels, including several typical fragments, could not provide a satisfactory dating (Plan 1)

The stratigraphy of the cultural layers in tower S 4 (squares N-O-P-Q/XXIX-XXX) is as follows (Plan 2):



Plan 2 Western section of trench 1/19 (author: I. Bjelić)

План 2 Западни профил сонде 1/19 (аутор: И. Бјелић)

Layer A – dark brown soil with broken stone and bricks;

Layer A1 – intensive construction debris: broken stone and *tegulae* and crushed yellowish-white lime mortar from the eastern wall of tower S4;

Layer B – grey-brown soil with building debris: broken stone, pebbles, broken *tegulae* and pieces of lime mortar;

Level b – part of the floor made of yellowish-white lime mortar with a substructure made of lime concrete (pebbles and mortar) along the southern end of the western (inner) face of the eastern wall of tower S4;

Layer B1 – light brown loose soil with finer construction rubble west of the eastern wall of tower 4, i.e. in its interior;

Level b1 – level of compact construction rubble in the north-western part of the trench, extending in the direction north–south, perhaps a trace of the devastated western wall of tower S4;

Layer C – yellow-brown loose soil;

Level c – level of gravel and compact yellow-brown soil with gravel in the western part of the trench; at the base, traces of charred beams with a quadrangular section can be seen, which belonged to a larger object made of light material (packed earth);

Layer D – yellow sand below level c.

The preliminary dating of the mentioned layers can be determined on the basis of mobile archaeological finds, primarily fragments of ceramic and glass vessels.

Layers B and B1 contain types of ceramic vessels from the 4<sup>th</sup> and the first half of the 5<sup>th</sup> century. Fragments of glass vessels, mostly spherical and conical beakers made of colourless glass, are dated into the same period.

In layer B, a fragment of an orange-glazed lamp made on a wheel was found, and in layer B1, a fragment of the same type of lamp with brown enamel was found. Both specimens can be dated into the 4<sup>th</sup>–5<sup>th</sup> century (Петковић и Тапавички-Илић 2020: 121–122, 126–127, Cat. 7–9, T. XXXII, 2–4).

In layer C, a heavily corroded coin of Valentinian I from the third quarter of the 4<sup>th</sup> century was discovered, and in level C, a bronze plate from a soldier's belt of the *Aquileia type* was found, decorated with puncturing and scrolling, dating into the last quarter of the 4<sup>th</sup> – the first half of the 5<sup>th</sup> century (Popović 1987: 123–139, Abb. 12, Taf. 6, 1; Чернач-Ратковић 1996: 159–163).

All of the above confirms the hypothesis that tower S4 was built during the last third/quarter of the 4<sup>th</sup> century during the Valentinian reconstruction of the fortifications along the Limes and in the interior of the province of *Dacia Ripensis*.

In addition to the excavations in the interior of the Late Roman Antique tower, the area to the east and west of the eastern tower (tower S3, squares N XXVII–XXVI-II) and to the west of the western tower (tower S2, square Q XXVIII) of the southern gate were investigated in 2019 in order to determine their connection with the southern rampart.

To the east of the eastern tower (tower S3), rooms of a Late Roman building, partially explored in 1997 (Петковић и Јовановић 2001: 278, Fig. 2), built in the dry-wall technique, were found. This building was built in the area between the southern rampart and the towers of the southern gate, forming an architectural unit with it.

Two construction phases of the mentioned building were discovered, connected to the eastern wall of tower S3 in the earlier phase. At the same time, the eastern wall of tower S3 was also reconstructed after some severe destruction. In a later phase, a drywall was built, leaning on the eastern wall of tower S3 and the wall from the previous phase (Fig. 4).

The later phase of the drywall construction was built after a catastrophic fire in which the previous phase was destroyed. At a more recent level in the building, the floor of a furnace made of lined bricks (*tegulae*) was discovered, most of which had the seal of *Cohors II Aurelia Dardanorum*. The upper part of the furnace, a calotte made of bricks bound with clay, has not been preserved (Fig. 5).

The stratigraphy of the cultural layers east of tower S3 in the area of the drywall building, in squares N XXVII–XXVIII is as follows:

Layer A – dark brown soil with construction debris;

Trench in the direction north–south – a trench, 0.90 m wide and about 1 m deep at the southern end, the bottom of which follows the natural fall of the terrain from north to south, filled with layers of slag, baked earth, ash, charred wood and metal (iron slag);

Layer B – light brown loose soil with interlayers of soot and brick fragments;



Level b – floor paved with *tegulae*, most of which have the seal of *Cohors II Aurelia Dardanorum*, north of the drywall;

Layer C – red-brown loose soil with interlayers of baked soil, soot and brick fragments – burning layer;

Level c – level of red-brown packed earth with gravel;

Layer D – a layer of red-yellow sandy clay.



Fig. 4 Drywall building to the east of tower S3, from the east (photo: N. Radinović)  
Сл. 4 Грађевина од сувозида источно од куле S3, са истока (фото: Н. Радиновић)

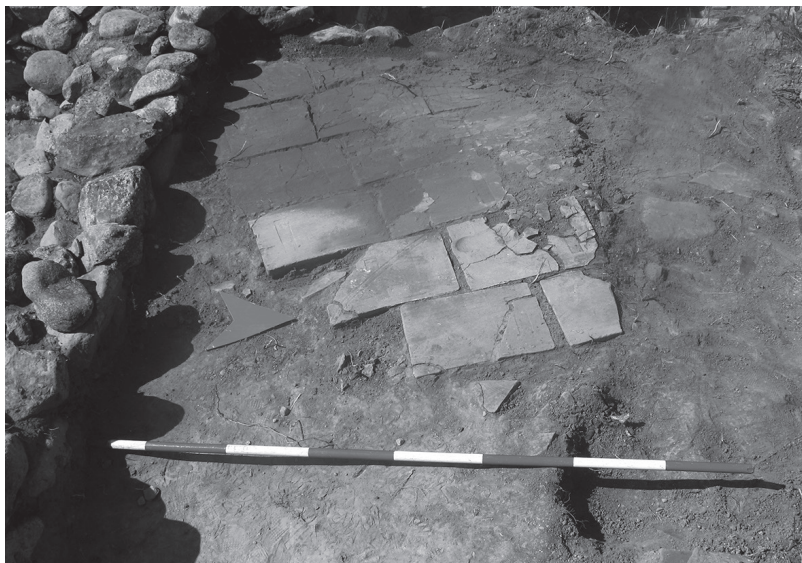


Fig. 5 Floor in the drywall building, level b, from the east (photo: S. Petković)  
Сл. 5 Под у грађевини од сувозида, ниво b, са истока (фото: С. Петковић)

A large quantity of fragments of ceramic and glass vessels and animal bones, as well as fragments of flat window glass, were found in the layers of the drywall building. The types of ceramic and glass vessels belong to the period from the middle of the 4<sup>th</sup> to the middle of the 5<sup>th</sup> century. Among the other finds, we should mention the bronze coin of Valentinian I from layer B, as well as the finds from the conflagration layer – layer C: a semi-circular plate of a bronze belt buckle, a bronze fibula of the *Viminacium-Novae* type and fragments of two varnished bowls, decorated with ornamental vegetable motifs, which date it into the second half of the 4<sup>th</sup> and the beginning of the 5<sup>th</sup> century (Petković et al. 2005: 87–90, Fig. 18, a-b, Pl. 5, 3, Pl. 10, 3; Petković 2010: 322–326, Fig. 118, T. LXXVI-LXXVII; Петковић и Тапавички-Илић 2020:75, 110–111, Type I/6, T.II).

In the layer destroyed by fire (layer C), a larger, very well-preserved piece of scale armour made of bronze plates, *lorica squamata*, was also discovered (Fig. 6).



Fig. 6 Part of the scale armour *in situ*, layer C (photo: S. Petković)

Сл. 6 Део љуспастог оклопа *in situ*, слој С (фото: С. Петковић)

Also, in the same layer, a trace of a ritual, probably magical, was discovered. Below level b in the destruction layer (layer C), a ceramic pot was buried, with the opening upside-down and fixed with fragments of *tegulae*, in which a chicken egg, a bronze coin and an iron needle were found (Fig. 7).

Judging by the grave goods from the Late Roman necropolis of *Timacum Minus*, the egg is a symbol of the renewal of life and reincarnation, while the iron needle, on the other hand, has the opposite meaning – to keep the deceased in the underworld and separate them from the world of the living, i.e. to calm a wandering soul, while the coin serves to pay Charon for crossing the Styx, i.e. to enter Hades (Petković et al. 2016: 13–15, 22–23). Given the above, it is possible that this is a cenotaph

of a person who died in the area of the southern gate in one of the barbarian attacks during the last quarter of the 4<sup>th</sup> century.

Unfortunately, the coin is heavily corroded and it was not possible to identify it, except for a tentative dating into the 4<sup>th</sup> century. The iron needle is also heavily corroded and could have been either a fibula needle or a sewing needle.

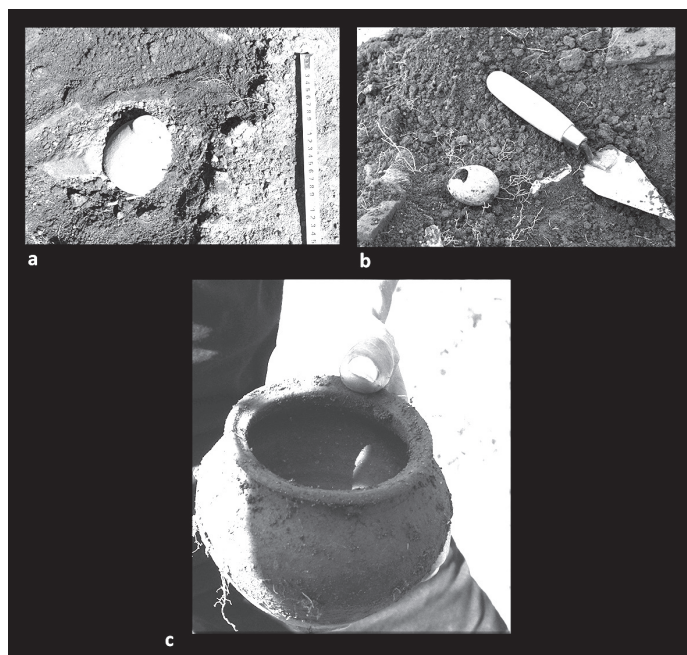


Fig. 7 Pot buried in layer C *in situ* (a), chicken egg from the pot (b), the pot (c) (photo: B. Ilijić)

Сл. 7 Лончић укопан у слој C, *in situ* (a), кокошје јаје из лончића (b), лончић (c)  
(фото: Б. Илијић)

In addition, dislocated parts of the human skeleton, parts of the skull, lower jaw and bones of the limbs were discovered under the construction debris of the western wall of tower S4. This individual was not buried, which indicates, most likely, a violent death during the destruction of the tower (Fig. 8).

Archaeological findings of osteological remains of persons killed in battles or sieges of fortifications are relatively rare, because the deceased would subsequently be buried. We can assume that the body of the deceased, after the collapse of the massive wall of the tower, could not be taken out for burial, and it is possible that no one even witnessed his death. This situation additionally confirms the fact that tower S4, after its destruction in the attack on the fortification, hadn't been rebuilt, that is, that the southern gate remained unprotected and open in the following period.

Excavations in the area of the southern gate of the *Timacum Minus* fortress continued in 2020. More trenches were opened to investigate the junction of towers S2 and S3 with the southern rampart and the foundation zone in their interior. The results of the excavation in trench 1/20 (dimension 7 × 5 m), placed in the direction north–south, in parallel to the trench from 2019 east of tower S3 (squares N XX-

VII–XXVIII). The stratigraphy of the cultural layers corresponded with the situation noted earlier in the area east of tower S3.

In this trench, under a layer of humus with vegetation, an intense layer of brown loose soil with construction debris was discovered – layer A. In the north-eastern corner of the trench, at the bottom of layer A, a part of a floor made of red-brown packed earth – level a, which belonged to a building made of light material (object 1), was found. Level a and layer A can be dated into the first half of the 5<sup>th</sup> century, according to mobile finds, primarily fragments of ceramic and glass vessels.



Fig. 8 Anthropological osteological remains under the collapsed western wall of tower S4 (photo: B. Ilijić)

Сл. 8 Антрополошки остеоолошки остаци испод срушеног западног зида куле S4 (фото: Б. Илијић)

Below level a, a layer of red-brown clay sand with interlayers of soot was discovered – layer B. This layer covered the wall, extending in the direction north–south, perpendicular to the southern rampart. The wall was built of crushed stone, pebbles and rows of bricks, bound with clay. To the east of this wall, a high-quality floor made of lime mortar was found – level b. This wall and part of a mortar floor are marked as object 2. A part of object 2 was investigated in sq. N XXVII–XVI–II in previous research campaigns in the area of the southern gate (1997–1998 and 2019), when a north–south wall was discovered, leaning against the eastern face of the eastern wall of tower S3, as well as an east–west wall (Петковић и Јовановић 2001: 276–279, fig. 3; Petković et al. 2021: 166–171, Figs. 7–9, Pl. 4–5). The walls extended to the north and east, so it is evident that it was a large building, which can be dated into the end of the 4<sup>th</sup> century and the first half of the 5<sup>th</sup> century, based on the mobile finds. The layer contained a large amount of finds, fragments of ceramic and glass vessels, fragments of iron and bronze objects, including a fully preserved miniature bronze lamp (Fig. 9).



Fig. 9 Bronze lamp from layer C (photo: T. Živković)  
 Сл. 9 Бронзани жижак из слоја С (фото: Т. Живковић)

Below level b, a layer of red-yellow sand with intense traces of burning, interlayers of baked earth, soot, charred wood and ash was found – layer C. Channels A, B and C were buried in this layer, which went from the eastern profile of the trench towards its centre. Their sides are constructed of pebbles and bricks laid on top of each other, bound with mortar, and the bottom is paved with *tegulae*. All three channels were cut by the wall of object 2 and joined in a horseshoe-shaped construction, west of the wall. This object was most likely a craft furnace or a fireplace (*prae-furnium*) for floor heating, although no traces of high temperatures and fire were found in its interior (Fig. 10).



Fig. 10 Object 2 with a channel system, east of tower S3, from the north-west (photo: B. Ilijić)  
 Сл. 10 Објекат 2 са системом канала, источно од куле S3, са северозапада (фото: Б. Илијић)

Layer C can be dated according to numerous finds of fragments of ceramic and glass vessels, characteristic types of the second half of the 4<sup>th</sup> century, as well as ceramic lamps made on potter's wheel. Another piece of scale armour (*lorica squamata*) was found in this layer, created in destructive fire. Given that it was found near the same spot as the fragment from 2019, it is most likely part of the same scale armour. This indicates that the person who wore this body armour was seriously wounded or died in battle.

A larger fragment of the scale armour (*lorica squamata*) found in 2019 originates from the area of the southern gate of *Timacum Minus*.<sup>4</sup> At the time of the discovery, the articulated part of the armour (Fig. 6) consisted of about 63 mostly well-preserved scales (*squamae*), made of copper alloy and set in regular rows and columns.<sup>5</sup> The scales are rather small (length: 28 mm, width: 8 mm, thickness: 0.3–0.5 mm) and have elongated rectangular shape with an arched lower end (Sim/Kaminski type C ii) (Sim and Kaminski 2012: 96, Fig. 61). A maximum of eight columns and ten horizontal rows of scales joined together with a copper alloy metal wire have been preserved on the fragment. They were connected by wire loops pulled through four pairs of perforations (Fig. 11a, b). Both ends of the loops are bent on the inside and their total length is 12–15 mm. The arrangement of perforations corresponds to the Groller's type VII (Groller 1901: 85–95).



Fig. 11 Front (a) and back (b) of a larger fragment of the scale armour (photo: V. Илић)

Сл. 11 Предња (а) и задња страна (б) већег фрагмента љуспастог оклопа (фото: В. Илић)

4 Inv. 891; C 61/ 2019.

5 Unfortunately, after conservation, some of the scales and wire loops, held together exclusively by corrosion, have been dislocated and preserved separately.

Thickness of wire loops (0.5 mm) is equal to the thickness of the metal sheet from which the armour scales were made. Scales partially overlap the adjacent ones from left to right and from top to bottom, which additionally increased the thickness and the resistance of the armour.<sup>6</sup>

In the continuation of systematic research activities during the following campaign in 2020, another smaller fragment of scale armour was discovered (fragment dimensions: 68 × 28 mm).<sup>7</sup> It is composed of a total of nine scales of unequal state of preservation (Fig. 12a, b), made of copper alloy as well. Their size (length: 26 mm, width: 8 mm, thickness: 0.5 mm), as well as the shape and arrangement of perforations, mostly correspond to those from a larger fragment (Groller's type VII). They are also linked to one another with wire loops and overlap from left to right in a maximum of four rows and in three columns from top to bottom.

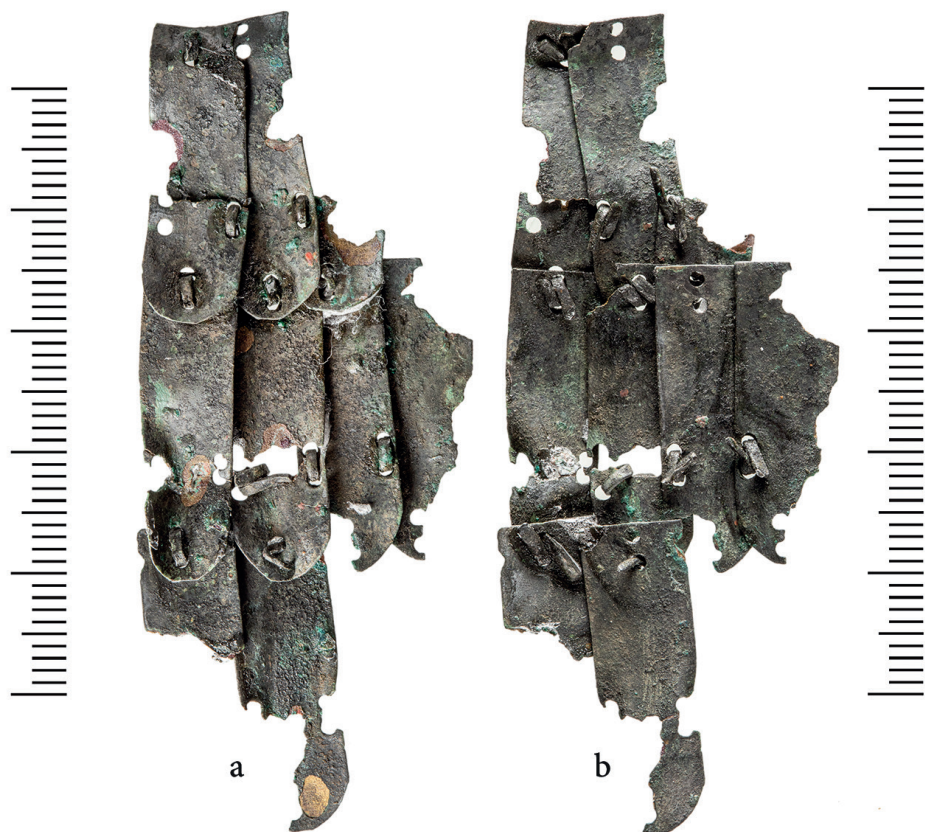


Fig. 12 Front (a) and back (b) of a smaller fragment of the scale armour (photo: V. Plić)  
Сл. 12 Предња (a) и задња страна (b) мањег фрагмента љуспастог оклопа (фото: В. Илић)

6 For experimental testing and resistance of scale armour, see: Sim and Kaminski 2012: 97–101.

7 The fragment is listed as C – 46/ 22. It was discovered in trench 2/ 22, in layer C.

Although in terms of the construction and basic concept they do belong to the *lorica squamata*, semi-rigid armour with small scales of elongated rectangular shape and a greater number of perforations is also considered as a variant of lamellar armour that used to be more common in the Middle East, while in Roman usage, it occurs somewhat less often and mostly indicates the presence of oriental troops (Radman-Livaja 2004: 80). Similar finds of scale armour dated into the second half of the 2<sup>nd</sup> century are known from Roman fortifications on the Germanic limes (Hedernheim, Carnuntum and Mušov), as well as along Hadrian's Wall in Britain (Corbridge, Carlyle).<sup>8</sup> Several scales of this characteristic shape were dredged from the Kupa River near Sisak (Croatia), but without precise dating (Hoffiler 1912: 40, fig. 14/4; Radman-Livaja 2004: 80, cat. 157).

The small dimensions of these scales could indicate that they belonged to the type of parade armour that was used in special circumstances or that served to cover only certain parts of the body on the sleeves or around the neck (Robinson 1975: 154).

In addition to these, a single scale (Fig. 13) made of copper alloy has been found as well, but with a slightly different form (length: 28 mm, width: 13 mm, thickness: 0.5 mm).<sup>9</sup> A larger central perforation (diameter: 4 mm) is placed in the middle, about 2 mm below the upper edge of the scale, while two pairs of smaller perforations (diameter 1 mm) are visible on both sides. The arrangement of perforations corresponds to Groller's type III, where pairs of smaller lateral perforations served for connecting adjacent scales in rows, while a large perforation at the top was used for stitching horizontal rows of *squamae* to a textile or leather padding.



Fig. 13 Single find of an armour shell (photo: V. Ilić)

Сл. 13 Појединачни налаз љуспе оклопа (фото: В. Илић)

Scales of similar form were discovered in Vidovgrad near Karlobag, Straubing and Newstead.<sup>10</sup> Analogous specimens from the legionary fortification in Belgrade (*Singidunum*) have been dated into the early Antonine period (Bojović 1978: 51), but this popular form can be traced all the way to the end of the 2<sup>nd</sup> century and even

8 Carnuntum (Groller 1901, Pl. XVI/ 6); Hedernheim (Fischer 1973, 98), Mušov (Tejral 1999: Abb.41/6), Corbridge (Forster and Knowles 1911: Fig. 41), Carlisle (McCarthy at al. 2001: 508, Fig. 3).

9 The fragment is listed as C – 158. It was discovered in trench 1/20, in layer c.

10 Vidovgrad (Hoffiler 1912: 41, fig. 15/3), Straubing (Robinson 1975: 154–155); Newstead (Curle 1911: 158–159, Pl. XXIV/12).



later.<sup>11</sup> The finds of scale armour from the fortification *Timacum Minus* near Ravna originate from layer C, dated into the period from the end of 4<sup>th</sup> to the beginning of the 5<sup>th</sup> century, which indicates the use of this type of body armour during the Late Antiquity as well.

In any case, findings from the destruction and fire layer in the area of the southern gate (layer C): parts of body armour (*lorica squamata*), anthropological remains of a person who died during the demolition of tower S4, a buried pot with a chicken egg, a coin and an iron needle, as well as the damage to the southern rampart and towers S2, S3 and S4, bear testimony of fierce struggles of the fortress crew to resist the invaders. So far, there is not enough data to precisely link these destructions of the fortification *Timacum Minus* to specific historical events, but it can be assumed that they were related to some of the barbarian attacks on *Dacia Ripensis*, such as the invasion of Goths, Huns and Alans under the leadership of Alatheus and Saphrax after the Battle of Hadrianopolis in 378. Later barbarian incursions and plundering of the provinces of *Dacia Ripensis* and *Moesia I* followed in the 380s (Burns 1994: 73–91). Finally, the invasion of the Huns under Uldis in 408/409 must also be considered, when the nearby fortress of *Castra Martis* in today's Bulgaria was destroyed (Maenchen–Helfen 1973: 63–71).

*Translated by the authors*

---

11 For other *lorica squamata* finds from *Singidunum* see: Валтровић 1885: 73; Nikolić i Pop Lazić 2005: 35, Fig. 14/11; Vujović 2013: 32, Pl. I/ 14.

## REFERENCES / ЛИТЕРАТУРА

**Bishop, M. C. and Coulston, J. C. N. 2006**

*Roman Military Equipment from the Punic Wars to the Fall of Rome*, second edition, Oxford: Oxbow Books.

**Bojović, D. 1978**

Pariska ulica, jugoistočni bedem kastruma, *Arheološki pregled* 20: 51–56.

**Burns, T. S. 1994**

*Barbarians within the Gates of Rome. A Study of Roman Military Policy and the Barbarians, ca. 375–425 A.D.*, Bloomington–Indianapolis: Indiana University Press.

**Curle, J. 1911**

*A Roman Frontier Post and its People*, Glasgow: James Maclehose & Sons.

**Чернач-Ратковић, С. 1996**

Оков појасне копче Аквилеја типа из кастела Понтес, *Гласник Српској археолошкој друштва* 11 (1994): 159–163.

**Dautova-Ruševljan, V. i Vujović, M.**

*Rimska vojska u Sremu = Roman Army in Srem*, Novi Sad: Muzej Vojvodine.

**Feugère, M. 1993**

*Les Armes Des Romains de La République à L'Antiquité Tardive*, Paris: Errance.

**Fischer, U. 1973**

Grabungen im römischen Steinkastell von Heddernheim 1957-1959., *Schriften des Frankfurter Museums für Vor- und Frühgeschichte* 2, Frankfurt am Main: Waldemar Kramer.

**Forster, R. H. and Knowles, W. H. 1911**

Corstopitum: report on the excavations in 1910, *Archaeologia Aeliana Series* 3, Vol 7: 143–267.

**Groller, M. von 1901**

Römische Waffen, 85–132, in: *Der Römische Limes in Österreich* II, Wien: Kaiserliche Akademie der Wissenschaften in Wien.

**Hoffiler, V. 1912**

Oprema rimskoga vojnika u prvo doba carstva II, *Vjesnik Arheološkog muzeja u Zagrebu* 12/1: 16–123.

**Maenchen-Helfen, O. J. 1973**

*The World of the Huns: Studies in Their History and Culture*, Berkley–Los Angeles–London: University of California Press.

**McCarthy, M., Bishop, M. and Richardson, T. 2001**

Roman armour and metalworking at Carlisle, Cumbria, England, *Antiquity* 75(289): 507–508.

**Milošević, P. 1987**

Naoružanje i oprema rimskog ratnika u doba osvajanja i konsolidacije doline Save, u: O. Brukner, V. Dautova-Ruševljan, P. Milošević, *Počeci romanizacije u jugoistočnom delu provincije Panonije*, Novi Sad: Matica Srpska.

**Nikolić, S. i Pop-Lazić, S. 2005**

Ostaci antičke urbane zone na dunavskoj padini, *Singidunum* 4: 7–43.

**Петковић, С. и Јовановић, С. 2001**

Археолошка ископавања римског утврђења код села Равна, општина Књажевац током 1997–1998. године – сектор јужне капије, *Старинар* (н.с.) 50 (2000): 275–280.

**Petković, S. et al., 2005**

*Roman and Medieval Necropolis in Ravna near Knjaževac*, Arghaeological Institute, Monographs, Vol. 42, Beograd: Arghaeological Institute.

**Петковић, С. и др. 2016**

*Појредни ритуал и Дионисов култи у Равни (Timacum Minus) = Funeral Ritual and the Cult of Dionysus in Ravna (Timacum Minus)*, Археолошки институт, Посебна издања, књига 57, Београд: Археолошки институт; Књажевац: Завичајни музеј Књажевац.

**Петковић, С. и Тапавички-Илић, М. 2020**

*Касноантичко утврђење Horreum Margi* (Summary: Late Roman Fortification *Horreum Margi*), Археолошки институт, Грађа, књига 11, Београд: Археолошки институт.

**Петровић, П. 1975**

*Палеографичка римских највиша у Горњој Мезији*, Археолошки институт, Посебна издања, књига 14, Београд: Археолошки институт.

**Петровић, П. и Јовановић, С. 1997**

*Културно блага књажевачког краја. Археолошја*, Београд: Археолошки институт; Књажевац: Завичајни музеј.

**Popović, V. 1987**

Süddanubischen Provinzen in der Spätantike vom Ende des 4. bis zur Mitte des 5. Jahrhunderts, Die Völker Südosteuropas im 6. bis 8. Jahrhundert, *Südosteuropa-Jahrbuch* 17: 95–139.

**Radman Livaja, I. 2004**

*Militaria Sisciensia: nalazi rimske vojne opreme iz Siska u fundusu Arheološkoga muzeja u Zagrebu*, Musei Archaeologici Zagrabienensis, Catalogi et Monographiae 1/1, Zagreb: Arheološki muzej u Zagrebu.

**Richardson, T. 2001**

Preliminary thoughts on the Roman armour from Carlisle, *Royal Armouries Yearbook* 6: 186–189.

**Robinson, H. R. 1975**

*The Armour of Imperial Rome*, London: Arms and Armour Press.

**Sim, D. and Kaminski J. 2012**

*Roman imperial armour : the production of early imperial military armour*, Oxford: Oxbow Books.

**Spasić-Djurić, D. 2002**

*Viminacium, The Capital of the Roman Province of Upper Moesia*, Požarevac: National Museum Požarevac.

**Tejral, J. 1990**

Vorgeschobene Militärstützpunkt der 10. Legion in Musov (Bez. Breclav, ehem. Bez. Mikulov), in: *Akten des 14. Internationalen Limeskongresses 1986 in Carnuntum*, H. Vetters and M. Kandler, eds., *Der Römische Limes in Österreich* 36, Vienna: Verlag der Österreichischen Akademie der Wissenschaften, 789–795.

**Tejral, J. 1999**

Zum Stand der archäologischen Forschung über den römischen militärischen Eingriff in Gebieten. nördlich der Donau, *Přehled výzkumů* 39 (1995–1996): 81–164.

**Валтровић, М. 1885**

Римски гробови у облику бунара, *Сѣаринар Српској археолошкој друшћва* II: 35–45, 69–74.

**Vujović, M. B. 1998**

*Naoružanje i oprema rimskog vojnika u Gornjoj Meziji i jugoistočnom delu Panonije*. Magistarski rad, Filozofski fakultet, Univerzitet u Beogradu.

**Vujović, M. B. 2013**

Roman Weapons and Military Equipment from Singidunum, *Весник Војној музеја* 40: 29–48.

Софија А. ПЕТКОВИЋ

Археолошки институт, Београд

Мирослав Б. ВУЈОВИЋ

Универзитет у Београду, Филозофски факултет – Одељење за археологију

## НАЛАЗИ ЉУСПАСТОГ ОКЛОПА (*LORICA SQUAMATA*) ИЗ УТВРЂЕЊА *TIMACUM MINUS*

### РЕЗИМЕ

На сектору јужне капије утврђења *Timacum Minus*, два фрагмента панцира *lorica squamata* су откривена током ископавања 2019. и 2020. године (сл. 1, 6, 11–13). Оба су нађена у слоју деструкције датованом у крај IV века, највероватније проузроковане упадима варвара с леве обале Дунава, после Хадријанопољске битке 378. године. Слој је настао у пожару и рушењу велике куле S4, подигнуте приликом реконструкције утврђења за време владавине Валентинијана I и Валенса. Та кула, као и по једна на простору западне и северне капије, затворила је јужну капију, чинећи нов одбрамбени систем са старијим кулама капије (куле S2 и S3) из средине III века. Велика кула S4 је потпуно уништена у нападу варвара; само је њен источни зид делимично сачуван, тако да је јужна капија била отворена за нападаче и унутрашњост утврђења је спаљена (планови 1 и 2; сл. 2).

Током последње четвртине IV и почетком V века, у техници сувозида (ломљени камен, облаци и тегуле везани глином) је изграђен и велики објект на сектору јужне капије, у унутрашњости утврђења, иза кула S2 и S3, и већим делом источно од источне куле. Пружао се дуж јужног бедема, обухватао је источну кулу S3 и ширио се ка северу. Објект је страдао у пожару, а затим је обновљен. Та грађевина је имала систем канала и пећ или ложиште с којим су они били повезани, као и квалитетан малтерни под у млађој и под поплочан тегулама у старијој фази (планови 1 и 2; сл. 4, 5, 10).

У слоју пожара и деструкције у касноантичкој кули и на простору грађевине од сувозида (слој C), који се састоји од црвено запечене земље, угљенисаног дрвета, гаражи и пепела измешаних са шупом са кула и јужног бедема (сл. 4, 5, 10; план 2), нађено је доста предмета индикативних за датовање (сл. 3, 9), али и два необична налаза.

Остаци људских костију налазили су се испод шута од срушеног западног зида куле S4, у неартикулисаном положају, највероватније остаци жртве поменуте инвазије (сл. 8).

Такође, у утврђењу, источно од источне куле јужне капије, куле S3, откривена је нека врста кенотафа или траг магијског ритуала: керамички лончић с отвором надоле, учвршћен комадима опека, у који су стављени кокошје јаје, гвоздена игла и бронзани новчић (сл. 7).

У слоју C нађена су и два већа фрагмента љуспастог оклопа (*lorica squamata*), која су припадала једном оклопу. Већи фрагмент је нађен 2019. године. Током открића (сл. 6), артикулисани део оклопа састојао се од приближно 63 већином добро очуваних љуспи, израђених од бакарне легуре и постављених у правилним редовима. Љуспе су малих димензија, издуженог правоугаоног облика, са лучно опсеченим доњим крајем. На фрагменту оклопа уочава се највише осам вертикалних и 10 хоризонталних редова љуспи, међусобно спојених металном жицом од бакарне легуре. Спајање је извршено провлачењем жичаних спојница кроз четири пара перфорација (сл. 11a, b).

Крајеви спојница су посувраћени са унутрашње стране. Љуспе делимично преклапају суседне слева надесно и одозго надоле (Groller тип VII).

Током следеће, 2020. године откривен је још један, мањи фрагмент љуспастог оклопа. Састављен је од укупно девет љуспи неједнаке очуваности (сл. 12a, b), које су такође израђене од бакарне легуре. Љуспе су и овде међусобно фиксирани жичаним спојницама и преклапају се слева надесно, у максимално четири хоризонтална реда, и одозго наниже у три реда (Groller тип VII).

Мале димензије плочица панцира из Тимакум Минуса могле би да указују на то да се ради о посебној врсти парадног оклопа, који је коришћен у посебним околностима или је служио за покривање само одређених делова тела на рукама или око врата.

Овај тип љуспастог оклопа је сразмерно редак, а налажен је у утврђењима на рајнском лимесу, на Хадријановом зиду, а један потиче из Саве у близини Сиска. Датује се у време од друге половине II века, а судећи према налазу из Тимакум Минуса, све до краја IV века.

Коначно, анализа налаза из слоја деструкције наводи на претпоставку да се догодио жесток напад варвара крајем IV или почеком V века, с многобројним жртвама на обе стране, међу којима је био и римски официр који је носио панцир *lorica squamata*.