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Recent Excavations on the Amphitheatre of *Viminacium* (Upper Moesia)

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Introduction

Viminacium is located in Eastern Serbia. It is situated on the right bank of the Mlava River, close to its confluence with the Danube River (**fig. 1**). Based on archaeological excavations, the areas of the legionary fortress and of the civil settlement were defined (**fig. 2**)[1]. At first, a military camp was built. Here the legion *VII Claudia* was stationed from the third quarter of the 1st century AD (Mirković 1968, 25-26; 2003, 40-42; Tončinić 2011, 14). Next to the camp, a settlement developed and became the capital of the province of *Moesia Superior* and later of *Moesia Prima*.

This paper provides an overview of the results of recent excavations on the *Viminacium* amphitheatre. The presence of the amphitheatre is very important because this is the first one ever to be excavated in the territory of modern Serbia. The amphitheatre deserves special attention because it plays an important role in understanding the appearance and urbanization of *Viminacium*.

Viminacium Amphitheatre – Location and Excavations

The *Viminacium* amphitheatre is located in the north-eastern corner of the surface defined as the city area, 50-60 m away from the north-western corner of the legionary fortress (**fig. 2**). The site appears to have been chosen because the natural slope could easily be enlarged and remodelled by digging out the arena, in order to use the soil as the base for the *cavea*.

Before archaeological excavations the site was noted as a large pit measured approximately 65 x 60 m and 7 m deep. The first small-scale excavations at this location took place in the year 1882, when M. Valtrović detected only traces of a wooden construction, parts of the walls and city rampart (Валтровић 1884). Apart from that, it was not possible to grasp the purpose of this part of the settlement.

Modern investigations started with geophysical survey. In the course of 2003 the first ground penetrating radar survey was done (**fig. 3a**). A magnetic survey was conducted in the following years (**fig. 3b**). According to geophysical data, it was possible to define the outline of an elliptical building similar to the shape of an amphitheatre. The internal elliptical anomaly could be explained as the arena wall. Main entrances were also determined. To the north-west and south-east of the building, city ramparts were detected.

Systematic archaeological excavations began at the end of 2007 and they are still in progress. Based on the layout of the amphitheatre masonry walls, post-holes and beam-slots, it was possible to assume that the excavated parts of the amphitheatre include: the arena, the arena wall, main entrances, chambers that flanked the main entrances, recesses on the short axis of the building and traces of the timber-framed seating. Along the amphitheatre segments of the northern and the eastern city ramparts were excavated.

According to the archaeological data, it can be assumed that the amphitheatre was built in the first

[1] For an understanding of the history and of the appearance of *Viminacium* see Поповић 1968; Mirković 1968, 56-73; Mrđić 2009.

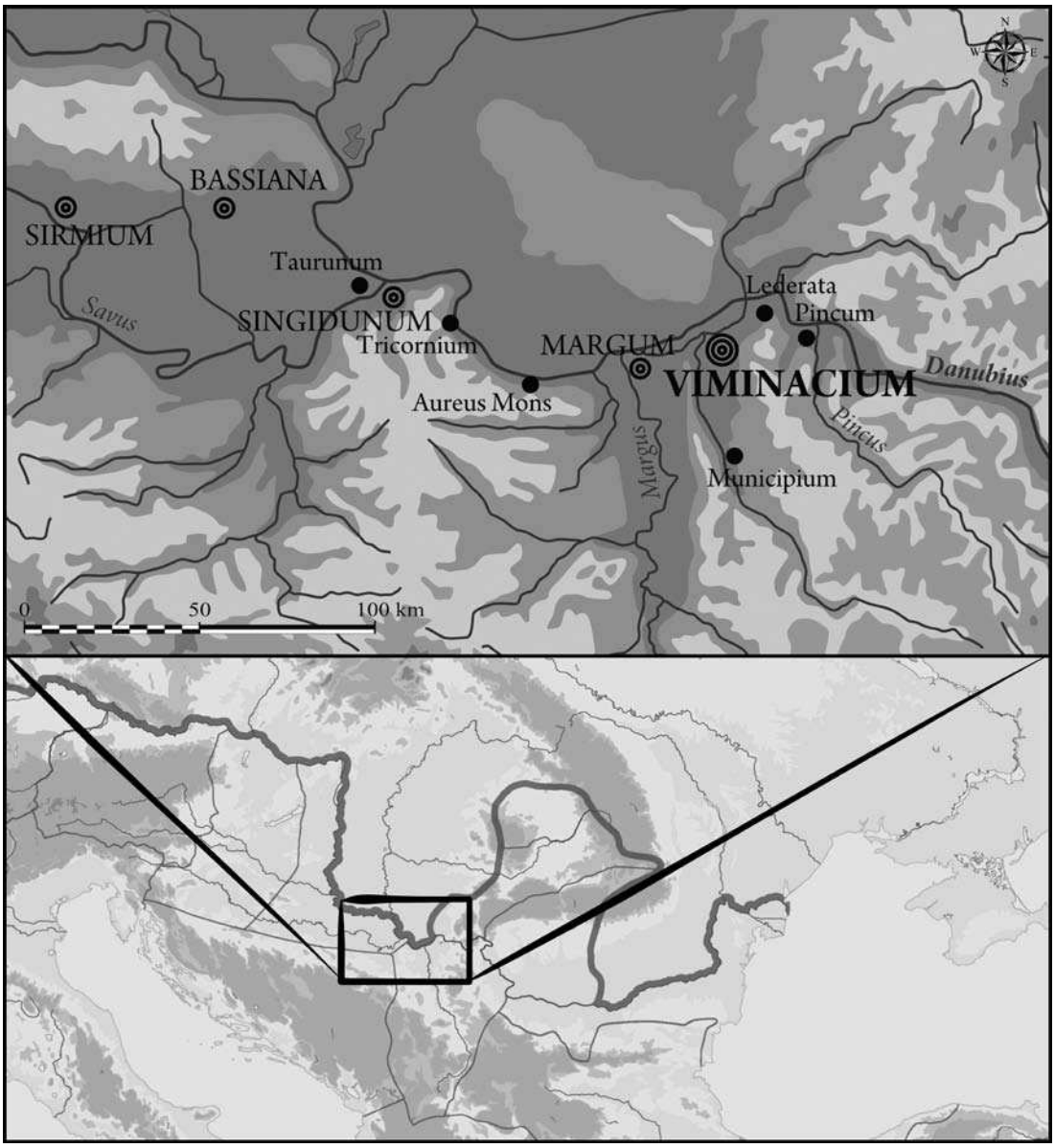

Fig. 1. Location of *Viminacium*

quarter of the 2nd century AD, and that it was used until the turn of the 3rd and 4th centuries AD. So far, it was possible to distinguish the primary wooden structure that was later replaced by a stone-wooden amphitheatre (Nikolić / Bogdanović 2012).

Wooden Amphitheatre

During the excavations the first wooden amphitheatre was partly detected. The structural evidence for this timber-built phase comprised post-holes and beam-slots detected at both ends of the longer axis of the building and in the north-eastern part of the excavated surface (**fig. 4**). Also, there is a possibility that some pits with traces of timber construction, which were detected within the southern and south-western parts, belong to the wooden amphitheatre.

According to the distribution of archaeological features, it was possible to hypothesize that the arena of the wooden amphitheatre was c. 60 m long. The width of the arena could not be determined. The level of the arena was not detected, but it can be assumed based on the elevation of the pavement within the eastern entrance. It seems that arena was partly sunken to the natural slope. We can assume that arena was surrounded by a timber arena wall, although there was no evidence of it.

Two rows of pits set on the eastern and the western end of the longer axis represent the main entrances. These pits were used as the foundation for posts supporting the sides of the entrances. According to the layout of pits and traces of wooden poles, the eastern entrance was 10.90 m long. The width of

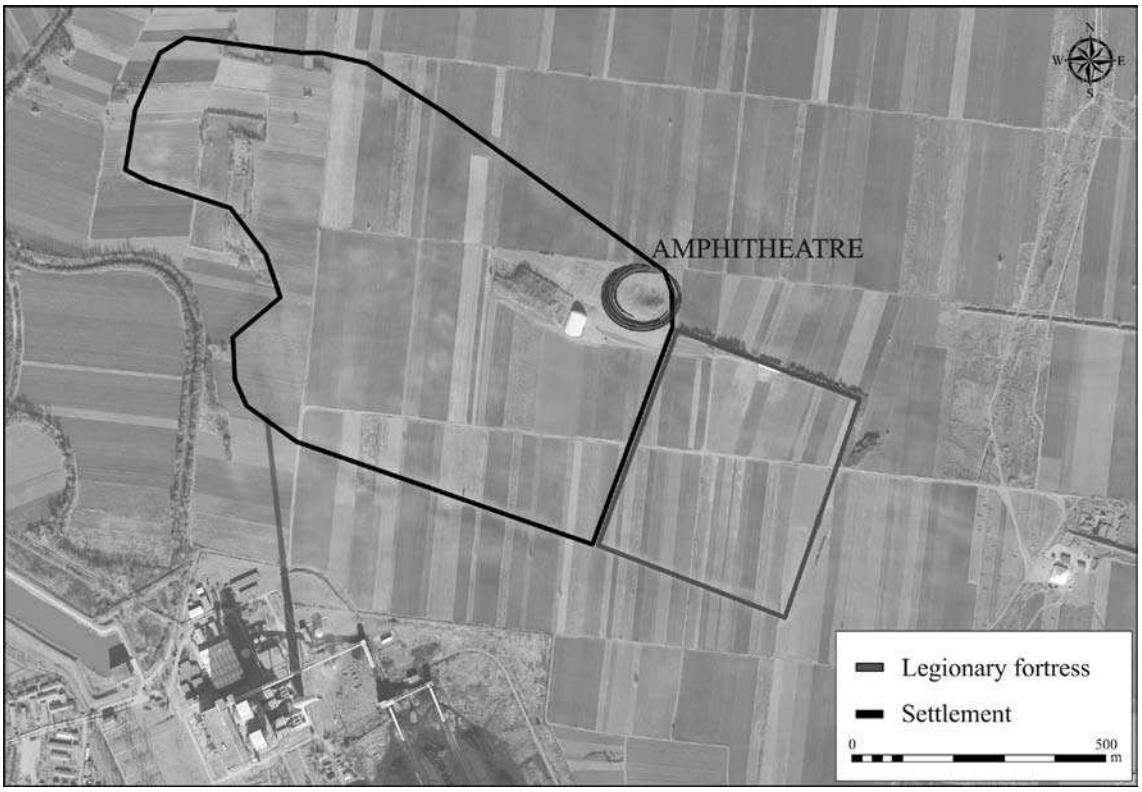

Fig. 2. Location of the amphitheatre in an aerial photo of *Viminacium* (taken in 2007)

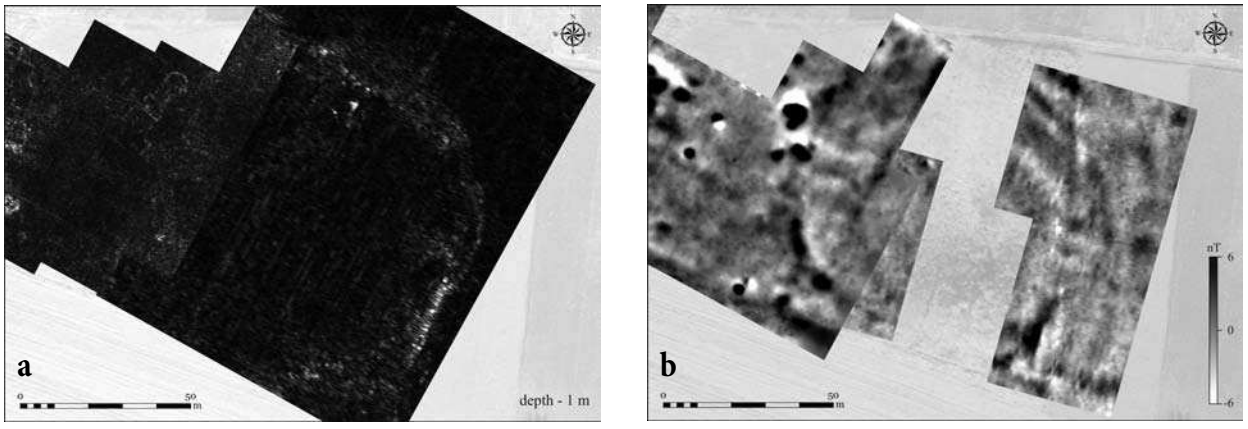

Fig. 3. a Ground penetrating radar survey data of the *Viminacium* amphitheatre; **b** Magnetic survey data of the *Viminacium* amphitheatre

this entrance on the outer side was around 4.30 m, while it was not possible to determine its width on the arena side. The pavement in the central part of the entrance made of finely crushed red baked clay, broken stones and bricks, probably belonged to the wooden phase. The length of the western entrance passage was 10.90 m, while its width was 3.35 m at the inner arena gate and 3.95 m at the outer gate.

Traces of a wooden *cavea* in the north-eastern part of the excavated surface include horizontal timber beams 20-25 cm wide. The timber seating framework consisted of wooden seats that were set on a timber framework which was carried by timber beams. Based on the excavated parts of the horizontal timber beams it was not possible to determine the full width of the cavea which is defined by the length of the entrances, and measures c. 10.90 m. There is a possibility that some post-holes discovered in the southern and south-western part of the building also represent traces of the wooden amphitheatre grandstands.

Three small fresco-painted structures (Rogić 2010) discovered to the north of the eastern entrance probably belong to the wooden amphithea-

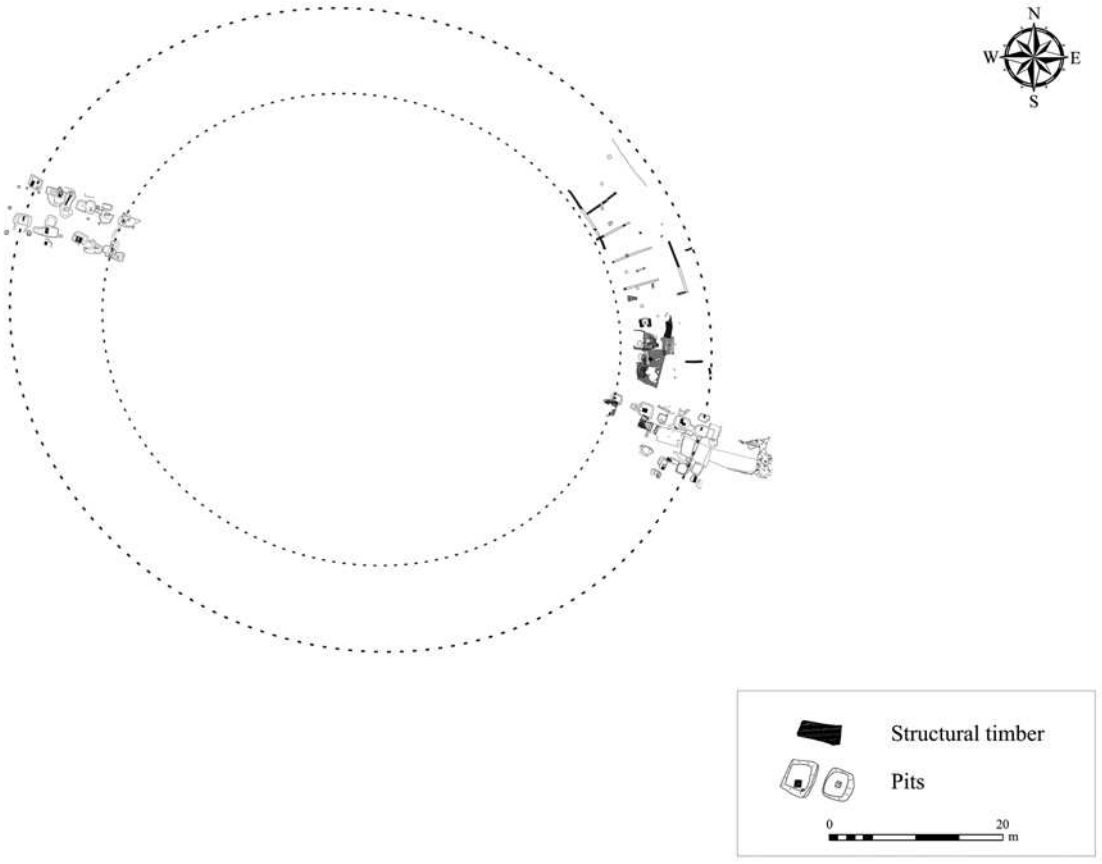

Fig. 4. *Viminacium* amphitheatre. Excavated parts of the wooden amphitheatre

tre. Around those shrines, traces of wooden-earth construction were detected. It is still not clear whether it was a gladiatorial cult place, a shrine, an altar or a chapel, which could be expected in the amphitheatre (Golvin 1988, 337-340).

According to the layout of pits comprising the main entrances, we can suggest that the length of the first timber amphitheatre was c. 81.80 m. It was not possible to establish the width of this building. The orientation of the longer axis of the amphitheatre is east-west, with a deviation at the western end by 20 degrees to the north. It is very important to note that the mentioned orientation is the same as the orientation of *via principalis* of the legionary fortress. If we accept the relations between length and width of the *Viminacium* amphitheatre and its arena during the stone-wooden construction period, and if we compare them with the known dimensions of the wooden structure, then we can suppose that the wooden amphitheatre could accommodate a maximum of 6000 spectators.

Wooden amphitheatres are known from the late Republican and Early Imperial period as the first temporary structures for holding gladiatorial combats, but traces of these buildings are very rare (Golvin 1988, 98-101; Welch 2009, 65-70). The wooden amphitheatre of *Viminacium* was built along the legionary fortress. Based on excavated parts it can be assumed that the southern part of the building was dug into a natural slope, while the northern part was set on an almost flat surface. It belongs to Golvin's simplest type of amphitheatre with wooden *cavea* supported by embankments (Golvin 1988, pl. II/a). Buildings consisting only of earthen banks enclosing an oval space and supplemented by timbering are typical of Early Imperial military amphitheatres erected beside legionary and auxiliary fortifications (Golvin 1988, 98-101; Alicu / Opreanu 2000, Sommer 2009; Wilmott 2010). The closest analogies are the wooden amphitheatres in *Porolissum* (Alicu / Opreanu 2000, 60-62; Bajusz 2005), *Carnuntum* (Klima / Vetters 1953, 53-60; Golvin 1988, 85), *Vindonissa* (Golvin 1988, 79-80), *Castra Vetera* (Golvin 1988, 80), *Londinium* (Bateman et al. 2008, 19-38; Wilmott 2010, 92-95), *Calleva Atrebatum* (Fulford 1989, 12-36; Wilmott 2010, 97-101) and *Durnovaria* (Wilmott 2010, 103-108).

Wooden military amphitheatres were built during the 1st and at the beginning of the 2nd century AD (Golvin 1988, 98-101; Wilmott 2010). Based on previous investigations we can suggest that *Viminacium* wooden amphitheatre was built during the reign of

Emperor Trajan. This building was probably used for a very short period and then it was replaced by a stone and wooden structure during the first half of the 2nd century AD, soon after Trajan's death.

Stone-wooden Amphitheatre

The amphitheatre made of stone and wood was built above a timber structure (**fig. 5**). Excavated parts include masonry walls and post-holes. Along the amphitheatre segments of the northern and the eastern city ramparts were excavated.

The arena of the stone-wooden amphitheatre measures 54.90 x 45.30 m. It covers nearly 40 % of the building's surface. It was not possible to define the level of the arena, but we can assume this, based on the thresholds of the main entrances and doors that led to the rooms behind the arena wall. Like the arena of the wooden amphitheatre, this one was also partly dug into the natural slope. Chambers that might have lain below the arena were not detected either.

The width of the wall that surrounded the surface of the arena was between 0.80 and 1.15 m. The best preserved segment of the arena wall was discovered in the south-western part of building. At this place, the height of the arena wall from the arena level to the top of the wall was 3.40 m, while the height of the foundation was 0.80 m. In the north-western and south-eastern parts of the arena, segments of collapsed parts of the arena wall were found. The collapse of the arena wall can be explained by its small foundations, and the Late Roman pits which were dug within the arena surface, thus impairing the structural integrity of the wall. Also, it could be due to the pressure of the embankment.

At the best preserved segment, it was easy to notice two phases of construction. At first, the arena wall was made of limestone in *opus quadratum* technique with the foundation made of greenschist. The preserved height of this wall is 2.40 m. In the course of time, the wall was reconstructed with smaller broken stones (greenschist) and bricks and raised higher. Judging by the bearings for wooden beams that were set on top of the walls of recess at the southern end of the shorter axis, we can suggest that the arena wall reached a height around 3.40 m plus a parapet which was about 0.80-1.00 m in height that protected spectators.

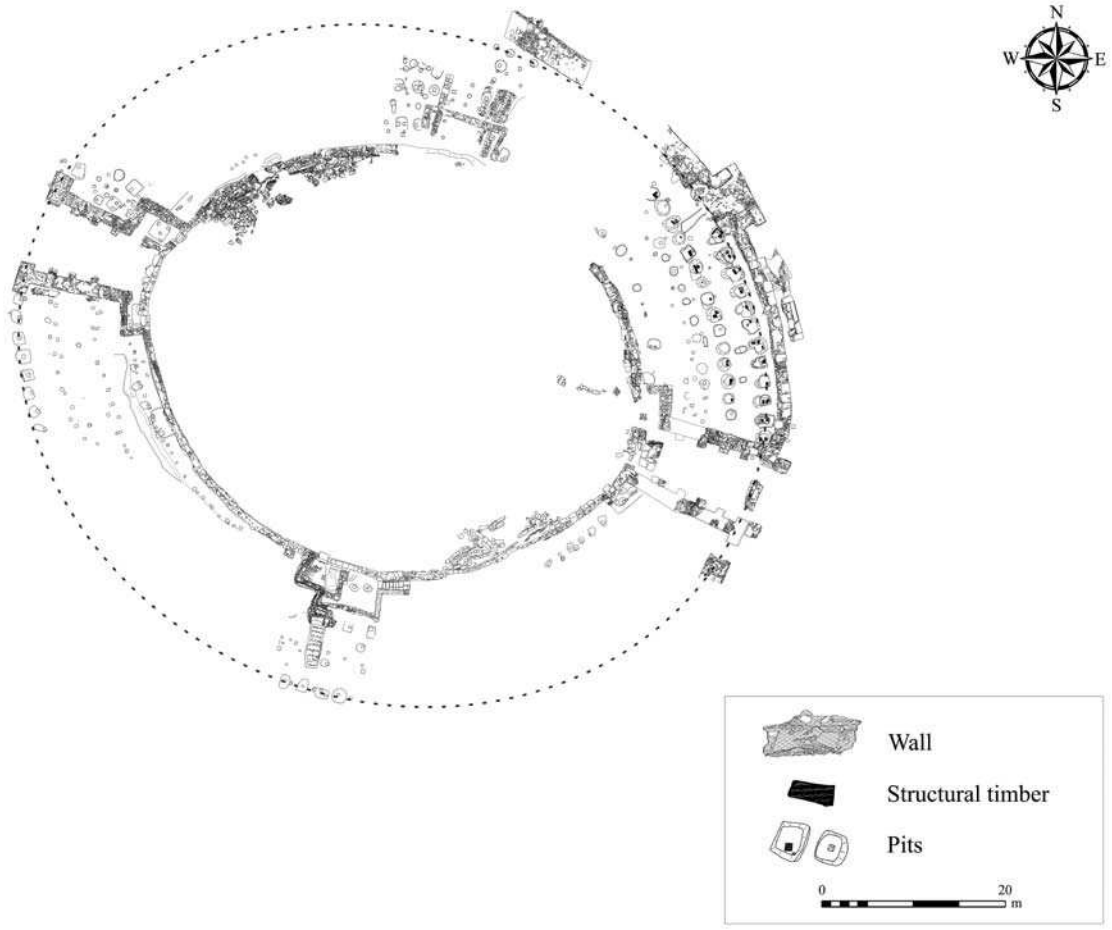

Fig. 5. *Viminacium* amphitheatre. Excavated parts of the stone-wooden amphitheatre

The arena wall was fresco decorated (Rogić / Bogdanović 2012). Only a small part of wall decoration was found *in situ*. It mostly fell along the arena wall, so 8.5 m^2 of fresco decoration had been found within south-western part of the arena beside the best preserved part of the arena wall. Wall painting consisted of bays and borders made in different colours.

Within the wall, two main entrances and five doors that led to small chambers were found. Main entrances are represented by two pairs of radial walls with pilasters on their internal sides and T-shaped ends on their outer parts. Walls were made of broken greenschists. The pilasters and T-ends show us that the vaulting carried seating over both entrances. The eastern entrance walls were partly destroyed. The length of this entrance was c. 14.80 m, while its width was 4.00-4.15 at the inner gate and 6.20 m at the outer gate. Within the entrance, a pavement, an inner and an outer threshold were found. On the external side, two pillars measured 1.60 x 1.50 m and 1.60 x 1.35 m were discovered. The western entrance passage was 14.35 m long and it was 4.15 m wide at the arena gate and 7.10 m wide at the outer gate. Within this entrance threshold and part of pavement on the arena side were found. According to shaft cuts and the pivot socket noted within both entrances it was easy to appropriate that double doors led to the arena.

On the arena side, both entrances were flanked by two chambers – *carceres*[2]. These chambers were connected with the main entrance and the arena by doors, 1.20-1.30 m wide. The internal dimensions of the chamber to the south of the eastern entrance measure 3.30 x 1.60 m, while the dimensions of the northern chamber are 3.85 x 1.60 m. The internal dimensions of the chamber to the south of the western entrance measure 4.30 x 1.80 m, while the dimensions of the northern room are 4.20 x 2.45 m. Distinguished by the shape of the basis, these chambers were probably used for animals. An exception may be the room to the north of the western entrance which has a different layout so it could have been used for some other purpose related to the spectacle.

On the shorter axis of the *Viminacium* amphitheatre, behind the arena wall, three trapezoid recesses were detected. Two doors 1.20-1.25 m wide ascertained at the southern end of the shorter axis of the arena led to a separate chamber set behind the arena wall. The internal dimensions of the western chamber were 3.55-4.05 x 2.60 m, while the eastern recess internal dimensions measure 6.25 x 3.85 m. By close inspection of the southern chambers it was possible to appoint their construction to different phases of construction of the stone-timber amphitheatre. The western room, which was connected to the outer space via wooden-earthen stairs, was built before the eastern chamber, which was built during the reconstruction of the arena wall and was connected with the stands via a stone staircase. During the final phase of the amphitheatre both rooms were used together. The northern recess that extended behind the arena wall was badly preserved. Its internal dimensions measure 6.70-8.10 x 3.85 m, while the door leading to the arena was not preserved. Beneath this chamber, two walls were discovered. The function of these walls is not clear yet. Above the arena-side recesses there were places for the most important spectators (*tribunalia*). Considering the bearings for the wooden beams set at the top of the southern recesses walls, it was possible to suggest the level of the floor of *tribunalia*.

The grandstands of the *Viminacium* amphitheatre were made of wood. The *cavea* rested on a natural slope on the southern part, while on the other side post-holes found on the banks suggest that the seating was set on embankments. Traces of wooden construction include 4 or 5 rows of pits for timber posts. According to previous excavations, it is not possible to determine the number of rows, because it is obvious that there were older pits with timber slots that were partly damaged by new ones. However, it was possible to establish the height of the bank in the south-western part of the amphitheatre. It reaches 3.35 m, which is 5.70 m above the arena level.

Apart from relying on the embankments, the wooden framework also relied on the arena wall and the stone walls of the entrances and chambers. The outer wall was detected only in the north-eastern part of the amphitheatre, while the southern and western part of the amphitheatre was built without it. It runs from the eastern entrance to the northern city rampart. The length of the outer wall is 23.20 m and it was 1.20 m wide. Between the outer wall and the northern city rampart lays a 7.20 x 5.00 m masonry platform. It probably represents the foundation of the angle tower. The length of the excavated part of the northern rampart is 28 m, while the length of unearthed segment of the eastern one is 7.50 m. The width of the excavated part of the northern rampart

[2] For types and dimensions of the *carceres* see Golvin 1988, 328-330, tab. 41.

is between 2.80 and 2.95 m and the width of the eastern rampart is between 2.40 and 2.65 m. During the final phase the *cavea* laid between the arena wall and the outer wall of the amphitheatre or city ramparts, which were built along the amphitheatre. We can assume that the amphitheatre was then incorporated into the area defended by city ramparts and became part of the civil settlement developed western to the legionary fortress.

The width of the *cavea* is 14.35 m in the western, northern and southern part, and 14.80 m in the eastern part. The *cavea* was connected to the outer wall and an angle platform or tower in the eastern and north-eastern part, while in the northern and south-eastern part it was connected to the city ramparts. In the eastern part of the building, between grandstands and the outer wall, a walking platform was probably set[3]. The *cavea* in *Viminacium* amphitheatre covered around 60 % of the structure. If the seating rake was around 30 degrees (Golvin 1988, 293, tab. 32), the external elevation of the grandstands construction was around 10.50 m above the arena level, plus a fixed part of 0.80-1.00 m in height that protected the last row of seats. Spectators probably climbed the wooden structure either by means of external stairs or via entrances in its substructures. Beside c. 16 rows of seats it was possible to determine two tribunals (*tribunalia*) that were set above the arena-side recess contained behind the arena wall.

During the excavations of the *Viminacium* amphitheatre, a channel belonging to a drainage system was found under the northern part of the grandstands. The drainage system was a very important feature of the amphitheatre, because it carried water from the arena. With a degradation of c. 3 %, it ran below the chamber on the shorter axis of the building and also below the northern city rampart. The length of the channel is 16.40 m, and it was 0.40-0.45 m wide. The bottom of the channel was made of *tegulae* with stamps of *Legio VII Claudia*.

According to previous investigations, the overall dimensions of the amphitheatre are 84.00 x 73.70 m. The orientation of the stone-wooden amphitheatre was the same as the orientation of the older wooden amphitheatre and of *via principalis* of the legionary fortress. Based on estimation of space used for a single spectator (Golvin 1988, 380–381; Bomgardner 1993, 386; Welch 2009, 53), the capacity of the *Viminacium* amphitheatre was between 6500 and 7300 spectators.

Considering the excavated part of the stone-wooden amphitheatre, it can be assumed that the southern part of the building was buried into a natural slope, while in the other parts embankments were made for the setting of the *cavea*. The stone-wooden amphitheatre belongs to Golvin's type of amphitheatre with wooden *cavea* supported by embankments (Golvin 1988, pl. II/b). Similar constructions were built in Roman provinces, especially in Dacia and Britannia. The closest analogies are the amphitheatres in *Ulpia Traiana Sarmizegetusa* (Alicu / Opreanu 2000, 81-88), *Micia* (Alicu / Opreanu 2000, 42-57), *Londinium* (Bateman et al. 2008, 39-87; Wilmott 2010, 95-97) and *Calleva Atrebatum* (Fulford 1989, 37-56; Wilmott 2010, 101-103). In the course of its existence, the *Viminacium* amphitheatre fitted into the space defended by walls and it was situated in the north-eastern corner of the settlement. Location of the amphitheatre during the stone-timber phase is similar to examples noted in Pompeii (Golvin 1988, 33-37; Bomgardner 2002, 39-53), Colonia Ulpia Traiana (Hönle / Henze 1984, 156-157; Golvin 1988, 195), Salona (Jeličić-Radonić 2008) and Emerita Augusta (Durán Cabello 2004; Durán Cabello et al. 2009, 17-21).

The Roman wooden military amphitheatres were rebuilt in stone in the 2nd century AD (Golvin 1988; Welch 2009, 70). As archaeological excavations are still in progress, we can suggest that the *Viminacium* stone-timber amphitheatre was built during Hadrian's reign. The stone-timber amphitheatre went through at least two construction phases. Firstly, the arena wall made in *opus quadratum* technique was erected. There is a possibility that the two partially excavated walls in the northern part of the amphitheatre date back to the same period of construction. This amphitheatre is characterized by rows of pits and traces of timber slots that were set over the older wooden amphitheatre. We are still not sure if the main entrance walls and chambers were made in the course of the same period. The different material and building technique, and also the lack of constructive links between walls show us that there were maybe two different structures. We can suppose that the stone-wooden amphitheatre got its form in the middle of the 2nd century AD. After that city ramparts were erected along the amphitheatre.

The structure made of stone and wood was remodelled. Modifications on the amphitheatre were characterized by raising the height of the arena wall

[3] The walking platform was probably connected to the rampart-walk via an angle tower.

and building the eastern recess on the southern side of the shorter axis. This chamber was connected to the arena via a newly pierced door and with the grandstands via stairs. This remodelling was made between the second part of the 2nd and middle of the 3rd century AD, but it is still not clear if this modifications followed erections of city ramparts or they were done separately. The *Viminacium* stone-wooden amphitheatre was used until the end of the 3rd or until the beginning of the 4th century AD.

After the *Viminacium* amphitheatre lost its function[4], the surface of the building was abandoned and stone was taken from the walls. Within the arena the Late Roman pits were detected. The whole surface was then filled with a 4th century layer. Above the amphitheatre, especially in the central and south-western area, a Late Roman graveyard was set during the middle and the second part of the 4th century AD[5].

Conclusion

As this is the first Roman amphitheatre ever excavated in the territory of modern Serbia, investigations of this structure influenced a new approach to studying gladiatorial games especially in the territory of the province of Upper Moesia.[6]

The *Viminacium* amphitheatre is a military amphitheatre erected by the legionary fortress. The arena was sunken, while the *cavea* rested on the natural slope in the southern part and was set on embankments on the other sides. In the course of its existence the construction belonged to Golvin's amphitheatre types with a *cavea* supported by embankments (Golvin 1988, Pl. II/a-b). According to the archaeological data, it is possible to assume that the amphitheatre was built in the first quarter of the 2nd century AD, and that it was used until the end of the 3rd or until the beginning of the 4th century AD. So far, it has been suggested that there were at least three phases of construction: the oldest timber phase dated to Trajan's reign, and the two stone-timber phases that date back to the period from the first half of the 2nd until the turn of the 3rd and 4th centuries AD.

We can assume that the first timber amphitheatre was slightly smaller in dimensions than the later stone-timber amphitheatre. During the period of usage of the stone-timber amphitheatre, it was incorporated into the area defended by city ramparts. It became part of the settlement developed western to the legionary fortress and, supposedly, was also used by the civil population. All discovered features play an important role in understanding the appearance and urbanization of the north-eastern part of the *Viminacium* settlement and also of the area to the north-west of the legionary fortress.

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[4] Causes of this are still unclear.

[5] Within the amphitheatre more than 60 graves were discovered and excavated.

[6] For further studying of gladiatorial spectacles at the Roman sites in Serbia see Вујовић 2011.

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