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АРХЕОЛОШКИ ИНСТИТУТ БЕОГРАД

INSTITUT ARCHÉOLOGIQUE BELGRADE

UDK 902/904 (050)

ISSN 0350-0241 (Штампано изд.)

ISSN 2406-0739 (Online)

© СТАРИНАР LXXII/2022, 1–380, БЕОГРАД 2022

STARINAR

Nouvelle série volume LXXII/2022

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Кнеза Михаила 35/IV, 11000 Београд, Србија
e-mail: institut@ai.ac.rs
Тел. 381 11 2637191

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COBISS

Учесталост издавања једна свеска годишње.

STARINAR

Nouvelle série volume LXXII/2022

EDITEUR
INSTITUT ARCHÉOLOGIQUE
Kneza Mihaila 35/IV, 11000 Belgrade, Serbie
e-mail: institut@ai.ac.rs
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PUBLICATION SECONDAIRE
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The Journal is issued once a year.

Часопис је објављен уз финансијску помоћ
Министарства просвете, науке и технолошког развоја Републике Србије

Ce périodique est publié avec le soutien du
Ministère de l'éducation, de la science et du développement technologique de la République Serbie

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ALEKSANDAR BULATOVIĆ, Institute of Archaeology, Belgrade

RADA GLIGORIĆ, Museum of Jadar, Loznica

MOUND 28 FROM THE PAULJE NECROPOLIS IN BREZJAK. A CONTRIBUTION TO THE ABSOLUTE CHRONOLOGY OF THE LATE BRONZE AGE IN SERBIA

e-mail: vfilipov1@gmail.com

Abstract. – The paper brings the results of archaeological excavations of Mound 28 at the Paulje necropolis, conducted in the autumn of 2019, along with the excavations of two adjacent mounds. All of the aforementioned mounds were partially damaged and eroded through decades of ploughing. Consequently, remains of a Late Bronze Age burial were recorded solely in Mound 28. According to the grave inventory comprised of bronze jewellery and analogies from concurrent necropolises, it is assumed that the burial belongs to a female individual (?). Besides the extraordinary examples of bronze jewellery, such as pins, an arm ring, bracelets, crescent-shaped pendants, torques, and remains of amber jewellery, the organic substructure below the fully cast arm ring has been successfully dated. According to the absolute dating, the jewellery is attributed to the 14th century BC, and the inventory of the grave completely corresponds to the previously dated features from the Paulje necropolis. Therefore, certain forms of bronze jewellery were provided with a more precise chronological position based on the absolute dates. The burial is attributed to the Brezjak culture.

Key words. – Late Bronze Age, Paulje, mound 28, absolute chronology, AMS dates, bronze jewellery, amber

The village of Brezjak is located approximately 12 northeast of Loznica. At the end of the 19th century, the pioneer of Serbian archaeology, Professor Mihailo Valtrović, recorded a large mound necropolis on the left bank of the small Korenita river, at a location called Panića Zabran, in the village of Brezjak (Fig. 1). The locals later renamed the location Paulje, based on a specific sort of grass that grew in fields surrounding the aforementioned location of Panića Zabran. The first excavations were conducted in 1892, when M. Valtrović registered a total of 27 mounds.¹ He excavated a total of six mounds, yet points out that three mounds were previously excavated by a local tavern owner Milinko, on behalf of Mr. Sima Trojanović. All of the deceased recorded on that occasion were incinerated and their remains were laid in ceramic urns, which are unfortunately only described by M. Vatrović, without any accompanying illustrations.² Nowadays, the site of Paulje represents the most

researched mound necropolis in north-western Serbia, with a total of 48 completely excavated mounds since 1989. This number rises to 57 mounds if those excavated by M. Valtrović and S. Trojanović during the 19th century are accounted for as well.

The renewed archaeological excavations at the site were started in 1989, following the founding of the Museum of Jadar in Loznica.³ Museum archaeologists, in collaboration with the Institute for the Protection of Cultural Monuments in Kragujevac,⁴ have excavated mounds A (1) and Б (2). In the 1990, mounds Ц (3), Д

¹ Валтровић 1893, Т. XVI, скица II, план 3.

² Валтровић 1893, 84 and further.

³ Глигорић, Цанић-Тешановић 2010; Глигорић 2014; Булатовић *et al.* 2017: 116 and further.

⁴ Newly formed Institute for the Protection of Cultural Monuments Valjevo took over the territorial jurisdiction in the protection of archaeological heritage at the beginning of the 90s.

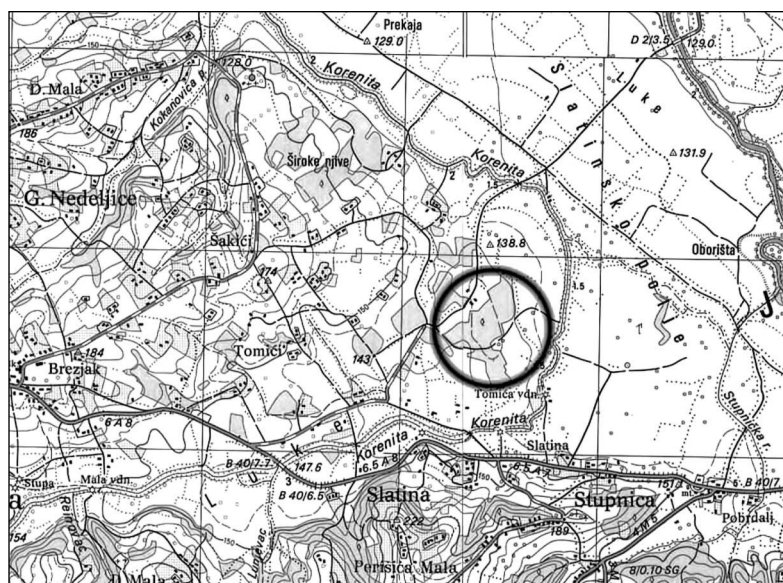


Fig. 1. Position of the site on topographic map (scale 1:25.000)

Сл. 1. Положај локалитетa на топографској карти 1 : 25.000

(4), and E (5) were excavated, mounds Ф (6) and Г (7) in 1995, and mound X (8) in 1997.⁵ Mounds И (9) and J (10) were excavated in 1998, mound K (11) in 2000, mounds Л (12) and M (13) in 2001, mound H (14) in 2002, and mound O (15) in 2004. In 2010 and 2011 mounds П (16), P (17), and C (18) were excavated. Between 2012 and 2015 mounds 19 to 27 were excavated,⁶ and mounds 28 to 48 between 2019 and 2021.

All of the mounds were formed by soil backfilling, and the remains of the original covers made of small stones or pebbles, or their combination, were preserved on only a few mounds. The mounds measure a diameter between 10 and 30 m, and the preserved heights vary between 0.5 and 3 m. The necropolis is comprised of several small groups of mounds that are often separated by several dozen meters. Originally, a total of approximately 30 mounds were registered, yet the additional prospection indicated that their number could easily surpass 60. Namely, in the past 10 years, complex LiDAR scans and geophysical measurements of the wider area of Pauje have been conducted.⁷ This resulted in the discovery of a large number of low mounds distributed throughout the fields surrounding the necropolis, which were, due to the decades of mechanical ploughing, almost indiscernible during on-foot surveys.

Archaeological excavations of Mound 28

Based on the LiDAR scans from 2018/2019, three anomalies that represented the remains of eroded prehistoric earthen mounds were recorded in ploughland

next to the forest. The diameters of the mounds measured up to 15 m, and the preserved heights were up to 0.5 m (Fig. 2).⁸ The most preserved mound was marked with the number 28, the eastern one with the number 29, and the one farthest to the east with the number 30, although its state of preservation posed a dilemma as to whether it represents a mound. In Fig. 2 it can be seen that those three mounds were within a group of 10 mounds in the western portion of the Paulje necropolis, and another, one of the largest mounds in the necropolis, can be seen further to the north. In 1998, mound И (9) was excavated in the forest north of mound 29, as clearly seen on the LiDAR scan.⁹ Mounds 28 and 29 slightly lean against each other with their peripheral parts, although originally a

⁵ Мадас 1990; Цанић-Тешановић, Глигорић 2001.

⁶ Alphabetical naming of mounds was abandoned in 2012, and ordinal numbers were adopted, since it was determined that the number of mounds is far higher than previously considered. Булатовић *et al.* 2017: 117.

⁷ The scans were financed by Rio Sava D.O.O from Belgrade, as a part of preparations for the construction of a mine in this area.

⁸ Cadaster parcel No. 399, K.O. Slatina, formerly owned by Luka Madžarević from Brezjak. The archaeological excavations were conducted in October 2019, under the organisation of the Museum of Jadar in Loznica and the financial support of Rio Sava D.O.O. from Belgrade. The excavations were directed by Rada Gligorić, museum advisor of the Museum of Jadar, with the participation of A. Bulatović and V. Filipović from the Institute of Archaeology in Belgrade.

⁹ Цанић-Тешановић, Глигорић 2001.

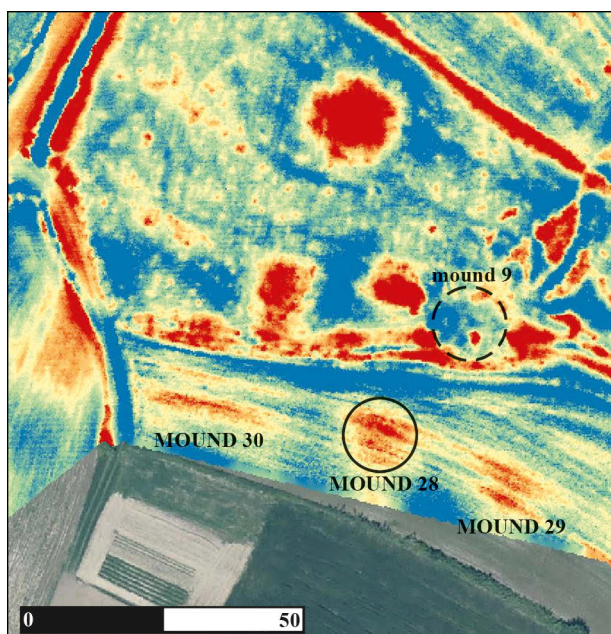


Fig. 2. LiDAR scan of a part of the necropolis from 2018/2019

Fig. 4. Orthophoto of the trench in mound 28

Сл. 2. ЛИДАР снимак дела некрополе из 2018/19. године

Сл. 4. Ортофото рова у хумци 28

free space had to have existed between them. Even though all of the mounds were quite poorly preserved and eroded by agricultural works, the archaeological excavations have demonstrated that the degree of preservation of archaeological material and features within mound 28 is extremely satisfying. On the other hand, only scarce traces of potential burial rituals with a small number of dislocated finds were recorded within mounds 29 and 30.

Mound 28 was detected within a diameter of approximately 12 m and with a preserved height of up to 0.5 m. The excavations were conducted by the removal of opposite segments without cross-sections. The entire mound was separated into 4 approximately equal segments according to the north-south and east-west axes. The opposite segments were excavated by mechanical

layers in order to provide a fine stratigraphic profile and document the maximal original size of the mound.

The stratigraphy was uniform within the entire mound. The layer of 0.25 m thick light brown plough soil was followed by a layer of yellowish-brown compact soil, which represented the original backfill of the mound, with a thickness of between 0.05 m in peripheral parts to 0.4 m in central parts of the mound. Below, a layer of specific light-grey virgin soil with brownish and yellowish concretions was recorded (Fig. 3). It should be highlighted that the decades of ploughing significantly disturbed the original stratigraphy of the mound and drastically lowered it, as the archaeological material was occasionally recorded at the bottom of furrows. Therefore, certain examples of jewellery were dislocated and fragmented, while certain examples

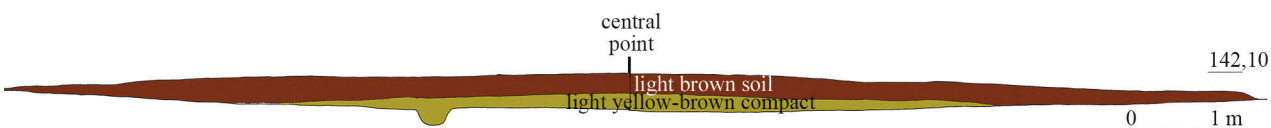


Fig. 3. Drawing of the cross-section of mound 28 on the north-south axis

Сл. 3. Цртеж њрофила хумке 28 њо осу С-Ј



Fig. 5. Oval zone of grey soil that contained most of the bronze jewellery (grave 1?)

Сл. 5. Овална зона нешто сивкастије земље у којој је откривен највећи број бронзане накита (гроб 1?)



Fig. 6. Lavishly decorated bronze arm ring on organic base, photo in situ



Fig. 7. Zone of hard soil with the remains of burnt bones and amber beads

Сл. 6. Раскошно украшена бронзана гривна откривена на органској подлози, снимак in situ

Сл. 7. Зона тврде земље са остацима порелих костију и филибарских перлица

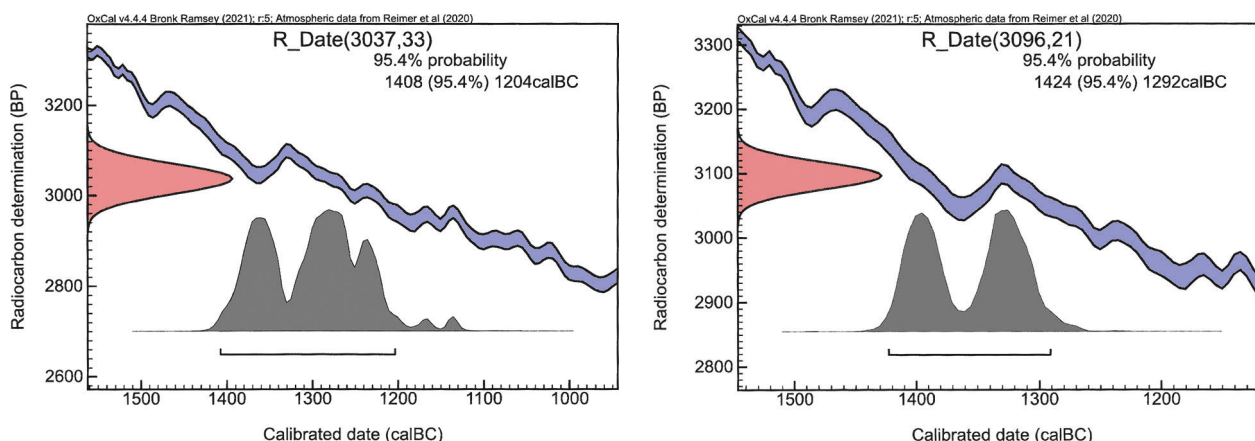


Fig. 8. Dates acquired from the analysis of the organic base on which the bronze arm ring was laid

Сл. 8. Датуми добијени на основу анализе органске подлоге на коју је била положена бронзана гривна

might be missing from a presumed original set of jewellery. This is indicated by the fact that only a few potsherds were recorded within the mound. Those potsherds could have belonged to vessels that are often found within mound burials at the necropolis and could have been destroyed by agricultural works due to their higher position within the mound. A trench measuring a length of approximately 7 m, and a width of approximately 0.5 m, was recorded in the base of segments B and C. The average depth of the trench was 0.3 m (Fig. 4). Almost all of the bronze finds that could belong to a specific Late Bronze Age set of jewellery were recorded either in the trench or in its surroundings. An oval zone (grave 1?) was recorded in segment C, in the approximate centre of the aforementioned trench. The zone was characterised by dark-grey soil covering an irregular area with dimensions of 1.35 x 1 m (Fig. 5). The highest number of bronze objects was recorded within this zone – a lavishly decorated ellipsoid bronze arm ring with open ends was recorded on an organic base (Fig. 6),¹⁰ at least two spirally twisted bracelets made of thick bronze wire, several crescent-shaped pendants or their fragments, and a piece of a very large and lavishly decorated bronze torque. Within the western portion of the trench, some 2 m from the aforementioned zone, a thin bronze torque was recorded, and several bronze objects have been recorded some 1 to 1.5 towards the eastern portion of the trench – two bronze pins and a fragment of a faceted crescent-shaped pendant. A circular zone that contained the remains of carbonised wood and amber beads, with a diameter of less than 10 mm,

damaged by direct exposure to fire (Fig. 7),¹¹ was recorded in segment B, approximately 2.5 m north of the trench.

Smaller areas with carbonised wood and burnt soil were recorded in three spots within the mound, although their connection with the aforementioned grave 1 (?) and the zone with amber beads could not be determined. However, such zones are common with mounds at the Paulje necropolis and most likely represent the remains of the burial ritual practiced during the formation of the mounds. However, their nature, function, and connection with graves cannot be determined with the current state of research.¹²

Catalogue of finds

As previously noted, a large amount of bronze jewellery was recorded within the mound, as well as fragmented pieces that could not be typologically characterised, amber beads, and several potsherds.

¹⁰ Two AMS dates presented in this paper originate from this organic matter.

¹¹ Due to the extreme hardness of this circular zone and the decay of beads, the entire block was cut out and transferred to the Museum of Jadar, to separate the beads in controlled conditions with the careful removal of soil with precise tools. Unfortunately, the beads fell apart during the removal of the surrounding soil and, therefore, their number and type remain unknown.

¹² It remains unclear whether this represents a partial burning of the planned base of the mound with accompanying specific rituals, or possibly the transfer of parts of the funeral pyre in the area of the planned mound, since remains of complete pyres have been recorded solely in several of the 48 mounds at the Paulje necropolis.

1. Central fragment of a large body, possibly of a bronze pin (?), covered with noble patina. Dimensions: 42 x 4 mm. Bronze, casting. Segment C, mechanical layer 2, plough soil, find No. C-1. (Pl. I/1)

2. Fragment of a damaged bronze bracelet with an oval cross-section and possibly opened ends. Incised complex ornament, covered with azurite patina. The middle of the bracelet is decorated with a motif comprised of six concentric circles and two oblique bands filled with parallel incisions that start from the outermost circle. The outer sides of the bands are flanked by lines comprised of a row of small punctures. The bands connect with other concentric circles, of which only one is partially visible, yet such a motif, or one of its variations, represents a common composition on bracelets, arm rings, and torques from the Late Bronze Age, especially from the Paulje necropolis. Dimensions: 73 x 42 mm. Bronze, casting, incising. Segment A, mechanical layer 2, plough soil, find No. C-2. (Pl. I/2)

3. Completely preserved ellipsoid bronze arm ring with opened ends, lavishly decorated with oblique parallel lines, visually separated into 10 sections by the opposite orientation of lines within the sections. The open ends are decorated with parallel lines in line with the flat ends. The inner side of the arm ring is separated from the ornament by an incised line and is undecorated. The arm ring is covered with a noble patina. This type of jewellery usually comes in pairs; therefore, one of the arm rings may be missing from the original set of jewellery.¹³ Dimensions: 113 x 98 x 10 mm. Bronze, casting, incising. Segment C, mechanical layer 3, zone of grave 1 (?), find No. C-3. (Pl. I/3).

4. Thin bronze torque with flat ends, partially decorated with a row of parallel lines, with no regularities. The object is well preserved, slightly bent, and missing one end. It is made of bronze wire with a circular and rectangular cross-section. It was recorded within the easternmost end of the trench and most likely dislocated from the original position. Length: 200 mm, wire thickness: 2–4 mm. Bronze, incising. Segment C, mechanical layer 3, find No. C-4. (Pl. I/4).

5. Poorly preserved fragment of a bracelet made of spirally twisted bronze wire with an oval cross-section, covered in noble patina. The object was recorded in the trench, although within the oval zone (grave 1?). Bronze. Segment C, mechanical layer 3, find No. C-5. (Pl. I/5).¹⁴

6. Three fragments of a thick bronze pin with a circular cross-section, covered in patina, possibly a part of pin cat no. 12, 14, and 15. Recorded within the

trench, in the oval zone. Bronze, casting. Segment C, mechanical layer 4, find No. C-6. (Pl. I/6).

7. Fragmented bracelet made of spirally twisted profiled wire with a triangular cross-section, with noble patina. Recorded within the trench, in the oval zone. Bronze. Segment C, mechanical layer 4, find No. C-7. (Pl. I/7).

8. Fragmented large crescent-shaped pendant, high quality cast, covered in noble patina. The lower portion of the central rung and inner branched part are missing. The back of the ring is modelled by twisting the upper part of the plate. It was recorded within the trench, in the oval zone, and possibly made from the same mould as Cat. No. 9. Dimensions: 41 x 42 mm. Bronze, casting. Segment C, mechanical layer 4, find No. C-8. (Pl. I/8)

9. Fragmented large crescent-shaped pendant, high quality cast, covered in noble patina. The lower portion of the central rung and inner branched part are missing. The back of the ring is modelled by twisting the upper part of the plate. It was recorded within the trench, in the oval zone, and possibly made from the same mould as Cat. No. 8. Dimensions: 43 x 42 mm. Bronze, casting. Segment C, mechanical layer 4, find No. C-9. (Pl. I/9)

10. Fragment of a thick bronze torque with twisted end, covered in noble patina. It is decorated with a field below the twisted end, filled with incised parallel lines, followed by an empty field, and a field with incised lines, and again an empty field and field with lines. At the end, there is a framed field with an incised motif of the number 8, which repeats four times. This ornament is enhanced by a punctuated band that follows its contours. This motif is followed by another field with incised parallel lines. It seems as if the object was intentionally broken in this place during the Bronze Age, as most of the torque was not recorded within the mound. The end of the torque was recorded approximately at the bottom of the trench, in the oval zone. It seems as if the torque was purposely broken during the burial, as most of its parts were not recorded within mound 28. Dimensions: 62 x 9–12 mm. Bronze, casting, incising, puncturing. Segment C, the bottom of the trench, find No. C-10. (Pl. II/10)

¹³ The find was either dislocated by agricultural works or taken during the formation of the trench in the mid-20th century. This will be further discussed in the concluding remarks.

¹⁴ Since the object is still undergoing the conservation process, the plate represents the type of find, not the original find.

11. Fragmented large crescent-shaped pendant with patina. The lower portion of the central rung and inner branched part are missing. The back of the ring is modelled by twisting the upper part of the plate. It was recorded within the trench, in the oval zone, and it is quite similar to Cat. No. 8 and Cat. No. 9. Dimensions: 39 x 43 mm. Bronze, casting. Segment C, mechanical layer 4, find No. C-11. (Pl. II/11)

12. Fragment of a poorly preserved thick pin with a circular cross-section, covered in patina. It could represent a part of Cat. No. 6 and Cat. No. 15. Also recorded within the trench, out of the oval zone. Dimensions: 59 x 3 mm. Bronze, casting. Segment B, mechanical layer 1 find No. C-12. (Pl. II/12)

13. A massive chipped stone blade made of black stone, retouched from both the ventral and the dorsal side. Dimensions: 60 x 25 x 13 mm. Segment C, mechanical layer 2, find No. C-13. (Pl. II/13)

14. Small fragment of thick bronze wire or a part of a pin. Possibly connected with Cat. No. 6, 12, and 15. Dimensions: 20 x 3 mm. Bronze, casting. Segment B, mechanical layer 2, find No. C-14. (Pl. II/14)

15. Upper portion of a large bronze pin with a nail-shaped head and two thickenings on the neck. Decorated with grooves, covered in azurite patina. Possibly connected with Cat. No. 6, 12, and 14. Recorded within the trench, outside the oval zone. Length: 77 mm, head diameter: 1.1 mm. Bronze, casting, Segment B, find No. C-15. (Pl. II/15)

16. Fragment of a crescent-shaped pendant. Approximately one-third of the object is preserved – a portion of the central rung and inner branched part. The pendant has two facets and different patina, which distinguishes it from other crescent-shaped pendants recorded within the trench, and which are most likely made in the same mould. Recorded within the trench, outside the oval zone. Dimensions: 19 x 17 mm. Bronze, casting. Segment B, find No. C-16. (Pl. II/16)

17. Pin with stamp-shaped head and circular cross-section, deformed in several spots, covered in patina. Close to the pin head, the body is thicker and rectangular in cross-section. Recorded within the trench, out of the oval zone. Length: 240 mm, head diameter: 20 mm, body thickness: from 2 to 5 mm. Bronze, casting. Segment B, find No. C-17. (Pl. II/17)

18. Several amber beads with a diameter below 10 mm. Recorded within compact soil, approximately 2.5 m north of the eastern portion of the trench. The beads are damaged by fire and their exact number remains unknown. Segment B, find No. C-18. (Fig. 7).

19. Fragment of bronze wire with a circular cross-section, covered in noble patina, recorded within the plough layer. Dimensions: 43 x 2 mm. Bronze. Segment D, mechanical layer 1, find No. C-19. (Pl. II/18)

20. Fragment of bronze wire with a circular cross-section, covered in noble patina, recorded within the plough layer. Dimensions: 48 x 2 mm. Bronze. Segment D, mechanical layer 1, find No. C-20. (Pl. II/19)

21. Fragment of bronze wire with a circular cross-section, covered in noble patina, recorded within the plough layer. Dimensions: 89 x 2 mm. Bronze. Segment D, mechanical layer 1, find No. C-21. (Pl. II/20)

22. Fragment of bronze wire with a circular cross-section, covered in noble patina, recorded within the plough layer. Dimensions: 94 x 2 mm. Bronze. Segment D, mechanical layer 1, find No. C-22. (Pl. II/21)

23. Fragment of bronze wire with rectangular cross-section, covered in noble patina, recorded within the plough layer. It is possible that pieces Cat. No. 19–23 belong to one object, which was, due to ploughing, destroyed or eroded, considering that the dimensions of the cross-section of all of the pieces are identical and that the patina is also identical. Dimensions: 32 x 2 mm. Bronze. Segment D, mechanical layer 1, find No. C-23. (Pl. II/22)

Analogies and AMS dates

Finds from mound 28 could represent the inventory of one, or possibly two graves. The inventory itself positions this mound as one of the richest mounds from the Paulje necropolis. It seems as if the finds might represent a set of jewellery of a rich female grave, and within that context would correspond to the richest funeral at the necropolis, the central grave of mound K.¹⁵ Regarding the analogies, a short note of typologically characteristic pieces will be provided, within the scope of regional analogies.

Pin with a stamp-shaped head (Cat. No. 17), without decoration, is, according to R. Vasić, positioned into the Br C period in the Central Balkans. Within the Central European context, this type of pin is considered slightly older, connected with the Hügelgräber horizon.¹⁶ Essentially, based on the manner of production, the pin resembles examples with a nail-shaped head, due to the lack of ornamentation and overall size. Similar examples originate from the central grave of mound K

¹⁵ Булатовић *et al.* 2017: 125–131.

¹⁶ Vasić 2003: 37–39.

(11) at the Paulje necropolis,¹⁷ from grave 1 at the site of Banjevac,¹⁸ from the site of Milina in Cer Mt.,¹⁹ grave 3 of mound IV from the Jezero necropolis in Roćević (eastern Bosnia),²⁰ mound V at the Karavlaške Kuće necropolis (eastern Bosnia),²¹ and grave 3 of mound II,²² and grave 1²³ and grave 3²⁴ of mound IV from the Jezero necropolis in eastern Bosnia and Herzegovina. All of those pins have lavishly decorated necks, and sometimes even the head is decorated. The origin of this type of pin should be sought within the territory of Central Europe, as confirmed by their higher representation within the Danube region and lower representation within the Central Balkans.²⁵ The second pin is attributed to the type with a nail-shaped head and thickenings on the top, of which two are preserved (Cat. No 15). Based on the example from the neighbouring Brezovice, which has three thickenings,²⁶ and a similar example from grave 1 of mound I at the Šundinovača necropolis in Pađine (eastern Bosnia),²⁷ although with a stamp-shaped head, it is possible that the pin possessed three thickenings. Similar to the previous type, R. Vasić connects them with the territory of Central Europe and the Hügelgräber horizon and chronologically positions them into the Br D period.²⁸

Besides the two pins, two torques have been recorded in the mound, of which the thinner one (Cat. No. 4) possesses almost no analogies in the area. The piece could represent one of the thin examples made of bronze wire with a circular cross-section and spirally twisted ends (damaged on this example), which are known from the Br C period, such as examples from Skakavci near Kosjerić,²⁹ Dubac in Jančići,³⁰ and Medoševac near Niš.³¹ The other torque (Cat. No. 10) represents a fragment of well-known examples with thinned and twisted ends. However, our example most likely belongs to lavishly decorated examples with elaborate ornamentation, similar to the torque from the central grave of mound K (11) from the Paulje necropolis.³² Namely, one portion of the torque is separated into fields by bands with parallel lines. In contrast to the example from mound 11, in which the motif is represented by two opposite motifs with four parallel semi-circular incisions, the motif on the example from mound 28 is represented by incised decoration in the shape of the number 8, which is then repeated four times, and flanked by a punctuated band. Within the area, similar examples have been recorded in the destroyed mound from the Grotnica–Guči necropolis,³³ grave 5 of mound III from the Dubac necropolis in Jančići,³⁴ pyre 2 from the Ravnine necropolis in Jančići,³⁵ a chance find

from the mound at the site of Suva Česma in Lučani,³⁶ grave 6 of mound IX at the Jezero necropolis,³⁷ and mound I from the Šundinovača necropolis.³⁸ Torques with different cross-sections that correspond to the examples from Paulje in terms of characteristic decoration are often found in graves from Glasinac.³⁹ There, such examples are positioned in the Br C-D period. Such specific ornamentation of torques can be observed on large arm rings and bracelets with a triangular cross-section with open ends within western Serbia and eastern Bosnia. R. Vasić suggests that the idea for such ornamental motifs was sought in the territory of present-day Pannonia and Central Europe, within the so-called Koszider horizon.⁴⁰

A lavishly decorated ellipsoid bronze arm ring with open ends (Cat No. 3) has its closest analogies within the central grave of mound K (11) at the Paulje necropolis, where a pair of such arm rings has been recorded.⁴¹ As previously mentioned, the second arm ring was most likely dislocated by agricultural works, or taken during the formation of the trench in the mid-20th century. It represents a universal form of this type of jewellery, which appears in Central Europe as early as within the Hajdúsámson Apa horizon.⁴² Such and

¹⁷ Цанић-Тешановић и Глигорић 2001; Булатовић *et al.* 2017: Т. XVIII/49

¹⁸ Vasić 2003: cat. 182.

¹⁹ Булатовић *et al.* 2017: Т. LXII/2.

²⁰ Kosorić 1976: Т. XXIII/5.

²¹ Косорић и Крстић 1988: Т. VII/3.

²² Косорић и Крстић 1988: Т. X/7.

²³ Косорић и Крстић 1988: Т. XIV/5.

²⁴ Косорић и Крстић 1988: Т. XV/4.

²⁵ Vasić 2003: 37–39.

²⁶ Валтровић 1893: 87.

²⁷ Kosorić 1976: Т. XXIII/6.

²⁸ Vasić 2003: 51.

²⁹ Zotović 1985: Т. XIII/4.

³⁰ Дмитровић 2016: сл. 42/2, сл. 45/1.

³¹ Vasić 2010: cat. 71.

³² Булатовић *et al.* 2017: Т. XVII/25.

³³ Дмитровић 2016: сл. 10/6–7.

³⁴ Дмитровић 2016: сл. 55/5.

³⁵ Дмитровић 2016: сл. 64/1.

³⁶ Дмитровић 2016: сл. 85/1.

³⁷ Косорић и Крстић 1988: Т. XVIII/1.

³⁸ Косорић и Крстић 1988: Т. III/2.

³⁹ Venac i Čović 1956: Т. XXX/11, Т. XXXI/1, Т. XXXII/3.

⁴⁰ Vasić 2010: 27 and further.

⁴¹ Булатовић *et al.* 2017: Т. XVII/26–27.

⁴² Нпр. Blajer 1984: taf. 100/B.

similarly produced examples continue to exist up to the mid-1st millennium BC and, therefore, do not represent reliable material in terms of relative chronology or regional characteristics. However, it should be highlighted that similar lavishly decorated and fully cast bronze arm rings have been recorded in the region, usually within the richest and most representative graves: the central grave of mound K (11) at the Paulje necropolis, the renowned central grave of mound 19 from Šumar,⁴³ which also contained the longest bronze pin (117.5 cm), grave 1 of mound II at Karavlaške Kuće (eastern Bosnia),⁴⁴ and grave 6 of mound IX at the Jezero necropolis,⁴⁵ where a bronze torque and a long bronze pin (105 cm) have been recorded as well. According to the accompanying finds, these arm rings can be positioned into the Br C-D period, as confirmed by absolute dates from mound K at the Paulje necropolis.⁴⁶

The crescent or heart-shaped pendants with a central rung and inner branched part represent the next evolutionary phase of this kind of jewellery which originated in the territory of Central Europe during the Middle Bronze Age, and gradually spread towards the territory of southern Pannonia.⁴⁷ Such later crescent-shaped pendants, which are, according to the accompanying finds, attributed to the Br C period, are recorded in the central grave of mound K at the Paulje necropolis,⁴⁸ grave 1 of mound III at the site of Bandera,⁴⁹ the double grave of mound 6a in Šumar,⁵⁰ and further to the north, from the mound at the site of Kačer in Cerovac,⁵¹ Metlik in Badanja,⁵² graves 194,⁵³ 197,⁵⁴ 285,⁵⁵ 301,⁵⁶ and 302⁵⁷ from the Karaburma necropolis in Belgrade, grave 84 from the Kaluđerske Livade necropolis near Belgrade,⁵⁸ further to the west, in grave 1 of mound II at Karavlaške Kuće in Bosnia,⁵⁹ and also in distant period-related necropolises, like graves 7⁶⁰ and 11⁶¹ from the Velebit necropolis near Senta in Vojvodina, or further to the south at the Đudevića Brdo necropolis in Pilatovići near Požega,⁶² and the necropolis in Svračkovo near Požega,⁶³ where faceted examples similar to Cat No. 16 have been recorded. Unfaceted examples have also been recorded in the mound from Grotnica near Guča.⁶⁴

A bracelet with an oval cross-section and most likely open ends represents an example of well-known types of bracelets with triangular and oval cross-sections, which are of prolonged durations and possess several evolutionary variants. Such bracelets have been recorded across Europe during the Bronze Age, and do not represent a specific chronological, stylistic or typological marker regarding the cultural attribution or exchange, especially considering that ends on the example from mound 28 are not preserved and. Therefore, do not allow any potential analysis of the variant. A fine basis and detailed typology of such bracelets has recently been proposed by K. Dmitrović, who separated a total of four variants.⁶⁵ Within such a typology, our example could be attributed to variant I-B. Within the immediate surroundings, bracelets with open ends have been recorded within mound 2 at Jovanin Breg in Banjevac,⁶⁶ a grave from Klinci near Valjevo,⁶⁷ grave 3 of mound 10 at Šumar,⁶⁸ a pair of bracelets that possess a similar motif as our bracelet, from grave 1 of mound I from the Šundinovača necropolis,⁶⁹ pairs of bracelets from graves 3⁷⁰ and 4⁷¹ from mound II at the Jezero necropolis, pairs of bracelets from graves 3⁷² and 5⁷³ of

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⁴³ Гарашанин и Гарашанин 1958: 57 and further.

⁴⁴ Косорић и Крстић 1988: Т. V/1–3.

⁴⁵ Косорић и Крстић 1988: Т. XVII/4.

⁴⁶ Cwalinski *et al.*, forthcoming.

⁴⁷ Васић 1997: 43 and further.

⁴⁸ Булатовић *et al.* 2017: Т. XIX/36–41.

⁴⁹ Гарашанин и Гарашанин 1958: 40, сл. 15.

⁵⁰ Гарашанин и Гарашанин 1967: 7–9.

⁵¹ Церовић 2009: сл. 1.

⁵² Булатовић *et al.* 2017: Т. XXXIX/9–10

⁵³ Todorović 1977: 56.

⁵⁴ Todorović 1977: 57.

⁵⁵ Todorović 1977: 101.

⁵⁶ Todorović 1977: 110.

⁵⁷ Todorović 1977: 111.

⁵⁸ Петровић 2006: 58, Т. XIII/3.

⁵⁹ Косорић и Крстић 1988: Т. IV/4–5.

⁶⁰ Каруран 2019: pl. 11/1–6.

⁶¹ Каруран 2019: pl. 15/2.

⁶² Мандић, Домановић 2016: кат. 17.

⁶³ Zotović 1985: Т. X/8, 11–12.

⁶⁴ Дмитровић 2016: сл. 10/3.

⁶⁵ Дмитровић 2016: 165–169, сл. 113/1–4.

⁶⁶ Unpublished find. M. Garašanin mentions this bracelet in text (*Праисторија јуџославенских земаља*), refer to Garašanin 1983: 747.

⁶⁷ The context of this find is unclear, as M. Valtrović published that the bracelet was found together with two torques and a medieval bronze earring. Refer to Valtrović 1893: 76–77.

⁶⁸ Гарашанин и Гарашанин 1958: 20–21, сл. 28/3.

⁶⁹ Косорић и Крстић 1988: Т. II/2–4.

⁷⁰ Косорић и Крстић 1988: Т. X/6.

⁷¹ Косорић и Крстић 1988: Т. XI/2–3.

⁷² Косорић и Крстић 1988: Т. XII/4.

⁷³ Косорић и Крстић 1988: Т. XIV/1–2.

mound III, and pairs of bracelets from graves 1,⁷⁴ 2,⁷⁵ and 3⁷⁶ from mound IV at the Jezero necropolis, of which the last two are identical to the aforementioned examples from grave 1 of mound I from the Šundinovača necropolis and the example from mound 28.

Finally, it should be noted that bracelets made of spirally twisted thin wire with a triangular or circular cross-section, with missing ends, represent common jewellery within Late Bronze Age graves in the territory of the Central Balkans and the neighbouring regions.

* * *

Regarding the absolute dates from this mound, the earliest of four dates originates from the organic material on which the bronze arm ring was laid (find No. C-3). It was positioned next to the southern border of the modern trench, which luckily did not reach it. Therefore, it remained intact within the zone of dark-grey soil in segment C. The sample taken from the organic material below the arm ring did not contain a sufficient amount of organic matter, as it was mixed with soil. To prepare it for the AMS analysis, it was necessary to conduct the so-called *combustion* of the sample at two different temperatures – lower of approximately 400° C, and higher of approximately 800° C. The date acquired following the combustion at the higher temperature (DeA 23518) pointed to a period of the final quarter of the 15th and the 14th century BC (95% probability), or the second half of the 14th century BC (55% probability), and the end of the 15th and the first quarter of the 14th century BC (44.8% probability).⁷⁷ However, the second date from the same sample, acquired by combustion at a lower temperature (DeA 23517) yielded a slightly younger date, between the beginning of the 14th and the beginning of the final quarter of the 13th century BC (62.2% probability). As the practice in such cases dictates that the date acquired from the combustion at a lower temperature is accepted, the mound will be dated according to the younger date.⁷⁸

According to this date, the burial of the necklace in the grave, and therefore the burial within mound 28, is chronologically positioned in a period between the beginning of the 14th and the beginning of the final quarter of the 13th century BC, or, more precisely, between the beginning of the final quarter of the 14th and the mid-13th century BC.

Concerning the chronological determination of mound 28, as well as finds recorded within, the neighbouring, almost concurrent, mound K from the site that contained almost identical grave goods should be high-

lighted (Table 1). Namely, the younger date acquired from the wooden base of the central grave of mound K is almost identical to the earlier date from mound 28 (a difference of one year in calibrated BP).⁷⁹ Similar burial rituals and finds have been recorded in mound C at the Paulje necropolis, which is AMS dated to the 14th century,⁸⁰ which partially matches the other existing dates from the necropolis.⁸¹

The samples that directly dated the trench that disturbed the southern portion of the mound originate from its infill, meaning its bottom. The first date from the trench within mound 28 (DeA 23519) originates from organic matter (carbonised wood?) recorded in segment B, immediately below the pin with a stamp-shaped head (find No. 17) in the central portion of the trench, approximately 25 cm above the bottom (Fig. 9). The sample was taken to determine the time of the formation of the trench, as the stratigraphy indicated that the trench is younger than the remains of the burial ritual represented by an oval zone of ashy soil and soot. However, it was unclear how much younger the trench was; whether it represented a part of burial ritual, period-related earthworks, or was it significantly younger? The sample pointed out that the trench was formed in modern times, sometime after 1950, which is confirmed by another date acquired from the soot within the trench infill in segment C. Those two dates confirm that the trench was of modern origin, which opens the question as to how some of the finds, although smaller in dimensions, were recorded above the trench and within its higher levels (Fig. 9)? The pin with the stamp-shaped head was carefully placed back into the ground, on a piece of wood within the trench infill (which is dated to the modern period). One of the explanations could be that the individuals who formed the trench several decades ago placed the finds back into the mound/trench, out of respect to their antecessors. This is further sup-

⁷⁴ Косорић и Крстић 1988: Т. XIV/6–7.

⁷⁵ Косорић и Крстић 1988: Т. XV/2.

⁷⁶ Косорић и Крстић 1988: Т. XV/5–6.

⁷⁷ We would like to thank Dr Tóth-Hubay Katalin from Isotop-tech ZRT. laboratory in Debrecen (Hungary) for consultations. Compare: McGeehin *et al.* 2001.

⁷⁸ McGeehin *et al.* 2001, 261.

⁷⁹ Cwalinski *et al.* forthcoming.

⁸⁰ Gligorić, Filipović, Bulatović 2016.

⁸¹ The remaining dates from graves of incinerated deceased at the Paulje necropolis are unpublished and fall within the chronological span between the mid-15th to the end of the 13th century BC. The publication is in preparation.

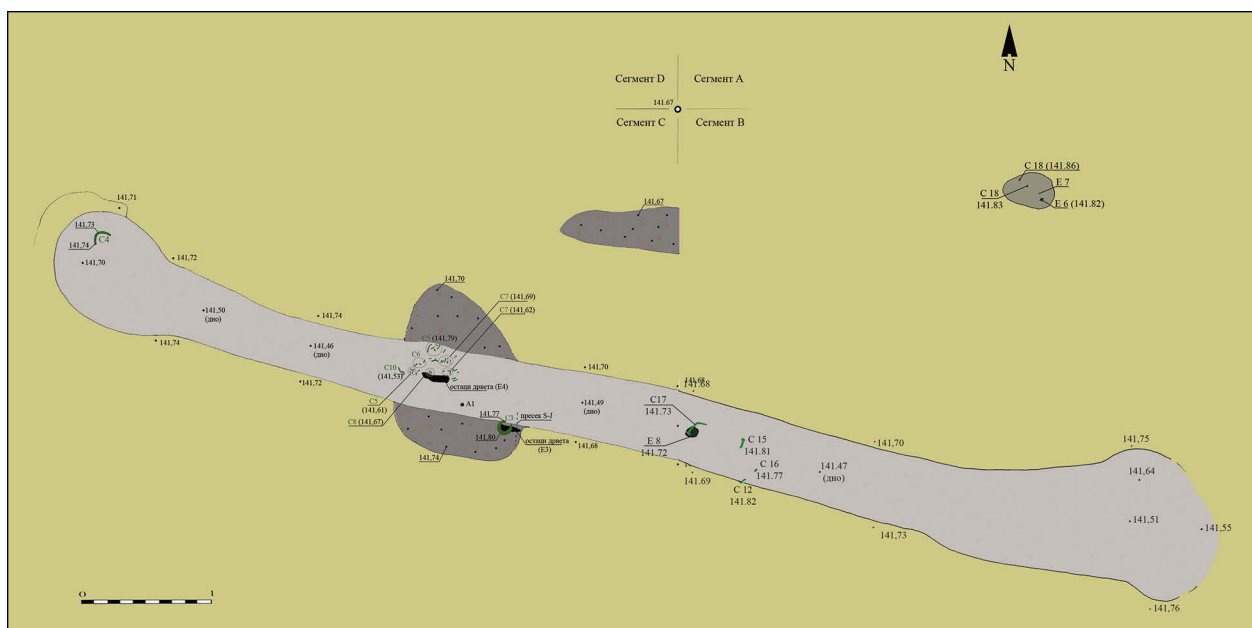


Fig. 9. Technical drawing of the base of mound 28, with features and finds

Сл. 9. Техничка скица основе хумке 28 са уоченим целинама и с налазима

ported by the fact that most of the objects were recorded above the trench infill in the zone of dark-grey ashy soil in segment C, which most likely represented the remains of the burial ritual in which the objects were originally found during the formation of the trench. Interestingly, the owner of the estate in which the mound is located, whose family bought the estate in early 70s, does not remember any earthworks in this part of the estate, so, based on both that fact and radiocarbon dates, it can be concluded that the formation of the trench occurred between the 1950s and the 1970s.

Concluding remarks

The archaeological excavations of mound 28, together with new absolute dates and the abundance of portable archaeological material, have raised several interesting problems, primarily regarding stratigraphy. Namely, considering that the results of two samples taken from the wood, meaning organic matter from the infill of the trench (it's bottom), indicated the period following the mid-20th century CE, it is clear that mound 28 was, besides annual ploughing, partially devastated at one point. Luckily, the degree of damage to the mound and portable archaeological finds within it preserved some archaeological contexts, thus enabling a partial and reserved reconstruction of some basic parameters of the burial.

It seems that solely one burial was registered within the mound, in segment C, in the central portion of the aforementioned trench. It is represented by an oval zone comprised of grey soil, irregular in dimensions (Figs. 5 and 9). Most of the bronze objects were recorded within it. However, despite the floatation sample of several dozens of kilograms of soil, taken from this zone and other areas which were distinguished by the colour of the soil, not a single bone was recorded that might indicate the existence of a grave of an incinerated deceased, as expected at the Paulje necropolis. The trench that cut the mound into the west-east axis, and partially damaged the grave, was certainly formed in the mid-20th century CE, most likely in the 50s and 60s, as confirmed by AMS dates and the testimony of the landowner. The fact that the bronze jewellery dislocated during the formation of the trench was still within the mound is surprising, since the practice shows that the sites excavated by non-professionals (locals, army, well-diggers, road constructors, etc.) are usually barren in metal finds, which are usually kept by those individuals or gifted to local teachers, priests, and museums.⁸²

⁸² As previously mentioned, there is a possibility that the second arm ring, paired with Cat. No. 3, was taken during the formation of the trench.

Object	Mound 28	Mound 11 (K)
decorated torques	+	+
crescent-shaped pendants	+	+
arm ring	+	+
thin bronze wire torque	+	
Bracelet with open ends (not the same type)	+	+
Spirally twisted bracelets made of thin bronze wire	+	+
long bronze pin		+
pin with nail-shaped head and thickening on the top	+	
pin with stamp-shaped head	+	+
amber jewellery	+	+

Table 1. Comparative presentation of finds from the central grave of mound K (11) and the potential grave of mound 28 at the Paulje necropolis

Табела 1. Упоредни приказ налаза из централног гроба хумке 11 (К) и појединачног гроба хумке 28 на Пауљама

On the other hand, the inventory of bronze jewellery and the presence of amber beads indicate that the potential grave of mound 28 represents one of the richest period-related burials in the territory of north-western Serbia. The fact that speaks in favour of a partially destroyed rich grave is its comparison with the well documented richest burial from the Paulje necropolis, the central grave of mound K (11).⁸³ Namely, both graves display great similarity in terms of the jewel inventory, as presented in Table 1. One of the differences is that mound 11 (K) contained a large bronze pin, which is not recorded in mound 28, yet this mound contained a pin with a nail-shaped head and thickening on the top, which was not recorded within mound 11. On the other hand, both mounds contained two pins within the grave inventory, which is not uncommon for the Paulje necropolis, as the central grave of mound 1 (A) contained a burial with two pins, both with biconical heads and decorated thickenings on the neck.⁸⁴ The practice of burying two pins is not characteristic of the Late Bronze Age of the Central Balkans, as only a few examples have been recorded. Those are the examples from graves 135⁸⁵ and 194⁸⁶ from the Karaburma necropolis in Belgrade. Similarities with burial within mound 11 (K) are further supported by the absolute dates from both mounds, which differ by only a few decades, which is, considering the existing deviation and

errors in calibration, quite a small chronological difference in terms of absolute chronology. It should be highlighted that the necropolises in eastern Bosnia, within the lower course of the Drina River, display similar combinations in grave inventories and jewellery, although with significantly lower typological variations.⁸⁷

The potential cultural attribution of graves within the Lower Drina region has been discussed during the past decade.⁸⁸ Based on that, the find presented in this paper would be attributed to the so-called Brezjak cultural group, as one of its most representative examples. The chronology of this cultural phenomenon is well determined compared to several decades ago, when it was observed as the so-called West Serbian variant of the Vatin culture and attributed to the Middle Bronze Age.⁸⁹ According to the published, and a significant number of unpublished absolute dates, the duration of

⁸³ Булатовић *et al.* 2017: 125–131.

⁸⁴ Мадас 1990: 17.

⁸⁵ Todorović 1977: 31, cat. 2–3.

⁸⁶ Todorović 1977: 53–55, cat. 2–3.

⁸⁷ Косорић и Крстић 1988.

⁸⁸ Филиповић 2014: 51 and further; Дмитровић 2016: 231 and further; Булатовић *et al.* 2017: 53 and further; Bulatović *et al.* 2018.

⁸⁹ Гарашанин 1973: 359.

this group, with enough scientific arguments today called the Bezjak group, can be approximately positioned between the beginning of the 15th and the beginning of the 12th century BC,⁹⁰ as it is assumed that the forthcoming absolute dates will not significantly influence such chronology.

The damaged grave from mound 28 provides sufficient data on the ritual, stratigraphy, and the inventory of the burial, despite its state of preservation. It seems as if mound 28 at the Paulje necropolis served for the

burial of an incinerated deceased with extremely rich personal ornaments. Other rituals took place within the area of the mound, such as the transfer of a portion of the funeral pyre to the cleaned space prepared for burial and the formation of the mound with several amber beads within. The attribution to the so-called Brezjak group is clear, based on the bronze jewellery and absolute date that positions the burial between the beginning of the final quarter of the 14th and the mid-13th century BC.

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⁹⁰ Gligorić, Filipović, Bulatović 2016; Bulatović *et al.* 2018; Cwalinski *et al.* forthcoming. The unpublished dates originated from settlements and mounds at the Paulje necropolis, as well as from the sites (mounds) from the West Morava Valley, and their publication is in preparation. We would like to thank our colleague K. Dmitrović.

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Резиме: ВОЈИСЛАВ ФИЛИПОВИЋ, Археолошки институт, Београд
 АЛЕКСАНДАР БУЛАТОВИЋ, Археолошки институт, Београд
 РАДА ГЛИГОРИЋ, Музеј Јадра, Лозница

ХУМКА 28 СА НЕКРОПОЛЕ ПАУЉЕ У БРЕЗЈАКУ Прилог апсолутној хронологији позног бронзаног доба у Србији

Кључне речи. – Развијено бронзано доба, Пауље, хумка 28, апсолутна хронологија, AMS датуми, бронзани накит, ћилибар

На основу ЛИДАР снимка из 2018/19. године, на њиви која се наслања на простор шуме са некрополом Пауље, регистроване су три аномалије које представљају развучене праисторијске земљане хумке пречника до 15 m и очуваних висина до највише 0,5 m. Иако су све три хумке биле изузетно лоше очуване и развучене деценијским пољопривредним радовима, на основу археолошких ископавања констатовано је да је у хумци 28 степен очуваности археолошког материјала и појединих целина изразито задовољавајућ, док су у хумкама 29 и 30 регистровани само бледи остаци трагови потенцијалних гробних ритуала са малим бројем дислоцираних налаза.

Хумка 28 регистрована је у пречнику од око 12 m, очуване висине до 0,5 m и археолошки је истражена методом ископавања наспрамних сегмената без контролних профила. Стратиграфска слика била је једнообразна у свим деловима хумке и након слоја оранице свелобраон земље дебљине 0,25 m, регистрован је слој светле жутобраон компактне земље која је представљала првобитни насип хумке, а чија је дебљина варијала од 0,05 m на периферним деловима до 0,4 m у централним зонама хумке, док се испод ње налазила специфична здравица светлосиве боје са браонкастим и жућкастим кружним конкрецијама. На основи сегмената В и С, у самој здравици, уочен је и већи ров дужине око 7 m и ширине око 0,5 m, просечне дубине до 0,3 m, док су у зони око њега и у њему регистровани скоро сви бронзани налази који би могли припадати сету накита из периода бронзаног доба. У сегменту С, отприлике на средини поменутог рова регистрована је овална зона (гроб 1?) нешто тамније сивкасте земље, неправилних димензија око 1,35 × 1 m, у којој је нађен највећи број бронзаних предмета – бронзана, раскошно украшена елипсаста гривна размакнутих крајева откривена на органској подлози, најмање две спирално увијене наруквице од дебље бронзане жице, неколико лунуластих привезака или њихових фрагмената, те малог дела масивног и раскошно украшеног бронзаног торквеса. На крајњем западном делу рова, на око 2 m од овалне зоне, откривен је само тањи бронзани торквес, док је на 1 до 1,5 m источно, такође у простору рова, регистровано више бронзаних предмета – две бронзане игле и фрагмент фасетираног лунуластог привеска. У сегменту В, на око 2,5 m северније од рова, регистрована је кружна зона која је садржала остатке угљенисаног дрвета и перлице ћилибара мање од 10 mm, оштећене директним деловањем ватре.

Налази из хумке 28 могуће је да представљају инвентар једног, евентуално два гроба, али у сваком случају, у погле-

ду инвентара ова је хумка једна од најбогатијих на простору некрополе Пауље. На први поглед се чини да би ови налази могли представљати сет накита једног богатог женског гроба и у том контексту они се по инвентару умногоме подударају са најбогатијом сахраном са некрополе, а то је централни гроб хумке К. У погледу апсолутних датума из ове хумке најстарији међу четири апсолутна датума потиче из органске материје на коју је била положена бронзана гривна. Према овом датуму, похрањивање ове наруквице у хумку, а самим тим и сахрана под хумком 28, хронолошки се може одредити у време између почетка 14. и почетка последњег квартала 13. века, најпре у време између почетка последњег квартала 14. и средине 13. века пре н. е. Узорци који су датовали ров који је „пресекао” јужни део хумке потичу из испуне рова, односно са његовог дна. Први датум из рова хумке 28 потиче из органске материје (карб. дрво?) откривене у сегменту В непосредно испод игле са печатном главом, на средини рова, на горњој коти његове испуне, око 25 cm изнад дна рова. Овај узорак за датовање је управо узет из разлога да се утврди време укопавања рова, јер је стратиграфија указивала да је ров свакако млађи од евидентираних остатака погребног ритуала у виду зоне сиве пепељасте земље и гаражи, али се постављало питање колико је ров млађи, односно да ли је део тадашњег погребног ритуала, или, можда, представља укопавање неке друге намене из тог времена, или је пак много познији. Узорак је показао да је ров укопан у савремено доба, након 1950. године, а ово хронолошко опредељење рова потврђује још један датум добијен из гаражи пронађене у испуни рова у сегменту С.

Чини се да је у овој хумци регистрован само један гроб, и то у сегменту С, на средини поменутог рова где је регистрована овална зона нешто сивкастије земље неправилних димензија. Инвентар бронзаног накита и сама присутност ћилибарских налаза указују на то да потенцијални гроб из хумке 28 спада међу неколико најбогатијих сахрана из овог периода на територији северозападне Србије. Треба поменути да се на некрополама у источној Босни, у доњем току Дрине, у погледу инвентара гробова јављају сличне комбинације заступљености накита, али он ни у једном од њих није овако типолошки разноврстан. О потенцијалној културној припадности гробова из области доњег Подриња, доста је писано и расправљано током последње деценије, па ћемо само поменути да би овај налаз према нашем схватању свакако припадао тзв. Брезјачкој културној групи и да је он један од њених најрепрезентативнијих примера до сада.

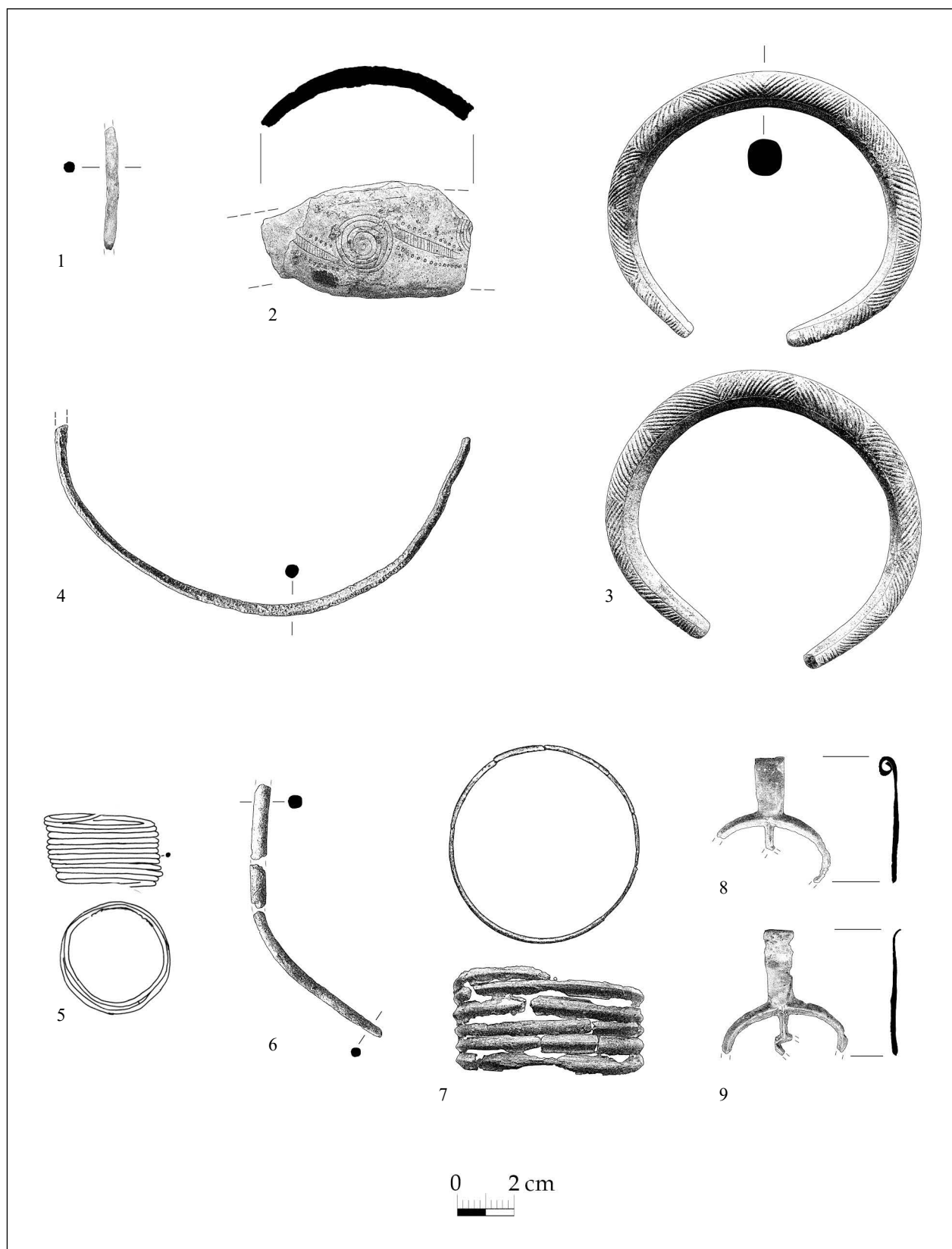


Plate I – Finds from the mound 28

Табла I – Покрејни налази из хумке 28

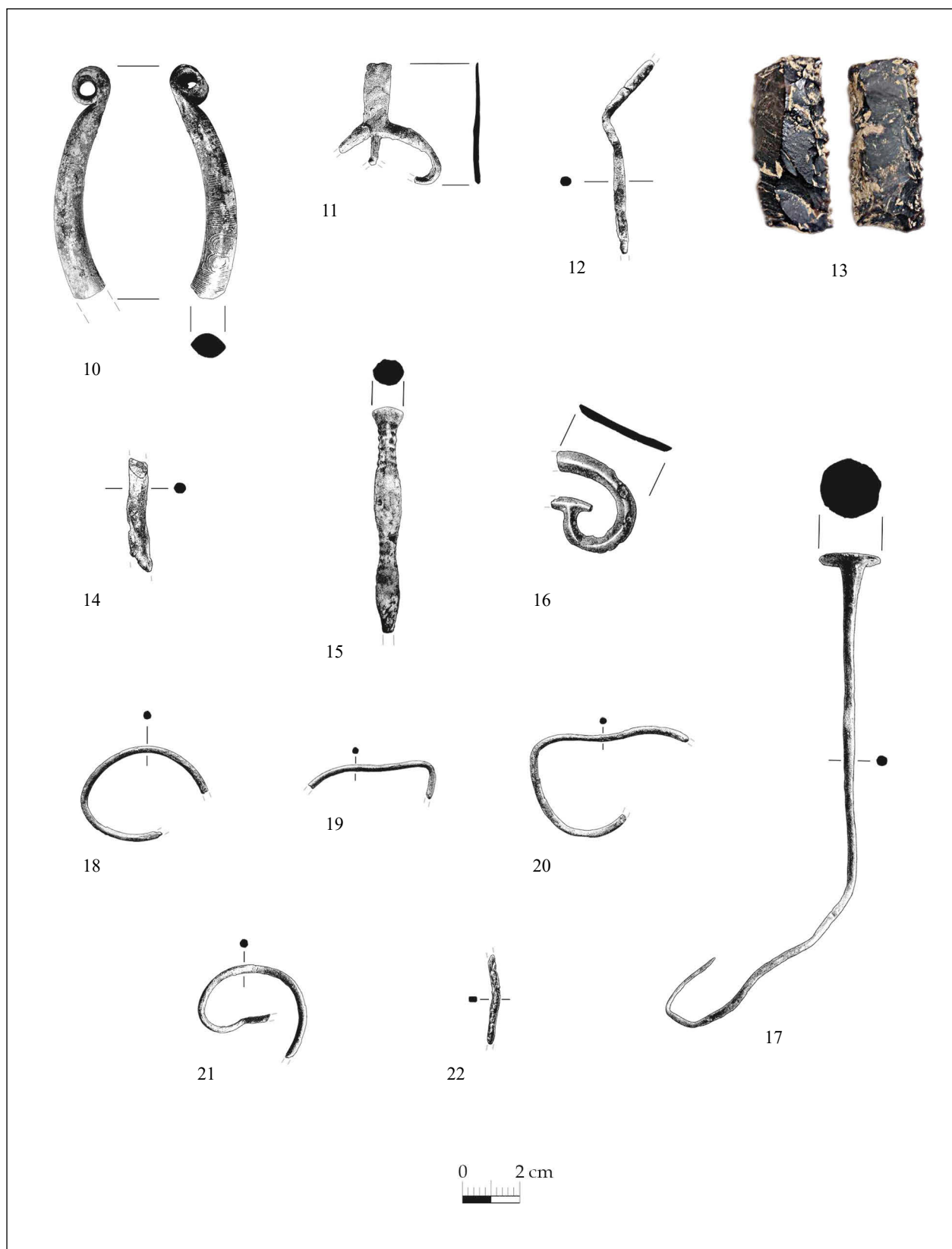


Plate II – Finds from the mound 28

Табла II – Покрејни налази из хумке 28

CIP – Каталогизација у публикацији
Народна библиотека Србије, Београд

902/904

СТАРИНАР Српског археолошког друштва /
уредник Снежана Голубовић. – Год. 1, бр. 1 (1884) – год. 12,
књ. 1/4 (1895) ; нови ред, год. 1, бр. 1 (1906) – год. 4, бр. 2
(1909) ; нови ред, год. 5, бр. 1/2 (1910) – год. 6, бр. 1/2 (1911) ;
трећа серија, књ. 1 (1922) – књ. 15 (1940) ; н.с., књ. 1,
год. 1 (1950) – . – Београд : Археолошки институт,
1884–1895; 1906–1909; 1910–1911; 1922–1940; 1950–
(Београд : Бирограф). – 30 cm

Годишње. – Наслов: од бр. 1 (1906) Старинар. – Друго издање
на другом медијуму: Старинар (Online) = ISSN 2406-0739
ISSN 0350-0241 = Старинар
COBISS.SR-ID 8111874

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