

## ARCHAEOLOGICAL FINDS FROM THE VAULTED BUILDING AT KRŠEVICA

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**Abstract:** The completely preserved building with barrel vault was discovered in 2008 in the course of investigation of the remains of an urban settlement dating from the 4<sup>th</sup> /3<sup>rd</sup> centuries BC at the site Kale in the village Krševica (southeast Serbia). We are presenting in this work the archaeological finds discovered in this structure. They included pottery, worked stone and many skeletons of horses and dogs that are assumed to be the ritual sacrifice.

**Key words:** Kale-Krševica, urban settlement, vaulted building, cult, 4<sup>th</sup> /3<sup>rd</sup> centuries BC.

The investigations of the building complex at the foot of the site including the most recent discoveries in 2008 were a complete surprise to all members of archaeological team as it has not been expected to discover completely preserved vaulted building among other structures.\* It became clear after these excavations that it was in fact a segment of much larger architectural entity with urban structures extending along the Krševica river. This also changed to some extent our assumptions about the appearance of the settlement as according to the available data the acropolis and suburbium were protected by the strong wall and covered an area of around 5 ha. For decades local inhabitants used the worked stone from the site for their buildings but every year each new campaign brought to light the ramparts, walls, buildings and other structures covered by the thick layers of earth at the

foothill. For centuries they were covered with the sand deposits of the Krševica River and large quantities of material resulting from denudation of the nearby slope where the remains of the settlement were encountered.<sup>1</sup> Thus, one of the rare preserved buildings from the 4<sup>th</sup> century BC, that is a unique example of the antique architecture in our territory, was discovered during the last year campaign in addition to the other structures.<sup>2</sup> However, it is not our intention to discuss in this work the problems of function, technique and

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1 For results of earlier investigations see Popović 2005; 2006; 2007; 2008.

2 Popović 2009.

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date of construction of this structure in detail as the investigations are not completed. Something that should be taken into consideration is the problem we are facing for already few years and it is the constant inflow of the underground water, which has an impact on all our investigations. In other words, without permanent working of the pumps most of the site including this very building is under water level. The rain and snow as well as drastic changing of the water level seriously endanger the existing structures at this 'hydrotechnical complex' and only adequate conservation activities could protect this cultural monument. The preliminary investigations of the vaulted building and first of all the study of material discovered inside the structure are one of the first steps in that direction.

In the course of excavations conducted last year we discovered a segment (almost a half) of the building while another half is covered with few meters thick layers of earth (figs. 2-3). The interior of the structure is, however, completely explored to the depth of almost four meters and it is assumed on the basis of test probing that there are two more meters to the bottom. It was filled up to the top with large quantities of earth, stone, mud and water and emptying of the contents through the single opening on the top was time consuming and very demanding activity. At this moment we are particularly interested in the archaeological material consisting of pottery, dressed stone and animal bones discovered in the space from the opening down to the depth of three meters (fig. 6). It is only an approximate sequence of the finds as it was not possible

Fig. 1. Map

Сл. 1. Карта



Fig. 2. Building with barrel vault between the rampart and stone platform (left)

Сл. 2. Грађевина са бачвастим сводом између бегема и камене платформе (лево)

to follow any precise stratigraphy because the material was taken out through the mentioned single opening. Nevertheless, in order to make the situation as clear as possible we are presenting the essential data about the structure itself.

The building is of the rectangular plan and was built of massive ashlar. The total length is around 10 meters and width is slightly over 6 meters. The interior space is 9.20 m long and 5.30 m wide while the precise height has not been determined and the present height varies between 3.50 and 3.80 m depending on the intensity of pumping the water out. The structure was deeply buried and only two to three courses of symmetrical ashlar on the top of vertical walls could be seen at this moment. On the many ashlar of the final vertical course were encountered asymmetrical spherical projections while the next course consists of rather large blocks forming the arch of the barrel vault (figs. 5-6). The rectangular or square holes arranged at regular distance were used for inserting horizontal beams, which most probably supported the platform in the process of vaulting. An opening 0.75 meters wide, around 2 meters long and 0.40 to 0.50 m high was made at the top of the arch. Around the opening, where the cover was, we identified shallow carved flat surface around 0.25 m wide (fig. 4). In the same direction and at a distance of around 5 meters is another corresponding opening, which is still covered with earth and could be seen only from the inside. All the stone blocks are of large size and varying in thickness but the interior of the vault has been executed very



*Fig. 3. Vaulted building.  
In the foreground rampart and stone platform with  
walls extending up the slope (right)*

*Сл. 3. Грађевина са сводом.  
У предњем њлану бедем и  
каменом њлајформом са  
зиговима који се дижу уз  
њадину (десно)*



precisely. It is rather obvious that great care was taken not only of the statics and quality of stone carving but also of the proportions as it could be perceived in details but also in general appearance of the complete building.

As we already mentioned the building is not completely investigated so for the time being we assume that it was a reservoir providing the water for the settlement. In the time when archaeological material was deposited the structure had already been

*Fig. 4. Opening in the building vault*

*Сл. 4. Оћвор на грађевини*



*Fig. 5. Section of the building interior with opening*

*Сл. 5. Део унутрашњег дела грађевине са оћвором*





*Fig. 6. Barrel vault of the still unearthed part of the building*

*Сл. 6. Бачвасѝи свог унуѝрашњег дела грађевине коју се налази љод земљом*

abandoned and not serving its original purpose. The reason, which compelled the inhabitants to abandon this important and expensive structure, is probably in the fact that water level was constantly rising. We encountered similar situation on the other side of the 'hydrotechnical complex' separated from the vaulted building by large stone platform built of ashlar (fig. 3). There the problem of rising of the water level was solved by successive tipping in layers of earth and elevating the terrain level that resulted in establishing of three building horizons.<sup>3</sup> The earlier structures were leveled and the new ones were constructed in accordance with the new conditions. In such a way they got different appearance and function and it entirely changed the original architectural design of the entire complex. It is difficult to say what were the reasons for this but by all appearances this large and ambitious project was not completed as it had been intended because of drastic hydrological changes. The monumental structures were gradually covered with earth and further works were undertaken in accordance with the new conditions and with main intention to continue life and activities in the settlement without interruption. These are our first assumptions but the more detailed investigations particularly the pedological analyses of the surrounding terrain should hopefully provide more precise answers concerning possible hydrological and climate changes.

**Pottery (Plate I)** In the course of emptying the building the pottery fragments have been encountered from the very beginning indicating that they come

from the top layers, which gradually filled the empty space inside the structure. But soon it turned out that it was not accidental as we encountered large blocks of dressed stone and then pottery and many animal bones already at around one meter under the opening. Because of the organic materials, earth and water all finds including the stone walls were of the sooty color. The pottery material, which could be tracked to the depth of 2.50 to 3 meters, consists mostly of the atypical fragments, which are even more fragmented because of the weight of the stone. All fragments except few specimens match the local pottery, which is characteristic of the repertoire of vessels discovered during many years of investigations at Krševica.<sup>4</sup> Only small proportion of around 150 fragments discovered in the building could be ascribed to the distinct shapes. These are usually different bases or fragments of the large-size vessels. The most frequently represented are hydriai that is quite understandable considering the proximity of water and location whence these vessels reached other sections of the settlement (Plate I. 1-5).<sup>5</sup> There were also discovered the pithoi with square or circular bases and everted rims and few bases of amphoras (Plate I. 16-18, 12-13). On the root of one handle of reddish color could be noticed the engraved letter *II*. The graffiti with this letter on amphoras usually

3 Popović 2008.

4 Antić, Babić 2005; Popović 2005, 157 p.

5 Antić, Babić 2005, T. III-IV



denote number 5 relating to its value or capacity.<sup>6</sup> However, letter *II* is here surrounded with one vertical *I* and few slanting incisions, which are difficult to explain (Plate I. 19). Worth mentioning here is one base with engraved mark X that is not a rare phenomenon on various vessels from Krševica (Plate I. 11).<sup>7</sup> Rather scarce handmade pottery is represented by the fragments of coarse pots with horseshoe-shaped handles (Plate I. 15). Finally, we would like to mention another two, apparently, most interesting specimens. One is the fragment of shoulder and body of the wheel-made vessel of dark gray color and with burnished surface. The triangles like sun rays with incisions and dots are depicted on the shoulder (Plate I. 20). The other specimen is a fragment of plate made of yellowish clay with brown painted concentric circles at the bottom. On the inside are depicted two inscribed triangles surrounded by the rays and the horizontal band with dots (Plate I. 21). Section of the central motif is rather worn out,



Fig. 7. Pottery finds: loom weights, spool and spindle whorl

Сл. 7. Керамички налази: ткачки тејетови, калем и приљенак



Fig. 8. Animal bones

Сл. 8. Животињске кости

without clear details, and as there are no analogies it is difficult to reconstruct the motif. For the time being both specimens must remain the unsolved problems. The spool, spindle whorl and few loom weights are considered as common finds at this site (fig. 7).<sup>8</sup> After the last year excavations total number of discovered loom weights certainly exceeds 1,500 specimens.

**Dogs and horses (Plate II).** The Palaeozoological material discovered in the course of excavations at Krševica consisted of many and also heterogeneous bones of domestic and wild animals but it was clear at first glance that finds from the building were not at all

common (fig. 8).<sup>9</sup> The preliminary analyses revealed that bones of sheep/goat, pig, game, including deer, wild boar, badger, hare, duck and few turtles represent very small percentage (except four turtles, there is just a single representative of every species) of the entire assemblage. If we add also the discovered bovine skeleton this amounted to 15% of the total quantity of

<sup>6</sup> Lawall 2000, 8.

<sup>7</sup> Popović 2007, Figs. 8. 7.

<sup>8</sup> Popović, Vranić 2008.

<sup>9</sup> Blažić 2005.



*Fig. 9. Dressed stone from the building*

*Сл. 9. Обрађени камен из траћевине*

studied bones, i.e. the sample of over 2000 pieces. All other bones were the parts of complete skeletons of dogs and horses. It could be determined on the basis of number of skulls and long bones that 57% were dogs and 28% horses or, more precisely, there were deposited 20 dogs and 10 horses.

Almost all dogs were adult individuals and 60% were female and 40% male individuals. These were rather large dogs as according to the length of the bones their withers height was very uniform and varied between 52 and 63 cm, the average height being around 56 cm.

The horses were also adult individuals but in contrast to the dogs all were rather young animals. The bones are mostly fragmented but according to the teeth wear and complete development of long bones it could be concluded that they were between four and six years old. The withers height estimated on the basis of the length of complete bones is between 133 and 151 cm, the average height being 143 cm. According to the teeth in the lower jaw and the pelvic bones three individuals were males and for the rest the gender could not have been determined with certainty.<sup>10</sup>

Considering some characteristics the horses from Krševica resemble according to the basic data in literature the Scythian horses from the south Russia and the Thracian horses from Bulgaria.<sup>11</sup> Taking into account many common characteristics typical of this part of the Balkans it is reasonable to assume that these were the well-known Thracian horses.

**Dressed stone (Figs. 9-13)** Large quantity of stones discovered at the depth of the first meter leaves an impression that it was the way to seal a horizon full

of bones. Now it seems even more convincing as it turned out that there were the skeletons of large number of animals. Thus the abandoned building looked like the ossuary mainly of dogs and horses covered with a layer of heavy and high-quality stone. With great effort we retrieved through the opening on top of the building over thirty ashlar and symmetrically carved blocks of different shape and size that are generally well-preserved and could be considered as first-class building material (figs. 9-10). The stones were carved to satisfy various purposes including the ashlar with one side decorated by pecking within a border and the blocks used for building large-size structures and ramparts. Certain specimens were dressed in a distinct way and were parts of more complex structures. Good examples are two blocks of very similar manufacture and purpose. They are 57 cm wide and 102 cm or 78 cm long and the thickness was between 52 and 58 cm. The recesses for iron clamps usually covered with lead were on the lateral sides (figs. 11-12). Rather interesting is an architectural detail, which was probably a segment of the gate or door with a hole for a hinge. It is 26 cm high, 33 cm wide and conical hole carved on the top surface is 15 cm deep (fig. 14). Also many fragmented millstones and two somewhat better preserved rectangular millstone parts made of basalt have been frequently found during excavations (fig. 13).<sup>12</sup>

<sup>10</sup> Preliminary report by Svetlane Blažić, palaeozoologist, Museum of Vojvodina in Novi Sad.

<sup>11</sup> Bökönyi 1968.

<sup>12</sup> Popović, Kapuran 2007.





*Fig. 10. Symmetrically carved blocks*

*Сл. 10. Правилно шесани блокови*



*Fig. 12. Carved blocks with holes for clamps*

*Сл. 12. Клесани блокови са удубљењима за спојнице*



*Fig. 11. Carved blocks with holes for clamps*

*Сл. 11. Клесани блокови са удубљењима за спојнице*

Similar ashlar with or without borders, dressed stones and stone blocks that were discovered inside the building have also been encountered within various structures of the 'hydrotechnical complex'. The stone used in almost all instances was tuff, which is easily carved but hard enough and suitable for building. It is nowadays difficult even to imagine how much stone was necessary to build such settlement having in mind that it covered an area of almost 5 hectares and we have so far investigated just around 6%. Kale is located on the sandstone massive and there is no suitable building stone in the immediate vicinity. The only tuff deposits discovered at a reasonable distance are those near the village Ćukovac, some 5 km to the southeast of Vranje and 10 to 15 km from Krševica. If there had been a quarry, which provided the stone for



*Fig. 13. Millstones, block and fragment of ashlar with pecking and border*

*Сл. 13. Жрвњеви, блок и део квадера са њиковањем и бордуром*



Fig. 14. Architectural detail with hole for hinge

Сл. 14. Архитектонски дејтаљ са рупом за осовину

the settlement then there should have been the stone carving workshop and material was most probably transported by the Morava and Krševica River. These are, however, just some of possible solutions and the origin of stone from Krševica could be determined rather soon after the site survey of this area.

\* \* \*

This building with the finds discovered inside is one of those discoveries, which are difficult to explain completely and there always remain more or less satisfactory conclusions. First of all, there are the skeletons of horses and dogs that should be the key of this enigmatic find. The pottery, which generally corresponds with the finds from the cultural layers, could have been deposited by accident together with other material but this does not exclude other possibilities. When the stone is concerned situation seems slightly more unambiguous. It is not very probably that many ash-lars and dressed stones ended in normal circumstances in the building as building rubble and waste. It is also hard to believe that only noble animals, riding horses and thoroughbred dogs had died because of some mysterious disease. There must have been a serious reason and firm intention to deposit through the both openings on top first the animal bodies and then to cover them with the stones despite all the difficulties.

The more convincing assumption is that there had been carried out a ritual consisting of sacrificing ten horses and twenty dogs and ending in covering the bodies with stones. Other details are not known but the fact is that after abandoning the monumental building there had been deposited many animals as an element of rather specific ritual. This is not unusual because the horses as well as the dogs are in mythology dedicated

to the chthonic deities, they are related to the death and they occur as sacrifices in countless cases of the funerary ritual.<sup>13</sup> It is possible that it was not an accident that sacrifice had been performed in this very structure and it is not impossible that this ritual was prompted by some natural disaster in this case the rise of the water level that had an impact on all members of the community.

However, the question of occurrence of horses at this site is of no smaller significance. Namely, it is known that horses are expensive animals, demanding considerable investment but not being of great use in everyday life. They were first of all the symbols of status and were intended for the elite particularly the cavalrymen.<sup>14</sup> Large dogs could have played an important part as sheepdogs but they were indispensable for hunting (as it is mentioned in detail in the works of Xenophon). It should be mentioned that in the course of excavations the bones of horses have been found in small proportion (2.3%) and the bones of dogs even smaller, just 1.5%.<sup>15</sup> When the horse harness is concerned only a fragment of cheekpiece has been found during excavations of the 'hydrotechnical complex'.<sup>16</sup> It should also be added that despite large quantity of metal finds there have not been discovered the spearheads, larger knives or anything resembling the weapons. On the other hand, we should not consider surprising the occurrence of horses at this site. The settlement was fortified and big enough that there must have been a military garrison guarding not only the ramparts but also the entire town area (*chora*). If the garrison included also the smaller cavalry unit then it is still another argument bearing witness to the outstanding importance and status of this settlement.

The more precise dating of this find is perhaps of no great importance because, judging by the pottery, the finds from the building date from the beginning or first decades of the 3<sup>rd</sup> century BC. The greater problem here is the dating of this building, which has not been investigated completely and still does not provide the data concerning the time of its construction. On the basis of its stratigraphic position it corresponds with the earliest structures, i.e. it probably dates from the mid 4<sup>th</sup> century BC while the buildings of such architectural characteristics are usually dated not before the end of the 4<sup>th</sup> century BC, i.e., after the conquests of Alexander the Great.<sup>17</sup> So this problem should be solved after the completion of the investigations and the detailed analyses of the stratigraphic data.

13 Garland 1985, 35.

14 Alcock et al. 1994, 151.

15 Blažić 2005, 276.

16 Popović 2005, 160, Pl. V. 7.

17 Boyd 1978, 88; cf. Andronikos 1987; Tomlinson 1987.



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**Резиме**

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**АРХЕОЛОШКИ НАЛАЗИ ИЗ ГРАЂЕВИНЕ СА СВОДОМ У  
КРШЕВИЦИ****Кључне речи:** Кале-Кршевица, урбано насеље, грађевина са сводом, култ, IV/III век пре н.е.

Приликом истраживања грађевинског комплекса у подножју локалитета откривена је 2008. године грађевина са бачвастиим сводом, која припада ретким очуваним објектима из IV века пре н.е., а на нашим просторима је јединствен пример архитектуре античког доба. Показало се да чини само део много веће архитектонске целине са урбаним структурама, које се пружају дуж Кршевичке реке. Истраживања грађевине нису окончана, па су у овом раду дати основни подаци о археолошким налазима откривеним током пражњења објекта – фрагмената керамике, обрађеног камена и мноштва животињских костију, посебно скелета коња и паса. Овај изузетан налаз припада једном од оних открића које је тешко објаснити и за које постоје само мање или више прихватљива решења. За сада се претпоставља да је у напуштеној грађевини извршен обред у којем је жртвовано десет коња и двадесет паса, те да се завршио затрпавањем камењем. Коњи и пси су, митска, хтонска божанства везана за смрт, па се често јављају у погребном ритуалу, а у овом су случају били део неког сасвим специфичног обреда.

Питање присуства коња на овом локалитету, о чему до сада има веома мало обавештења, и те како је занимљиво. Најновији резултати указују на то да је акропола са подграђем била утврђена и где је највероватније постојала војна посада која је штитила не само бедеме већ и цео градски атар (chora). Ако то подразумева и мањи одред коњаника, онда би постојао још један аргумент који би сведочио о изузетном значају и статусу овог насеља.

Судећи по керамичким фрагментима, датовање самог налаза пада у почетак III века пре н.е, или у његове прве деценије, што не разрешава недоумицу везану за хронолошку припадност грађевине – то није истражено до краја, па немамо тачне податке о времену њеног настанка. Према стратиграфском положају, одговарала би најстаријим објектима, али грађевине са таквим архитектонским решењем обично се датирају тек од краја IV века пре н.е., односно после освајања Александра Великог. Проблем би требало да реше коначна истраживања овог објекта и детаљне анализе стратиграфских података прикупљених приликом истраживања целог комплекса.





Plate I - Pottery fragments  
 Tabla I - Фрагменти керамике



Plate II - Animal bones: 1-7 *Canis familiaris*, 8-14 *Equus caballus*, 15 *Bos taurus*

Tabla II - Животињске кости: 1-7 пси; 8-14 коњи, 15 говече