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# GUEST FROM THE WEST: EARLY HALLSTATTIAN HOARD WITH ORNAMENTS DISCOVERED NEAR NISPORENI

**ABSTRACT**

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A deposit of bronze items was discovered in 2019 on the territory of a forest area near Nisporeni in the western part of the Republic of Moldova. The artefacts (about 150 items) were discovered in a pit, about 50 cm deep and among them were: two fibulae of Röschitz-Sanislău type, seven necklaces, 12 rings, 22 tubes, 23 bracelets, about 80 appliqués, a coral bead, a wild animal tusk pendant and 21 amber beads. The objects from this deposit are of western origin, with known analogues in deposits from Poland, Hungary, Serbia, Slovakia and less in Romania. Apparently, despite the wider dating of the deposit within HaA2-HaB1-2, the date of deposition was probably closer to the upper limit. In addition, the Nisporeni deposit perfectly illustrates the cultural dynamics of the region in the Early Iron Age, that is, the fundamental change in the vector of cultural influences from Eastern to Western.

Keywords: Early Iron Age, Hallstatt, hoard, deposit, Röschitz-Sanislău type
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The last decades in the post-Soviet area have been characterized by a real treasure hunting boom, which led to the appearance of a huge number of "stray finds", or archaeological objects "found by chance and with little or no associated archaeological context" (Darvill 2003, 410). An example of this is a significant number of swords and daggers of the Scythian period are "stray" (Topal 2017, 260, 261). Unfortunately, the same fate has befallen most of the known deposits from the Eneolithic to the Medieval period. The chance discovery of artefacts before the metal detectors era was quite normal: archaeological finds were found in the process of agricultural or construction work, unintentionally, and usually later handed over to museums. With the advent of metal detectors, the discovery of artefacts is the result of intentional actions leading to the destruction of sites, the removal of artefacts from their archaeological context and their commercialization. The ethical problem of introducing such finds into scientific circulation has been called by Leo Klejn "the Mellaart syndrome" after James Melaart who was involved in several scandals, *e.g.* notably concerning the Dorak treasure or "Dorak affair". Besides, James Mellaart

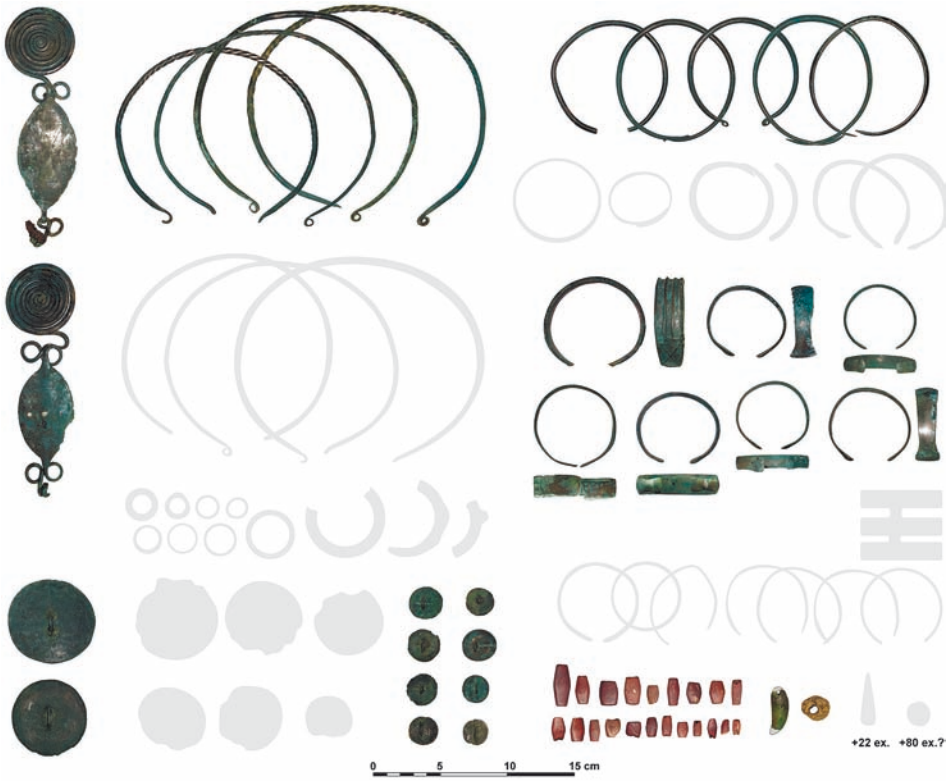


**Fig. 1**. Reconstruction of the Nisporeni hoard. Illustrated by D. Topal

made the main discovery of his life in a clear violation of generally accepted ethical rules by acquiring various finds, hence the Çatalhöyük he studied is often sarcastically called a "bazaar find".

Returning to treasure hunters, it is worth noting that they often sell their "catch" to one or more collectors, thus dispersing their deposits. Collectors in turn can be seen as people who, by purchasing artefacts, motivate the illegal activity of treasure hunters, but on the other hand they are also the ones who save these pieces, some of them allowing their documentation and publication by archaeologists and even donating some collections to museums. However, none of the above excuses the activity of treasure hunters. Often, the cooperation of archaeologists with collectors is criticized. However, as archaeologists, we are aware that in some cases these "partnerships" are the only way to reach, evaluate and disseminate information about the artefacts. This is especially true for rare objects or objects that can change the configuration of the area where certain types of artefacts are found.

The deposit we are presenting here was discovered in 2019 on the territory of a forest area near Nisporeni, part of it was later acquired by the collector Vladimir Parnov. The latter allowed us to document and publish the bronzes to introduce them into the scientific circuit. According to the owner, the bronzes were discovered in a pit, about 50 cm deep, and are part of a larger lot of pieces discovered together (about 150 items): two fibulae, seven necklaces, 12 rings, 22 tubes, 23 bracelets and about 80 appliqués (*phalerae* or button-shape ornaments). The entire deposit represented only ornaments, typologically being a deposit of a single functional category (Fig. 1). Subsequently, these finds were dispersed and acquired by various collectors. V. Parnov managed to acquire only 51 pieces from this lot: 12 bracelets, nine appliqués (phalerae or button-shape ornaments), four necklaces, two fibulae, a disc-shaped bronze plate with a hole (the chemical composition of this piece showed indications of a contemporary alloy, for which reason it was further excluded from the text and not shown graphically), a coral (?) bead, a wild animal tusk pendant and 21 amber beads. These objects were proposed for documentation and introducing to specialists at the National Museum of History of Moldova.

## DESCRIPTION OF OBJECTS

The numbers of the items in the catalogue correspond to the numbers on figures (Figs 2-7) and tables (Tabs 1-2).

**1. Röschitz-Sanislău type fibula** with *Passementerie* disc and shield (Fig. 2: 1, Tab. 2: 1): massive, with the spiral disc made of elongated oval rod in section, finished in a straight bar, on which the foliform shield is fixed. The shield is provided at one end with an extension in the form of a wire rectangular in cross-section, twisted into a figure of 8 and fixed to the bar with another wire. The opposite end of the shield is similarly thinned and twisted, retaining a fragment of the spring of the fibula to which a heavily oxidized iron rod is attached.

The shield is fitted with an hourglass-shaped ornament, the frame of which forms a set of incised lines between two other dotted lines made by striking with a punch. The pin is missing but there are traces of repair at one end of the shield. The surface of the object is covered with green patina. The total length is 17.8 cm, diameter of the disc – 5.2 cm, length of the shield – 8.0 cm, width of the shield – 4.4 cm, thickness of the shield – 0.1 cm. Weight – 42 g.

**2. Röschitz-Sanislău type fibula** with *Passementerie* disc and shield (Fig. 2: 2; Tab. 2: 2): massive, with the spiral disc made of elongated oval rod in section. The fibula is made in one piece. The rod continuing from the disc takes a curved shape, after which its section becomes rectangular and is twisted into a figure of 8, after which it expands to form the foliform shield. The latter is oval with an hourglass-shaped ornament, the frame of which forms a set of incised lines framed between two other dotted lines made by punching. In the central area, there are three holes 0.1-0.2 cm in diameter, made in a slightly oblique line. The shield is finished with a rectangular rod in section, twisted in the shape of an 8, which continues into the spring in three spirals, the last spiral being circular in section and continuing in the shape of a needle. The needle is broken together with the spring coil. The surface of the object is covered with green patina. Total length is 17.1 cm, diameter of the disc – 5.2 cm, length of pin – 12.8 cm, length of shield– 7.0 cm, width of shield – 4.1 cm, shield thickness – 0.1 cm, weight – 52 g.

**3. Massive appliqué (phalera)** worked from a thin bronze plate with a thickness of 0.15 cm (Fig. 3: 3; Tab. 2: 3): circular in plan and slightly convex in section, with the edge barely bent inwards. It is provided on the inner side with a lug semi-oval in plan and a hole diameter of 0.6 cm. The surface of the object is covered with a thin layer of green patina. Diameter 6.5 cm, weight – 27 g.

**4. Massive appliqué (phalera)** made of a thin bronze plate with a thickness of 0.15 cm (Fig. 3: 4; Tab. 2: 4): circular in plan and slightly convex in section, with the edge barely bent inwards, chipped in some places. It is provided on the inner side with a lug semi-oval in plan and a hole diameter of 0.4 cm. The surface of the object is covered with a thin layer of green patina. Diameter 5.6 cm, weight – 21 g.

**5. Appliqué (button-shape ornament)** made of thin bronze plate 0.12 cm thick (Fig. 3: 5; Tab. 2: 5): circular in plan and slightly convex in section, with the edge barely bent inwards. It is provided on the inner side with a lug semi-oval in plan and a hole diameter of 0.2 cm. The surface of the object is covered with a thin layer of green patina. Diameter – 2.4 cm, weight – 3 g.

**6. Appliqué (button-shape ornament)** made of thin bronze plate 0.12 cm thick (Fig. 3: 6; Tab. 2: 6): circular in plan and slightly convex in section, with the edge barely bent inwards, chipped in places. It is provided on the inner side with a lug that is semi-oval in plan and cross-section, with an orifice diameter of 0.3 cm. Under the rim, the inner side is decorated with a dotted line in repoussé style. The surface of the object is covered with a thin layer of green patina. Diameter – 2.3 cm, weight – 3 g.

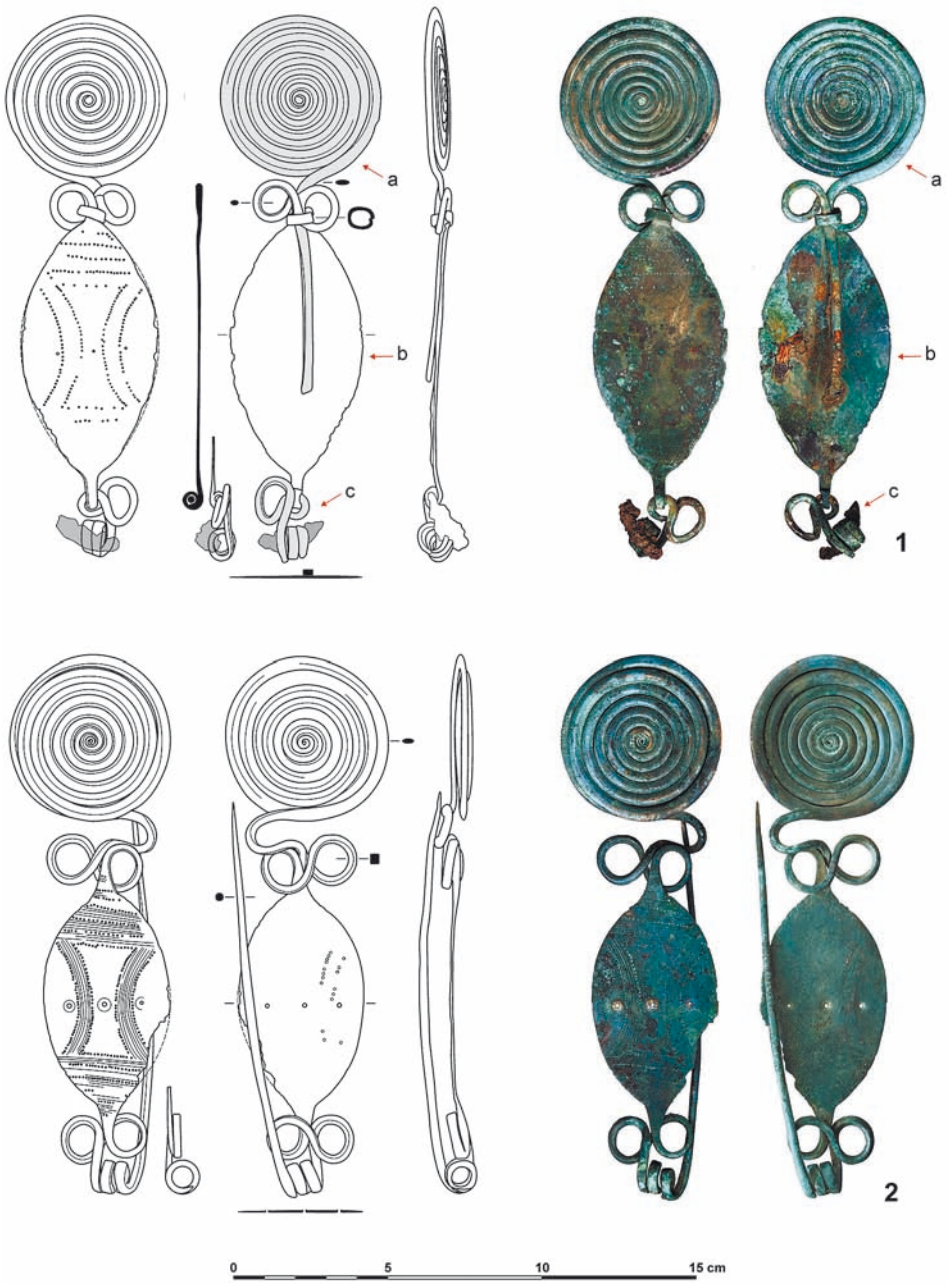


**Fig. 2.** Fibulae (1-2) of the Nisporeni hoard (a, b, c – elements of fibula 1).
Illustrated by D. Topal

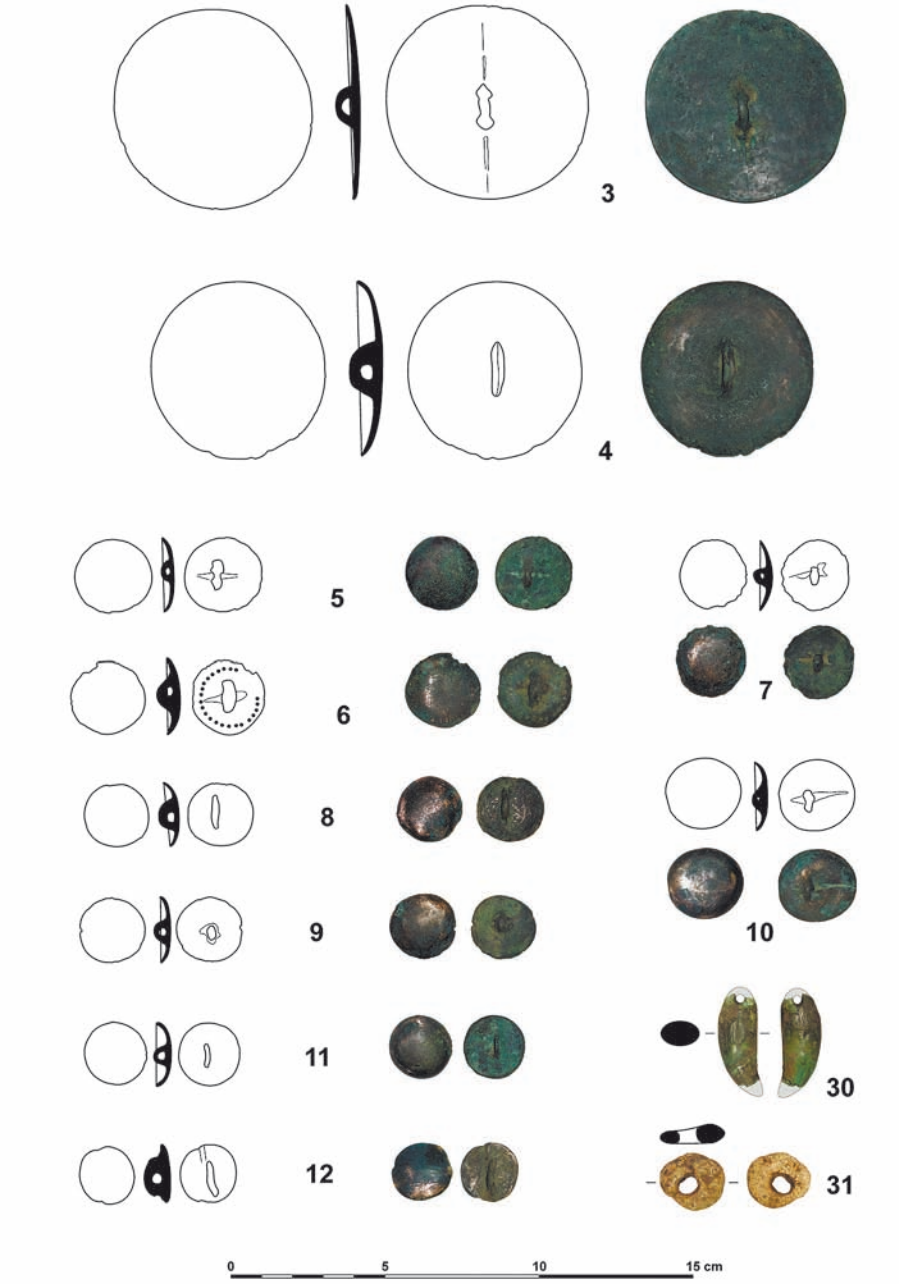


**Fig. 3**. Appliqués (3-12) and pendants (30, 31) from the Nisporeni hoard.
Illustrated by D. Topal

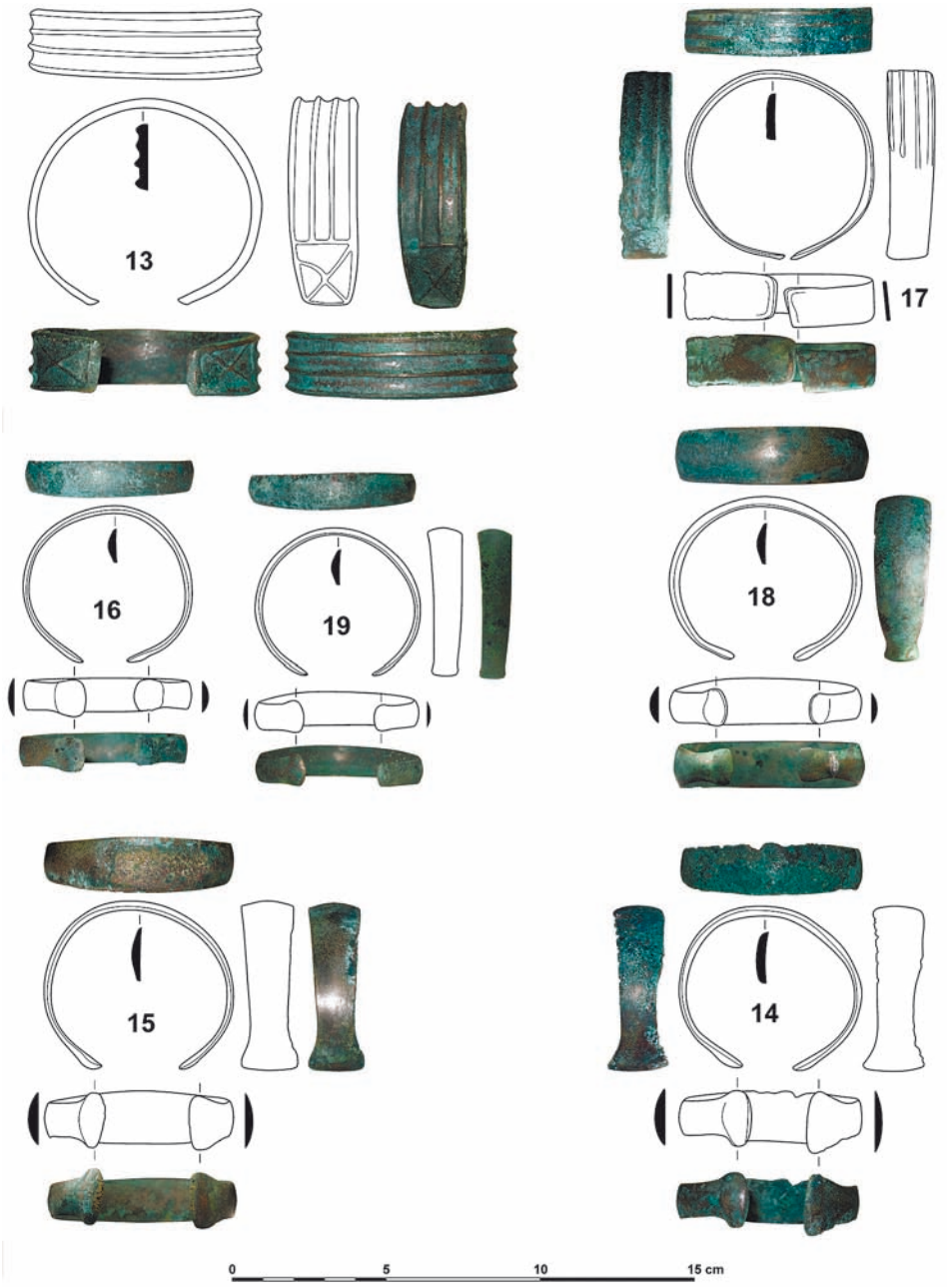


**Fig. 4.** Bracelets (13-19) from the Nisporeni hoard.
Illustrated by D. Topal

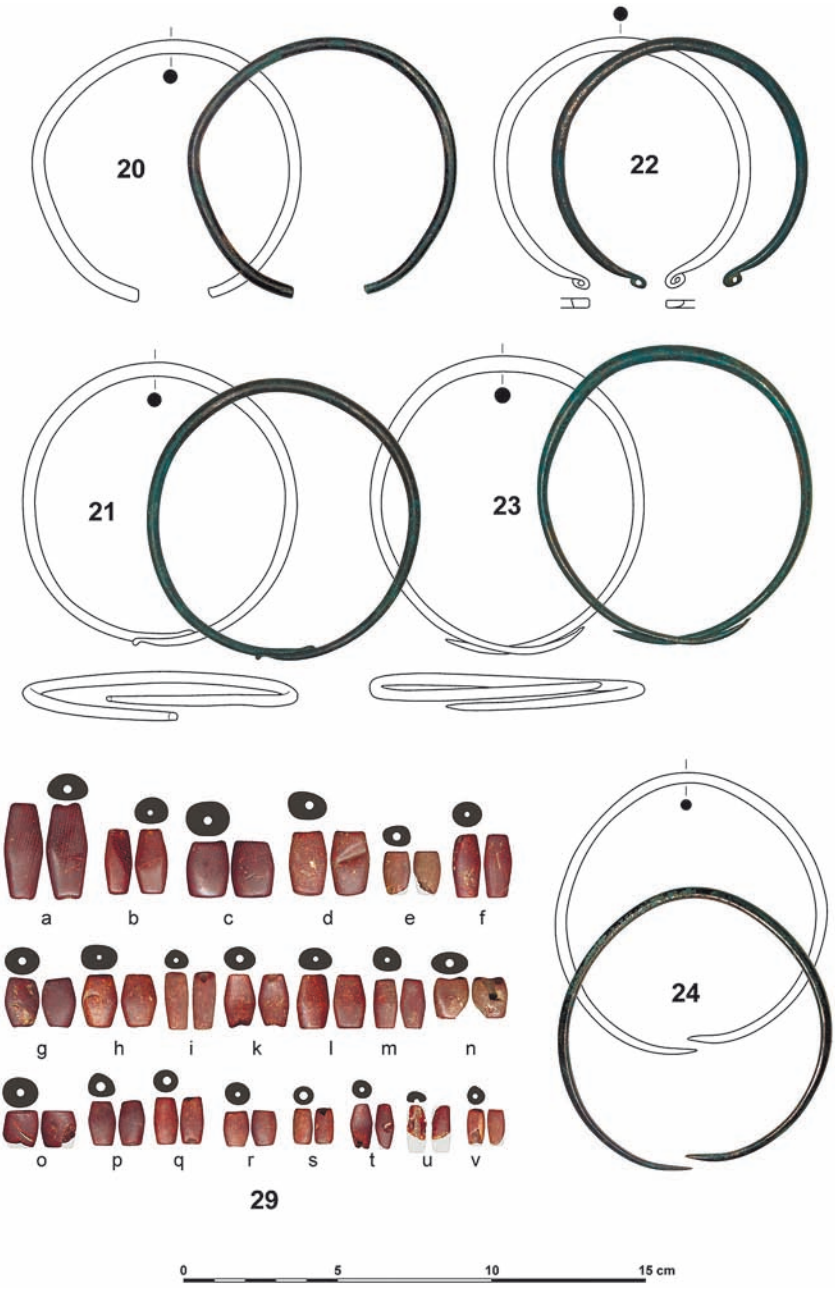


**Fig. 5.** Bracelets (20-24) and amber beads (29a-v) from the Nisporeni hoard. Illustrated by D. Topal

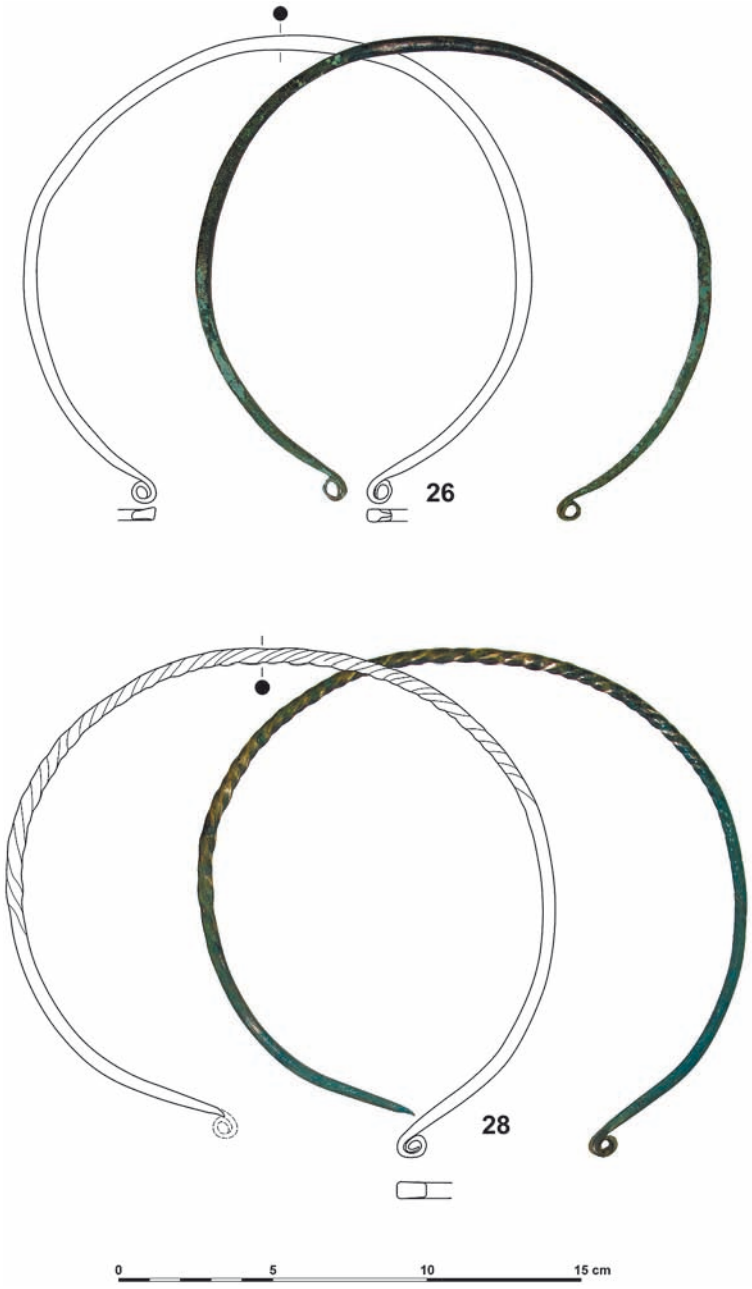


**Fig. 6.** Necklaces (26, 28) from the Nisporeni hoard.
Illustrated by D. Topal

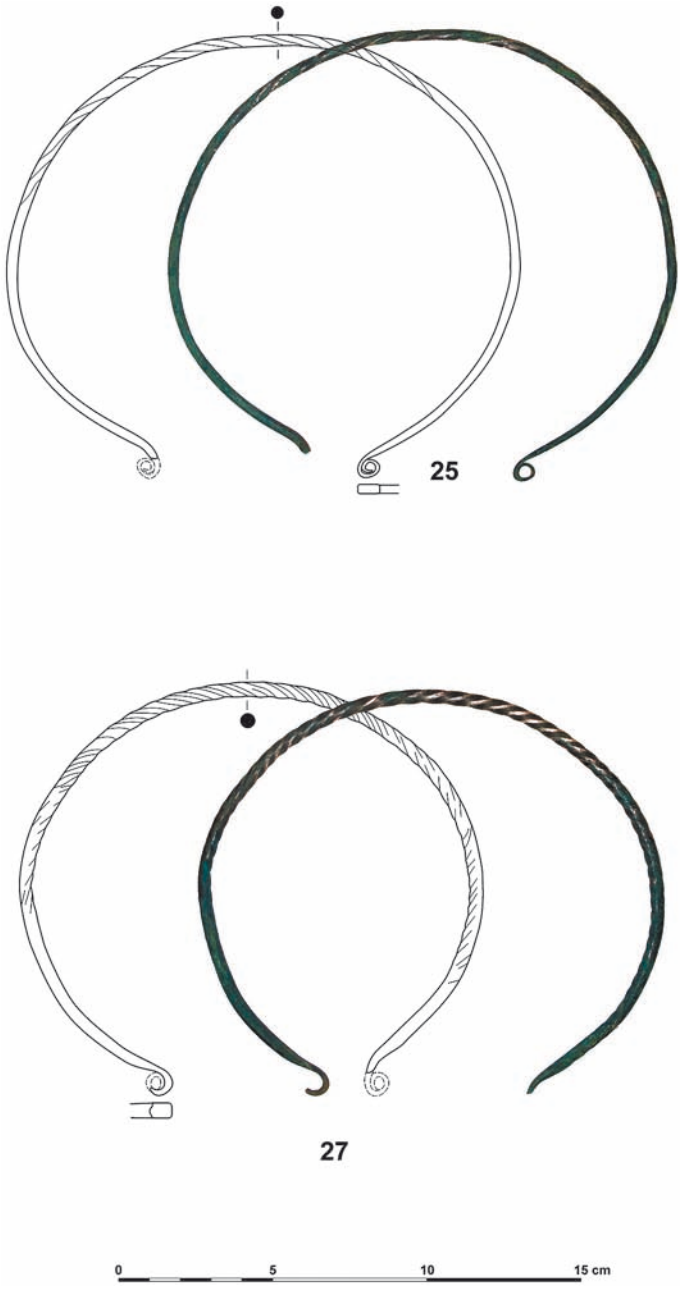


**Fig. 7**. Necklaces (25, 27) from the Nisporeni hoard.
Illustrated by D. Topal

**7. Appliqué (button-shape ornament)** made of thin bronze plate 0.12 cm thick (Fig. 3: 7; Tab. 2: 7): circular in plan and slightly convex in cross-section, with the edge barely bent inwards, chipped in places. It is provided on the inner side with a lug which is semi-oval in plan and cross-section, with a hole diameter of 0.2 cm. The surface of the object is covered with a thin layer of green patina. Diameter – 2.2 cm, weight – 2 g.

**8. Appliqué (button-shape ornament)** made of thin bronze plate 0.12 cm thick (Fig. 3: 8; Tab. 2: 8): circular in plan and slightly convex in section, with the edge barely bent inwards, chipped in places. It is provided on the inner side with a lug semi-oval in plan and cross-section and an oval aperture of 0.3 × 0.35 cm. The surface of the object is covered with a thin layer of green patina. Diameter – 2 cm, weight – 2 g.

**9. Appliqué (button-shape ornament)** made of thin bronze plate 0.12 cm thick (Fig. 3: 9; Tab. 2: 9): circular in plan and slightly convex in section, with the edge barely bent inwards, chipped in places. It is provided on the inner side with a semi-circular lug, with a hole diameter of 0.25 cm. The surface of the object is covered with a thin layer of green patina. Diameter – 2 cm, weight – 2 g.

**10. Appliqué (button-shape ornament)** made of thin bronze plate 0.12 cm thick (Fig. 3: 10; Tab. 2: 10): circular in plan and slightly convex in section, with the edge barely bent inwards. It is provided on the inner side with a lug, semi-oval in plan and cross-section, with a hole diameter of 0.2 cm, placed offset from the centre point of the piece. Also on the inner side, there is a groove probably left by the wire with which the lug was pierced. The surface of the object is covered with a thin layer of green patina. Diameter – 2.4 cm, weight – 3 g.

**11. Appliqué (button-shape ornament)** made of thin bronze plate 0.12 cm thick (Fig. 3: 11; Tab.2: 11): circular in plan and slightly convex in section, with the edge barely bent inwards. It is provided on the inner side with a lug semi-oval in plan and oval aperture 0.3 × 0.35 cm. The surface of the object is covered with a thin layer of green patina. Diameter – 2cm, weight – 2g.

**12. Appliqué (button-shape ornament)** made of thin bronze plate 0.12 cm thick (Fig. 3: 12; Tab. 2: 12): circular in plan and slightly convex in cross-section, with the edge barely bent inwards, chipped in places. It is provided on the inner side with a semi-oval, deformed lug with a 0.4 cm hole. The inner side has a rib on which the lug is fixed. The surface of the object is covered with a thin layer of green patina. Diameter – 1.8 cm, weight – 2.0 g.

**13. Massive bracelet** with lenticular-sectioned bar slightly narrowed towards the open ends (Fig. 4: 14; Tab. 2: 14). This has the outer side ornamented with 4 longitudinal ribs (2 of which highlight the edges) continuing to near the ends, ornamented in turn with two crossed x-shaped ribs. The piece is covered with a thin layer of green patina. Dimensions are 6.8 × 7.3 cm, length of the bar – 19.4 cm, width of the bar – 1.9 cm (1.5 cm at the ends), weight – 61 g.

**14. Bracelet** with lenticular-sectioned bar slightly narrowed towards one end (Fig. 4: 18; Tab. 2: 18). The ends are close together, one cut obliquely and the other in a straight

line. It has the outer side ornamented with 4 longitudinal ribs (2 of which highlight the edges) which continue to near the ends. The piece is covered with a thin layer of light green patina. Dimensions are 5.8 × 5.9 cm, bar length – 18.3 cm, bar width – 1.3 cm (at one end – 1.1 cm), weight – 22 g.

**15. Bracelet** with lenticular-sectioned bar, slightly narrowed towards open ends, highlighted by a sharp expansion and rounded corners (Fig. 4: 15; Tab. 2: 15), one end is thickened. The bar is semi-oval in cross-section, with the edge being ragged in places. The surface of the piece is covered with a layer of green patina. Dimensions are 5.0 × 5.4 cm, length of the bar – 15.6 cm, width of the bar – 1.0-1.3 cm (1.6 cm at the ends), weight – 24 g.

**16. Bracelet** with lenticular-sectioned bar, slightly narrowed towards open ends, highlighted by a sharp expansion and rounded corners. One end is thicker (Fig. 4: 16; Tab. 2: 16), the bar is semi-oval in section. The surface of the piece is covered with a layer of green patina. Dimensions are 5.0 × 5.8 cm, length of the bar – 15.4 cm, width of the bar – 1.0-1.5 cm (1.6 cm at the ends), weight – 23 g.

**17. Bracelet** with lenticular-sectioned bar, slightly narrowed towards open ends, highlighted by a slight expansion and rounded corners (Fig. 4: 17; Tab. 2: 17). Ends are thickened, the bar is semi-oval in section. The surface of the piece is covered with a layer of green patina. Dimensions are 5.3 × 4.9 cm, length of the bar – 15 cm, width of the bar – 0.9-1.1 cm (0.9 and 1.1 cm at the ends), weight – 14 g.

**18. Bracelet** with lenticular-sectioned bar, slightly narrowed towards open ends, highlighted by a sharp expansion and rounded corners (Fig. 4: 19; Tab. 2: 19). One end is thickened and the bar is semi-oval in section. The surface of the piece is covered with a layer of green patina. Dimensions are 5.9 × 5.2 cm, length of the bar – 16.0 cm; Width of the bar – 10.8-1.6 cm (1 cm at the ends), weight – 32 g.

**19. Bracelet** with lenticular-sectioned bar, slightly narrowed towards open ends, highlighted by a sharp expansion and rounded corners (Fig. 5: 20; Tab. 2: 20). One end is thickened; the bar is semi-oval in section. The surface of the piece is covered with a light green patina. Dimensions are 4.7 × 5.2 cm, length of the bar – 13.6 cm, width of the bar – 0.7-1.0 cm (0.7 and 0.8 cm at the ends),weight – 13 g.

**20. Bracelet** worked from bronze wire circular in section, with open ends, one of them slightly tapered, both cut straight across (Fig. 5: 21; Tab. 2: 21). The piece is slightly deformed and has the surface covered with a thin layer of dark green patina. Dimensions are 8.8 × 8.3 cm, length of the bar – 25 cm, diameter of the bar – 0.4 cm (0.3 at one end), weight – 26 g.

**21. Bracelet** made of bronze wire circular in cross-section, with tapered and overlapping ends, finished in the shape of a hook (Fig. 5: 22; Tab. 2: 22). The surface of the piece is covered with a layer of green patina. Dimensions 8.8 × 8.9 cm, length of the bar – 30.5 cm, diameter of the bar – 0.4 cm (at the ends 0.3 cm), weight – 26 g.

**22. Bracelet** made of bronze wire circular in cross-section, with open ends finished by flattening and twisting in the form of twists forming an oval-shaped hole measuring 0.2 × 0.3 cm (Fig. 5: 23; Tab. 2: 23). The surface of the piece is covered with a layer of open-green patina. Dimensions are 8.1 × 8.15 cm, length of the bar – 23.2 cm, diameter of the bar – 0.45 cm, weight – 24 g.

**23. Bracelet** made of bronze wire circular in cross-section, with pointed and overlapping ends (Fig. 5: 24; Tab. 2: 24). It has a surface covered with a layer of green patina. Dimensions are 9.2 × 8.9 cm, length of the bar – 33.2 cm, diameter of the bar – 0.5 cm (0.3 cm at the ends), weight – 29 g.

**24. Bracelet** made of bronze wire semi-oval in section, with pointed and slightly overlapping ends (Fig. 5: 24; Tab. 2: 24). The piece is slightly deformed and has the surface covered with a layer of green patina. Dimensions are 8.6 × 8.5 cm, length of the bar – 27.5 cm, width of the bar – 0.4 cm (0.2 cm at the ends), weight – 23 g.

**25. Necklace** made of bronze wire circular in section, with open, flattened and twisted ring-shaped ends, the diameter of rings is 0.4 cm and 0.5 cm (Fig. 6: 26; Tab. 2: 26). The surface of the piece is covered with a layer of open-green patina. Dimensions are 16.7 × 15.5 cm, length of the bar – 44.5 cm, diameter of the bar – 0.5 cm (0.4 cm at the ends), weight – 50 g.

**26. Necklace** worked from bronze wire circular in section, twisted 2/3 of its length (Fig. 6/28; Tab. 2/28). It has open ends, one flattened and twisted into a ring shape (diameter of the ring is 0.4 cm) and the other broken. The surface of the piece is covered with a layer of green patina. Dimensions are 16.3 × 14.2 cm, length of the bar – 43 cm, diameter of the bar – 0.4 cm (0.25 cm at the ends), weight – 24 g.

**27. Necklace** worked from bronze wire circular in section, twisted 2/3 of its length. One flattened and twisted into a ring shape (diameter of the ring is 0.4 cm) and one broken (Fig. 7: 25; Tab. 2: 25). The surface of the piece is covered with a layer of greenish patina. Dimensions are 14.8 × 13.0 cm, length of the bar – 39 cm, diameter of the bar – 0.4 cm, weight – 38 g.

**28. Necklace** worked from bronze wire circular in section, twisted 2/3 of its length. It has open ends, one flattened and twisted into a semicircle (diameter is 0.4 cm) and the other broken (Fig. 7: 27; Tab. 2: 27). The surface of the item is covered with a layer of greenish patina. Dimensions are 17.8 × 15.4 cm, length of the bar – 48.9 cm, diameter of the bar – 0.5 cm, weight – 51 g.

**29. Amber beads**, 16 whole and 5 fragments (Fig. 5: 29) have an elongated biconical shape and various sizes. They are reddish-brown, the length is 1.1-3.1 cm, width 0.6-1.4 cm, thickness 0.6-1.1 cm, hole diameter 0.2-0.3 cm (Tab. 1).

**30. Pendant** made of a carnivore canine (according to Dr. A. Bălăşescu) tooth (Fig. 3: 30) with both ends broken off, visible is part of the 0.4 cm diameter hole in the wider part. It is greenish as a result of its storage with the bronze pieces. Length– 3 cm, width – 0.8-1.2 cm, thickness – 0.8 cm.

**Table 1**. Amber beads, *cm*.

| No. | Length | Width (max.) | Thickness (max.) | Hole diameter |
|---|---|---|---|---|
| 29a | 3,1 | 1,2 | 0,8 | 0,3 |
| 29b | 2,1 | 1,1 | 0,8 | 0,2 |
| 29c | 1,8 | 1,4 | 1,1 | 0,3 |
| 29d | 2,1 | 1,2 | 0,9 | 0,3 |
| 29e | 1,4 | 0,9 | 0,7 | 0,3 |
| 29f | 2,1 | 0,9 | 0,8 | 0,2 |
| 29g | 1,6 | 1,1 | 0,9 | 0,3 |
| 29h | 1,7 | 1,1 | 0,8 | 0,2 |
| 29i | 1,8 | 0,8 | 0,6 | 0,2 |
| 29k | 1,7 | 1,0 | 0,8 | 0,3 |
| 29l | 1,8 | 1,0 | 0,7 | 0,2 |
| 29m | 1,6 | 0,8 | 0,8 | 0,2 |
| 29n | 1,4 | 1,1 | 0,7 | 0,3 |
| 29o | 1,2 | 1,1 | 1,0 | 0,3 |
| 29p | 1,4 | 0,9 | 0,8 | 0,3 |
| 29q | 1,5 | 0,8 | 0,7 | 0,3 |
| 29r | 1,1 | 1,1 | 0,7 | 0,2 |
| 29s | 1,2 | 0,7 | 0,6 | 0,3 |
| 29t | 1,4 | 0,7 | 0,6 | 0,2 |
| 29u | 1,1* | 0,6* | 0,3* | 0,25 |
| 29v | 1,1 | 0,6 | 0,6 | 0,2 |

**31. Pendant** made of coral (?) (Fig. 3: 31): this is of irregular oval shape and has a circular hole with a diameter of 0.6 cm. It is yellowish-grey and has a spongy side and a side covered with paint (?) which gives it a sheen. Dimensions are 1.8 × 2.0 cm, thickness – 0.3-0.6 cm.

## DISCUSSION

The fibulae from the Nisporeni deposit belong to the Röschitz-Sanislău type (Bader 1983, 29; Novotná 2001, Taf. 1-2; Gedl 2004, Taf. 84). According to the typology by T. Bader, this type of fibula is divided into two variants each with several sub-variants: A – fibulae with an oval or elongated oval shield, (Bader 1983, 29) and B – fibulae with a rather round shield (a, b) (Bader 1983, 29). According to this typology, the fibulae from the Nisporeni deposit belong to variant B, sub-variant b, which is characterized by the hourglass-shaped decoration made on the shield. The area of distribution of the Röschitz-Sanislău type fibulae (Fig. 8) comprises the territory between the Middle Danube area to the west, Moravia

to the north, the Republic of Moldova to the east and the north of former Yugoslavia to the south (Bader 1983, 31, Taf 42: B; Tarbay 2017, 88, Fig. 26). Most finds of this type are known from the territory of Hungary, and are also present in the Czech Republic, Slovakia, Poland, more sporadically in Germany, Austria, Croatia, Bosnia and Herzegovina, Serbia, Ukraine, Romania and the Republic of Moldova (Bader 1983, 30; Moszolics 1985, Taf. 25: 6; Řihovský 1993, Taf. 1: 16; 7: 72, 75; Vasić 1999, 21, Taf. 3: 40, 43, 61; Moszolics 2000, Taf. 108: 7; Novotná 2001, 22, Taf. 26; Gedl 2004, Taf. 51: 217, 84: nr. 217; Kašuba 2008, 216, Abb. 19; Tarbay 2017, 88, Figs 16: 44-47; 24: 2, 26). They are dated differently (Schránil 1928, 184) but mainly to $HaA_1$ (Pittioni 1954, 410, 460; Müller-Karpe 1959, 103; Bader 1983, 30; Mozsolics 2000, Abb. 3). Analyses have shown that fibulae with oval shields are assigned to $HaA_1$ and fibulae with rounded shield belong mainly to $HaA_2$-$HaB_1$ (Bader 1083, 31; Tarbay 2017, 88). However, M. Bandrivskii considers that the easternmost, Podolian complexes (Nedeliska, Yargorov), as well as the Valea Rusului deposit with Röschitz-Sanislău type fibulae, belong to the $HaA_2$ period (Bandrivskii 2014, 145).

The bracelets are represented by massive items with a flat bar and ornamented with ribs; bracelets with broad bar flat-convex in section and dilated ends; simple open bracelets with overlapping ends with round or semi-oval bar section. Bracelets with flat bar ornamented with ribs are known from deposits in Hungary, Serbia, Poland, Romania dated to $HaA_1$-$HaB_1$ (Moszolics 1967, Taf. 59: 5, 6; Garašanin 1975, T. 5: 6; 6: 4; 55: 1; Petrescu-Dîmboviţa 1977, Pl. 191: 8, 11, 13; 368: 10; Moszolics 1985, Taf. 243: 15; Gedl 2004, Taf. 110: 7, 8). The bracelets with a flat-convex broadened bar in section and dilated ends are also of western provenance, being present in deposits from the territory of Hungary, Serbia dated to HaA-HaB (Garašanin 1975, T. 56: 6, 8-15; Moszolics 1967, 60: 4-9; 63: 3-6; Moszolics 2000, Taf. 3: 3-5, 7, 8, 10). Analogies of the bracelet with a round bar in section and open hooked ends are known from the territory of Hungary and dated back to BrD (Köszegi 1988, Tab. 47) and from the deposit at Fundul Galbenei (Topal and Sîrbu 2016, fig. 4/8). Bracelets of this type with an bar oval-elongated in section are known from the Băleni deposit discovered on Romanian territory and similarly dated within BrD (Dragomir 1967, R18m: 188, 192-198). Also, in the above-mentioned area we find analogies for the bracelet with a rounded bar in section and distant ends, dated to BrD-$HaA_1$ (Petrescu-Dîmboviţa 1977, Pl. 58: 10, 72: 15; Köszegi 1988, Tab. 47; Topal and Sîrbu 2016, Fig. 4/8-9). The bracelets with a bar round or semi-oval in section and overlapping ends are typical for $HaA_1$-$HaA_2/B_1$(or even later, for HaD) being known from deposits in north-eastern Hungary, Poland, Transylvania and Transcarpathian Ukraine (Petrescu-Dîmboviţa 1978, Taf. 100: B12; 102: A50; 133: A12; 204: 1186; 224: 38, 41, 43; 240: 31, 34, 41; Kobal 2000, Taf. 91: 14; 92: 43, 47; Moszolics 2000, Taf. 28: 10, 47: 5-7; Gedl 2004, Taf. 106: 10, 11; Soroceanu 2012, Taf. 31: 7; Tarbay 2017, fig. 26).

Discoidal applications are presented in deposits dated from BrD to $HaB_3$ found in Hungary (Moszolics 1985, Taf. 108: 10; 140: 15, 17, 33; 201: 17; 228: 13, 14; 229: 2-7; Moszolics 2000, Taf. 7: 4; 44: 11-13; 46: 6-8), Romania (Petrescu-Dîmboviţa 1977, Pl. 46: 3; 55: 2;

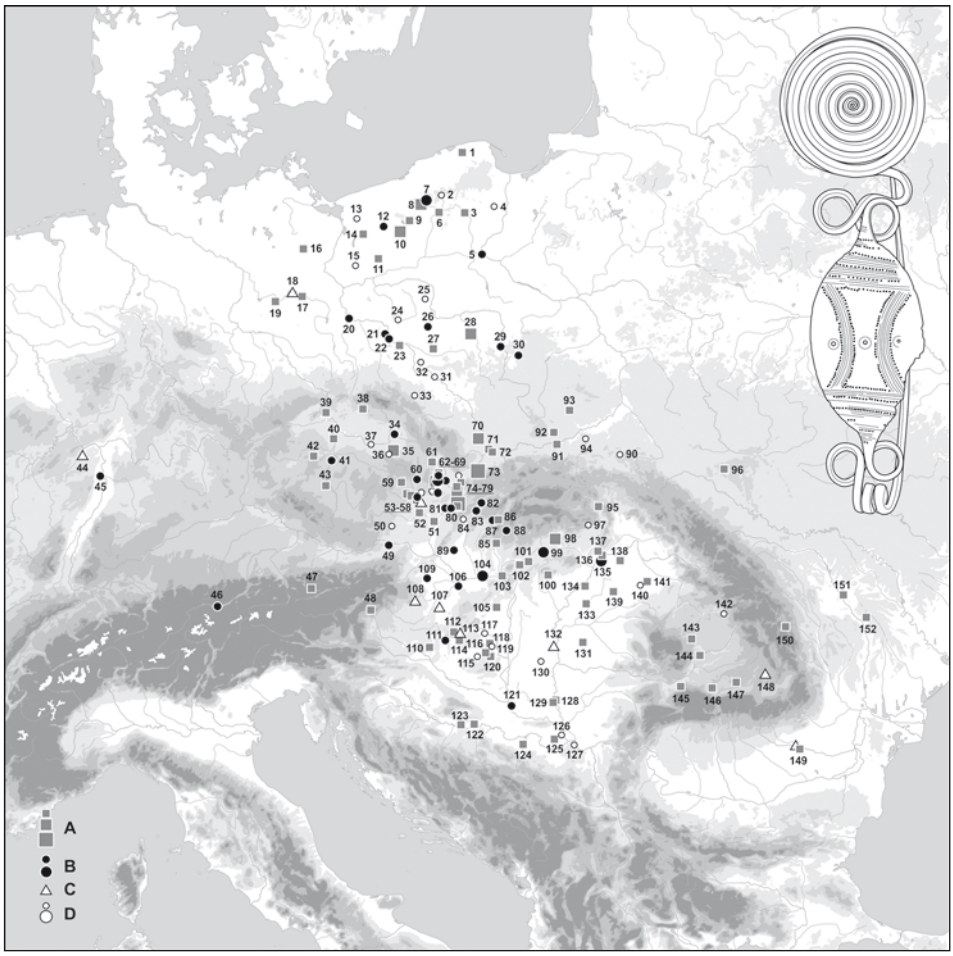


**Fig. 8.** Distribution of Röschitz-Sanislău type fibulae and other "Blattbügelfibel" in Europe. A – hoards (1-3 ex.); B – graves (1-2 ex.); C – settlements; D – stray finds (1-2 ex.). 1 – Kopaniewo, 2 – Piaszczyna, 3 – Rytel, 4 – Pączewo, 5 – Czarnowo, 6 – Rzeczenica, 7 – Sępolno Wielkie, 8 – Grąbczyn, 9 – Komorze, 10 – Wierzchowo, 11 – Chłopowo, 12 – Brzeźniak, 13 – Węgorza, 14 – Stara Dąbrowa, 15 – Renice, 16 – Herzfelde, 17 – Berlin-Spindlersfeld, 18 – Wilmersdorf, 19 – Werder, 20 – Krzesin, 21 – Otyń, 22 – Siedlisko, 23 – Głogów, 24 – Obra, 25 – Dąbrowa, 26 – Krzywiń, 27 – Słupia Kapitulna, 28 – Gołuchów, 29 – Sucha, 30 – Buczek, 31 – Wrocław-Osobowice, 32 – Bożeń, 33 – Świdnica, 34 – Nepasice, 35 – Přestavlky, 36 – Práčov, 37 – Lžovice, 38 – Jenišovice, 39 – Liščín, 40 – Praha-Suchdol, 41 – Záborná Lhota, 42 – Záluží, 43 – Vrcovice, 44 – Bad Kreuznach, 45 – Eppstein, 46 – Insbruck-Hötting, 47 – Brandgraben, 48 – Peggau, 49 – Gemeinlebarn, 50 – Röschitz, 51 – Kostice, 52 – Mušov, 53 – Blučina, 54 – Ořechov, 55 – Ostopovice, 56 – Brno-Obřany, 57 – Rosice, 58 – Tetčice, 59 – Kundratice, 60 – Lysice, 61 – Loštice, 62 – Slatinice, 63 – Čelechovice na Hané, 64 – Kostelec na Hané, 65 – Určice, 66 – Křenůvky, 67 – Tovačov, 68 – Luleč, 69 – Bohdalice, 70 – Gamów, 71 – Gorzyce, 71 – Grąbczyn, 72 – Podgórnik-Godów, 73 – Štramberk, 74 – Týn nad Bečvou, 75 – Bystřice pod Hostýnem, 76 – Holešov, 77 – Sazovice, 78 – Drslavice, 79 – Vlčnov, 80 – Uherský Ostroh, 81 – Bzenec, 82 – Mikušovce, 83 – Skalská Nová Ves, 84 – Lubina, 85 – Madačka, 86 – Prievidza-Hradec, 87 – Diviaky nad Nitricou, 88 – Žiar nad Hronom, 89 – Veľký Grob, 90 – Strzyżów,

88: 17; 177: 11-13; Petrescu-Dîmboviţa 1978, Taf. 124: 25, 26; 159: A12; 194: 888, 898, 901, 902; 268: 3, 4), Poland (Gedl 2004, Taf. 109: B2), Serbia (Garašanin 1975, T. 1: 4, 52: 6, 8-10, 53: 1-12), Ukraine (Kobal 2000, Taf. 36: 21; 47: 23, 24; 79: B9.15, 16).

The necklaces are represented by three twisted items and a plain, untwisted one. The first twisted necklaces appear only in BrD-$HaA_1$, although twisting of bronze or gold wires appeared as early as the Middle Bronze Age (Rusu 1967, 87, 88). M. Rusu developed a typology of necklaces found in Transylvania, which attributes untwisted necklaces to variant I and twisted ones to variants IIIa – mechanically worked by hand, with uneven twists and untwisted portions round in section, and IIIb – with false twists, cast in "á cire perdue" moulds with evenly rendered twists and untwisted portions of rhombic shape and only rarely round in section (Rusu, 1967, 95). The hand-twisted variant appears at the end of BrD beginning of $HaA_1$, sometimes occurring parallel to the cast ones that gradually replace them continuing until HaB-HaC (Rusu 1967, 96, 97). As a rule, the necklaces have flat and twisted ring-shaped terminals, less often having straight ends. They are present in deposits found in Italy, Germany (M. Rusu, 1967, 12), Poland (Gedl 1980, Taf. 95: 1-4), the Czech Republic (Hüttel 1981, Taf. 36: 18, 19, 26), Hungary (Mozsolics 1985, Taf. 39: 30, 36; 92: 25, 27; 238: 3-5; Neugebauer-Maresch and Neugebauer 1996, 111, Abb. 7: 9; Mozsolics 1985, Taf. 28: 7, 109: 4, 7, 8; Mozsolics 2000, Taf. 6: 1; 47: 12; 49: 1-3; 70: 8; 83: 4, 5; 86: 23-26; Tarabay 2017, fig. 12: 22), Serbia (Garašanin 1975, Taf. 51: 1-7), Romania (Rusu 1967, 88, fig. 1-5; Petrescu-Dîmboviţa 1977, Pl. 2: 6; 7: 1-5; 17: 11-15; 258: 12, 13, 15; 381: 1; 387: 1-4; 388: 1-5; Soroceanu 2012, Taf. 56; 57; 62: 1-5). In the territory of the Republic of Moldova, necklaces of this type are known from the Fundul Galbenei deposit (Topal and Sîrbu 2016, Figs 4: 1, 4, 5, 11, 12).

Depositing pendants and beads of non-metallic origin alongside bronzes in deposits is a rare practice. Perforated animal tusks are found very sporadically in the composition of deposits known in Hungary at Bölcske and Orosipuszta dated to the Early Bronze BIII period (Mozsolics 1967, 131, 153, 154, Taf. 34: 44-47; 70: 10-15). For the pendant, no analogies are known. While in the Early and Middle Bronze Age amber beads represented extremely rare finds, usually from settlements or burial inventory, towards the end of the BrD a considerable number of amber objects begin to be ritually deposited in caves or deposits (Gogâltan 2016, 147, 148, 153, figs 2; 5; 6). Amber beads are contained in several

91 – Podłęże, 92 – Słomniki, 93 – Motkowice, 94 – Żabno, 95 – Prešov, 96 – Nedilyska, 97 – Jasov, 98 – Veľký Blh, 99 – Radzovce-Monosa, 100 – Gyöngyössolymos-Kishegy, 101 – Csitár, 102 – Érsekvadkert, 103 – Esztergom-Szentgyörgymező, 104 – Chotín, 105 – Nadap, 106 – Győr-Ménfőcsanak, 107 – Celldömölk-Sághegy, 108 – Velem, 109 – Illmitz, 110 – Oltárc-Márki-rét, 111 – Vörs-Battyáni disznólegelő, 112 – Badacsonytomaj-Köbölkút, 113 – Balatonboglár, 114 – Kisapáti-Lengyeltóti, 115 – Kapospula, 116 – Kurd, 117 – Felsőnyék, 118 – Keszőhidegkút, 119 – Gyönk, 120 – Nagyvejke, 121 – Dalj, 122 – Brodski Varoš, 123 – Pričac, 124 – Kućišta, 125 – Šimanovci, 126 – Novi Banovci, 127 – Vinča, 128 – Domaniža, 129 – Novi Bečej, 130 – Ruzsa, 131 – Csorvás, 132 – Baks-Temetőpart, 133 – Karcag, 134 – Egyek-Kendertag, 135 – Taktabáj-Erdőalja, 136 – Bodrogkeresztúr, 137 – Tállya, 138 – Kemecse, 139 – Debrecen, 140 – Sanislău, 141 – Căpleni, 142 – Bistriţa, 143 – Vâlcele, 144 – Uioara de Sus, 145 – Cugir, 146 – Guşteriţa, 147 – Cincu, 148 – Augustin, 149 – Dridu, 150 – Bicaz, 151 – Valea Rusului, 152 – Nisporeni

BrD-dated bronze deposits in the eastern half of Slovakia (Novotná 1970, 106, 107) and Transdanubian Hungary (Mozsolics 1967, Taf. 34: 7-43; Mozsolics 1985, Taf. 26: 1-4; 30: 22). Analogies are known from the Cioclovina cave in Romania (Gogâltan 2016, 154, 155, fig. 11). Starting from the Iron Age, amber pieces disappear for about 300 years from the Carpathian Basin, reappearing here with the penetration of Scythian elements (Gogâltan 2016, 156, 157). A similar situation occurred in eastern Hungary, with only an insignificant number of amber pieces known for the central and western Balkans (Gogâltan 2016, 156). Bronze tubes are known in Batina, Dalj-Busija, grave 72 (Metzner-Nebelsick 2002, Taf. 28: 17-25; 51: 17; 62: 8, 9; 90: 11; 96: 8, 9; 98: 24; 101: 7).

## CONCLUSIONS

In the BrD period deposits formed from a single functional category comprise only 40.11% of their number, with this decreasing by half (23.76%) in $HaA_1$, increasing again to 30.46% in $HaB_{1-2}$ and 39.04% in $HaB_3$-C (Bratu 2009, 34, figs 1-4). The decrease in the number of this type of deposit in $HaA_1$ is most likely explained by the boom in the practice of depositing deposits formed by complex or heterogeneous associations (Bratu 2009, 34). The hoards with ornaments constitute only 4.94% for $HaB_{1-2}$, their number increasing in $HaB_3$-C to 22.22% (Bratu 2009, 34).

According to the number of pieces (about 150), the Nisporeni deposit represents a unique find for the territory of the Republic of Moldova. Equally unique for this area is the presence of whole Röschitz-Sanislău type fibulae, types of bracelets, discoidal applications as well as the deposition alongside bronzes of amber beads, animal tusk and coral (?) pendants. The objects from this deposit are of western origin, with known analogues in deposits from Poland, Hungary, Serbia, Slovakia and less in Romania (Petrescu-Dîmboviţa 1977) dated in these areas within BrD-$HaB_1$ (Mozsolics 2000, Abb. 3).

The ornaments from the Nisporeni deposit are distinguished by a rather high and varied percentage of impurities, according to XRF (Tab. 2). Spectral analysis was performed using *Xenemetrix X-Calibur* X-ray fluorescence spectrometer at the Institute of Applied Physics, Republic of Moldova, Laboratory of Materials for Photovoltaics and Photonics. The samples were excited by X-rays up to 45 keV with a current of 10 μA, and the exposure time was 60 s. The boundaries of the fluorescent field formed an area of 7.07 $mm^2$. The obtained spectra were analyzed using the manufacturer's programs in the mode of simulation of the basic parameters of the sample components. Thus, the average value of copper in the alloys is 90.5%, with the lowest impurity indicators in a necklace (cat. 26; Cu 96.7%) and one of the bracelets (cat. 13; Cu 94.7%). The highest values of the impurities are for tin – the average is 5.4%; the minimum is for one necklace (cat. 26; Sn 1.56%), the maximum is for one appliqué (cat. 4; Sn 11%) and one of the fibulae (cat. 1, Sn 10.3%). It is worth mentioning the high antimony content – on average about 1.7%, in half of the artefacts (especially bracelets and appliqués) the percentage of antimony is higher than the natural limit. The

**Table 2.** Chemical composition of the items of Nisporeni hoard, %

| No. | Object | Cu | Sn | Pb | Zn | Ag | Sb | As | Fe | Ni | Co | Bi | Mn | Au |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Fibula ("spiral") | 87 | 10,3 | 1,35 | 0 | 0,18 | 0,19 | 0,46 | 0,2 | 0,24 | 0,06 | 0 | 0,04 | 0,04 |
| | Fibula "schield") | 90,1 | 8,3 | 0,51 | 0 | 0,09 | 0,45 | 0,2 | 0,1 | 0,2 | 0,06 | 0 | 0 | 0 |
| 2 | Fibula ("spiral") | 88,3 | 9,21 | 0,08 | 0 | 0,14 | 0,86 | 0,79 | 0,1 | 0,54 | 0 | 0 | 0,01 | 0,01 |
| 3 | Applique | 87,1 | 3,87 | 0,68 | 0 | 0,85 | 4,97 | 2,11 | 0,03 | 0,27 | 0,09 | 0 | 0,09 | 0 |
| 4 | Applique | 86,2 | 11,1 | 0,25 | 0 | 0,47 | 0,89 | 0,4 | 0,13 | 0,53 | 0,03 | 0 | 0,01 | 0 |
| 5 | Applique | 92,2 | 3,66 | 0,3 | 0 | 0,67 | 1,9 | 0,76 | 0,13 | 0,3 | 0,01 | 0 | 0 | 0,03 |
| 6 | Applique | 93,4 | 3,54 | 0,31 | 0 | 0,43 | 1,2 | 0,86 | 0,07 | 0,16 | 0 | 0 | 0 | 0,03 |
| 7 | Applique | 90,3 | 5,45 | 0,51 | 0 | 0,47 | 1,71 | 1,17 | 0,05 | 0,29 | 0,02 | 0 | 0 | 0 |
| 8 | Applique | 93,5 | 2,95 | 0,49 | 0 | 0,57 | 1,43 | 0,73 | 0,05 | 0,3 | 0 | 0 | 0 | 0 |
| 9 | Applique | 90,1 | 6,2 | 0,57 | 0 | 0,44 | 1,35 | 0,81 | 0,03 | 0,44 | 0,03 | 0 | 0 | 0,03 |
| 10 | Applique | 93,2 | 3,31 | 0,35 | 0 | 0,48 | 1,68 | 0,66 | 0 | 0,36 | 0,01 | 0 | 0 | 0 |
| 11 | Applique | 91,9 | 3,31 | 0,45 | 0 | 0,84 | 2,35 | 0,87 | 0,07 | 0,21 | 0,02 | 0 | 0 | 0,02 |
| 12 | Applique | 85,4 | 9,17 | 0,42 | 0 | 1,01 | 2,51 | 1,02 | 0,08 | 0,27 | 0,07 | 0 | 0,08 | 0 |
| 13 | Bracelet | 94,7 | 2,77 | 0,62 | 0 | 0,35 | 1,01 | 0,28 | 0,15 | 0,13 | 0 | 0 | 0 | 0,04 |
| 14 | Bracelet | 92,4 | 3,15 | 1,08 | 0 | 0,64 | 1,76 | 0,49 | 0,03 | 0,41 | 0 | 0 | 0 | 0,06 |
| 15 | Bracelet | 91 | 2,59 | 2,06 | 0 | 0,71 | 2,58 | 0,76 | 0,02 | 0,21 | 0,01 | 0 | 0,07 | 0 |
| 16 | Bracelet | 88 | 7,27 | 0,86 | 0 | 0,71 | 2,14 | 0,67 | 0,04 | 0,26 | 0,03 | 0 | 0,05 | 0 |
| 17 | Bracelet | 91,2 | 2,56 | 0,94 | 0 | 0,63 | 3 | 1,18 | 0,04 | 0,38 | 0 | 0 | 0,08 | 0,03 |
| 18 | Bracelet | 87,1 | 9,36 | 0,82 | 0 | 0,33 | 1,43 | 0,39 | 0,17 | 0,29 | 0,05 | 0 | 0,05 | 0 |
| 19 | Bracelet | 90,8 | 4,73 | 0,63 | 0 | 0,58 | 1,86 | 1,06 | 0,11 | 0,21 | 0 | 0 | 0,03 | 0 |
| 20 | Bracelet | 92,4 | 4 | 0,74 | 0 | 0,28 | 1,19 | 0,46 | 0,63 | 0,25 | 0 | 0 | 0,04 | 0,05 |
| 21 | Bracelet | 92,2 | 5,04 | 0,21 | 0 | 0,38 | 1,37 | 0,5 | 0,08 | 0,26 | 0 | 0 | 0 | 0 |
| 22 | Bracelet | 86,9 | 9,19 | 0,51 | 0 | 0,55 | 1,54 | 0,78 | 0,04 | 0,39 | 0 | 0 | 0,06 | 0 |
| 23 | Bracelet | 92 | 4,93 | 0,47 | 0 | 0,38 | 1,1 | 0,56 | 0,09 | 0,39 | 0,01 | 0 | 0 | 0,04 |
| 24 | Bracelet | 87,7 | 6,95 | 0,77 | 0 | 0,83 | 2,47 | 1,01 | 0,1 | 0,17 | 0,02 | 0 | 0,02 | 0 |
| 25 | Necklace | 90,9 | 5,82 | 0,68 | 0 | 0,57 | 1,16 | 0,59 | 0,06 | 0,16 | 0,02 | 0 | 0 | 0,03 |
| 26 | Necklace | 96,7 | 1,58 | 0,12 | 0 | 0,35 | 0,77 | 0,15 | 0,03 | 0,16 | 0,03 | 0,05 | 0,05 | 0,07 |
| 27 | Necklace | 92,9 | 3,93 | 0,35 | 0 | 0,4 | 1,35 | 0,57 | 0 | 0,41 | 0,04 | 0 | 0 | 0,01 |
| 28 | Necklace | 88,5 | 7,82 | 0,33 | 0 | 0,23 | 1,49 | 0,58 | 0,28 | 0,65 | 0 | 0 | 0 | 0,1 |

maximum antimony is contained in appliqués and bracelets (Sb 4.97-1.54%; cat. 3, 5, 7, 10-12, 14-17, 19, 22, 24), minimum – for fibulae and necklaces (Sb 0.19-0.77%, cat. 1, 26). Also, for example, it is possible to distinguish the rather high percentage of lead in the pieces from the Nisporeni deposit compared to the bronze objects from the BrD period (Sîrbu *et al.* 2020, tab. 1). In contrast to the bronzes of the previous period, the percentage of silver (especially in appliqués and bracelets) is also higher, reaching almost 1% and nickel, the average value of which is 0.3%, and the maximum is 0.65% for one of the necklaces (cat. 28). Possibly, this is due to the lower demands on the technical characteristics of the ornaments (compared to weapons or tools) and consequently less rigour concerning the technological process. Most likely, the high impurity content is because there was no special recipe for this type of artefact, which would imply control over the content of certain impurities. We can assume that the ornaments were made by secondary melting of other objects. Apart from the composition of the chemical elements of the artefacts being quite different, it is noticeable that many of them have traces of use or repair, suggesting that the objects in the deposit were collected over a long period. We can suppose that the items were worn by individuals of different age groups, taking into account the variability of sizes of, for example, the bracelets. According to another scenario, these items would have belonged to a person who collected these jewels throughout his or her life, moving from one social age to another.

In addition, the Nisporeni deposit perfectly illustrates the cultural dynamics of the region in the Early Iron Age, that is the fundamental change in the vector of cultural influences from Eastern to Western. In contrast to the Late Bronze Age, the Middle Danube traditions, located in the western regions of Hungary, act as a determining factor in cultural development to the East of Carpathians (Dergachev 1997, 52). Most probably, the bearers of the Middle Danube traditions penetrated the territory between Siret and Dniester along the Danube, bypassing the Southern Carpathians (Smirnova 1993, 92). The formation of the first Hallstattian cultures in the Carpathian-Dniester area, judging from the distribution of metal items, is associated with the route through Transylvania and the Eastern Carpathians (Dergachev 1997, 54). The $HaA_2$ period was characterized by a complete rejection of earlier traditions of metalworking in the Noua environment and the beginning of a complete redesign of the "cultural façade" of the Carpathian-Dniester region. This *Hallstattization process* was already completed in the HaB period, with this time being associated with several deposits, as well as stray finds of Middle Danube or even Central European ornaments and weapons. The bronze deposit from Nisporeni district is well placed in this horizon, belongs to the Early Hallstatt and can be synchronized with other "Danubian fibulae" hoards from the Carpathian-Dniester region like Rafaila (Petrescu-Dîmboviţa 1977, Pl. 339: 9-12), Bârlad (Petrescu-Dîmboviţa 1977, Pl. 357) on the right bank of the Prut and Fundul Galbenei (Topal and Sîrbu 2016, figs 2, 3), Valea Rusului (Dergačev 2002, Taf. 48) on the left bank of Prut river. Similar to the Nisporeni deposit, the Valea Rusului hoard also contained a *Röschitz-Sanislău type* fibula fragment (a later variant), while the antennae sword fragments from the deposit belong to the $HaB_2$ period

(Leviţki 1994, 133; Kemenczei 1996, 251, 269). Apparently, despite the wider dating of the deposit within $HaA_2$-$HaB_{1-2}$, the date of deposition of this assemblage should be placed near the upper limit.

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