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ARTICLES AND STUDIES

A BOLINTINEANU POT FRAGMENT DISCOVERED IN THE NEOLITHIC SETTLEMENT AT VĂDASTRA (ROMANIA)*

GHEORGHE GÂȚĂ, RADU-ALEXANDRU DRAGOMAN

Abstract: In the Romanian archaeological practice, the so-called pottery imports from the (E)Neolithic sites have been interpreted especially as chronological indicators useful for the establishment of time relations between various “archaeological cultures”. In the text herein, based on the case study of a Bolintineanu pot fragment discovered in the Neolithic settlement at Vădastra-*Măgura Fetelor*, we proposed to switch emphasis from chronological relations to the biography of the containers.

Key words: Neolithic; Vădastra-*Măgura Fetelor*; Bolintineanu pot; biography of the containers; Romania.

Rezumat: În practica arheologică din România, așa-numitele importuri ceramice din siturile (e)neolitice au fost interpretate în special ca indicatori cronologici utili stabilirii raporturilor în timp între diverse „culturi arheologice”. În textul de față, luând ca studiu de caz un fragment de vas Bolintineanu descoperit în așezarea neolitică de la Vădastra-*Măgura Fetelor*, ne-am propus să mutăm accentul dinspre relațiile cronologice spre cel al biografiei recipientelor.

Cuvinte-cheie: Neolitic; Vădastra-*Măgura Fetelor*; vas Bolintineanu; biografia recipientelor; România.

Introduction

In general, in the Romanian archaeological practice, pottery fragments decorated differently than those specific to the archaeological contexts of a settlement are interpreted as either pots coming from settlements of certain contemporary “archaeological cultures” or as local attempts to reproduce ornaments of pots acquired by exchange. Commonly, the qualitative archaeological arguments concerning the fabric, colour and decoration are deemed plenty in order to argue that the examined pottery fragments come from other sites. Also the place of origin is investigated “on the whole”, or it is not investigated at all.

Following the excavations of 1956 at Vădastra-*Măgura Fetelor* and *Dealul Cișmelei* (Olt county) (Fig. 1), beside the numerous pottery of the Neolithic occupation, assigned to the “archaeological culture” with the same name, a “Bolintineanu type”¹ fragment was also collected.

Since then, this pottery fragment was mainly used (needless to say exclusively) in narratives related to the chronological reports between the “archaeological cultures”

* Slightly different versions of this text were presented by R.-Al. Dragoman in the Yearly Session of the Bucovina Museum Complex, Suceava, in November 2012 and in the *Pontica* International Session of the National History and Archaeology Museum of Constanța, in October 2013.

¹ Mateescu 1959, 65-66, Fig. 2/2.

Vădastra and Boian². In the text herein, based on technological analysis, we propose to switch emphasis from the chronology theme of the mentioned pottery traditions towards the biography of the Bolintineanu containers.

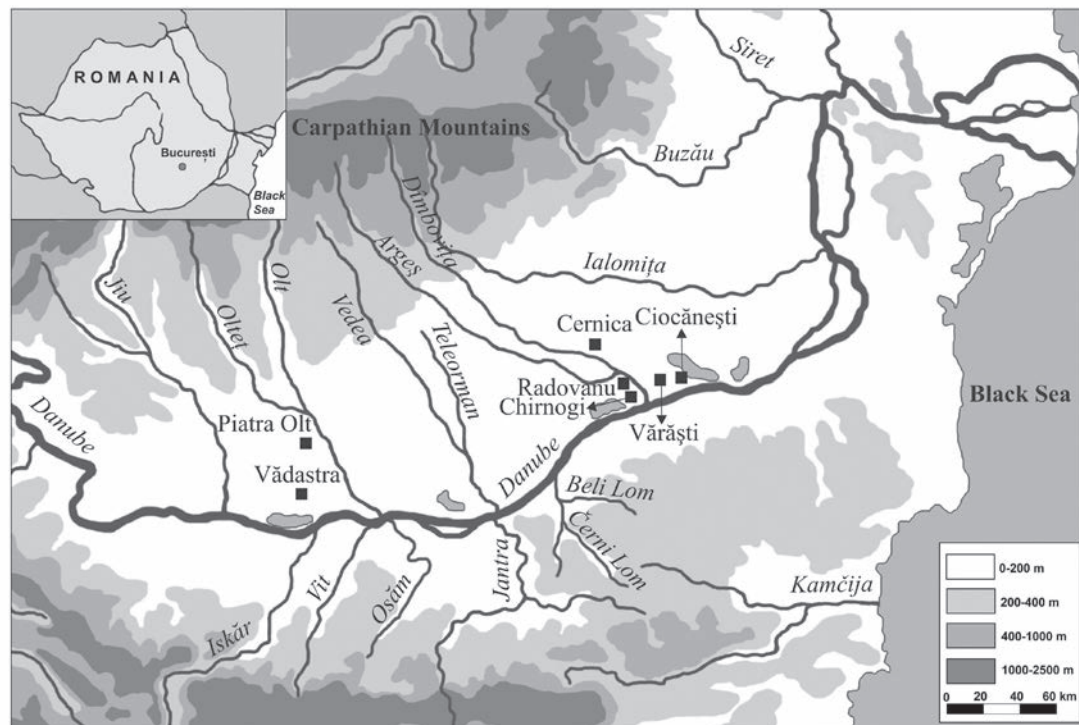


Fig. 1. Map with the locations mentioned in the text.

Analysed materials

The Bolintineanu “import” object of this article is a rim and body pot fragment, of fine pottery, burnished, 4.69 mm thick, 24.61 g heavy and 97 mm in diameter, found in layer Vădastra I, in the pit between squares 12 and 13 dug in the archaeological excavations of 1956, at a depth of -2.00 m (Fig. 2/1a-1b).

For comparison, other three supposed Bolintineanu fragments from Vădastra were analysed, with thicknesses between 7.9-9.9 mm and diameters between 220 and 290 mm, collected from the pit in square 3 South, uncovered in the archaeological excavations of 1971, at a depth of -2.3-2.4 m (Fig. 2/2-4).

The special attention of the cultural-historical archaeology (still prevalent in Romania) for stylistic-chronological assignments resulted over time in the establishment of a contradictory image of the site at Vădastra. Thus, according to Corneliu N. Mateescu, the first Neolithic layer (Vădastra I) is characterised by a fine black or grey pottery with channelled decoration or ornamented with incised bands and dots filled with calcareous white paste, while the second Neolithic layer (Vădastra II) is characterised by a black or brown pottery with incised, grooved and excised decoration.

² E.g. Comșa 1974, 240; Mantu 1999-2000, 85 and 89.

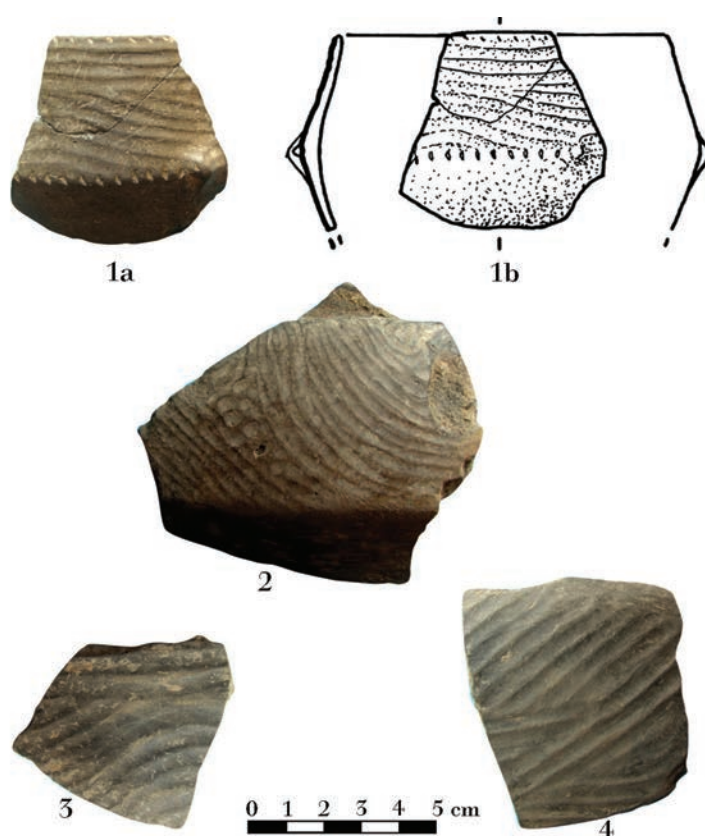


Fig. 2. Pottery fragments from Vădastra with decoration of “Bolintineanu type”:
1. analysis no. 741; 2. analysis no. 1201; 3. analysis no. 1202; 4. analysis no. 1203.

Therefore, C. N. Mateescu divided the “Vădastra culture” into two phases: Vădastra I (with channelled pottery) and Vădastra II (with incised and excised pottery)³. Compared to C. N. Mateescu, another archaeologist, Vladimir Dumitrescu, assigned to the “Vădastra culture” only the materials from the layer Vădastra II, while the layer Vădastra I was catalogued as Vinča-Turdaş⁴. A different framing was proposed by Eugen Comşa, who considered that the discovered materials in the first layer at Vădastra belong in fact to a late phase of the “Dudeşti culture”, contemporary with the Bolintineanu phase of the “Boian culture”, while those in the second layer, to a regional variant of the “Boian culture”, Giuleşti phase⁵.

The Boian materials also had a similar fate. The latter were divided by E. Comşa into four phases – Bolintineanu, Giuleşti, Vidra and the transition phase to the “Gumelniţa culture” –, each with several other sub-phases⁶. Evidently, not all researchers agreed: according to Vasile Boroneanţ, all the materials assigned by E. Comşa to the Bolintineanu phase belong in fact to a regional eastern aspect of the “Vădastra culture”⁷, while for

³ Mateescu 1961a; Mateescu 1965.

⁴ Dumitrescu 1968.

⁵ Comşa 1998-2000.

⁶ Comşa 1974.

⁷ Boroneanţ 2005.

Marian Neagu, the Bolintineanu materials do not belong to a phase of the “Boian culture”, but represent a self-contained “culture”⁸.

Given all these divergent framings, in order to determine the origin area of the Bolintineanu fragment discovered in 1956 and of the three supposed Bolintineanu fragments discovered in 1971 at Vădastra, the analysis also included for comparison fragments of black burnished channell-decorated pottery (“Vădastra I”) from the same site, Bolintineanu pottery from Cățelu, Cernica, Radovanu and Ciocănești, and also Dudești pottery of the Cernica phase, from Radovanu⁹. In order to specify the origin of the four pottery fragments we analysed the thickness¹⁰, diameter, porosity¹¹, colour, X-ray charts and certain microelement concentrations.

Thickness and diameter of the pottery fragments

The measurement of the pottery fragments shows that thickness seems to depend on diameter. The greater the diameter, the greater the thickness of the pot walls. In

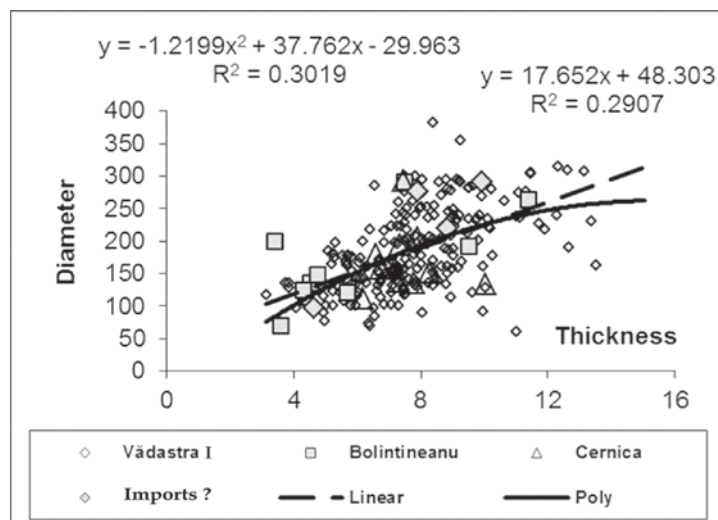


Fig. 3. The ratio between the thickness and the diameter of the analysed pottery fragments.

a diameter-thickness chart, the representative points of the three pottery categories are spread all over the chart and mixed together (Fig. 3), which shows there are no size differences between “Vădastra I” pots and Bolintineanu and Dudești pots in Muntenia.

The technical tolerance of diameter-thickness ratios of pot walls is appreciable with the three pottery categories and it evidences that this proportion was a routine detail disregarded

by those modelling the pots. Still, they comply with a standard, since in the case of “Vădastra I” pottery diameter closely correlates with thickness ($n = 102$, $R_{poly} = 0.549^{***}$, $R_{lin} = 0.539^{***}$, $F = 87.3$). Most likely, the Dudești and Bolintineanu pottery in Muntenia also complies with this peculiarity ($n = 11$, $R_{poly} = 0.878^{***}$, $R_{lin} = 0.865^{***}$, $F = 26.8$). The modelling of this pottery in Muntenia seems inferior to that at Vădastra, especially in the case of the “common” pottery. The areas of Vădastra and Bolintineanu potteries overlap almost along their entire surface, and, therefore, the Vădastra potsherds cannot be distinguished from the Bolintineanu ones.

⁸ Neagu 2003.

⁹ The Dudești and Bolintineanu pottery fragments were obtained by courtesy of Eugen Comșa.

¹⁰ Gâță et alii 1997.

¹¹ Porosity was determined by the weight of the pores' volume compared to the weight of the potsherd dried at room temperature and humidity.

The thickness-based pottery distribution in Muntenia (Dudeşti-phase Cernica at Radovanu and Bolintineanu pottery at Căţelu, Cernica, Radovanu and Ciocăneşti) is comprised in the “Vădastra I” pottery thickness interval in the eponymous settlement (Fig. 4) and confirms that pot sizes cannot be used to distinguish pottery from different settlements.

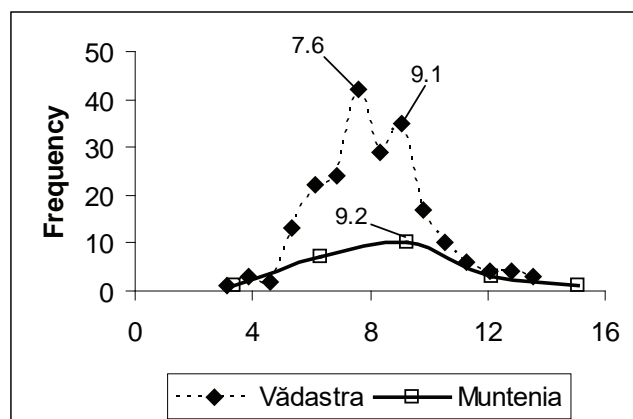


Fig. 4. The distribution of the analysed pottery fragments according to thickness.

Porosity of the pottery fragments

The high variation of the vegetal mass addition accompanied by crushed potsherds as tempering materials recommend the use of porosity to differentiate the pottery in the Bolintineanu settlements from Vădastra pottery. Thus, the distribution of the two pottery categories (Fig. 5) shows that 68% of the pottery in Muntenia has porosity higher than 15.85%, which is the highest porosity value of the “Vădastra I” vessels from Vădastra. The porosity reaches 23.79% with the Dudeşti-phase Cernica pottery at Radovanu, 21.2% with the Bolintineanu pottery at Căţelu and only 15.1% with the Bolintineanu pottery at Ciocăneşti.

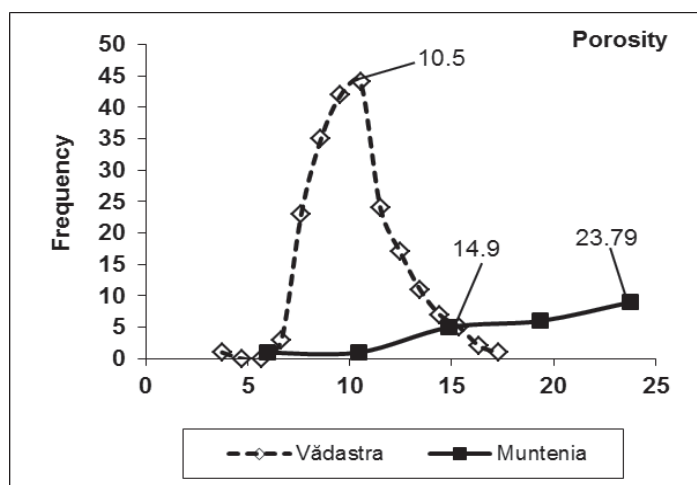


Fig. 5. The distribution of the analysed pottery fragments according to porosity.

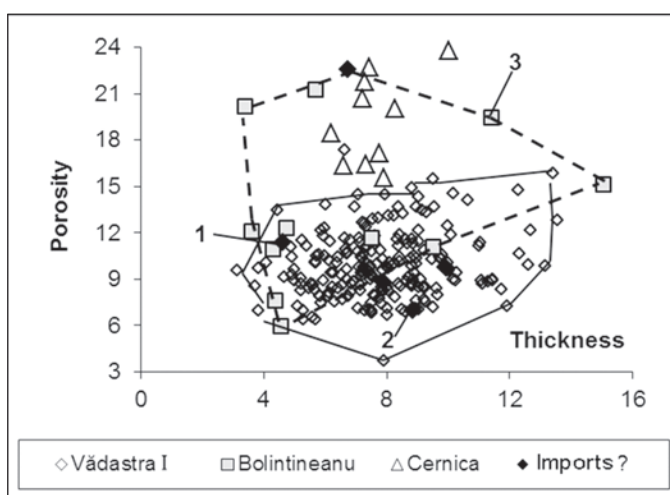


Fig. 6. The ratio between the porosity and thickness of the analysed pottery fragments.

The porosity–thickness ratios show that representative points are widely spread within the chart (Fig. 6). The three areas Vădastra, Bolintineanu and Dudești-phase Cernica intersect and exhibit the same fabric technology with chopped plants tempering.

The position of the representative points in the chart is due to the granulometric differences between the clays used for the fabric of more or less argillaceous fraction¹², which resulted in the use of a much more vegetal mass addition in Muntenia than at Vădastra. In Muntenia, the fabric clays were chosen with more or less judiciousness, according to the skill of those modelling the vessels, suggesting that beside experienced potters, at least part of the pots were made by unspecialised individuals.

The thin sections of certain potsherds show there are no sand additions as tempering material, evidenced by the larger quantities of added vegetal mass of chopped grass and, rarely, chaff in order to prevent the cracking of the pots when dried and fired. In fact, cracked potsherds were found in some of the Bolintineanu settlements, for instance at Radovanu (Fig. 6, point 3).

The fine pottery Bolintineanu fragment at Vădastra (Fig. 6, point 1) is included in both the Vădastra and Bolintineanu areas, beside points corresponding to the two pottery traditions, hence its origin to one or another Bolintineanu settlement cannot be specified with the aid of the chart. Concurrently, the other three supposed Bolintineanu potsherds (Fig. 6, point 2) are placed in the “Vădastra I” pottery area at Vădastra and would suggest they are attempts to copy the Bolintineanu decoration.

Colour of the pottery fragments

The potsherd of the fine Bolintineanu pottery found at Vădastra is yellow-greenish, unprecedented with the Vădastra pottery. The colours determined with Munsell charts were quantified by the relation: $BR = (10 - C) * H / V$ where BR is the “Blackness rate”, C is the “Chrome”, H is the “Hue” and V is the “Value” in these charts. The quantified

¹² The argillaceous fraction is deemed to contain particle sizes less than 0.002 mm.

values may compose a BR exterior-BR interior chart for the “Vădastra I” pottery at Vădastra, the Dudești-phase Cernica pottery at Radovanu and the Bolintineanu pottery at Cățelu, Cernica, Radovanu and Ciocănești (Fig. 7).

The comparison of the examined potsherd hues shows they were fired at different low temperatures in an atmosphere from reducing to oxidising. Should we consider conventionally the grey hue (10YR5/1 = BR 18) as the lower limit of the reducing atmosphere, then the “Vădastra I” pottery at Vădastra was fired in a reducing atmosphere of 75% in proportion, the Bolintineanu pottery - of 25% and the Dudești-phase Cernica pottery at Radovanu - of 20%. In fact, these percentages indicate that at Vădastra, a reducing firing was intended, which was carried out in proportion of 75%, while in the case of Dudești-Cernica and Bolintineanu pottery the atmosphere in the firing chamber was less controlled, as either the potters could not control the firing atmosphere or were not interested in such control.

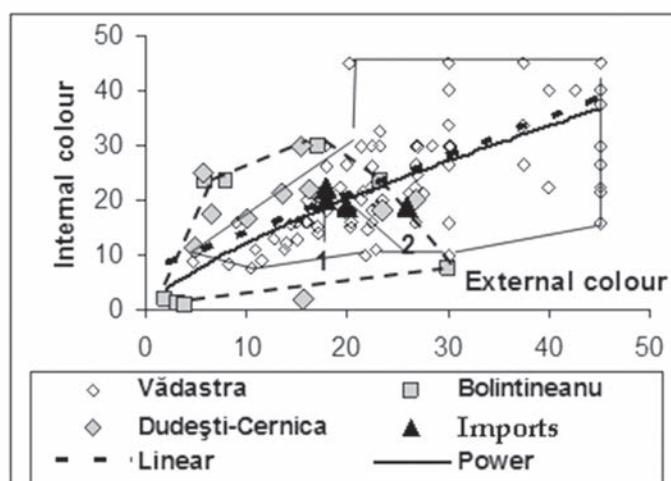


Fig. 7. The ratio between the “Blackness rate” on the internal versus external surfaces of the analysed pottery fragments.

The close correlation of the exterior colours with those interior with the “Vădastra I” pottery at Vădastra ($n = 102$, $R_{\text{pow}} = 0.723^{***}$, $R_{\text{lin}} = 0.708^{***}$, $F = 101$) confirms the possibility that the potters in the Vădastra tradition of the eponymous settlement performed a reducing firing.

The points corresponding to the supposed Bolintineanu potsherds at Vădastra lie in the intersection surface of Vădastra and Bolintineanu areas. As a result, their origin cannot be specified based only on such a chart.

Mineralogical and chemical determinations

The X-ray diffraction charts showed that the pottery mass at Vădastra (Criș, Vădastra, Sălcuța and decorated Bolintineanu) contains quartz (4.26 Å; 3.34 Å), calcite (3.03 Å), feldspar (3.21 Å; 3.18 Å), micas (10 Å; 4.97 Å) and kaolinite (7.15 Å). The height ratios of the carbonates and micas diffraction lines are smaller in the Vădastra

pottery than that in Muntenia. Therefore, the decorated Bolintineanu potsherds at Vădastra, with small ratios, suggest they are attempts to reproduce the Bolintineanu decoration by the Vădastra potters.

The ceramic mass of the fine decorated Bolintineanu potsherd contains in addition lepidocrocite (6.27 \AA), a ferrous hydrated ferrous oxide which shows that the fabric source was taken out of a hydromorphous layer inexistent at Vădastra. Therefore, the Bolintineanu decorated fragment could belong to an authentic Bolintineanu tradition pot.

In order to locate the region from where the fine pottery Bolintineanu fragment from Vădastra could be originating, the means of certain microelements in areas that comprise Bolintineanu settlements (Piatra-Olt-Caracal, Islaz-Chirnogi, București-Cernica and Vărăști-Coslogeni) and microelements from Vădastra were computed. Such data was compared with the content value of these microelements in the ceramic mass of the fine pottery Bolintineanu fragment discovered at Vădastra (Table 1).

| Region | Clay | Calcite | Cu | Pb | Zn | Co | Ni | Cd | Cr |
|-----------------------------------|------|---------|------|------|------|------|------|------|-------|
| Bucharest* | 30 | 0 | 14.3 | 11.2 | 59.2 | 9.5 | 20.5 | 0.43 | 18.5 |
| Vărăști-Coslogeni | 32 | 14.5 | 15.8 | 16 | 49.5 | 12.9 | 38.3 | 1.09 | 49.52 |
| Izlaz-Chirnogi | 23.6 | 8.2 | 19.6 | 17.9 | 51.4 | 14.2 | 40.8 | 1.21 | 55.5 |
| Bolintineanu fragment at Vădastra | - | - | 18.8 | 18 | 50.6 | 13.8 | 42 | 1.12 | 55 |
| Vădastra | 18.6 | 7.9 | 17.6 | 12 | 49.8 | 12.3 | 34 | 0.65 | 57 |
| Piatra-Olt-Caracal | 33.4 | 8.2 | 15.9 | 13.1 | 72.7 | 15.7 | 37 | 0.87 | 52.2 |

Table 1. Total content of microelements (*analytical data in Lăcătușu et alii 2004).

The Piatra-Olt-Caracal region has smaller averages of copper, lead, nickel, cadmium and chrome and higher averages of zinc and cobalt than the Bolintineanu potsherd.

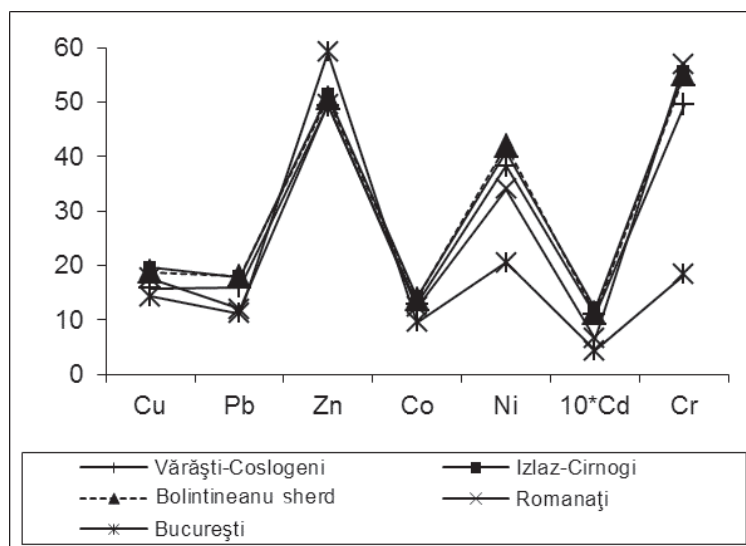


Fig. 8. The presumptive sources for the Bolintineanu pot fragment from Vădastra.

The Bucharest region has smaller concentrations of copper, lead, cobalt, nickel, cadmium and chrome and higher of zinc. Only the regions along the Danube and especially the region Islaz-Chirnogi show microelement concentrations closer to those in the ceramic mass of the Bolintineanu potsherd found at Vădastra. In a chart (Fig. 8) using these microelements averages, the resemblance between the average values in the Islaz-Chirnogi region and the values determined for the ceramic mass of the fine Bolintineanu pottery fragment discovered at Vădastra is obvious. The microelements averages at Vădastra are different from the composition of the Bolintineanu potsherd and confirm its origin in the Islaz-Chirnogi region.

Moments in the biography of a Bolintineanu pot

The goblet to which the Bolintineanu fragment discussed herein belongs was modelled in a settlement located along the Danube, in the Islaz-Chirnogi region of Muntenia. At a later date, the vessel reached the Vădastra settlement in Oltenia either by water, more precisely by the Danube, or by land.

The decoration and yellow-greenish colour noticed by the archaeologist as different compared to the channelled Vădastra pottery, must have very likely been also noticed by the inhabitants in the Neolithic settlement at Vădastra. Together, the decoration and colour evoked another world for the viewers of Vădastra and likely conferred a material dimension to the stories of the one/those that had carried the small vessel. As mentioned by Evžen Neustupný, the world of the prehistoric communities may be divided into three areas: the familiar area – which included the settlement and the area in its immediate vicinity; the area of the Other – which comprises the region inhabited by peoples belonging to other communities, yet who had a similar material culture; and a foreign area – which comprised the region with which those in the familiar area had few relations¹³. For the inhabitants of the Neolithic settlement at Vădastra, the Bolintineanu goblet came from the area of the Other. The connections with this area seem to have been common, evidenced by the existence of other (fragments of) Bolintineanu vessels in the settlement at Vădastra, like for instance, the vessel discovered in 1958, in square 14¹⁴ (Fig. 9), which, according to a comparative analysis, comes from the area of the Other too, the fabric of which it was modelled being similar to that of certain fragments from the Bolintineanu settlement at Căţelu, in Muntenia¹⁵. The goblet is the “material memory”¹⁶ of a travel and of places located beyond the familiar zone. In terms of function, given the shape and burnish of the interior surface, the goblet is part of the “family” of Boian and Vădastra containers connected to drinking, such as cups, beakers, bowls or jugs¹⁷. As noticed by Laurens Thissen in the case of the Vădastra pottery¹⁸, the channelled decoration might suggest

¹³ Neustupný 1998; Chapman 2010.

¹⁴ Mateescu 1961b, 58–59, Fig. 2.

¹⁵ Cornelia Cărpuş, pers. com., Constanţa 2013.

¹⁶ Olivier 2008.

¹⁷ For Boian tradition see Comşa 1974; Neagu 1999; Thissen 2002. For Vădastra tradition see Drăgoman 2013; Thissen 2013.

¹⁸ Thissen 2013.

a liquid content. Indeed, the horizontal and “waved” channelling on the Bolintineanu fragment might have been metaphorically associated with liquids, for instance, with water.

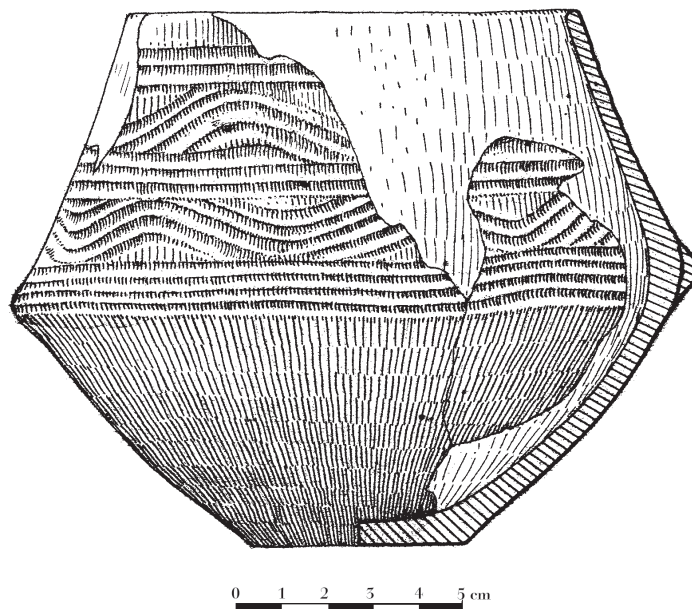


Fig. 9. Pot of “Bolintineanu type” from Vădastra (after Mateescu 1961b, 59, Fig. 2).

Similarly to the Vădastra channelled pottery, the channelled decoration on the Bolintineanu goblet is noticeable upon touch or, especially, when placed into the light, which indicates that, the channelled decoration of the goblet reveals itself to the user only by nearness¹⁹. Such proximity references the likely involvement of the channelled vessels in general into events relating the people together and where liquids were drunk (as well)²⁰. In consequence, the goblet is concurrently a familiar object as it is part of a sensitive universe and of a series of common practices to both the inhabitants of the Vădastra settlement at *Măgura Fetelor/Dealul Cișmelei* as well as those in the Bolintineanu settlement in the Islaz-Chirnogi region. Briefly, in the new settlement where it was brought, the goblet was both a “foreign” and a “familiar” object. The goblet seems to have been short lived or, if it survived longer, it was less used, as neither the rim nor the interior surface or exterior are altered, exhibiting no “scars” due to use. At a certain given moment in its biography, the vessel was broken, accidentally or intentionally, part of it finally reaching a pit, beside other local materials. Even after having been broken the container, its fragments seem to have remained charged with meaning, due to their capacity to incite recollection, to evoke the long journey. It is not excluded that, for a while, the fragments were preserved and/or circulated, as suggested by their deposition in different contexts: the pit in squares 12 and 13 excavated in 1956 contained only part of the vessel, the missing parts possibly being found

¹⁹ Dragoman 2013, 67.

²⁰ Dragoman 2013, 67.

in other areas of the settlement or, possibly, in another site²¹. In other words, the Bolintineanu vessel did not cease to exist when broken, but continued its biography in the form of the fragments, which were handled in various ways and contexts.

Conclusions

In order to specify the origin of a fine potsherd with Bolintineanu decoration and the three supposed Bolintineanu potsherds, all found at Vădastra, we determined the thickness, diameter, porosity, minerals in the ceramic mass and colour hues of certain fine black burnished “Vădastra I” pottery fragments from the eponymous settlement, Bolintineanu pottery at Ciocănești, Radovanu, Cățelu and Cernica and Dudești-phase Cernica, pottery at Radovanu.

The use of the diameters and thicknesses of the pottery fragments did not differentiate the four pottery groups, as in the Middle Neolithic of the Lower Danube (Oltenia and Muntenia) the vessels’ size was the same and the modelling similar.

The porosity of the ceramic mass did not accurately determine the origin of the four Bolintineanu type potsherds from Vădastra, as the Vădastra and Bolintineanu potteries appear with the same fabric technology, using chopped vegetal mass as tempering material. Tempering with large quantities of vegetal mass and the presence of cracked vessels indicate the absence of adequate fabric clays near the settlements or the lack of judiciousness of some potters in the Bolintineanu settlements.

The intensity ratios of the calcite and quartz diffraction X-ray lines showed that the three potsherds of 1971 from Vădastra are attempts to reproduce the Bolintineanu decoration by the potters in the eponymous settlement. The fine pottery Bolintineanu fragment is carried to the settlement, as its pottery mass contains lepidocrocite, specific to a hydromorph layer missing in Vădastra.

Certain microelement average values in areas of the Romanați Plain in Muntenia indicate concentrations in the pottery mass of the Bolintineanu fine pottery fragment discovered at Vădastra similar to those in the Islaz-Chirnogi area and consequently suggest it was brought from there.

As a general conclusion, we believe that technological analyses are paramount for understanding object biographies.

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† Gheorghe Gâță

Radu-Alexandru Dragoman
 “Vasile Pârvan” Institute of Archaeology
 of the Romanian Academy, Bucharest
 al_dragoman@yahoo.com

THE ARCHAEOZOOLOGICAL RESEARCH OF THE COȚOFENI SETTLEMENT AT CHEILE TURULUI (CLUJ COUNTY)

DIANA BINDEA, XENIA POP

Abstract: The faunal material discovered in the Coțofeni settlement at Cheile Turului is the result of the archaeological campaign of 2011. The lot sums up 177 bone remains that belong in 82% to mammals, the rest corresponding to invertebrates, the majority being gastropod shells. The domestic/wild mammals ratio is 95.08/4.92% according to the number of remains (noted NR) and 68.75/31.25% according to the minimum number of individuals (noted NMI). Among the domestic mammals we identified the species important from the dietary point of view: domestic cattle, sheep and goat, pig but also dog fragments. The list of wild mammals comprises the Roe deer, aurochs, wild boar, hare and a rodent. In the Coțofeni settlement at Cheile Turului predominant are the ovicaprines. Pig ranks second. Cattle, although coming third in what frequency is concerned, due to the large size rank first from the diet point of view. The game, especially of large size (aurochs, wild boar), identified in the settlement was also important for supplementing food necessities.

Keywords: archaeozoology; fauna; bones; Cheile Turului; Coțofeni culture.

Rezumat: Materialul faunistic descoperit în așezarea Coțofeni de la Cheile Turului provine din campania de săpături arheologice desfășurată în anul 2011. Lotul însumează 177 de resturi osoase ce aparțin în proporție de 82% mamiferelor, restul corespunde nevertebratelor, majoritatea fiind cochilii de gasteropode. Raportul mamifere domestice/sălbatică este 95.08/4.92% după numărul de resturi (notat NR) și 68.75/31.25% după numărul minim de indivizi (notat NMI). În cadrul mamiferelor domestice au fost identificate speciile importante din punct de vedere alimentar: bovinele domestice, ovicaprinele și suinele, alături de fragmente de câine. Lista mamiferelor sălbatică cuprinde căpriorul, bourul, mistrețul, iepurele și un rozător. În așezarea Coțofeni de la Cheile Turului predominante sunt ovicaprinele. Suinele ocupă locul secund. Bovinele, deși se plasează pe poziția a treia ca frecvență, din punct de vedere al ponderii în alimentație ocupă primul loc, datorită taliei mari. În suplimentarea necesarului de hrană aveau importanță și speciile vânată, mai ales cele cu talie mare (bourul, mistrețul) identificate în așezare.

Cuvinte cheie: arheozoologie; faună; oase; Cheile Turului; cultura Coțofeni.

The faunal material discovered in the Coțofeni settlement at Cheile Turului is the result of the archaeological campaign of 2011¹. The lot sums up 177 bone remains (Tab. 1; Fig. 1) belonging in 82% to the mammals, the rest corresponding to the invertebrates, the majority being gastropod shells (4 complete, 27 fragments). A single remain belongs to the lamellibranchiate. The faunal sample, with appearance of

¹ We hereby thank the team of archaeologists who performed the excavation – Mihai Rotea, Andrei Gonciar, Tiberiu Tecar – for the material assigned to us and the archaeological information provided.

domestic refuse, is in poor conservation state, being strongly fragmented. The appearance of domestic refuse (resulted following consumption) is given, on one hand, by the way the bones were broken (fragmentation), and on the other, by the cutting prints (defleshing) visible on some of the remains.

| Species | NR | % | NMI | % |
|-----------------------------------------|------------|--------------|-----------|--------------|
| <i>Bos taurus</i> | 21 | 17.21 | 2 | 12.5 |
| <i>Ovis aries</i> / <i>Capra hircus</i> | 56 | 45.9 | 5 | 31.25 |
| <i>Sus scrofa domesticus</i> | 32 | 26.22 | 3 | 18.75 |
| <i>Canis familiaris</i> | 7 | 5.73 | 1 | 6.25 |
| Domestic mammal remains | 116 | 95.08 | 11 | 68.75 |
| <i>Capreolus capreolus</i> | 2 | 16.39 | 1 | 6.25 |
| <i>Bos primigenius</i> | 1 | 0.81 | 1 | 6.25 |
| <i>Sus scrofa ferus</i> | 1 | 0.81 | 1 | 6.25 |
| <i>Lepus europaeus</i> | 1 | 0.81 | 1 | 6.25 |
| <i>Rodentia</i> | 1 | 0.81 | 1 | 6.25 |
| Wild mammal remains | 6 | 4.92 | 5 | 31.25 |
| Determined mammal remains | 122 | 100 | 16 | 100 |
| <i>Ovis/Capra/Capreolus</i> | 1 | | | |
| Large size ribs | 3 | | | |
| Small-average ribs | 19 | | | |
| Total mammal remains | 145 | | | |
| Gastropods | 31 | | | |
| Lamellibranchiate | 1 | | | |
| Total | 177 | | | |

Table 1. Material frequency per species.

1. Description of the faunal material

The domestic/wild mammals ratio is 95.08/4.92% according to the number of remains (noted NR) and 68.75/31.25% according to the minimum number of individuals (noted NMI). Among the domestic mammals we identified the dietary important species: domestic cattle, sheep-goat and pig, beside dog fragments. The list of wild mammals comprises the Roe deer, the aurochs, the wild boar, hare and a rodent.

Ovis aries / *Capra hircus* (ovicaprines)

The ovicaprines group represents the majority in the settlement at Cheile Turului by a 45.90% percentage according to the NR and 31.25% according to the NMI. The age group distribution for the 5 estimated individuals is as follows: under 1 year; between 2–2½ years; 2½–3 years; ca. 5 years and past 5 years.

The distribution per anatomical parts (Tab. 2) reveals the predominance of the non-edible parts (82%). The advanced fragmentary state is also seen in teeth, the number of fragments corresponding to isolated teeth being very high. The differential sheep – goat diagnosis was very difficult still because the poor preservation state of the material. Therefore, the difference was possible for only 6 fragments, which were assigned to species *Ovis aries* (lacteal premolar, two astragals and one calcaneus) and

Capra hircus (metacarpal and astragal). Given the deciduous premolar (dp_4)², we appreciate that the individual under 1 year is sheep.

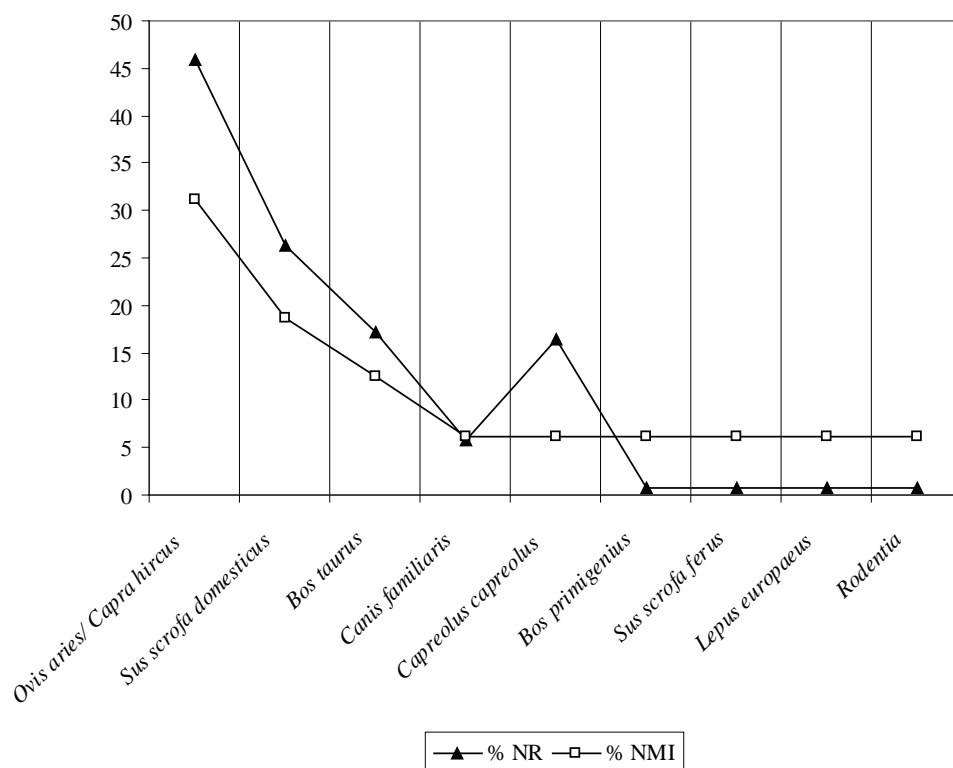


Fig. 1. Mammal ratio within the settlement.

Complete astragals, two of *Ovis* and one of *Capra*, provided the possibility to compute the withers height, using the Teichert coefficients³. The obtained values are of 65.31 cm and 66.22 cm for *Ovis aries* (likely this is the same individual from which we recovered the two complete astragals: left and right) and of 59.64 cm for *Capra hircus*.

The predominance of the small ruminants is visible also when we refer to the number of ribs included in the “small-average size” category, accounting 19 fragments, compared to those of “large size”, which are only three.

| | <i>Bos taurus</i> | <i>Ovis / Capra</i> | <i>Sus domesticus</i> |
|-----------|-------------------|---------------------|-----------------------|
| Horns | | | |
| Skull | | | 1 |
| Maxillary | | | |

² Hillson 1984, 101.

³ Driesch, Boesneck 1974, 339.

| | | | |
|----------------|-----------|-----------|-----------|
| Mandible | 2 | 8 | 4 |
| Isolated teeth | 8 | 27 | 19 |
| Atlas | 1 | | |
| Axis | | | |
| Scapula | 1 | | |
| Humerus | | 2 | |
| Radius | 1 | | |
| Cubitus | | | 1 |
| Carpal | 1 | | |
| Metacarpal | 1 | 1 | |
| Coxal | 2 | | |
| Femur | | 1 | 1 |
| Patella | | | |
| Tibia | | 2 | 1 |
| Calcaneus | 1 | 1 | 1 |
| Astragal | | 3 | 1 |
| Centrotarsal | | 1 | |
| Metatarsal | | | 1 |
| Metapodial | | 1 | |
| Phalanx I | | 3 | |
| Phalanx II | 2 | | |
| Phalanx III | | 1 | |
| Vertebrae | | 5 | 1 |
| Ribs | 1 | | 1 |
| Total | 21 | 56 | 32 |

Table 2. Distribution of domestic species skeletal remains by anatomical parts.

***Sus scrofa domesticus* (domestic pig)**

To the domestic pig belong 32 fragments, which represent a percentage of 26.22% (according to the NR) and 18.75% (according to the NMI). According to such frequency, the pig ranks second among the species exploited at Cheile Turului. The criterion used to estimate the minimum number of individuals is teeth eruption and wear. We appreciate that a minimum of 3 individuals between 1-1½ years (16-17 months), 1½-2 years and 2-2½ years were butchered. A dog fragment records the existence of a male individual.

The fragmentary nature of the material suggests the predominance of the isolated teeth, representing more than half of the remains of this species (of the 32 fragments only 4 come from the edible parts of the skeleton).

An astragal with the side length of 42.6 mm allowed the estimation of a 78.55 cm size.

***Bos taurus* (domestic bovids)**

Species important from a dietary point of view, *Bos taurus* ranks only third among the Cheile Turului analysed lot. The frequency is of 17.21% (NR) and 12.5% (NMI). The absence of the maxillary remains, elements based on which age estimation

is more relevant, made more difficult the calculation of NMI. We appreciate that the determined remains come from a minimum 2 individuals, a juvenile under 3 years (an unossified calcaneus) and one adult, likely senile (advanced teeth wear).

Compared to the other important dietary groups (sheep/goat and pig), in which the ratio of the edible parts was more reduced, in the bovids case, the frequency of the skeletal elements coming from edible parts is the highest, of 23.8%.

Canis familiaris (the dog)

The dog is present in the site at Cheile Turului by seven remains coming very likely, from a single individual. We estimate an age of ca. 1–1½ years (epiphyseal radius, unossified lumbar vertebra). With a percentage of 5.73% (according to the NR) and 6.25 % (according to the NMI), this species is well represented in the settlement.

Wild species

Within the analysed sample, the wild species are represented on one hand by wild mammals (6 fragments), and on the other by invertebrates (32 fragments). By cumulating these two groups and comparison with the total number of the determined remains, we have obtained a 27.5% frequency for the wild species, a relatively high ratio for an archaeozoological sample.

The identified wild mammals – *Capreolus capreolus* (roe deer), *Bos primigenius* (aurochs), *Sus scrofa ferus* (wild boar), *Lepus europaeus* (hare) and a species of *Rodentia* order (a rodent) – are represented, each (except the roe deer), by a single bone fragment. The roe deer is represented by a molar and a proximal phalanx (adult individual), the aurochs and wild boar by a scapular fragment each, the hare by an atlas and the rodent by a long bone.

A scapula fragment was included in the category *Ovis / Capra / Capreolus* (the specific assignment being rather difficult). The metric data of the skeletal remains are shown in the appendix.

Certain unidentified bone fragments exhibit butchery prints or human intervention prints (including defleshing). A fragment sharpened by polishing has the appearance of an arrowhead. Other two remains displayed polishing traces. A diaphyseal fragment of a large size animal has the walls purposefully sectioned. Moreover, on other two diaphyseal remains, belonging to small-average size animals, were noted four cuts on one of them, and on the other, two parallel longitudinal ca. 8–9 mm lines (cuts).

A relatively high number of remains (39) exhibit fire contact traces, some being burnt, other showing black burning stains.

2. Characteristics of the animal economy

In the Coțofeni settlement at Cheile Turului the small horned animals are predominant. The fact they were sacrificed, both in the juvenile or sub-adult stage as well as during adulthood records they were bred for meat and by-products, without neglecting the maintenance of a reproductive stock. The meat quantity supplied by sheep-goat – 11.96% is significantly lower compared to that provided by cattle – 32.71 % (Fig. 2).

The large horned animals, although rank third from the point of view of the number of both remains and individuals, they come first in diet, due to the large size. Moreover, these animals supplied a significant quantity of by-products – milk, skins, raw material for bone processing and the possibility to use them for hauling purposes. When mature, the individuals also ensured the species reproduction.

Pig were bred exclusively for meat and fat, therefore, the majority were sacrificed (except, those bred for reproduction) until 2-2½ years, when the animal reached optimal weight. At Cheile Turului, the ratio of the hunted species for food seems to have been significant, comprising large size species (the aurochs, wild boar) identified in the settlement.

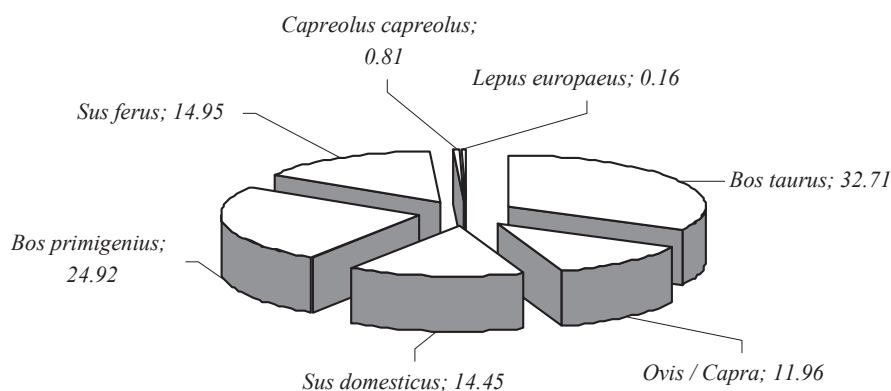


Fig. 2. Meat quantity supplied by the identified species.

When attempting to establish certain specificities of the food economy at Cheile Turului, we noted, firstly, the importance of the animal husbandry, hunting being a secondary occupation. It seems that ovicaprine and domestic pig were more important during the early periods – Coțofeni culture, situation noticed also if we consider a more extended area – Transylvania.

3. Analogies of the studied settlement with contemporary sites

Within the sites pertaining to the Coțofeni culture, the archaeozoological research records significant differences in both domestic/wild species ratio as well as the means of exploiting various mammals. At present, there are a few analysed faunal lots. For instance, in Transylvania, samples investigated archaeozoologically are found at Ghida⁴, Poiana Ampoiului⁵, Livezile⁶, Peștera Cauce⁷, Șincai⁸, Tărtăria⁹, Florești¹⁰, Cicău¹¹, Tebea, Boiu¹².

⁴ Haimovici 1994, 401-404.

⁵ Becker 2000, 69-74.

⁶ Becker 2000, 74-77.

⁷ El Susi 2005, 114-118.

⁸ Bindea 2005, 57-58; Bindea 2008, 78-80.

⁹ Bindea 2005, 58-59; Bindea 2008, 80-82.

¹⁰ Kelemen 2009, 489-520.

¹¹ Georocanu, Lisovschi-Chelășanu, Georocanu 1978, 273-274.

¹² Andrițoiu 1992, 132.

Cheile Turului is one of the settlements with the highest frequency of domestic mammals, 95.08% (Fig. 3), preceded only by the sites where wild species are missing: Florești, Tebea, Boiu.

Domestic/wild mammal ratios close to that computed for Cheile Turului are found at Poiana Ampoiului, Livezile, Șincai. If we take into account the presence of the invertebrates in a significant ratio at Cheile Turului, 18% of the total determined material, wild species increase their importance, gathering molluscs being, likely, an occupation possibly more important than hunting wild mammals. The molluscs' presence was recorded in many Coțofeni settlements, for instance, in Transylvania, at Poiana Ampoiului, Tărtăria, Livezile, Boiu. The relatively intense exploitation of the molluscs seems to have been a characteristic of the settlements dating to the transition period to the Bronze period¹³.

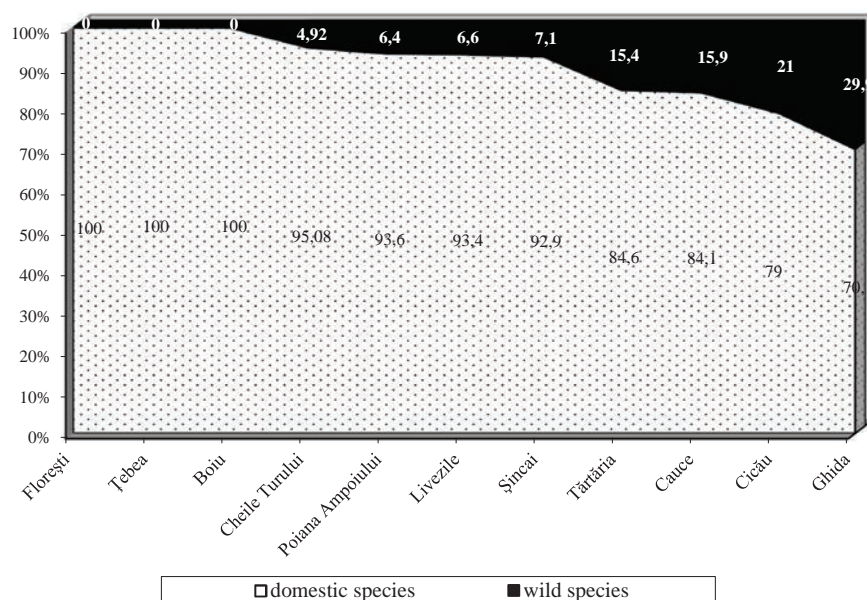


Fig. 3. Domestic/wild mammals ratio in Coțofeni sites of Transylvania.

Animal husbandry, important occupation in the Coțofeni settlements analysed archaeozoologically, was mainly focused on breeding large and small horned animals. The Coțofeni sites may be divided into two categories (Fig. 4), as mentioned elsewhere as well¹⁴: on one side, settlements where exploitation is directed firstly on breeding cattle, like at Florești, Tărtăria, Șincai, Ghida, Cicău, and on the other, sites where animal husbandry was oriented towards sheep/goat, category which includes the settlements at Cheile Turului, Peștera Cauce, Tebea, Boiu, Poiana Ampoiului and Livezile.

In what the exploitation of pig for food purposes, Cheile Turului is one of the Coțofeni settlements with a rather high pig percentage. In Transylvania, only at Florești pig is highly frequent, succeeding cattle as significant provider of animal proteins.

¹³ El Susi 1996, 156.

¹⁴ Bindea 2005, 62.

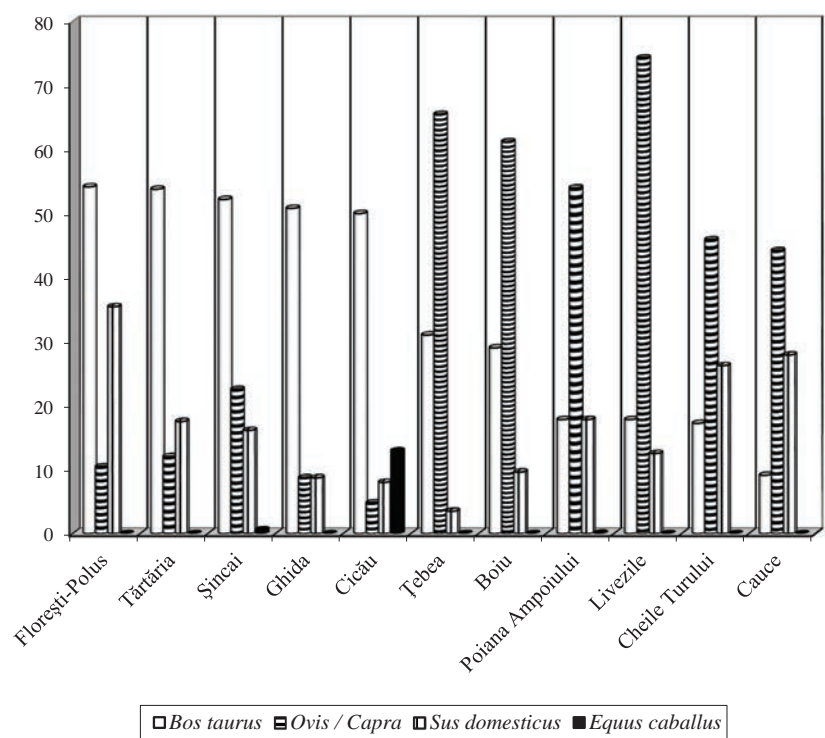


Fig. 4. Frequency of domestic mammals in Coțofeni sites of Transylvania.

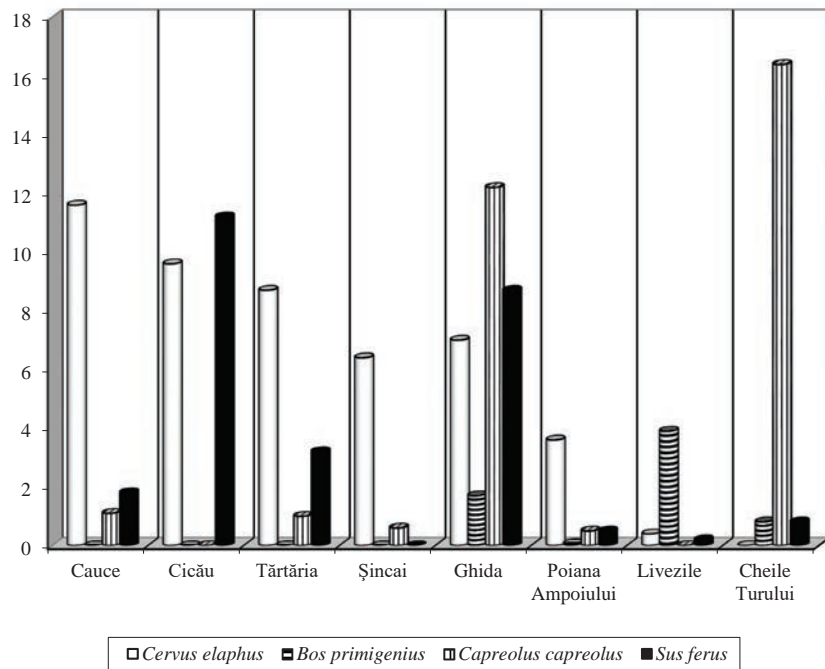


Fig. 5. Frequency of wild mammals in Coțofeni sites from Transylvania.

Hunting had no well defined role in some of the Coțofeni settlements (Fig. 5). This category may include, beside Florești, Țebea and Boiu, where wild mammals are

absent, sites with low frequency of these mammals, like for instance Cheile Turului, Poiana Ampoiului, Livezile and Șincai. If in some of the sites, the hunting species of choice was the red deer (Tărtăria, Șincai, Poiana Ampoiului), in others it was the wild boar (Cicău), the aurochs (Livezile) or, possibly, the roe deer (Cheile Turului).

4. Final considerations

Although the faunal sample at Cheile Turului is small, the archaeozoological analysis outlines a few characteristics of the animal economy. Thus, the studied site may be framed in the category of those focused on exploiting sheep/goat. The role of the domestic bovids and pig is significant and that of the wild species is, apparently, less important.

Ecologically, the identified species belong to woodlands – the wild boar, wood-sides, open woods – the roe deer and aurochs or open spaces – the hare.

The Coțofeni culture was relatively well studied from an archaeozoologic point of view on the territory of Romania. Still, the Transylvanian space is much poorer in faunal data, reason for which additional osteological analyses would be required for this area. In the context of a larger period of time, which would include the end of the Eneolithic and the start of the Bronze age and of a more extended geographical area, one may distinguish certain specificities of the food economy based on either animal exploitation or hunting.

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Diana Bindea

National History Museum of Transylvania, Cluj-Napoca
diana_bindea@yahoo.com

Xenia Pop

ravenheartr@gmail.com

Appendix. Metric data retrieved from the faunal material at Cheile Turului

| Species Measurements | Values (mm) | | | | | | |
|----------------------------------|-------------------|----------------------------------|-----------------------|-------------------------|------------------------|------------------|------------------------------------------------------|
| | <i>Bos taurus</i> | <i>Ovis aries / Capra hircus</i> | <i>Sus domesticus</i> | <i>Canis familiaris</i> | <i>Bos primigenius</i> | <i>Sus ferus</i> | <i>Capreolus capreolus</i> <i>Lepus europaeus</i> |
| Atlas | | | | | | | 15 |
| GL | | | | | | | 34,5 |
| GB | | | | | | | 15 |
| BFcr | | | | | | | 19,3 |
| BFcd | | | | | | | |
| Axis | | | | | | | |
| BFcr | | | | 31 | | | |
| LAPa | | | | 47* | | | |
| Isolated dentition | | | | | | | |
| L dp2-dp4 | | 35,5 | | | | | |
| L dp4 | | 18,5 | | | | | |
| B dp4 | | 7,2 | | | | | |
| L M ₁ -M ₃ | | | 70* | | | | |
| L M ₃ | | 23,2 | 35* | | | | |
| B M ₃ | | 8,8 | | | | | |
| Scapula | | | | | | | |
| GLP | 68,4 | | | 20,5 | 93,6 | 44,8 | |
| LG | 59 | | | 18,2 | 80,8 | 38 | |
| BG | 49,5 | | | 13 | 72,5 | 33,3 | |
| SLC | 53 | | | 15,8 | | 30 | |
| Radius | | | | | | | |
| APD p | 47,4 | | | 17,5 | | | |
| Bd | | | | 13,6 | | | |
| BFd | | | | 10 | | | |
| APD d | | | | | | | |

| Species | | Values (mm) | | | | | | |
|------------------|-------------------|----------------------------------|-----------------------|-------------------------|------------------------|------------------|----------------------------|------------------------|
| Measurements | <i>Bos taurus</i> | <i>Ovis aries / Capra hircus</i> | <i>Sus domesticus</i> | <i>Canis familiaris</i> | <i>Bos primigenius</i> | <i>Sus ferus</i> | <i>Capreolus capreolus</i> | <i>Lepus europaeus</i> |
| Cubitus | | | | | | | | |
| BPC | | | 15,8 | 12,4 | | | | |
| LO | | | | 20 | | | | |
| SDO | | | | 15,7 | | | | |
| DPA | | | | 18,5 | | | | |
| Metacarpus | | | | | | | | |
| Bp | 51,2* | | | | | | | |
| Pelvis | | | | | | | | |
| LA | 77 | | | | | | | |
| BA | 64,8 | | | | | | | |
| SB | | | | 11 | | | | |
| SH | | | | 21,2 | | | | |
| Tibia | | | | | | | | |
| SD | | 12,3 | | | | | | |
| APD df | | 10,2 | | | | | | |
| Bd | | | 27 | | | | | |
| BFd | | | 22 | | | | | |
| APD d | | | 24,3 | | | | | |
| Astragalus | | | | | | | | |
| GLl | | 28,8 <i>Ovis</i> | 29,2 <i>Ovis</i> | | | | | |
| GLm | | 28 | 27,7 | 26,3 <i>Capra</i> | | | | |
| DI | | 16,3 | 16 | 25,5 | | | | |
| Dm | | 14 | 14,8 | 15,4 | | | | |
| Bd | | 19,6 | 17,6 | 15,7 | | | | |
| Talia (Teichert) | | 653,31 | 662,25 | 25,2 | | | | |
| Calcaneus | | | 28,3 | 785,54 | | | | |
| GB | 47,3 | 16 | 23 | | | | | |

| Species Measurements | | Values (mm) | | | | | | | |
|-------------------------|--|-------------------|----------------------------------|-----------------------|-------------------------|------------------------|------------------|----------------------------|------------------------|
| | | <i>Bos taurus</i> | <i>Ovis aries / Capra hircus</i> | <i>Sus domesticus</i> | <i>Canis familiaris</i> | <i>Bos primigenius</i> | <i>Sus ferus</i> | <i>Capreolus capreolus</i> | <i>Lepus europaeus</i> |
| Centrotarsus | | | | | | | | | |
| GB | | 22,6 | | | | | | | |
| Phalanx I | | | | | | | | | |
| Bp | | | | | | | | | |
| SD | | 9 | 6,3 | | | | | 12,8 | |

APD d - Antero-posterior diameter of the distal end; APD df - Antero-posterior diameter of the diaphysis; APD p - Antero-posterior diameter of the proximal end; BA - Breadth of the acetabulum; Bd - Breadth of the distal end; BFcr - Breadth of the Facies articularis cranialis; BFcd - Breadth of the Facies articularis caudalis; BFd - Breadth of the Facies articularis distalis; B M₃ - Breadth of the lower 3rd molar; Bp - Breadth of the proximal end; BPC - Breadth across the coronoid process; Dl - Depth of the lateral half; Dm - Depth of the medial half; DPA - Depth across the Processus anconaeus; GB - Greatest breadth; GL - Greatest length; GLl - Greatest length of the lateral half; GLm - Greatest length of the medial half; GLP - Greatest length of the Processus articularis (glenoid process); L dp₄ - Length of the deciduous 4th lower premolar; L dp₂-dp₄ - Length of the deciduous (2nd-4th) premolar row; L M₁-M₃ - Length of the lower molar row; L M₃ - Length of the lower 3rd molar; LA - Length of the acetabulum; LAPa - Length of the arch including the Processus articularis caudalis; LG - Length of the glenoid cavity; LO - Length of the olecranon; SD - Smallest breadth; SB - Smallest breadth of the shaft of ilium; SDO - smallest depth of the olecranon; SH - smallest height of the shaft of ilium; SLC - Smallest length of the Collum scapulae.

A MIDDLE BRONZE AGE SPECIAL GATEWAY COMMUNITY IN EASTERN TRANSYLVANIA

TIBOR-TAMÁS DARÓCZI

Abstract: The Ciuc depression offers an unique research environment, especially for the Bronze Age, due to its clearly defined limits by high mountain ranges which not only act as geographical borders but also as cultural ones, since access to it and from it can only be gained through a handful of high passes and gorges. The successful combination of methods of landscape archaeology, analysis of material culture and social theory enabled the recognition of a special gateway community in the mentioned region during the Middle Bronze Age I-II. The landscape study is an innovative one for the Eastern Carpathian Basin as it uses ArcGIS 10 software in order to associate Bronze Age sites with digital elevation models and subsurface lithology. It also provides a detailed, well-argued and dated repertoire of Bronze Age finds of the depression. The resulting interpretation of a fortified settlement located in higher lying regions of the Ciuc depression as a special gateway community is a first for the Eastern Carpathian Basin. Finally, the social theories of a gateway community and a contact zone are also alloyed with this occasion for the first time.

Keywords: Transylvania; Ciuc depression; Bronze Age; landscape archaeology; social archaeology; special gateway community.

Rezumat: Depresiunea Ciucului prezintă un cadru de cercetare unic datorită lanțurilor muntoase, care în epoca bronzului formau limite nu numai geografice, ci și culturale, de vreme ce aceasta putea fi accesată doar prin câteva pasuri și defileuri situate la cote înalte. Combinația fericită a metodelor folosite în arheologia peisajului, analiza culturii materiale, dar și a teoriilor sociale a permis recunoașterea unei comunități de tip „special gateway” în această regiune, în epoca bronzului mijlociu I-II. Arheologia peisajului reprezintă un domeniu inovativ pentru estul bazinului carpatic, deoarece folosește programul ArcGIS 10 pentru a asocia siturile din epoca bronzului cu modele digitale de elevație și litologie subterană. De asemenea, oferă un repertoriu detaliat, bine argumentat și datat, al siturilor din epoca bronzului din această depresiune. În estul bazinului carpatic a fost identificată și interpretată pentru prima dată o așezare de înălțime fortificată drept o comunitate de tip „cap de pod”, ceea ce a contribuit la îmbunătățirea teoriilor sociale privind legătura dintre acest tip de comunitate și cea aflată în zona de contact.

Cuvinte cheie: Transilvania; depresiunea Ciucului; epoca bronzului; arheologie de peisaj; arheologie socială; „special gateway community”.

Introduction

This study will approach the issue of recognising and defining a special gateway community from a multi-directional perspective¹. It proposes a combination of meth-

¹ I would like to thank the field director of the Păuleni-Ciuc - *Dâmbul Cetății/Vărdomb* excavation, Dan Buzea, for the support and guidance in researching this paper. Furthermore, I am grateful for useful comments on earlier drafts of this paper offered by Joseph Maran, Mihai Rotea, Laura Dietrich, Imola Kelemen and Lærke Recht.

ods from landscape archaeology, material culture analysis and social theory in order to argue for the presence of such a community. Since special gateway communities have not yet been defined in the Bronze Age (BA) of the Eastern Carpathian Basin, the study might prove significant for the reconstruction of social structures within Transylvania and the neighbouring areas. The landscape study is part of a forthcoming wider project that was suggested in previous publications². In order to be able to argue for the existence of a special gateway community, a combination of methods from landscape archaeology, material culture analysis and social theory is proposed. The study uses the methods developed of landscape archaeology in order to highlight and rank sites in their natural environments and periods. Through this, the more important sites can be singled out and their features and material culture analysed from the prism of social theories focussing on social structures in wider regions.

The Ciuc depression is located in the central-easternmost part of Transylvania, in the eastern part of the Carpathian basin (Pl. IV – medallion). It is a north-northwest to south-southeast oriented, elongated feature, bordered in the west and east by high mountains. In its western, northern and eastern parts, access to the depression is gained through a handful of higher passes³. In the south, the Olt River cuts a narrow gorge, which links this depression to the southern depression of Braşov. The lowest point of the basin is in the south, at the gorge, where it drops from ~640 m to ~620 m above sea level (a.s.l.). Through the middle of the Ciuc depression, running from north to south, is the Olt River. It has a narrower flood plain, followed by the first terraces on both sides, in some areas broader than in other, while second terraces only occur in the wider parts of the basin.

In terms of Holocene phases, the BA (roughly from 3000 to 1000 BCE) overlaps with the middle part of the Subboreal period, also known as the first Beech phase in the Blytt-Sernander system⁴. Towards the closing of this period, the dominant species is the Beech (*Fagus sp.*)⁵, though in the earlier and middle phase, the area was dominated by hornbeam species (*Carpinus sp.*)⁶. Furthermore, since the area has high altitudes, spruce (*Picea sp.*) is quite common⁷. It is in this period that around 4150+/-35 BP, cereal pollen is first documented at the bog of Luci on the eastern outskirts of the depression⁸. The climate of the Subboreal undergoes a series of shorter, rapid cooling events and has a relatively balanced mean annual temperature with short, cool summers (mean July temperature of ~17–18 °C) and milder winters; in the middle of the period, the humidity slightly increased (+ ~100 mm), thus becoming somewhat more moist⁹.

The applied chronological system is taken from a wider study of the funerary landscapes of the Eastern Carpathian Basin from the Neolithic to the Bronze Age

² Daróczy, Dobos 2009a, 190; Daróczy, Dobos 2009b, 62, note 47.

³ Bader 2001, 19, nos. 13–15, map 1.

⁴ Horváth 2002, 2, tab. 1; Tanţău 2006, 116–117; Daróczy 2012, Fig. 1.

⁵ Tanţău et alii 2003, 122 (LPAZ 16), tab. 2, Figs. 3/a-b, 4/a-b.

⁶ Tanţău et alii 2003, 122 (LPAZ 14–15), tab. 2, Figs. 3/a-b, 4/a-b.

⁷ Tanţău 2006, 56, 68, 116, tab. 4, Figs. 11–13.

⁸ Tanţău 2006, 116, Fig. 13.

⁹ Daróczy 2012, 40–41, Fig. 9.

(Pl. I)¹⁰. This system is an adaption of somewhat older systems¹¹ to the newest results, especially those of the EBA¹².

Archaeological landscapes of the Ciuc depression during the Bronze Age

Two stages of the earlier BA, Early Bronze Age (EBA) I and III, have not yet been documented in the Ciuc depression, though some pottery shapes and decoration have been highlighted as possibly indicating a link between the EBA II and the earliest Middle Bronze Age (MBA), i.e. Ia¹³. In the remaining phases of the BA, 62 sites are documented in total (Pl. II/3). Most likely, this lack of documentation of the earliest and the latest EBA is due to the type of research conducted in the region. Most of the sites have been identified as chance finds during agricultural or construction activities (Pl. II/1). During such earthworks, archaeological features of the BA have only been discovered in two instances [29, 50]^{14*}, while only one BA site has been identified [3] during the few archaeological surveys conducted in the depression. Very few sites have information which is the result of intrusive archaeological research (sondage or excavation) (Pl. II/1), and even these are quite limited in terms of excavated surface; even fewer had as their main goal the research of the BA sites located in the lower layers.

A second explanation for the poor research of the BA and the total absence of evidence for the EBA I and III phases in this region might be tied to the research interest in the depression in the past 150 years. The research targeting especially the EBA of the depression from 1950s to the mid-1970s must be highlighted [2, 11, 15–19, 22–23, 27, 29, 33, 41, 48, 51–53, 55] and the same is true of past two decades since the area has had several well-organised research projects, which have targeted especially some MBA sites [17, 23, 40–41] (Pl. II/2).

Some of the sites have several layers of various phases, though none of the sites has a continuity that stretches over all the phases of the BA. In the EBA II (25), in all three phases of the MBA (I–29, II–30, III–25), and in the latest of the Late Bronze Age (LBA) (III–23), the number of sites is more or less the same, with only slight oscillations in the EBA II and in LBA III. The periods of LBA I and II show a significant decrease in sites with only 12 and 9, respectively, documented in the entire depression (Pl. II/3). If we compare these seemingly equally spaced phases of the BA to the radiocarbon dates (Pl. I), it becomes clear that although quite a few of the sites exist for the BA of Transylvania, this apparently balanced picture slightly changes. This is especially true for the two earlier phases of the LBA, since these, according to

¹⁰ Daróczy 2011b, 53–63, 68–69, Pl. 1, Fig. 11.

¹¹ Székely 1970a; Roman 1981; Roman 1986; Kacsó 1987, 67–75; Gogâltan 1995, 47; Gogâltan 1998; Gogâltan 1999, 71–78.

¹² Căvruc 1996; Căvruc 1997; Căvruc, Căvruc 1997; Căvruc 1999; Căvruc, Dumitroaia 2000; Căvruc 2001; Căvruc, Buzea 2002, 50–51; Căvruc 2004; Căvruc 2005; Marta 2010; Horváth 2011, 74–75, 91–95, 96–99, Fig. 5/2.

¹³ Căvruc, Dumitroaia 2000, 132–133, Pls. V/2–4; VI; VII/5–9; VIII; Căvruc 2005, 92.

¹⁴ * Numbers inside the square brackets indicate the settlement number in the repertoire.

the newest radiocarbon dating of the LBA III¹⁵, had to be fairly short phases, each comprised of roughly a century. In this line of reasoning, short time-spans would imply fewer sites. The opposite is true of the EBA II, since it spans at least a couple of hundred years, which would imply less intense activity in the area, given the fact that the same amount of sites has been documented for a longer period of time, just as in the shorter three phases of the MBA and LBA III (Pls. I; II/3).

The issue of site continuity is an important aspect, and since our perception of the passing of time in the BA is limited by how refined our knowledge of the archaeological material sequencing is, especially that of pottery and metals, and the accuracy of this study is limited by this. It can be argued that the more phases documented at a site, the longer it was in use, and that there is a high probability that this use was continuous over the documented phases. A higher number of sites with continuity from one phase to another indicate stability in the use and settling of a region. The transitions from the MBA I to the MBA II and from the MBA II to the MBA III show quite high values (Pl. II/4), which indicate stability of the social structures of the region in the MBA. In contrast to this, starting in the LBA, site continuity decreases significantly, most likely indicating major changes in the social structures and relations of the area.

Since there is no evidence for the EBA III in the entire Ciuc depression, the present research stance indicates that all sites of the earliest MBA phase started being used during this phase¹⁶. This period has the highest values of the entire BA of the depression (Pl. II/5), which suggests a significant increase of activity in the area, and possibly also in the demographic. In the following phases, new sites are quite rare and usually indicate either burial grounds, or more commonly, single finds or hoards of metals (Pls. II/5; III/2). An exception to this trend seems to occur in the latest BA phases, i.e. LBA III, where almost 20 new sites are documented (Pl. II/5), probably indicating similar changes in the use of the landscape to those in the MBA I phase.

Another interesting aspect is that of the abandonment of sites in each phase of the BA. It is assumed that since there is no evidence for the EBA III in this region, all sites of the EBA II period start and end within this timespan. Most of the sites that started their use in the MBA I continue into the following phase, with the exception of the site of Tuşnad – *intersecția drumurilor Vrabia, Cozmeni, Lăzărești* [58]. In the following two periods, MBA II and III, there is a significant abandonment of settlements and sites, which showed their earliest evidence in the MBA I phase (Pl. II/6). The sudden sharp increase in abandonment of sites during the MBA III probably indicates a major reorganisation of social structures and a decrease in the demographics of the region. Although in the LBA, the number of sites for each period and of new sites which start in the earlier phases is quite low, there is a comparatively high abandonment rate in the LBA I and II (Pl. II/6), especially since these sites are either burial grounds or hoards, and no definitive evidence for settlements exists (Pl. III/2).

¹⁵ Harding, Kavruk 2010, 148, 150–152, 154, Figs. 31–32, tab. 1; Metzner-Nebelsick et alii 2010, 223–224, Fig. 7.

¹⁶ Some scholars believe that the material culture specific for the MBA Ia (the so called Ciomortan group) might have existed already in the EBA III, or possibly in the later EBA II (Cavruc 2002, 90, 93; Cavruc 2004, 271; Munteanu 2010, 173; Popa, Totoianu 2010, 108–109), but this is based on possible typological similarities of a handful of shapes, and is not backed up by stratigraphic evidence.

Certain periods display clear preferences for specific a.s.l. placement of sites. It seems that in the EBA II, sites are most commonly located between the values of 635 and 765 m, specific for the lower geographic features of the depression. The material culture of the only two sites with evidence of use in this period above 800 m is very scarce, consisting of a broken polished stone axe [1] and a few sherds at the site of Păuleni-Ciuc – *Cetate/Dealul Cetății/Movila Cetății/Vărdomb* [41]. The same is true of all three phases of the MBA, and in these instances the only sites located above 800 m are those of Miercurea Ciuc – *Șumuleu Mic/Kis-Somlyó* [36] and Păuleni-Ciuc – *Cetate/Dealul Cetății/Movila Cetății/Vărdomb* [41]. The placement of sites on features of a broader elevation range in this period indicates intimate knowledge of the geographic landscape and likely testifies to a well-structured and specialised use of it (Pl. II/1). Sites of the LBA I and II generally do not exceed elevations of 800 m, while those of the LBA III are usually below 750 m. Such choice of sites resonate well with the slight climatic changes, especially rapid cooling events and increased humidity, described above for the closing periods of the BA and the Subboreal.

The various types of sites of the Ciuc depression offer an interesting picture in terms of differentiation in the choice of micro-location in the landscape. Due to the dominant type of research (Pl. II/1), it was only possible to establish the functionality of a few sites. In the EBA II, most of the sites are either settlements or chance finds of mostly sherds. The only exception to this is the chance discovery of a copper axe of the *Baniabici-type* at the site of Miercurea Ciuc – *Toplița* [37]. The settlements of this period are usually placed on hill tops (promontories or edges), though in rare instances they are also found on the first terraces of either side of the Olt river and small streams (Pl. III/2). The quite high number of settlements on hill tops and sites of unknown types on first terraces might indicate quite a distinctive cultural choice; lower elevation sites might suggest activity areas rather than actual settlements.

In the MBA, the previous trends in settling of the landscape in the depression change, becoming more diversified. In the MBA I, most of the settlements and sites are located on the first terraces, on either the left or right-hand sides of the Olt and smaller streams, but also in one case on an interfluvium [7]. Furthermore, two burial grounds have been identified in this period: one is within a fortified settlement on a saddle [41], the other on the second terrace [9], though its attribution to any of the MBA phases is unclear. The clear and sharp division between sites of higher and lower features is quite distinct in this period (Pl. III/2), which might indicate a well-established social structure that most likely arrived pre-established in this region, especially since almost all the MBA sites start in this period (Pl. II/5). In the MBA II, the previously established tendencies and ratios do not seem to change and in these two earlier phases of the MBA the settling and use of the landscape seems to have been part of a broad and established social system, at least in this depression. The only major difference in these previous trends is the appearance of a site with a single metal find (*Pădureni-type* axe) at the site of Tomești – *Cărbunar/Szénégető* [56]. In the last phase of the MBA, the sites are mostly located on the terraces of rivers and higher lying sites almost disappear from the repertoire (Pl. III/2). Similar conclusions regarding differentiation of sites located on lower and higher lying features in the

MBA of southeastern Transylvania have been reached by studies which included wider areas than just the Ciuc depression¹⁷.

In most of the LBA, the use of geographical features becomes very limited, which might be tied not only to the lower number of documented sites but also to their type, meaning that they are either burial grounds, hoards or quite simply unknown in function. Usually, lower lying features are preferred. This seems to change in LBA III, when the use of the landscape becomes more diversified and higher lying features, like various areas of hill tops, become settled and used again (Pl. III/2).

Evidence for the EBA II comes mostly from the southern and central part of the depression (Pl. IV). These sites are either chance finds of sherds, meaning that the nature of the site is not determinable, or they are the results of intrusive archaeological research conducted to a large extent in the 1960s and 1970s¹⁸. An exception to these two types of sites is the discovery of a copper axe of the *Baniabici*-type at the site of Miercurea Ciuc - *Toplița* [37]. Most of the sites are located on or in the immediate vicinity of good agricultural soils of the eutric fluvisols type; only three [1, 2, 41] are located in areas with cambic podzol soils (Pl. XI). From the dispersal of sites in the depression, one could argue that they are placed at choke-points of the basin, e.g. in the area of the Jigodin gorge, in the central part, which divides the upper part of the depression from the lower one [15–19, 22, 24–25, 29, 33, 37], and at further passes [1, 14] and gorges [2, 61] (Pl. V). This dispersal might indicate the direction of contacts with the neighbouring depressions in the upper Olt basin in this period to the southeast and south and the extra-Carpathian areas. Furthermore, the lack of fortified settlements in this period does not indicate control over the area and its landscape by the social structures of this period.

With the start of the MBA, the previously presented picture seems to substantially change in the Ciuc depression. Sites are dispersed all over the study region (Pl. V), settlements are quite common on terraces (Pl. III/2), and areas with fertile soils, e.g. eutric fluvisols and cambic podzols, good for agriculture, are preferred, though the MBA is the only documented period when sites are placed on umbric andosols [31] (Pl. XI). It is no surprise that the first evidence for cereals in the region comes from this period¹⁹. As well as settlements, located even in the northern and easternmost parts of the depression, and various types of sites of unidentified function, burial grounds appear in this period [9, 41]. An interesting aspect is that the only fortified settlement, that of Păuleni-Ciuc - *Cetate/Dealul Cetății/Movila Cetății/Várdomb* [41], is located far above the average a.s.l. site usage and stands out in terms of its function and materials, especially for the MBA I and II of the region²⁰. In the following period, the site usage and settlement patterns seem to continue uninterrupted (Pls. III; VI). It must be noted that the discovery of a *Pădureni*-type axe at the site of Tomești - *Cărbunar/Szénégető* [56] is unique for the MBA and its placement in the northern part of the depression, close to the pass into the Gheorgheni depression, might be significant. In the final stage of the MBA, the previous realities seem to alter, since the site patterns

¹⁷ Dietrich 2010, 202, Figs. 1–2.

¹⁸ Roman et alii 1973, 569–570, Fig. 1; Roman et alii 1992, 143–153, 173–175, Figs. 10–18; Kavruk et alii 2008a.

¹⁹ Tanțău 2006, 116, Fig. 13.

²⁰ Please see discussion on the function and nature of the site below.

and types change (Pl. III/2). Quite a large number of previously used sites stop being used (Pl. II/6), settlements are less frequent and sites located on higher elevations disappear (Pl. III/1). Although the entire depression shows signs of use in this phase (Pl. VII), one cannot help but feel a less active period here. The appearance of a site with a single metal find [56], possibly at the end of the previous phase, might indicate the type of changes and the ways that these changes were taking place in this period.

By the earliest phase of the LBA, the depression seems far less active and almost deserted (Pl. VIII); only a few sites of unknown function are known, and the only ones with certain function are burial grounds [4, 10, 28] and single finds of metals [49] or hoards [32] (Pl. III/2). This brief enumeration of the types of sites makes it clear that by this period, the site patterns and the associated social structures which created them, changed. In this sense, it is interesting to note the discovery of a single Transylvanian-type socketed axe [49] in the northernmost parts of the depression, in the area of the pass to the Gheorgheni depression. Furthermore, the hoard [32] in the area of the Jigodin-gorge, where the MBA activity was the most intense, as reflected by the site patterns (Pls. V-VII), close to a site which ended in the latest MBA [32] might indicate major social instability and changes by the LBA I period. The precursors of these changes are to some extent already visible in the later MBA II and augmented in the following MBA III phase with a culmination in the LBA I and II. It is no surprise that the site of Păuleni-Ciuc – *Cetate/Dealul Cetății/Movila Cetății/Vârdomb* [41], by excellence the dominant settlement of the region after the site-ranking of a previous study²¹, only shows signs of activity in the MBA I and the earlier MBA II²². The same is true for the LBA I and LBA II, since the division of the two earlier phases of the LBA is unclear and both are fairly short phases. The number of sites further declines in the LBA II and reaches the lowest documented values for the entire BA (Pl. II/3). Sites are usually found along the Olt River, on its terraces, although the discovery of a *Lappenbeil-type* axe at the site of Ciucsângeorgiu [6] near a pass through the Carpathian range in the southeastern part of the depression seems to indicate additional, new directions of contacts and interaction (Pl. IX). It is quite surprising that sites are mostly located on eutric fluvisols and only in exceptional instances on cambic podzols [6, 61] (Pl. XI). In the latest phase of the BA, the number of sites increases significantly (Pl. II/3) and their placement within the landscape becomes just as varied as in the earlier MBA (Pl. III/2). The sites are spread more or less equally through the entire depression, with a predisposition to be located on river terraces, especially of the Olt and some of its smaller tributaries (Pl. X). The site-use and settlement patterns are different from those of the EBA II and MBA periods. Settlements are located near the Olt River, and there is a significant increase in the number of sites that yielded single finds of metals and hoards [6, 34–35, 37, 43, 51]. Furthermore, the site of Tușnad – *Piscul cetății-Cetatea cu idoli/Dâmbul cetății/Vârful cetății/Vârtető* [59], which is a fortified settlement and also yielded finds of bronze and iron objects, is located in the southernmost end of the depression, at the entrance to the gorges which connects to the south to the Brașov depression (Pl. X). This type of

²¹ Dietrich 2010, 204, no. 5/29.

²² Căvruc, Buzea 2002, 50; Căvruc 2005, 91.

site re-emerges for the first time after the MBA II, and it seems it is the only one of this type in the entire region. Just as in the case of the MBA, sites of the LBA III are either placed on fertile eutric fluvisols or on cambic podzols (Pl. XI).

As a summary, it may be stated that during the BA, three different and distinct horizons of landscape use and settlement pattern emerge in the Ciuc depression. In the EBA II, sites are equally distributed between lower terraces and higher lying hill tops, though no fortifications, fortified settlements or burial grounds are known from this period. The hiatus of sites of the EBA III is a phenomenon that could be explained by the present research stance in the region. The second horizon is that of the MBA I and II in which in a “sudden” burst during the first period of the MBA a large number of sites are in use and new settlements are founded, including the site of Păuleni-Ciuc – *Cetate/Dealul Cetății/Movila Cetății/Várdomb* [41]. Towards the end of the MBA II period, the first single metal finds of the MBA appear and a trend of site abandonment starts, culminating in the LBA I and II with the lowest number of sites documented in the entire BA (Pl. II/6). A final stage in the BA starts in the LBA III and most likely continues in the EIA. Fortified settlements reappear in this period and there is a strong presence of single finds of metals and hoards. Since the use of the landscape and settlements patterns are quite distinct in all three horizons, these are most likely the results of different social structures oriented towards different neighbouring areas via well-defined and specific paths and ways. The EBA II societies make use of high and low features of the region in a contrasting way, while the MBA societies use and settle the region with such intensity and in such a varied manner that suggest nothing less than close familiarity with the landscape and its characteristics. Finally, in the LBA III, quite a linear pattern of settlement and site pattern emerges, with its linearity tightly structured on the proximity to the axe of the Olt River, with a possible main focus point in the south [59]. It is precisely from this timescape and landscape of the Ciuc depression that the site of Păuleni-Ciuc – *Cetate/Dealul Cetății/Movila Cetății/Várdomb* [41] emerges as a unique and distinct fortified settlement, not only by its placement in the above detailed settlement landscapes but also by nature of its moveable and immovable material culture.

The MBA I–II site of Păuleni-Ciuc – *Dâmbul Cetății/Várdomb*

The site is located on a saddle, just to the northeast of the modern town of Miercurea Ciuc. From the nearby peaks, connected by the saddle, there is a clear view to the southwest on to the middle part of the Ciuc depression and the Șumuleul Mare hill and its dominant peak (Pl. XIII/1-2). To the northwest of the site flows a small stream through a swampy area that is now fenced in (Pls. XII; XIII/6). At least three fortification ditches and a rampart are identifiable even without intrusive research (Pl. XIII/3-4). The present day climatic conditions are slightly different than the BA ones, in that it is slightly dryer and warmer, though the instability can be quite surprising²³. These conditions generate a different phenomenological experience of the landscapes of the depression and the general feel of the environment (Pl. XIII/1-4).

²³ In one morning of early August of the excavation campaign of 2005 we woke up to a temperature that dropped to -2 °C and heavy hoar frost.

The earliest references to the site of Păuleni-Ciuc – *Cetate/Dealul Cetății/Movila Cetății/Várdomb* [41] in the literature appear shortly after the middle of the 19th century in the travel books written on the southeastern part of Transylvania²⁴. From these earliest references in the middle of the second half of the 19th century, the mention of the site first appears in archaeological publication, in the form of a repertoire of archaeological sites of Transylvania²⁵. At the beginning of the last century, through the surveying and excavation activities in the area, some errors regarding the shape and size of the sites were corrected by the work of I. Marțian, and these were summarised in a slightly more detailed report on the visible features and some of the finds²⁶. Following this, the site reappears in all the major archaeological²⁷ and fortification repertoires²⁸ from the beginning of the last century, but also in an archaeological synthesis²⁹ and further travel books of the region³⁰. The first major synthesis on the site with a full reference of the relevant literature appeared just before the Second World War with a detailed description of the features, some of its finds and an a.s.l. reading of just above 830³¹, with the mention of an accurate reading of 837 m a.s.l. by a local school teacher, K. Bakó³². In the archaeological repertoire of Transylvania published in the early 1940s, the site is briefly mentioned twice³³. The first intrusive archaeological research took place in 1954, undertaken by Muzeul Secuiesc al Ciucului, though the results of this research were never published³⁴. Z. Székely undertook excavation at the site (Pl. XII) in 1956³⁵, 1960³⁶ and 1967³⁷ and evidence for the MCA and LCA, but also of the BA was unearthed³⁸. In one of these reports, two fortification trenches (Pl. XII) were mentioned and the a.s.l. of 770 m of the site is erroneous³⁹, probably a misreading of an earlier report⁴⁰. The results of these soundings and excavations were summarised in 1970 in a brief excavation report that mostly focused on the MBA Ia pottery of the site and defined the so-called Ciomortan group, though its exact chronological position is still uncertain⁴¹. With the definition of the group and the publication of some of the materials, the site entered in the scientific circuit as one that emphasised contacts with the eastern regions, located just on the oriental

²⁴ Benkő 1869, 75; Orbán 1869a, 22.

²⁵ Gooss 1876, 217.

²⁶ Marțian 1903, 285, no. Id.

²⁷ Marțian 1909, 326, no. 125; Marțian 1920, 14, no. 173.

²⁸ Könyöki, Nagy 1905, 282, 284.

²⁹ Roska 1929, 293.

³⁰ Vámszer 1934, 72.

³¹ Ferenczi 1938, 290–296, 309, 311, no. 8; Maxim, Crișan 1995, 753, no. III.4, Pl. IV/2, 10.

³² Ferenczi 1938, note 1.

³³ Roska 1942, 59, no. 46; 220, no. 16.

³⁴ Székely 1970a, 71.

³⁵ Popescu, Dumitrescu 1957a, 338, no. 16; Popescu, Dumitrescu 1957b, 355, no. 16; Székely 1959, 238–240, no. 5, Pl. 9/3–9.

³⁶ Popescu 1961a, 570, no. 27; Popescu 1961b, 136, no. 26; Székely 1970c, 305, no. 8.

³⁷ Popescu 1968a, 679, no. 17; Popescu 1968b, 423, no. 17; Székely 1973, 219, nos. 1/1–7, 2, 3/3.

³⁸ Székely 1970a, 72–73.

³⁹ Székely 1959, 237.

⁴⁰ Ferenczi 1938, 290.

⁴¹ Székely 1970a.

slopes of the Carpathians⁴². Shortly after the definition and publication of the results, it was established that there is an undocumented chronological sequence between the manifestations of the EBA II Jigodin group and the earlier MBA I Ciomortan group, probably occupying the period of the EBA III⁴³. Moreover, since the publication of these results, the indication of a strong presence in the MBA Ib-II became evident and is considered one of the most important, if not the most important, settlement of the period in the Ciuc depression⁴⁴. In the last years of the 1990s, the results of a smaller survey conducted in the depression that also targeted the site were published⁴⁵.

Since 1999, a series of systematic excavation campaigns started to research the site under the auspices of the Museum of the Upper Olt and Eastern Carpathians of Sfântu Gheorghe under the direction of V. Cavruc. The project has mostly focused on the excavation of the northeastern part of the site (Pl. XII). As a direct result of this research, a clear stratigraphic relationship has been established between the earlier MBA I (Ciomortan group) and the later MBA I and MBA II (Wietenberg culture) cultural manifestations at the site⁴⁶. The results of the first two campaigns of 1999 and 2000 were quickly published. The MBA Ia levels revealed two important features *Cmp 13* and a feature of a surface structure *L 7a* (Pl. XIV/1)⁴⁷. These were partially superimposed by a dwelling (*L 7*) of the MBA Ib-II period (Pl. XV/1-2); this was clearly placed in a line (Pl. XIV/2) along with another dwelling of the same period (*L 8*) discovered in these campaigns (Pl. XV/3, 5) and some discovered later⁴⁸. Other features discovered in these campaigns belonging to the later MBA I and MBA II were a pit with two vessels (*Cmp 1*), a further pit (*Gr 3*) with the skeleton of a 5-6 months old child (Pl. XIV/2)⁴⁹ and a pit with a vessel and terracotta wheel inside it⁵⁰. Another interesting result of these early campaigns was that some light was shed on the construction of the *rampart*. Two parallel rows of vertically posted beams were placed in the ground and the space between them was filled in on several occasions with various layers of soil from within and around the site and some of its use has been dated to the earliest MBA I⁵¹, though it was still maintained and used in the MBA Ib-II period⁵². *Cmp 13* is a corridor-like feature that cuts through the entire rampart, designated by the excavators as a possible gateway with a tower superstructure (Pl. XIV/13), dated to the MBA Ia⁵³, though only fully investigated in the following two campaigns. *L 7a*

⁴² Zaharia 1970, 65-66; Székely 1971a, 393; Székely 1971b, 307-308; Muscă 1979.

⁴³ Muscă 1979, 88-89; Roman et alii 1973, 571-572.

⁴⁴ Soroceanu 1973, 500, no. 44; Székely 1988, 157, 159, Pls. III/3-4; VIII/1-4; XIV/1-5; Boroffka 1994, 65, no. 323.

⁴⁵ Jánovits 1999, 124, no. 13.

⁴⁶ Rotea 2000, 30; Cavruc 2001, 46; Cavruc 2004, 272-273; Cavruc 2005.

⁴⁷ Cavruc 2000a, 95, no. 7; Cavruc, Dumitroaia 2000, 131-132; Cavruc et alii 2001, 246; Cavruc, Buzea 2002, 43.

⁴⁸ Cavruc 2000a, 95, no. 8; Cavruc et alii 2000, 103; Cavruc, Rotea 2000, 155, Pls. I-III; Rotea 2000, 24-25; Cavruc et alii 2001, 246-247.

⁴⁹ Cavruc 2000a, 95, no. 8; Cavruc, Rotea 2000, 156, Pls. IV; VI/3-4; IX/1; XII/5; Comşa 2000, 173, Pl. I; Rotea 2000, 23-24, Pl. I.

⁵⁰ Cavruc, Rotea 2000, 155, Pl. V/1-3.

⁵¹ Cavruc, Dumitroaia 2000, 131, Pl. IV/B-C.

⁵² Cavruc, Rotea 2000, 157.

⁵³ Cavruc, Dumitroaia 2000, 131-132, Pl. II.

is located at the southern end of *Cmp 13*; it is a shallow feature with postholes along its sides. Among the more important finds were animal bones and sherds but also two fragments of human bones, a mandible (individual older than 25 years) and skull, also dated to the MBA Ia (Pl. XIV/1)⁵⁴.

In the excavation campaigns of 2001 and 2002, the earliest dating of the *ram-part*⁵⁵ (Pl. XII) was clarified and it became clear that the lowest levels were erected in the period of the LCA IIB during the time of the Coțofeni I culture; its second phase was built and used during MBA Ia; its third during the MBA Ib-II period; and finally there was possibly a later phase as well⁵⁶. The wider, northern-eastern *fortification ditch* was sectioned, and at its bottom, sherds of the MBA Ia period came to light, which means that the feature was already in use at least by the beginning of the MBA⁵⁷. The research of *L 7a* was finalised in 2001⁵⁸. A further feature was unearthed over several metres, *Cmp 15* (Pl. XIV/1), that had the shape of a shallow trench with occasional postholes in it, which followed the line of the rampart⁵⁹; its dating is still uncertain, though it was located below the MBA Ia and MBA Ib-II dwellings⁶⁰. In the campaigns of 2001 and 2002, the northern part of *Cmp 13* was researched as well. A wood-framed construction was discovered in this part. Planks fastened on vertical beams reinforced the sides of a 0.7–0.8 m wide place, and the ground was also covered by the same material, as indicated by the large pieces of charcoal and heavy burning in the area (Pl. XIV/1). Furthermore, the upper side of the earthen walls were slightly corbelled (about 1 m high from the wooden “floor”), which the excavators interpreted as indicating support for the “roof”. On the floor, the remains of three skeletons were discovered, one adult and two children (Pl. XIV/1) among flat stones, which were interpreted as originating from the “roof” construction. Sherds found within the feature were all dated to the MBA Ia period, and the area above the feature showed heavy burning, since the earth was fired to red, and it was interpreted as a tower structure⁶¹. The final interpretation of the feature was that it had two functions: first, it was used as a gateway, and then it was ritual connected with the abandonment and intentional burning of the site at the end (?) of the MBA Ia⁶². The interpretation as a gateway seems unlikely⁶³, since the width of the “corridor”, accounting for the space occupied by the side wood-lining, is only about 0.7–0.8 m, and its outer northern end seems to end in a palisade, a feature recognised by the excavator⁶⁴. The “wood box-like” feature below what seems to be a wooden superstructure, possibly a tower, seems to have rather been a feature cut into the rampart for funerary use, and even the excavator

⁵⁴ Căvruc, Dumitroaia 2000, 132; Căvruc et alii 2000, 103; Comșa 2000, 173, Pl. II; Căvruc et alii 2001, 246.

⁵⁵ It does not have a stone core as stated by Roxana Munteanu (2010, 93).

⁵⁶ Căvruc, Buzea 2002, 41–42; Căvruc et alii 2002; Căvruc, Buzea 2003.

⁵⁷ Căvruc, Buzea 2002, 42.

⁵⁸ Căvruc et alii 2002.

⁵⁹ Căvruc, Buzea 2002, 42; Căvruc, Buzea 2003.

⁶⁰ Căvruc et alii 2002.

⁶¹ Căvruc, Buzea 2002, 43–45; Căvruc et alii 2002; Căvruc, Buzea 2003.

⁶² Căvruc, Buzea 2002, 45.

⁶³ Daróczy 2011b, 190, no. 445.

⁶⁴ Căvruc, Buzea 2002, 45.

has stated that it seems that the “the roof of the corridor was covered by the fill of the rampart before burning”⁶⁵. It would seem that the two features, the “wood-lined box” and the wooden superstructure are not functionally related. The research of dwelling *L 8* was completed during these campaigns as well (Pl. XIV/2). Postholes, along its sides, and two hearths were discovered, and the moveable finds included objects of bronze (?), bone, stone and terracotta⁶⁶. In the line of dwellings *L 7* and *L 8* a further dwelling *L 9* was discovered and excavated (Pls. XIV/2; XV/4–5). Like the previous dwellings, this also had two hearths and was placed in the same line and orientation. The finds consisted of antler and sandstone (*Krummesser*) tools, miniature vessels and spindle whorls⁶⁷. Not surprisingly, in the line of these three dwellings, a fourth was discovered, *L 10* (Pls. XIV/2; XV/5). This was slightly different since it had an annexe and two hearths, one of which had a running spiral decoration. The finds consisted of a ceramic disc, spindle whorls, bone and sandstone tools (*Krummesser*)⁶⁸. A further four pits have been discovered in the campaigns of 2001–2002, belonging to the MBA Ib–II period. *Gr 5* was a 2.15 m deep pit, *Gr 6* had six complete vessels in it, and *Gr 7* was a 1.6 m deep pit⁶⁹. *Cmp 14* was discovered not far from *L 10*; it was an elongated pit that housed the remains of two human skulls, under which a complete skeleton in contracted position was discovered (Pl. XIV/1)⁷⁰.

In the excavation campaign of 2007, the feature *Cmp 15* was further researched and a fifth house appeared in the line of the other four, next to *L 10*, numbered *L 32* (Pl. XV/6)⁷¹. The western half of *Gr 7* was completely researched, and appeared to be a 2.2 m deep pit with MBA Ib–II sherds⁷². In 2008, *Cmp 15* and *L 32* were the only BA features further researched⁷³. In 2009, the research of *L 32* continued, though the ground level of the dwelling has not yet been reached⁷⁴. Not far from this dwelling, a pit (*Cmp 36*) was discovered with the remains of a child, placed in contracted position on its side and oriented west-east⁷⁵.

After the presentation of the more important features, some conclusions can be drawn in relation to this site. There are contradicting interpretations whether or not there is continuity at the site between the MBA Ia and MBA Ib–II. One side believes that there cannot be any doubt about the continuity between these two phases⁷⁶, while the other is cautious in this regard⁷⁷. I personally believe that there is evidence that the two phases could not be more than two generations apart. It can be seen that the MBA Ib–II dwellings are superimposed and have more or less the same orientation as in the MBA Ia period. Furthermore, the elaborate rampart constructed of vertical

⁶⁵ Cavruc, Buzea 2002, 45.

⁶⁶ Cavruc, Buzea 2002, 46–47; Cavruc et alii 2002; Cavruc, Buzea 2003.

⁶⁷ Cavruc, Buzea 2002, 47–48; Cavruc et alii 2002; Cavruc, Buzea 2003.

⁶⁸ Cavruc, Buzea 2002, 48–49, Pl. XXXII; Cavruc et alii 2002; Cavruc, Buzea 2003.

⁶⁹ Cavruc, Buzea 2002, 49–50; Cavruc, Buzea 2003.

⁷⁰ Cavruc, Buzea 2002, 50; Cavruc, Buzea 2003.

⁷¹ Kavruk et alii 2008b, 303.

⁷² Kavruk et alii 2008b, 303.

⁷³ Kavruk et alii 2009, 214.

⁷⁴ Kavruk et alii 2010, 182–183.

⁷⁵ Kavruk et alii 2010, 183.

⁷⁶ Cavruc, Rotea 2000, 158; Rotea 2000, 29–31.

⁷⁷ Cavruc, Buzea 2002, 50.

wooden beams placed in rows and filled in with debris and earth would require some sort of previous knowledge before attempting a consolidation or improvement of such a structure. An abandonment of the settlement and intentional destruction by fire of at least part of the structure at the end of the MBA Ia has also been suggested⁷⁸. Several arguments against this opinion might be raised, one of them being that the MBA Ib-II phase has a systematic reconstruction and construction phase, in that housing units are replaced regularly and constructed in a similar manner (Pls. XIV/2; XV/5), which suggests an established central power in the local community. Such a social structure certainly did not come to be out of nothing, and previous knowledge of the existing inner structure of the rampart would have been needed for a consolidation to take place. What might have happened at the transition from the MBA Ia to the MBA Ib-II period is that the material culture of the site, and implicitly of the local community, radically changed, in that the earlier phase was dominated by eastern elements (Pl. XVI/1, 5-8, 12) and the later by western elements (Pl. XVII/1-11, 19-21).

A MBA I-II special gateway community in the Ciuc depression

What I am proposing in the present study is a reinterpretation, in which the periods of MBA Ia and MBA Ib-II are viewed as a single temporal unit, with a major shift in its relations at the end of the MBA Ia period. The most fitting interpretations for this site and its social structure are those of a *special gateway community*, which is defined in this paper as the alloying of the traits of a gateway community and those of a *contact zone*.

The interpretations of gateway communities have been successfully applied in BA Aegean, in the case of the site of Mochlos on Crete⁷⁹, and will be used as a guiding reference with obvious adaptations to the local realities. A gateway community would be part of a dendritic market system controlling exchange in its region⁸⁰, which interpreted in a social sense can be called a gateway community⁸¹. The traits of this kind of community have been summarised with eight key criteria⁸²:

1. it occurs particularly on the periphery of world systems;
2. it occurs at a passage point for a cultural or natural region;
3. it is located on a line of communication between areas with good mineral or agricultural resources, or high craft production;
4. it supports a limited elite hierarchy;
5. the elite manipulate the social system by control of exchange and of prestige products;
6. imported products are plentiful at the site, scarce elsewhere;
7. craft specialism/production increases at the site;
8. the site draws on a zone for its subsistence.

⁷⁸ Cavruc, Buzea 2002, 45.

⁷⁹ Branigan 1991.

⁸⁰ Smith 1976, 315, 345-353, esp. Fig. 1d, tab. 2.

⁸¹ Hirth 1978, 37-39, esp. Fig. 2.

⁸² Branigan 1991, 103.

If these traits are matched against the characteristics of the MBA site of Păuleni-Ciuc – *Cetate/Dealul Cetății/Movila Cetății/Várdomb* [41], the following might be stated:

1. The type of community usually occurs on the edge of world systems⁸³: although our site is slightly further away from the so-called world systems, it could still be regarded as being part of the periphery network⁸⁴. However, this is not a necessary attribute.

2. According to the above landscape study, there cannot be any doubt that the site is placed at the natural passage ways to the east (Pls. V–VI), through the Eastern Carpathian Mountains, which by their geographic and environmental characteristics act not only as natural but also as cultural barriers⁸⁵.

3. Although the Ciuc depression is quite poor in natural resources other than mineral water, the neighbouring areas are quite rich in salt deposits and copper⁸⁶. Moreover, it has been noted that the areas just east of the site, on the oriental slopes of the Carpathians are quite rich in bronze finds in this period, though no significant copper deposits are known in these regions⁸⁷.

4. Elites are always a difficult social aspect to prove archaeologically, but some elements of material culture might be used in order to argue for their presence. The presence of a hearth decorated with running spirals is quite a rare occurrence in the MBA of Transylvania. It has only been documented in four instances at three sites, and it has been suggested to indicate local power centres, and implicitly elites⁸⁸. The fact that especially the MBA Ib–II period dwellings have been built as a seemingly planned system, with a rigorous construction plan and orientation (Pls. XIV/2; XV/5) is a strong argument for the presence of some sort of centralised power, at least as of this period. Furthermore, the two re-building phases of the fortification system, and in these especially those of the rampart (Pl. XII), dated to the MBA Ia and Ib–II periods might be seen not only as functional, but as elements of prestige. This might be especially true in the context, where in this period in the entire Ciuc depression no other fortified settlement is documented (Pl. III/2), and more than that, it is the highest documented inhabited feature of the depression (Pls. III/1; V–VI). In this line of reasoning, choice and type of site might be viewed as attributes of local elites⁸⁹.

5. The manipulation by the elites of the social system by the control of prestige goods is quite problematic, since the central part of the settlement has not yet been excavated, and the burial ground belonging to this settlement has not been found. As such, very little might be stated concerning the distribution of prestige items within the society and the issue still remains open.

⁸³ Rowlands 1987, 4–5; Kristiansen 1994, 7–8, 15–17; Kristiansen 2005b, 280, 282, 293–296; Rowlands 2005, 220–221.

⁸⁴ Kristiansen 1987, 81–82; Larsen 1987, 52–53, 55, Fig. 5.3; Kristiansen 2005a, 268–270.

⁸⁵ Bader 2001, 19, nos. 13–15, map 1.

⁸⁶ Andronic et alii 2006, 69; Chintăuan 2006; Drăgănescu 2006; Căvruc 2008, 83–86; Dietrich 2010, 202, Fig. 6.

⁸⁷ Andronic et alii 2006, 69.

⁸⁸ Seraphin 1902; Horedt, Seraphin 1971, 74–76, Pls. 59–60; Wollmann 1999; Căvruc 2000b, 208, XLIIb2, no. 686; Daróczi 2011a, 119–120, 124, no. 6, Pl. 1/6.

⁸⁹ Chapman 1991, 81.

6. The issue of imported products is an important one, since the presence of the eastern material culture especially in the MBA Ia is very distinct at this site in the Ciuc depression (Pl. XVI/1, 5-8, 12), and even in the later, documented periods of the MBA is significant (Pl. XVII/12, 18). It is important to note that this type of pottery is only found in significant amounts at this site, which, based on the research of the 1950s and 1960s was interpreted as a new, local group⁹⁰. It was research in the last decade that clarified that in fact it is the westernmost manifestation of an eastern style of manufacturing pottery⁹¹. The presence of significant quantities of eastern pottery (whether imported or locally manufactured based on the “imported”, eastern know-how) is in contrast to the almost total lack of this at other sites in the depression, and certainly differentiates this site by its imported material culture. The presence of miniature vessels (Pls. XVI/9-10; XVII/13-15) in earlier and later habitation phases of the site might be seen as containers of locally made or imported aromatics (perfumes and unguents), a possibility that has been disregarded, especially for the Transylvanian BA, mostly due to the lack of residual analysis of pots. Evidence for the production of these commodities and the use of miniature vessels to contain them exists in the Aegean⁹², along with evidence from Linear B tablets⁹³.

7. Specialised craft production at this site might be suggested in connection with the miniature vessels, especially as of the MBA Ib-II period (Pl. XVII/13-15), since, for example, pine resin and iris oil are mentioned as ingredients of Aegean BA aromatics (residual analysis)⁹⁴, that would have been available in the area. Further elements of material culture, especially from the second MBA habitation layers, like spindle whorls (Pl. XVII/1-6) used in production of textiles and *Krummessers* (Pl. XVII/8-9) most likely used for the skinning of animals⁹⁵ (for leather) are clear indicators of specialised local craftsmanship.

8. The location of the site on a high saddle does not allow for the production of agricultural goods needed for the subsistence of the community. The fact that most of the sites of the MBA I-II period are located on eutric fluvisols (Pl. XI), mostly on river and stream terraces (Pl. III/2), with an a.s.l. elevation at least 100 m below that of Păuleni-Ciuc - *Cetate/Dealul Cetății/Movila Cetății/Vărdomb* [41] (Pl. III/1), and no other site in the area has such a high-lying position or is fortified might suggest that the goods necessary for the subsistence of the local community were procured from the lower lying regions of the depression. This is especially true since cereal production is documented in the valley already in this period⁹⁶. Whether this was done by exchange/trade or in forms of dues owed by the communities of the lower-lying settlements to the community, and especially the elites, of the site cannot be stated with certainty at present. Whichever the means, the social system of exchange/trade of the depression was certainly a dendritic one.

⁹⁰ Székely 1970a.

⁹¹ Cavruc 2005.

⁹² Soles 1992, 227 - with a full reference to further examples; Tzedakis, Martlew 1999, 44-46, 48-49, esp. 51, no. 19.

⁹³ Ventris, Chadwick 1973, 223-224; Beck, Beck 1978.

⁹⁴ Tzedakis, Martlew 1999, 50, no. 12.

⁹⁵ Roman et alii 1992, 154.

⁹⁶ Tanțău 2006, 116, Fig. 13.

The other approach mentioned above is the *contact zone*. The use of this approach is needed since the traits of a gateway community are far too broad to express the nature of complexity and social changes occurring at the site in discussion. The entanglement of these two approaches is seen as the best way to describe the nature of the site at Păuleni-Ciuc – *Cetate/Dealul Cetății/Movila Cetății/Vărdomb* [41].

A *contact zone* has been defined as a “social space where cultures meet, clash, and grapple with each other, often in contexts of highly asymmetrical relations of power, such as colonialism, slavery”⁹⁷. Although a *contact zone* as described by Pratt does not focus on aspects of how this might manifest itself in a social space, it can nevertheless in some aspects be related to archaeology, especially in literary periods. Two important characteristics might be singled out which might be related to archaeological features and finds.

1. Autoethnography is seen “as selective collaboration with and appropriation of idioms of the metropolis or the conqueror”⁹⁸.

2. Transculturation, which involves a “process whereby members of subordinated or marginal groups select and invent from materials transmitted by a dominant or metropolitan culture”⁹⁹.

Based on the above landscape study it is clear that the social space of Păuleni-Ciuc – *Cetate/Dealul Cetății/Movila Cetății/Vărdomb* [41] is a place where cultures meet and interact in a synchronous and diachronous timeframe.

1. Autoethnography without texts is difficult to prove, but the fact that fortification system, dwelling orientations and the site itself were reused following the MBA Ia might indicate a selective collaboration of previous and following social spaces. Whether this collaboration meant a gradual change or a sudden, maybe even aggressive, takeover is not clear based on the available evidence, but the interaction of these two groups is nevertheless obvious.

2. Transculturation at the site may be seen in case of the transition from the MBA Ia to MBA Ib, since a previously marginal social space becomes integrated into the larger network of Transylvanian MBA Ib. Furthermore, finds typical for regions to the east of the Carpathians have been found at this site which further suggests an interaction with materials and possibly ideas from this region. The assemblage suggests an interaction only with selected items of the eastern material culture and their use might have been reinvented at this site.

Conclusions

Since the traits of a gateway community fit many important sites, though not in this region, it would seem that an alloying of these traits with those of a *contact zone* would be useful. A synthesis of the traits of the two types of interaction would define a *special gateway community*. The characteristics of a special gateway community are encountered at this site, and it can be safely stated that the MBA I-II community

⁹⁷ Pratt 1991, 33.

⁹⁸ Pratt 1991, 34.

⁹⁹ Ortiz 1987, 93, 96–97; Pratt 1991, 34.

was such a social group. This naturally does not exclude other types of social systems to be associated with this community. As further research might reveal, it could also be a local power centre. Its unparalleled location within the Ciuc depression, the type of the site and the unique material culture, if structured after the above criteria, leave no doubt that this community was indeed an important focal point in the east-west connections between the inner and outer Carpathian areas. The sharp shift from the earlier habitation characterised mostly by the eastern type of material culture to the later one of predominantly western material culture type might suggest a fast restructuring of contacts and shifts of power relations between the Ciuc depression and neighbouring areas. It is not surprising that this community ended its existence during the MBA II period, since signs of sites abandonment starting towards the end of the period and culminating during the MBA III (Pl. II/6) are obvious. Along with the increased appearances of hoards in the LBA (Pl. III/2), these are clear indicators of social instability and unrest in the region. A successful combination of a detailed BA landscape study, analysis of relevant material culture and theories of over-regional social and exchange/trade structures has thus enabled the delimitation for the first time in the Eastern Carpathian Basin of a special gateway community.

Bronze Age sites of the Ciuc Basin

The known BA sites of the Ciuc basin are listed in alphabetical order, followed by their toponymes and their Hungarian and German names, if they apply. The type of investigation of each site is documented as the following entry. They are grouped in categories of: *chance finds* in case of moveable archaeological material discovered through non-systematic archaeological activities; *chance discoveries* in case of non-moveable archaeological material discovered through non-systematic archaeological activities; *survey* in case of systematic, non-intrusive, archaeological field research; *sondage* in case of small-scale, systematic, intrusive, archaeological field research and *excavation* in case of large-scale, systematic, intrusive, archaeological field research. The sites are further categorised by: *unknown*, *settlement* in case of conclusive evidence for habitation (e.g. adobe of surface dwelling, hearth etc.) but no fortification elements; *fortified settlement* in case of conclusive evidence for habitation with fortification elements (rampart and/or palisade and/or ditch); *burial ground* in case of human remains and *hoard* in case of metal finds (single finds included as well). The *dating* is specified in a double manner, first by its cultural attribution with the mentioned of the specific phase, if applicable, followed by the relative-absolute chronological system (Pl. I). The micro-location of each site is determined with the help of the ArcGIS 10¹⁰⁰ software and these are: river/stream *terraces*, which are determined by the association of the nearest body of flowing water; *hill top* is regarded as a group of specific geographical features like proper tops of hills, edges of such hill tops, promontories of hills; *ridge* is also a collective term for geographical features, which might be proper ridges or saddles and finally *knolls* are seen as slightly raised features in the lower lying areas

¹⁰⁰ I would like to thank ESRI Deutschland GmbH for awarding a full license of the ArcGIS 10 software through the *ESRI Absolventenprogramm*.

of the Olt floodplain or its broader river terraces. The *subsurface lithology*¹⁰¹ is also determined with the help of the ArcGIS 10 software (Pl. XI). The following main soil reference groups are found within the study region: *umbirc andosols* (ANu) consisting of soils resulting from volcanic ejecta or glasses with an umbric horizon¹⁰²; *dystric cambisols* (CMe) comprising of soils with at least an incipient subsurface soil formation with increasing clay percentage and a low base saturation¹⁰³; *eutric cambisols* (CMe) meaning soils with at least an incipient subsurface soil formation with increasing clay percentage and a high base saturation¹⁰⁴; *eutric fluvisols* (FLe) are genetically young, azonal soils in alluvial deposits with a high base saturation¹⁰⁵, while *cambic podzols* (PZb) are soils with an ash-grey upper subsurface horizon, bleached by loss of organic matter and iron oxides, on top of a dark accumulation horizon with brown, reddish or black illuviated humus and/or reddish iron compounds¹⁰⁶. The *description* of the site will contain notes on its location in the landscape, mention of its research history if it is documented, more important and relevant finds and in some cases a discussion of its dating, if needed. The *bibliography* is intended to provide a full reference for each site from its earliest discoveries through further research and re-interpretations and possible re-dating.

¹⁰¹ Based on the SOTER programme for Central and Eastern Europe (ver. 1.0), developed at the University of Wageningen (2nd edition 2005), implemented by the Food and Agriculture Organization of the United Nations, the International Soil Reference and Information Centre and the United Nations Environment Programme under the auspices of International Union of Soil Sciences.

¹⁰² FAO 1988, 19; FAO 2006, 70.

¹⁰³ FAO 1988, 18; FAO 2006, 75.

¹⁰⁴ FAO 1988, 18; FAO 2006, 75.

¹⁰⁵ FAO 1988, 18; FAO 2006, 79–80.

¹⁰⁶ FAO 1988, 18; FAO 2006, 91.

[1] **Armășeni**, (Ménaság, Csíkménaság), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Jigodin (?); EBA II (?).

Micro-location: 1st terrace (?).

Subsurface lithology: cambic podzols (PZb).

Description: The exact location of the site is unknown, probably from the territory or the outskirts of the modern village, on the first terrace of a small stream. A broken polished stone axe was mentioned from this village in the József Nyerő collection. Based on its shape and position of the shaft hole it is most likely dated to the EBA II¹⁰⁷.

Bibliography: Roska 1941, 56, no. 62; Roska 1942, 60, no. 55; Maxim, Crișan 1995, 753, no. III.1, Pl. III/1; Cavruc 2000b, 85, VIIa3, no. 134.

[2] **Băile Tușnad - cariera de piatră ponce**, (Tusnádfürdő), Harghita county.

Type of investigation: chance finds.

Type of site: settlement (?).

Dating: Jigodin/Schneckenberg B; EBA II.

Micro-location: hill top.

Subsurface lithology: dystric cambisols (CMd).

Description: The site is located on the western outskirt of the modern village, on top of a hill spur with three steep sides. During stone quarrying in the mid-1960s, a polished stone axe with an off-set shaft hole was discovered here. The repertoire dates it to either the Neolithic or Bronze Age, but after careful inspection of the shape and the position of the shaft hole, it becomes clear that the best analogies for this are found at *Lelicieni-Muntele de piatră* [17] (Roman et alii 1992, 155, 222, Pl. 67/14; VI/14) and *Brașov-Schneckenberg* (Prox 1941, 49–50, 51, esp. no. 6, Fig. 30 = Pl. XXXV/2, 9). It must be mentioned that, somewhat similar shapes are reported from the Tiszapolgár (ECA) and Coțofeni (LCA Ib-EBA Ia) cultures being defined as type IC (Kalmar 1981, 108–109, Pl. 2/7), though the presented examples (Bognár-Kutzián 1963, 53, Fig. 23a,

Pl. XIX/1; Roman 1976, 17, Pl. 9/11; Roman 1977, 17, Pl. 9/11) do not show close resemblance to the axe in discussion. Furthermore, somewhat similar later examples are found in the Wietenberg culture, type SD1 a and b (Boroffka 1994, 217, Pl. 30/10–11), though the analogies are not very convincing here either.

Bibliography: János, Kovács 1967, 50, XVIII, no. 56, Pl. XXVII/189; Cavruc 2000b, 80, IIIa1, no. 101.

[3] **Cetățuia - Görgös**¹⁰⁸, (Ciatoseg, Csátószeg, Csíkcátószeg), Harghita county.

Type of investigation: survey.

Type of site: unknown.

Dating: Wietenberg; MBA/LBA III (?).

Micro-location: 1st terrace.

Subsurface lithology: dystric cambisols (CMd).

Description: The site is located just south of the modern village, on an interfluvium of the streams Fișag/Fiság and Görgös, on their first terrace. During surveying in the mid-1960s, several sherds belonging to the Wietenberg culture were discovered and along with a decoration of an urn in the shape of a wild goat (?), possibly dating to the latest stage of the mentioned culture. Sherds of the Ha period are mentioned as well.

Bibliography: János, Kovács 1967, 49, XIV, no. 42, Pl. XXIV/150(?)–151; Muscă 1980, 11, no. 15a; Boroffka 1994, 78, 94, nos. 415 and 540; Cavruc 2000b, 203, XLIa1, no. 662.

[4] **Ciceu - casa inginerilor** (Harghita Băi, Hargitafürdő), Harghita county.

Type of investigation: chance finds.

Type of site: burial ground (?).

Dating: Noua; LBA I–II.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the territory of the modern village, on the first, left-hand side terrace of the Olt River¹⁰⁹. A kantharos

¹⁰⁷ See discussion on the dating of this type of polished stone axe at Băile Tușnad - *cariera de piatră ponce* [2].

¹⁰⁸ The two entries of N. Boroffka refer to the same site (Boroffka 1994, 78, 94, nos. 415 and 540).

¹⁰⁹ The indication that the site is in the nearby town of Miercurea Ciuc is incorrect (Cavruc 2000b, 151, XXVIb16, no. 423) - personal communication

was retrieved from this area, probably indicating an inhumation burial that was destroyed.

Bibliography: Florescu 1991, 75, no. 251/K, 6; Cavruc 2000b, 151, XXVIb16, no. 423; Sava 2002, 120; Daróczi 2011b, 130, no. 121; Motzoi-Chicideanu 2011, 110, no. 433.

[5] Ciucani - izvorul de apă minerală (Cechefalău, Csekefalva, Csíkcekefalva), Harghita county.

Type of investigation: chance finds.

Type of site: settlement.

Dating: Wietenberg; MBA.

Micro-location: 1st terrace.

Subsurface lithology: cambic podzols (PZb).

Description: The site is located on the north-eastern outskirts of the modern village, on the first, right-hand side terrace of a small stream. During cleaning and unclogging of the field next to the path, nearby the mineral water spring some Wietenberg sherds were found.

Bibliography: János, Kovács 1967, 48, XII, no. 37, Pl. XX/108-110; Muscă 1980, 11, no. 20; Boroffka 1994, 94, no. 544; Cavruc 2000b, 200, XLa1, no. 641.

[6] Ciucsângeorgiu (Cic-Sângeorz, Ciuc-Sângeorgiu, Csíkszentgyörgy), Harghita county.

Type of investigation: chance finds.

Type of site: hoard.

Dating: LBA II-III

Micro-location: 1st terrace (?).

Subsurface lithology: cambic podzols (PZb).

Description: The location of the site is unknown, but is most likely situated on the territory or the vicinity of the modern village; it would be placed on the first terrace of a small stream. In the second part of the 19th century a bronze lobed axe (*Lappenbeil*) is reported from here. Although, it was not documented, just mentioned, in the series of *Prähistorische Bronzefunde*, it was noted that all the known examples are from Transylvania and are usually single finds. The general dating of these types of axes falls into the depot period of Uriu-Domănești, in the LBA.

Bibliography: Hampel 1896, 38; Al. Vulpe 1975, 81; Cavruc 2000b, 88, VIIIC8c, no. 150.

of Antal Kosza of the County Patrimony Protection and Conservation Office.

[7] Ciucsângeorgiu - grădina Potowski/Potockikert/curtea parohiei romano-catolice, la cimitirul vechi (?)¹¹⁰ (Cic-Sângeorz, Ciuc-Sângeorgiu, Csíkszentgyörgy), Harghita county.

Type of investigation: chance finds and sondage.

Type of site: settlement/burial ground (?)/hoard.

Dating: Wietenberg B/Monteoru; MBA I-II/LBA III (?).

Micro-location: 1st terrace.

Subsurface lithology: cambic podzols (PZb).

Description: The site is located on the territory of the modern village on the interfluvium of two streams, Martonos/Mártonos and Fișag/Fiság, which is the first, high terrace of both of them. In 1956 a multi-layered settlement was discovered with layers of the Wietenberg culture. Slightly to the north of this site from the courtyard of the Roman-Catholic parish, a juglet of the Wietenberg culture, phase B, is reported. In 1963, a sondage yielded amongst other finds a handle of the Monteoru culture. In the mid-19th century, evidence of an LBA incineration burial ground was found here. Due to the body treatment of the individuals and the shapes of the vessels ("Die Urnen sind von 11-13 Cm. hoch und die Wände derselben, welche von einem engen cylindrischen Fusse weit ausladen, werden im letzten Fünftel ihrer Höhe scharf eingezogen und gehen dann in den cylindrischen Hals aus. Auf der Einziehung sind beiderseits kleine Henkel aufgesetzt". Gooss 1876, 224) it is, most likely, dated to the LBA and EIA period, since in the earlier periods of the LBA inhumation is the dominant body treatment. The discovery of a sickle is reported from here as well.

Bibliography (MBA): János, Kovács 1967, 44, II, no. 10, Pl. XIII/33; Muscă 1980, 12, no. 12g; Boroffka 1994, 94, nos. 545-546; Cavruc 2000b, 85-86, 87, VIIIB1 and c3,

¹¹⁰ The two toponymes are mentioned as two different sites in the literature, though it is clear that they belong to the same site, at least in the MBA. Further, the "sites" mentioned by Valeriu Cavruc (2000b, 85-86, 87, 88, VIIIB1, c3, c4 and c8d, nos. 135, 143, 144 and 151), probably, indicate the same BA find spot.

nos. 135 and 143. **Bibliography (LBA III?):** Gooss 1876, 224; Marțian 1909, 327, no. 129; Marțian 1920, 14, no. 179; Roska 1942, 60, no. 61; János, Kovács 1967, 44, II, no. 10, Pl. XIII/32; Muscă 1980, 12, nos. 21b, f; Crișan 1993, 242, no. 4, Pl. 5/5; Căvruc 2000b, 87, 88, VIIIc4 and c8d, nos. 144 and 151.

[8] Cozmeni - borbélyok (Cozmaș, Kozmás, Csíkkozmaș), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Wietenberg; MBA.

Micro-location: 1st terrace.

Subsurface lithology: cambic podzols (PZb).

Description: The site is located in the western end of the modern village, on the right-hand side, first terrace of a small stream. During the construction of a house, sherds of the Wietenberg culture were unearthed.

Bibliography: János, Kovács 1967, 45, IV, no. 15, Pl. XV/47-49; Muscă 1980, 13, no. 25e; Boroffka 1994, 34, no. 141; Căvruc 2000b, 201, XLb2, no. 643.

[9] Cozmeni - zona cimitirului (Cozmaș, Kozmás, Csíkkozmaș), Harghita county.

Type of investigation: chance finds.

Type of site: burial ground (?).

Dating: Wietenberg (?); MBA (?).

Micro-location: 2nd terrace.

Subsurface lithology: cambic podzols (PZb).

Description: The site is located to the west of the modern cemetery, on the second, left-hand side terrace of the Olt River. In the early-1960s, human remains (skull fragments) and BA sherds were found at this site. It might be dated to the MBA, due to the vicinity of the nearby site of Cozmeni - *Borbélyok* [8].

Bibliography: János, Kovács 1967, 45, IV, no. 16; Muscă 1980, 13, no. 25f; Căvruc 2000b, 201, XLb3, no. 644.

[10] Delnița - lângă biserica Sf. Ioan (Delne, Csík-delne), Harghita county.

Type of investigation: chance finds.

Type of site: burial ground (?).

Dating: Noua (?); LBA I-II (?).

Micro-location: knoll.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located west of the modern village, but also immediately east of the Catholic Sf. Ioan church. During construction work several burials were destroyed, probably MBA. Skull fragments of a child and of an adult are reported. The fragments belonging to the adult were stained by copper/bronze-oxid and showed traces of green colouring. Just three sherds of possibly earlier LBA date were found alongside them.

Bibliography: Jánovits 1999, 122, no. 4; Căvruc 2000b, 172, XXXIIIa3, no. 523; Daróczi 2011b, 139, no. 172.

[11] Ineu - depozitul C.A.P. (Csíkjenőfalva), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Noua; LBA I-IIIa.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the territory of the modern village, on the first, right-hand side terrace of the Olt river. Sherds of the Noua culture are reported from here.

Bibliography: Căvruc 2000b, 84, VIIb3, no. 121.

[12] Ineu - Grădina Kósa/Kósakert (Csíkjenőfalva), Harghita county.

Type of investigation: chance finds and sondage.

Type of site: settlement.

Dating: Wietenberg A-B (?); MBA I-II (?)/LBA III (?).

Micro-location: hill top.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located to the east of the modern village, on top and upper slopes of the hill. During agricultural fieldwork in 1966, sherds and spindle whorls of the Wietenberg culture were revealed. This prompted a subsequent sondage.

Bibliography: János, Kovács 1967, 44-45, III, no. 12, Pl. XIV/37-38, 41-42, 43(?); Jánovits 1999, 121, no. 5a, Pl. XXXII/5-6; Căvruc 2000b, 83, VIIb1, no. 119; Dietrich 2010, 204, no. 5/16.

[13] Ineu - *Grădina lui Barabás Áron* (Csíkjenőfalva), Harghita county.

Type of investigation: excavation.

Type of site: unknown.

Dating: Wietenberg (?); MBA (?).

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the territory of the modern village, on the first, right-hand side terrace of the Olt river. In 1965, a rescue excavation was conducted here and besides the Late Iron Age finds BA pottery, probably MBA, was discovered.

Bibliography: Jánovits 1999, 122, no. 5/b; Cavruc 2000b, 83, VIIb2, no. 120.

[14] Lăzărești - *Nyírpaták*, (Lázárfalva) Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Jigodin/Wietenberg; EBaII/MBA.

Micro-location: 1st terrace.

Subsurface lithology: dystic cambisols (CMd).

Description: The site is located on the first, right-hand side terrace of the Nyír stream, between the modern villages of Lăzărești and Tușnad-sat. Sherds of the Jigodin and Wietenberg culture are reported from here.

Bibliography: Cavruc 2000b, 202, XLc1, no. 653; Munteanu 2010, 17, 60, nos. A10, IV. 23.

[15] Leliceni - *între Pădurea rotundă/Kerek erdő și Muntele de Piatră/Kőhegy* (Ciuc-Sânlelek, Szentlélek, Csíkszentlélek), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Jigodin (?)/Wietenberg (?); EBA II (?)/MBA.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the south-western outskirts of the modern village on a prominent knoll. Sherds of the BA are reported from here, probably relating to the EBA II and MBA nearby site of Leliceni - *Muntele cu Piatră/Kőhegy* [18].

Bibliography: Jánovits 1999, 121, no. 6d; Cavruc 2000b, 192, XXXVIIIa5, no. 608.

[16] Leliceni - *locul oprit* (Ciuc-Sânlelek, Szentlélek, Csíkszentlélek), Harghita county.

Type of investigation: chance finds and excavation.

Type of site: settlement (?).

Dating: Jigodin; EBA II.

Micro-location: hill top.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located west of the modern village, on the northern end of an elongated, north-south oriented hill top (promontory). Sherds of the EBA II period were found here as a result of excavations carried out at the site in 1971, 1974 and 1978.

Bibliography: Roman et alii 1973, 568-569, Fig. 1/8; Roman et alii 1992, 173, Figs. 10/3, 12/B.

[17] Leliceni - *Muntele cu piatră/Muntele de piatră/Kőhegy* (Ciuc-Sânlelek, Szentlélek, Csíkszentlélek), Harghita county.

Type of investigation: chance finds and excavation.

Type of site: settlement.

Dating: Jigodin/Wietenberg; EBA II/MBA.

Micro-location: hill top.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located west of the modern village, on the southern end of an elongated, north-south oriented hill top (promontory) and with steep slopes on all sides except the northern one, between two streams, Pârâul Mic/Kicsirét and Pârâul Mare/Nagyret. Most of the site has been destroyed by the stone quarrying since the late 1960s. A small sounding took place in 1956, and due to quarrying, two rescue excavations in 1969 and 1971 were carried out, and between 1973-1977, systematic excavations took place, with a final destruction of the settlement by the quarry in 1978. Three dwellings, dated to the Jigodin group, of wattle and daub were documented alongside some hearths. Rich EBA materials were found consisting of sherds and complete vessels, *Krummessers*, polished stone axes and chisels, flint arrow-heads, scrapers and sandstone moulds (for axes, chisels and daggers). Sporadic traces of the Wietenberg culture are reported from these investigations, mostly comprised of sherds. The excavation

campaign of 2007 revealed finds of the EBA II period.

Bibliography: Székely 1959, 238, no. 4; Roman et alii 1973; Stoia 1976, 279, no. 69; Stoia 1978, 356, no. 74; Roman et alii 1992, 143–150, 154–172; Boroffka 1994, 53, no. 248; Jánovits 1999, 121, no. 6a; Căvruș 2000b, 192, XXXVIIIa3, no. 606; Căvruș et alii 2008a; Dietrich 2010, 204, no. 5/19; Munteanu 2010, 17–18, 60, nos. A11 and IV. 24.

[18] **Lelicieni** – *Pădurea rotundă/Kerek erdő* (Ciuc-Sânlelek, Szentlélek, Csíkszentlélek), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Jigodin (?)/Wietenberg (?); EBA II (?)/MBA.

Micro-location: knoll.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located southwest of the modern village on a prominent knoll. Sherds of the BA are reported from here, probably relating to the EBA II and MBA nearby site of Lelicieni – *Muntele cu Piatră/Kőhegy* [17].

Bibliography: Jánovits 1999, 121, no. 6b; Căvruș 2000b, 192, XXXVIIIa4, no. 607.

[19] **Lelicieni** – *Suta III* (Ciuc-Sânlelek, Szentlélek, Csíkszentlélek), Harghita county.

Type of investigation: chance finds.

Type of site: settlement.

Dating: Jigodin; EBA II.

Micro-location: hill top.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located west of the modern village, on the northern end of an elongated, north-south oriented hill top (promontory). Sherds of the EBA II period were found here as a result of stone quarrying activities, which started at this site in the middle of the last century.

Bibliography: Roman et alii 1973, 568–569, Fig. 1/9; Roman et alii 1992, 173, Fig. 10/4.

[20] **Lelicieni** – *Vereskép* (Ciuc-Sânlelek, Szentlélek, Csíkszentlélek), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Wietenberg; MBA.

Micro-location: knoll.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the north-eastern outskirts of the modern village, near the fortified church on a prominent knoll. Sherds of the Wietenberg culture were found here.

Bibliography: Căvruș 2000b, 191, XXXVIIIa1, no. 604.

[21] **Mădăraș** (Csíkmadaras), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: BA.

Micro-location: 2nd terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: From the territory of the modern village, on the right-hand side, first terrace of the Olt river finds of three clay beads were reported from the beginning of the last century. The county's repertoire mentions three spindle whorls.

Bibliography: Roska 1942, 60, no. 53; Căvruș 2000b, 123, XIIb1, no. 278.

[22] **Miercurea Ciuc** – *Băi*¹¹¹ (Csíkszereda, Szeklerburg), Harghita county.

Type of investigation: chance finds and sondage.

Type of site: unknown.

Dating: Jigodin/Wietenberg A-B; EBA II/MBA I-II.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the right-hand side, first terrace of the Olt river, just to the west of the modern town. In the 1960s chance finds of sherds and in 1980 several, smaller sondages unearthed further sherds of the Jigodin and Wietenberg culture.

Bibliography: Marțian 1903, 283–284, no. Ic1; János, Kovács 1967, 46, VIII, no. 24, Pl. XVII/69–72; Székely 1970b, 479; Roman et alii 1973, 570, Fig. 1/6; Stoia 1981, 371, no. 77a; Roman et alii 1992, 174, Fig. 10/5;

¹¹¹ Same site discussed at both points by Valeriu Căvruș (2000b, 143, 150, XXVIa6, no. 397, XXVIb3, no. 408).

Boroffka 1994, 57, no. 279; Cavruc 2000b, 143, 150, XXVIa6, no. 397, XXVIb3, no. 408; Munteanu 2010, 16-17, no. A1.

[23] Miercurea Ciuc – Cioboteni-curtea școlii generale (Csíkszereda, Szeklerburg; Ciuboteni, Ciobotfalău, Csobotfalva, Csíkcsobotfalva), Harghita county.

Type of investigation: chance finds.

Type of site: settlement.

Dating: Wietenberg A2-C; MBA I-III.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the first, right-hand side terrace of the Șumuleu stream, in the easternmost end of the modern town, which was the village of Cioboteni till 1913. In the courtyard of the primary school five complete vessels were retrieved during earthworks. The complete vessels may indicate destruction or abandonment layers of the MBA. In 2005 a rescue excavation campaign unearthed sherds of the A2-B phase of the Wietenberg culture.

Bibliography: Muscă 1980, 11, no. 19; Boroffka 1994, 94, no. 543; Buzea 2006; Munteanu 2010, 62, no. IV.31.

[24] Miercurea Ciuc – Csáka/Dealul Csáka/Czáko/Dealul lui Czáko/Czákó/Dâmbul Czáka/Czáka dombja/Pădurea Ciuntă (?)¹¹² (Csíkszereda, Szeklerburg), Harghita county.

Type of investigation: chance finds.

Type of site: settlement (?).

Dating: Jigodin/Wietenberg B; EBaII/MBA II.

Micro-location: hill top.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the north-eastern outskirts of the modern town, on a hill. The finds (few sherds) were collected at the beginning of the last century and indicate an EBA II and MBA presence at this site.

Bibliography: Marțian 1903, 283, no. Ia; Roska 1942, 61, no. 67; Roman et alii 1973, 569, Fig. 1/3; Roman et alii 1992, 175, Fig. 10/8; Maxim, Crișan 1995, 754, no. IV.5,

Pl. IV/4-5, 7, 9; Cavruc 2000b, 143, 151, XXVIa6, no. 397, XXVIb13, no. 420; Dietrich 2010, 204, no. 5/24; Munteanu 2010, 17, no. A8.

[25] Miercurea Ciuc – Culmea munte-lui/Bércheș (Csíkszereda, Szeklerburg), Harghita county.

Type of investigation: chance finds.

Type of site: settlement (?).

Dating: Jigodin/Wietenberg B; EBaII/MBA II.

Micro-location: hill top.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the eastern outskirts of the modern town, on a flat topped hill. Finds (few sherds) were collected in the middle of the last century and indicate an EBA II presence at this site.

Bibliography: Roman et alii 1973, 569-560, Fig. 1/4; Roman et alii 1992, 175, Fig. 10/7; Cavruc 2000b, 143, XXVIa6, no. 397; Munteanu 2010, 17, no. A7.

[26] Miercurea Ciuc – Jigodin băi-Capătul digului/Gátvége¹¹³ (Csíkszereda, Szeklerburg; Jigodinu, Jigodin-baie, Jeged, Zsögödfürdő, Csíkszögöd), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Wietenberg/Noua I; MBA/LBA I.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the first, right-hand side terrace of the Olt river, just to the west of the modern village. Sherds of MBA and LBA were found at this site at the beginning of the last century. During sand quarrying in the early-1940s, sherds and a zoomorphic figurine-head (deer?) were discovered here.

Bibliography: Marțian 1903, 283, no. Ib; Székely 1946, 37, note 13; Székely 1955a, 858, Fig. 3/4, 8-13, 15-16; Székely 1955b, 52; Székely 1959, 243, no. 8, Fig. 2; Horedt 1960, 112, no. 89; Székely 1965, 23; Székely 1970b, 479; Székely 1988, 157, Pl. XIII/3-3a;

¹¹² Same site discussed at both points by Vale-riu Cavruc (2000b, 143, 151, XXVIa6, no. 397, XXVIb13, no. 420).

¹¹³ The site mentioned by V. Cavruc (2000b, 143, XXVIa1, no. 391), probably, indicates the same BA find spot.

Boroffka 1994, 57, no. 281; Căvruc 2000b, 143, XXVIa3, no. 394.

[27] **Miercurea Ciuc - Jigodin băi-casa Imre Nagy** (Csíkszereda, Szeklerburg; Jigodinu, Jigodin-baie, Jeged, Zsögödfürdő, Csíkzsögöd), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Wietenberg/Noua; MBA/LBA I-IIIa.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the territory of the modern day village (southern end of the modern town), on the first, left-hand side terrace of the Olt river. During the construction of the memorial gallery of Imre Nagy in the early-1970s (?), sherds of the Wietenberg and Noua cultures were unearthed.

Bibliography: Căvruc 2000b, 396, XXVIa5, no. 396.

[28] **Miercurea Ciuc - Jigodin băi-centrul cartierului** (Csíkszereda, Szeklerburg; Jigodinu, Jigodin-baie, Jeged, Zsögödfürdő, Csíkzsögöd), Harghita county.

Type of investigation: chance discovery.

Type of site: burial ground.

Dating: Noua I; LBA I.

Micro-location: 2nd terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located in the middle of the modern day village, on the second, left-hand side terrace of the Olt river. It is located within the settlement and it was an inhumation placed into a stone cist along with five vessels.

Bibliography: János, Kovács 1967, 46, VIII, no. 26, Pl. XVII/74-76; Căvruc 1999, 14-15, 29; Căvruc 2000b, 144, XXVIa7, no. 398; Căvruc 2001, 49; Daróczi 2011b, 177, no. 375.

[29] **Miercurea Ciuc - Jigodin băi-Coasta stejarului/Csereoldal/Vârful cu stejari/Csertető**¹¹⁴ (Csíkszereda, Szeklerburg;

Jigodinu, Jigodin-baie, Jeged, Zsögödfürdő, Csíkzsögöd), Harghita county.

Type of investigation: chance discovery and excavation.

Type of site: settlement.

Dating: Jigodin; EBA II.

Micro-location: hill top.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the south-eastern outskirts of the modern town, on top of a prominent hill. In 1954, with the start of stone quarrying activities, significant finds of the EBA II period were made here. Subsequently, in 1955, a rescue excavation was conducted. Complete, though smashed, vessels, sherds, stone tools (polished stone, sandstone and flint) and further clay objects (spindle whorls and perforated plaques) were found during these investigations.

Bibliography: Székely 1955a, 845-846, Pl. 1/1-10, 4/1-9; Székely 1957, 152-154, no. 2, Fig. 6, 7/1-10; Bichir 1962, 88, Fig. 1, note 13; Roman et alii 1973, 559, Fig. 1/2; Roman et alii 1992, 173-174, Fig. 10/1; Jánovits 1999, 122-123, no. 8, Pl. V/2-3; Căvruc 2000b, 143, 193, XXVIa4, no. 395, XXXVIIIc3, no. 614; Munteanu 2010, 17, 21, nos. A6 and A21.

[30] **Miercurea Ciuc - Jigodin băi - Jigodin I/Câmpul Morii/Malomföld** (Csíkszereda, Szeklerburg; Jigodinu, Jigodin-baie, Jeged, Zsögödfürdő, Csíkzsögöd), Harghita county.

Type of investigation: chance finds and excavation.

Type of site: settlement.

Dating: LBA III-EIA.

Micro-location: hill top.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located to the southwest of the modern town, on a promontory above and to the west of the baths, overlooking the Olt River¹¹⁵. In the excavation campaign of 1988 a bronze knife was discovered, with good analogies at the site of Moldova Nouă-Izvor Suvarov (Gumă 1979, 481, 482-483, Pl. I) in a context dated to the LBA IIIa

¹¹⁴ Same site discussed at both points by Valeriu Căvruc (2000b, 143, 193, XXVIa4, no. 395, XXXVIIIc3, no. 614) and Radu Munteanu (2010, 17, 21, nos. A6 and A21).

¹¹⁵ Erroneously placed on the map by Valeriu Căvruc (2000b, 312 map XXVI/no. 399), since S. Ferenczi clearly places it in the immediate vicinity of the Olt river (Ferenczi 1938, 239, Fig. 1/1).

(Szentmiklosi 2009, 409, no. 145). Sherds of the Gáva period are mentioned as well.

Bibliography: Marțian 1903, 283–284, no. Ic1; Marțian 1909, 327, no. 133; Marțian 1920, 24, no. 374; Vámszer 1934, 71; Ferenczi 1938, 240–242, 312, no. 1; Crișan 1993, 245, no. 22, Pl. 8/2; Cavruc 2000b, 145, XXVIa8, no. 399.

[31] Miercurea Ciuc – Jigodin băi – Jigodin III/Văful Cetății/Piscul Cetății/Cetățuia/Piscul Cetățuia/Kisvártető (Csíkszereda, Szeklerburg; Jigodinu, Jigodin-baie, Jeged, Zsögödfürdő, Csíkszögöd), Harghita county.

Type of investigation: chance finds and excavation.

Type of site: unknown.

Dating: Wietenberg; MBA.

Micro-location: hill top.

Subsurface lithology: umbric andosols (ANu).

Description: The site is located west of the modern town/village on a hill top with three steep sides. It was surveyed in the early-1900s, 1930s and smaller excavations were carried out here in 1950 and 1996. The Bronze Age is only represented through with finds of the Wietenberg culture in the shape of sherds mixed-in with the later La Tène finds.

Bibliography: Orbán 1869a, 34; Marțian 1903, 284, no. Ic2; Könyöki, Nagy 1905, 282; Marțian 1909, 327, no. 133; Marțian 1920, 24, no. 374; Vámszer 1934, 71; Ferenczi 1938, 260–267, 309–311, no. 3; Roska 1942, 61, 313, nos. 74 and 16; Macrea et alii 1951, 308–310, Fig. 12; Jánovits 1999, 123, no. 9b; Cavruc 2000b, 146–148, XXVIa10, no. 401; Dietrich 2010, 204, no. 5/18.

[32] Miercurea Ciuc – Köcsükland/Köcsülánd/Suta (Csíkszereda, Szeklerburg), Harghita county.

Type of investigation: chance finds and sondage.

Type of site: settlement/hoard.

Dating: Wietenberg C (?) / Noua; MBA III (?) / LBA I–II.

Micro-location: 1st terrace¹¹⁶.

¹¹⁶ Erroneously placed on top of a hill (*≈Höhen-siedlung*), by L. Dietrich (2010, 204, no. 5/23), since it is located on the eastern outskirts of the

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the eastern outskirts of the modern town, on the first, right-hand side terrace of the Șuta stream. In 1954 a small archaeological sondage revealed finds of the Wietenberg culture and some sherds of the Noua culture. The archaeological material mostly consisted of sherds, large fragments probably indicating destruction layers of the settlement. Small finds include a polished stone chisel, a terracotta spoon, a clay disc with two perforations and a decorated wagon/chariot wheel with four (?) spokes. In 1966, during stone quarrying a depot was unearthed consisting of seven objects (four socketed bronze axes of the *Transylvanian-type*, variant C₅ (Rusu 1966, 26, Fig. 3/C5), a spearhead, a sickle and a chisel), to which later further two objects (arm-rings) were attributed, which was dated to the Brz D period of the Uriu-Domănești series (Rusu 1966, 30) of the LBA I–LBA II horizon.

Bibliography: Székely 1955a, 852, Fig. 3/7, 17; 8/1–2, 4–5; 9/1; Székely 1955b, 52–53, Fig. 3/1–2, 4–5; R. Vulpe 1955, 566, Fig. 5; Horedt 1960, 112, no. 89; Bichir 1964, 81, no. 41, note 76, Fig. 7/4; Székely 1970b; Székely 1971a, 393, 397, 399; Székely 1971b, 308, Figs. 1/1–7; 2/1–12; Mozsolics 1973, 126; Petrescu-Dîmbovița 1977, 63–64, Pl. 54/1–7; Petrescu-Dîmbovița 1978, 63, 104, no. 1719, Pl. 38/B7, no. 51, Pl. 38/B; Székely 1988, 154, 157, Fig. 4; Bader 1990, 185; Crișan 1993, 241, no. IIIa1, Pl. 3/1–7; Boroffka 1994, 57, no. 280; Cavruc 2000b, 149–150, XXVIb2, no. 407; Dietrich 2010, 204, no. 5/23.

[33] Miercurea Ciuc – str. Tudor Vladimirescu/Dealul cu praf de pușcă/Pulberărie/Dealul pulberăriei¹¹⁷ (Csíkszereda, Szeklerburg), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Jigodin/Wietenberg; EBA II/MBA.

modern town, and as such on the higher terraces of the Olt River.

¹¹⁷ Same site discussed at both points by V. Cavruc (2000b, 143, 150, XXVIa6, no. 397; XXVIb4, no. 409)

Micro-location: 2nd terrace¹¹⁸.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the territory of the modern town, in its southern end, though still to the north of Jigodin. It is on the second, left-hand side terrace of the Olt river. In the late-1960s, during stone quarrying, sherds of the Wietenberg culture were discovered and during construction of the Colegiul Național "Octavian Goga" (former Liceul nr. 2) sherds of EBA II were reported.

Bibliography: Székely 1961, 182; Roman et alii 1973, 570, Fig. 1/5; Roman et alii 1992, 175, Fig. 10/6; Căvruc 2000b, 143, 150, XXVIA6, no. 397, XXVIB4, no. 409; Dietrich 2010, 204, no. 5/25; Munteanu 2010, 17, no. A9.

[34] Miercurea Ciuc - Șumuleu Ciuc - vatra satului (Csíkszereda, Szeklerburg; Csíksomlyó, Csíksomlyó-Várdotfalva, Schomlenberg, Somlyoerberg), Harghita county.

Type of investigation: chance finds.

Type of site: hoard.

Dating: LBA III.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located in the northern part of the modern village, on the first, left-hand side terrace of a small stream. A chance find of an axe with disc of the *Drajna-type* is reported from here. Based on its typology, it dates to the Uriu-Dragomirești horizon, in the LBA III.

Bibliography: Al. Vulpe 1970, 59-60, 100; Crișan 1993, 241, no. II4, Pl. 2/3; Căvruc 2000b, 150, XXVIB6, no. 411.

[35] Miercurea Ciuc - Șumuleu Ciuc - vatra satului (Csíkszereda, Szeklerburg; Csíksomlyó, Csíksomlyó-Várdotfalva, Schomlenberg, Somlyoerberg), Harghita county.

Type of investigation: chance finds.

Type of site: hoard.

Dating: LBA III-EIA.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located in the eastern part of the modern town, on the territory of the former Csíksomlyó-Várdotfalva (till 1913) village; on the left-hand side, first terrace of the Șumuleu stream. A socketed bronze axe is reported from this site as having been found in the earlier part of the last century. It is of a *Transylvanian-type*, variant C₇ (Rusu 1966, 27, Fig. 4/C7) and dated to the Ha A₁-B₂ horizon (Novotná 1970, 97-98, e.g. no. 785, Pl. 43/785; Rusu 1966, 27, 30), which correlates with the LBA III-EIA.

Bibliography: Roska 1937, 144, Fig. 85/2; Roska 1942, 299, no. 39.

[36] Miercurea Ciuc - Șumuleu Mic/Kis-Somlyó (Csíkszereda, Szeklerburg), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Wietenberg (?), MBA (?).

Micro-location: hill top.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located east of the modern town, on top of the Șumuleu Mic/Kis-Somlyó hill. Chance finds of pottery are reported from here, possibly MBA.

Bibliography: Jánovits 1999, 124, no. 10d; Căvruc 2000b, 151, XXVIB15, no. 422.

[37] Miercurea Ciuc - Toplița (Csíkszereda, Szeklerburg; Csíktapolca, Csíktoplica), Harghita county.

Type of investigation: chance finds.

Type of site: hoard.

Dating: Jigodin; EBA II/LBA IIIa.

Micro-location: 2nd terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the territory of the modern town, in its northwestern part, in the area of the former village of Toplița, in the second, left-hand side terrace of the Olt river. A *Baniabici-type* copper axe has been found here, which might be associated with the period of the Jigodin group. A fragment of the blade of a *Griffzungenschwerter mit profiliertem Mittelwulst type*, variant *mit breitem flachen Mittelwulst, mit drei Rippen* was reported from this site as well, dated to the older Ha A (LBA IIIa).

¹¹⁸ Erroneously placed on top of a hill (*≈Höhensiedlung*), by L. Dietrich (2010, 204, no. 5/25), since it is located on the territory of the modern town, and as such on the higher terraces of the Olt River.

Bibliography: Roska 1942, 61, no. 69, Fig. 64; Al. Vulpe 1970, 27, no. 33, Pl. 3/33; Bader 1991, 107, no. 268, Pl. 26/268; Crişan 1993, 151, no. 21, Pl. 2/4; Cavruc 2000b, 150, XXVIb5, no. 410.

[38] Mihăileni - lângă cimitirul vechi (Csíkszentmihály), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Wietenberg C-Noua I (?); MBA III-LBA I.

Micro-location: 1st terrace.

Subsurface lithology: cambic podzols (PZb).

Description: The site is located on the territory of the modern village, in the immediate vicinity of the catholic cemetery, on the first left-hand side terrace of a small stream. BA sherds and an antler disc used as bridle decoration are reported from here. Though, the disc might have been found at the nearby site of Mihăileni - *ruinele satului Czibre* [39].

Bibliography: Cavruc 2000b, 152, XXVIIb1, no. 426; Daróczi, Kelemen 2011.

[39] Mihăileni - ruinele satului Czibre (Csíkszentmihály), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Wietenberg C-Noua I (?); MBA III-LBA I.

Micro-location: 1st terrace.

Subsurface lithology: cambic podzols (PZb).

Description: The site is located to the east of the modern village, on the first, right-hand side terrace of a small stream. BA sherds and an antler disc used as bridle decoration are reported from here. Though, the disc might have been found at the nearby site of Mihăileni - *lângă cimitirul vechi* [38].

Bibliography: Cavruc 2000b, 152, XXVIIb2, no. 427; Daróczi, Kelemen 2011.

[40] Misentea - Templom-tizes (Misentiu, Csíkmindszent), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Wietenberg; MBA/LBA III (?).

Micro-location: 2nd terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the territory of the modern village and on the second, right-hand side terrace of a small stream. Sherds of the MBA and Ha were retrieved from the courtyard of the Catholic parish.

Bibliography: Jánovits 1999, 124, no. 12, Pl. XXIII/1, 3; Cavruc 2000b, 193, XXXVIIIb1, no. 610.

[41] Păuleni-Ciuc - Cetate/Dealul Cetății/Movila Cetății/Várdomb (Palfaláu, Păuleni, Csíkpálfalva), Harghita county.

Type of investigation: chance finds and excavation.

Type of site: fortified settlement and burial ground.

Dating: Jigodin/Costişa-Ciomortan/Wietenberg A2-B; EBA II/MBA I-II.

Micro-location: ridge.

Subsurface lithology: cambic podzols (PZb).

Description: The site is located northeast of the modern village, on a low knoll situated on a saddle stretching between two peaks. For a detailed account of the research history, the MBA finds and contexts please consult the above text.

Bibliography: Benkő 1869, 75; Orbán 1869a, 22; Gooss 1876, 217; Marţian 1903, 285, no. Id; Könyöki, Nagy 1905, 282, 284; Marţian 1909, 326, no. 123; Marţian 1920, 14, no. 173; Roska 1929, 293; Vámszer 1934, 72; Ferenczi 1938, 290-296, 308, 311, no. 8; Roska 1942, 59, 220, nos. 16, 46; Popescu, Dumitrescu 1957a, 338, no. 16; Popescu, Dumitrescu 1957b, 355, no. 16; Székely 1959, 238-240, no. 5, Pl. 9/3-9; Popescu 1961a, 570, no. 27; Popescu 1961b, 136, no. 26; Popescu 1968a, 679, no. 17; Popescu 1968b, 423, no. 17; Székely 1970a; Székely 1970c, 305, no. 8; Zaharia 1970, 65-68; Székely 1971a, 391-393, Figs. 3/1-9; 5/1-6; 6/1-4; 7/1-7; Székely 1971b, 307-308, Figs. 4/5-6, 10-11, 5/8-11; 6/6-8; Roman et alii 1973, 571-572; Soroceanu 1973, 500, no. 44; Székely 1973, 219, Figs. 1/1-7; 3/3; Muscă 1979; Székely 1988, 157, 159, Pls. III/3-4; VIII/1-4; XIV/1-5; Boroffka 1994, 65, no. 323; Maxim, Crişan 1995, 753, no. III.4, Pl. IV/2, 10; Jánovits 1999, 124, no. 13; Cavruc 2000a; Cavruc 2000b, 173-174, 175-177, XXXIIIb1, no. 526; Cavruc,

Dumitroaia 2000; Cavruc et alii 2000; Cavruc, Rotea 2000; Comşa 2000; Rotea 2000; Cavruc 2001, 46–47, 50, 53; Cavruc et alii 2001; Cavruc 2002; Cavruc, Buzea 2002; Cavruc et alii 2002; Cavruc, Buzea 2003; Cavruc 2004, 272–273; Cavruc 2005; Kavruk et alii 2009, 214; Kavruk et alii 2008b, 302–303; Dietrich 2010, 204, no. 5/29; Kavruk et alii 2010; Munteanu 2010, 49, 67, 85, 90, 92, 93, 96–98, 108, 112–113, 173–174, 176, 180, 182, 199, 203, 207–209, 215, 219, nos. II. 23, IV. 50, Figs. 19–21, 83–84; Popa, Totoianu 2010, 14, 106–116, 130–131, Fig. 111; Daróczy 2011b, 189–190, nos. 444–445.

[42] Racu - Dealul Bogat/Câmpul Cetăţii/Bogát tető/Racu I¹¹⁹ (Racul Ciucului, Racoş, Rákos, Csíkrákos), Harghita county.

Type of investigation: chance finds.

Type of site: settlement.

Dating: Jigodin/Wietenberg A2-B; EBA II/MBA I-II/ LBA III (?).

Micro-location: hill top.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located west of the modern village, on the right-hand side of the Olt river on top of a prominent hill with steep eastern and northeastern sides. The site has been surveyed repeatedly since the middle of the 19th century, when a possible rampart and a fortification trench was noted as well. Reported finds mostly consist of sherds, though a stone bead is mentioned as well. An EBA juglet (?), probably of the Jigodin group, was found here (Pál Péter Domokos collection). Sherds of the Ha period are mentioned as well.

Bibliography: Orbán 1869a, 69; Orosz 1901, 41–42, no. 60; Könyöki, Nagy 1905, 282; Marţian 1909, 326, no. 126; Marţian 1920, 32, no. 537; Vámszer 1934, 72; Ferenczi 1938, 274–278, 308, 312, 316, no. 5, Fig. 44; Roska 1942, 59, no. 58; Székely 1955a, Fig. 8/3; Székely 1955b, 52, Fig. 3/3; R. Vulpe 1955, 565–566; Boroffka 1994, 68, no. 344; Maxim, Crişan 1995, 754, no. III. 6, Pls. I/4; III/3, 5–6; Cavruc 2000b, 214–215,

XLIIIb1, b4a-b, nos. 708, 711–712; Dietrich 2010, 205, no. 5/35; Munteanu 2010, 65, no. IV. 42.

[43] Sâncrăeni (Csíkszentkirály), Harghita county

Type of investigation: chance finds.

Type of site: hoard.

Dating: LBA III (?).

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: From the territory of the modern village a socketed bronze axe is reported to have been found at the beginning of the last century.

Bibliography: Roska 1942, 60, no. 63; Cavruc 2000b, 196, XXXVIIIc9b, no. 621.

[44] Sâncrăeni - Dealul Borvizului/Borvíz dombja (Csíkszentkirály), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: LBA III (?).

Micro-location: hill top.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located north of the modern village, on the left-hand side of the Olt river on top of a hill. Ha period sherds are reported from here.

Bibliography: János, Kovács 1967, 47–48, XII, no. 35, Pl. XXI/123–125; Cavruc 2000b, 193, XXXVIIIc2, no. 613.

[45] Sâncrăeni - Fabrica de cărămidă/Ecken-Tiva/Telek/Teleac (Csíkszentkirály), Harghita county.

Type of investigation: excavation.

Type of site: settlement.

Dating: Gáva (?); LBA III.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the southern outskirts of the modern village, on the first, high, right-hand side terrace of the Olt river. During the excavations of the mid-1950s finds of the earlier Ha period were discovered here.

Bibliography: R. Vulpe 1955, 559–568; Preda 1959, 827, 829–836, 831–845; János, Kovács 1967, 48, XII, no. 36, Pl. XXII/128–143; Jánovits 1999, 125, nos. 15b and 15c, Pl. I/3–4,

¹¹⁹ Same site discussed at all three points by V. Cavruc (2000b, 214–215, XLIIIb1, b4a-b, nos. 708, 711–712).

Pls. XXX/2; XXXIII/1-2, 4; XXXV/1; Cavruc 2000b, 194, XXXVIIIc7, no. 618.

[46] Sâncrăeni - Gara C.F.R. (Csíkszentkirály), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: LBA III.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located in the eastern part of the modern village, nearby the train station, on the first, left-hand side terrace of the Olt River. A complete, storeyed vessel was found at this site.

Bibliography: Morintz 1970, 95; Cavruc 2000b, 194, XXXVIIIc5, no. 616.

[47] Sâncrăeni - grajdurile C.A.P. (Csíkszentkirály), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Jigodin; EBA II.

Micro-location: 2nd terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the northern outskirts of the modern village, on the second, right-hand side terrace of the Olt river. During the construction of the communal stables in the middle of the last century, sherds of the EBA II period were found.

Bibliography: Roman et alii 1992, 175, Fig. 11/10.

[48] Sâncrăeni - Karimósarka (Csíkszentkirály), Harghita county.

Type of investigation: chance finds.

Type of site: settlement (?).

Dating: Jigodin/Wietenberg (?); EBA II/MBA (?).

Micro-location: 2nd terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located southeast of the modern village, on the second, left-hand side terrace of the Olt river. Sherds of the MBA (?) were collected from here.

Bibliography: Roman et alii 1992, 175, Fig. 11/10; Cavruc 2000b, 197, XXXVIIIc13, no. 630.

[49] Sândominic (Csíkszentdomokos), Harghita county.

Type of investigation: chance finds.

Type of site: hoard.

Dating: LBA I-II.

Micro-location: 2nd terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the territory of the modern village, on the left-hand side, second terrace of the Olt River. In the 1960s a *Transylvanian-type*, variant B₁ (Rusu 1966, 25, Fig. 2/B1) socketed bronze axe was found. It is dated to the Brz D horizon (Rusu 1966, 26), which places it to the LBA I-II.

Bibliography: Székely 1967, 328-329, Fig. 1/4.

[50] Sânmartin - gropi de nisip lutos/Câmpul capelei (Sânmartin, Cic Sânmartin, Ciuc-Sânmartin, Csíkszentmárton), Harghita county.

Type of investigation: chance finds and chance discovery.

Type of site: settlement.

Dating: Jigodin/Wietenberg A-B; EBA/MBA I-II.

Micro-location: 1st terrace.

Subsurface lithology: cambic podzols (PZb).

Description: The site is located on the territory of the modern village, on the first, right-hand side terrace of a small stream. From the first quarter of the last century, sherds of the MBA are mentioned at this site. In the mid-1950s in an area with silty-clay, where small sized quarrying has been conducted a pit-house of the Wietenberg culture was discovered. Sherds are the only finds reported from here. From the nearby area of *Câmpul capelei*, EBA II sherds were collected.

Bibliography: Schroller 1933, 74, no. 15; Roska 1941, 56, no. 64; Roska 1942, 61, no. 64; Roska 1944, 24, no. 15; Horedt 1960, 115, no. 182; Kovács 1967, 48, no. 38, Pl. XX/111-112; Székely 1988, 154; Roman et alii 1992, 175, Fig. 11/17; Boroffka 1994, 78, no. 411; Cavruc 2000b, 203, XLe1, no. 657.

[51] Sânsimion (Sânsimion, Simonești, Csíkszentsimon), Harghita county.

Type of investigation: chance finds.

Type of site: hoard.

Dating: LBA IIIa.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The provenance of the object is unknown, probably from the area of the modern village, from the first, high, left-hand terrace of the Olt river. The upper half of a beaked socketed axe is reported from this area. It is of the *Schnabeltüllen-beile von Ostkarpatischer* type, specific for the area of Transylvania. Its best analogies are Novotná 1970, 74, 75, 76, 77, nos. 482, 486, 492-494, 496 and 533, Pls. 27/482; 28/486, 492-494, 496; 30/533 and the one bearing the highest resemblance, no. 482, was found in the hoard of Blatná Polianka of the Kisapáti horizon (Mozsolics 2000, 20-21, Fig. 3), which might be paralleled in Romania with the Cincu-Suseni horizon and by this dated into Ha A₁, in the present system into LBA IIIa.

Bibliography: Crişan 1993, 244, no. 17, Pl. 8/8.

[52] **Sânsimion** - *cariera de nisip/grajdurile CAP/Kőházkert*¹²⁰ (Sânsimion, Simoneşti, Csíkszentsimon), Harghita county.

Type of investigation: chance finds and excavation.

Type of site: settlement.

Dating: Jigodin/Wietenberg; EBA II/MBA.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located northwest of the modern village, on the first, left-hand side terrace of the Olt river. In the earlier part of the second half of the last century, during sand quarrying, amongst others, finds of the Wietenberg culture were retrieved. This prompted rescue excavations led by I. Ferenczi. In the years of 1987 and 1988 systematic excavations concentrated on the Iron Age finds of the site. During this work, MBA finds were discovered in several instances. A handful of EBA II sherds are reported from here.

Bibliography: János, Kovács 1967, 48, XIV, no. 40; Muscă 1981; Roman et alii 1992, 175,

Fig 11/12; Cavruc 2000b, 204-205, XLlb1 and b3, nos. 668 and 670.

[53] **Sântimbru** - *Dealul Mic/Kishegy* (Cic-Sântimbru, Ciuc-Sântimbru, Csíkszentimre), Harghita county.

Type of investigation: chance finds.

Type of site: settlement.

Dating: Jigodin/Wietenberg A-B; EBA II/MBA I-II/LBA III (?).

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located northeast of the modern village, on the first, high, left-hand side terrace of the Olt river. During agricultural activities in the mid-1960s, sherds of the EBA and completely restorable vessels of the Wietenberg culture were found here. The latter may indicate destruction or abandonment levels in the MBA at this site. Ha are also reported from here.

Bibliography: János, Kovács 1967, 49, XV, no. 43, Pl. XXV/160-164; Roman et alii 1973, 570, Fig. 1/11; Székely 1988, 154, 158, Pl. 1/4; Roman et alii 1992, 175, Fig. 11/11; Boroffka 1994, 79, no. 420; Jánovits 1999, 125, no. 16a; Cavruc 2000b, 198, XXXVIIIId1, no. 632; Munteanu 2010, 21, 65, nos. A22 and IV.45.

[54] **Sântimbru** - *vatra satului* (Cic-Sântimbru, Ciuc-Sântimbru, Csíkszentimre), Harghita county.

Type of investigation: chance finds.

Type of site: settlement (?).

Dating: Wietenberg (?); MBA (?).

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the territory of the modern village, in its western part, on the first, right hand-side terrace of the Olt River. A BA hand millstone has been found here.

Bibliography: Cavruc 2000b, 199, XXXVIIIId, no. 637.

[55] **Siculeni** - *Siculicidium monument* (Ciuc-Matişfalău, Madefalău, Mádéfalva, Csíkmádéfalva), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

¹²⁰ Same site discussed at both points by V. Cavruc (2000b, 204, 205, XLlb1 and b3, nos. 668 and 670).

Dating: Jigodin; EBA II.

Micro-location: 1st terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the territory of the modern village, on the right-hand side, first terrace of the Olt river. During the laying of the foundation of a house, located nearby the *Siculicidium monument*, an EBA II juglet was discovered.

Bibliography: János, Kovács 1967, 46, VI, no. 22, Pl. XVI/63; Cavruc 2000b, 216, XLIIIc1, no. 714; Munteanu 2010, 11, no. A24.

[56] **Tomești - Cărbunar/Szénégető** (Csíkszenttamás), Harghita county.

Type of investigation: chance finds.

Type of site: hoard.

Dating: Wietenberg B; MBA II.

Micro-location: 2nd terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the second, left-hand side terrace of the Olt river, on the southeastern outskirts of the village. In the mid-1960s a *Pădureni-type* of bronze axe was found at this site.

Bibliography: János, Kovács 1967, 49, XVI, no. 48, Pl. XXVI/171; Al. Vulpe 1970, 45, 48, no. 129a, Pl. 56/C5; Crișan 1993, 241, no. II3, Pl. 2/1; Cavruc 2000b, 84, VIIc2, no. 123; Dietrich 2010, 194, 202, no. 1/12; Munteanu 2010, 67, no. IV.52.

[57] **Tomești - Kőd** (Csíkszenttamás), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: LBA III (?).

Micro-location: 2nd terrace.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located on the north-eastern outskirts of the modern village, on the second, left-hand side terrace of the Olt river. Sherds of the Ha period are reported from here, which would allow for the possibility of dating them to the LBA III period.

Bibliography: Cavruc 2000b, 84, VIIc3, no. 124.

[58] **Tușnad - intersecția drumurilor Vrabia, Cozmeni, Lăzărești** (Tușnad, Csíktușnad), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Wietenberg A; MBA I.

Micro-location: knoll.

Subsurface lithology: dystic cambisols (CmD).

Description: The site is located on the north-eastern outskirts of the modern village, next to the present-day cemetery on a knoll. Chance finds of what seems to be an early stage of the Wietenberg culture are reported from here.

Bibliography: János, Kovács 1967, 50, XVII, no. 52, Pl. XXVII/187(?)–188; Cavruc 2000b, 242, XLIXa1, no. 834.

[59] **Tușnad - Piscul cetății-Cetatea cu idoli/Dâmbul cetății/Vârful cetății/Vărtető** (Tușnad, Csíktușnad), Harghita county.

Type of investigation: chance finds and excavation.

Type of site: fortified settlement.

Dating: Lăpuș II-Gáva I (?); LBA III-EIA.

Micro-location: hill top.

Subsurface lithology: dystic cambisols (CmD).

Description: The site is located just south of the modern village, on the left-hand side of the Olt river on top of a hill. During the excavation of 1963, a fortified settlement of the earlier Ha period was discovered here. A rampart was identified and the possible remains of surface dwellings with a stone base are mentioned. Four arm-rings of the *gerippte Armbänder* type (variants *rundliche gerippte Armbänder mit flacher Innenseite* and *ovale gerippte Armbänder mit flacher Innenseite*) were found within the settlement, which are dated to the Ha A (Petrescu-Dîmbovița 1998, 185). Not far from these, an iron knife and sherds of the Lăpuș II-Gáva I are reported, some of which could be reconstructed as stored vessels. The iron knife found nearby is dated to the Ha B period (László 1975, 24).

Bibliography: Orbán 1869a, 37; Orbán 1869b, 70–71; Könyöki, Nagy 1905, 282; Vámszer 1934, 70; Marțian 1909, 348, no. 702; Marțian 1920, 40, no. 705; Ferenczi 1938, 302–307, no. 11; Horedt 1964, 125–126, no. 22, Fig. 1/10; Morintz 1970, 94; László 1975, 22, 24, no. 20; Horedt 1976; Crișan

1993, 245, no. 23a-d, Pl. 8/4-7; Petrescu-Dîmbovița 1998, 182-183, nos. 2258-2260, 2267, Pls. 158/2258-2260; 159/2267; Cavruc 2000b, 242, XLIXa3, no. 836.

[60] Tușnad - Vârghiș, Vargyas (Tusnád, Csíktus-nád), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: LBA III.

Micro-location: hill top.

Subsurface lithology: dystic cambisols (CMd).

Description: The site is located just south of the modern village, on the left-hand side of the Olt river on top of a hill. In the mid-1960s finds of the earlier Ha were discovered here.

Bibliography: János, Kovács 1967, 50, XVII, no. 55, Pl. XXVII/184-185; Cavruc 2000b, 243, XLIXa4, no. 837.

[61] Tușnadu Nou - vatra satului (Újtusnád), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: BA.

Micro-location: 1st terrace.

Subsurface lithology: dystic cambisols (CMd).

Description: The site is located on the territory of the modern village, on the right-hand side, first terrace of a small stream. BA sherds were found here.

Bibliography: Cavruc 2000b, 243, XLIXb1, no. 840.

[62] Văcărești - cariera de piatră (Vacsárics), Harghita county.

Type of investigation: chance finds.

Type of site: unknown.

Dating: Jigodin; EBA II.

Micro-location: hill top.

Subsurface lithology: eutric fluvisols (FLe).

Description: The site is located west of the modern village on the top of a hill. In the middle of the last century, a stony quarry destroyed a site. Chance finds indicate an EBA II date.

Bibliography: János, Kovács 1967, 47, IX, no. 30, Pl. XVIII/87-98; Roman et alii 1973, 570, Fig. 1/1; Roman et alii 1992, 175, Fig. 11/9.

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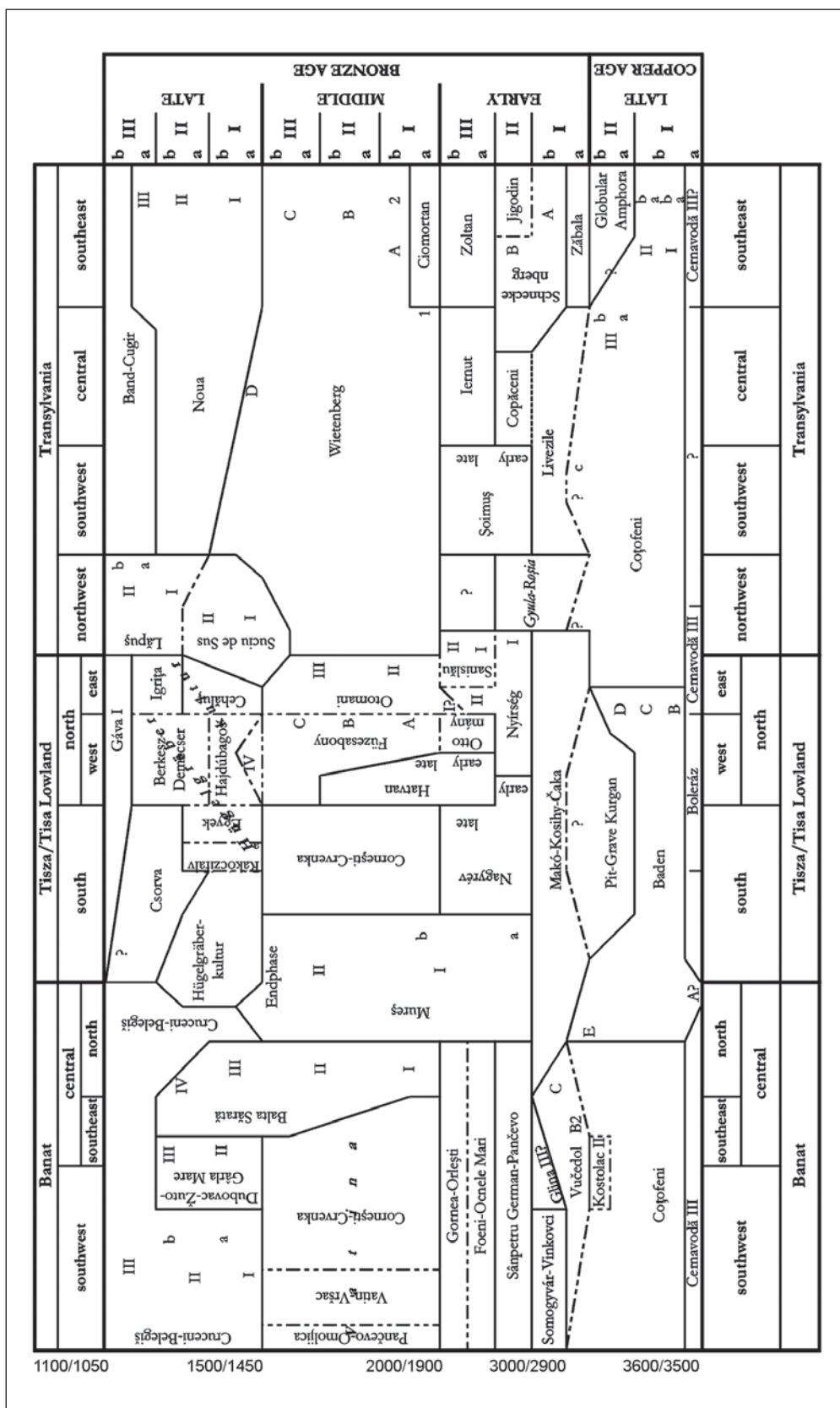
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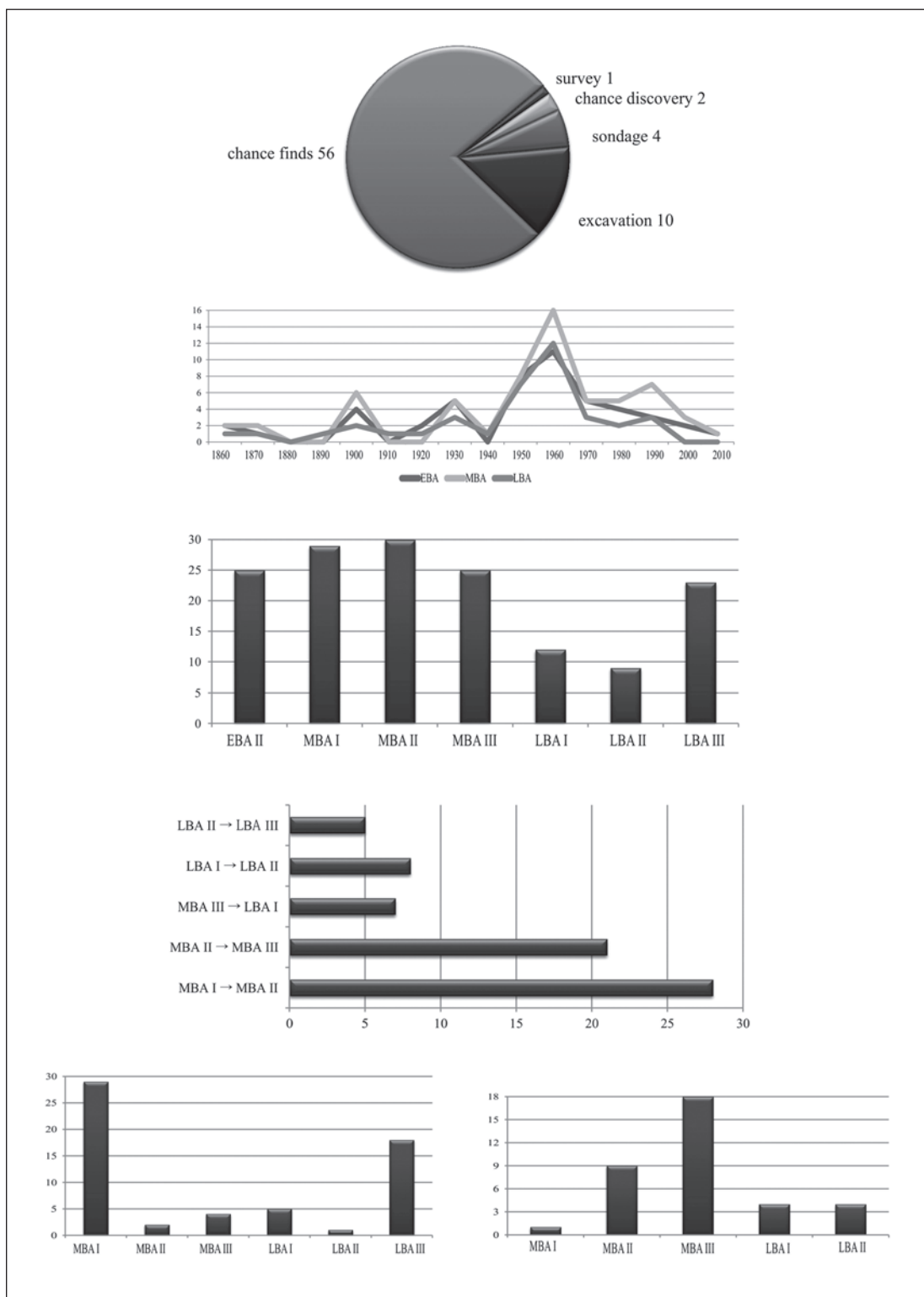
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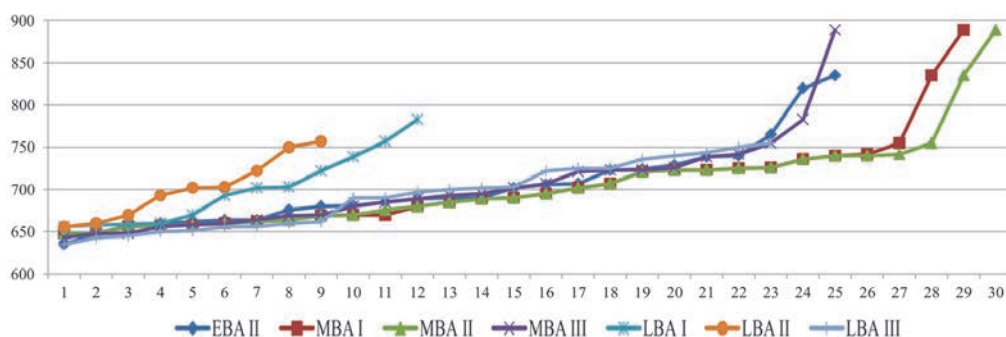
Tibor-Tamás Daróczy

Institut für Ur- und Frühgeschichte und Vorderasiatische Archäologie
Ruprecht-Karls Universität, Heidelberg
csibike3@yahoo.com

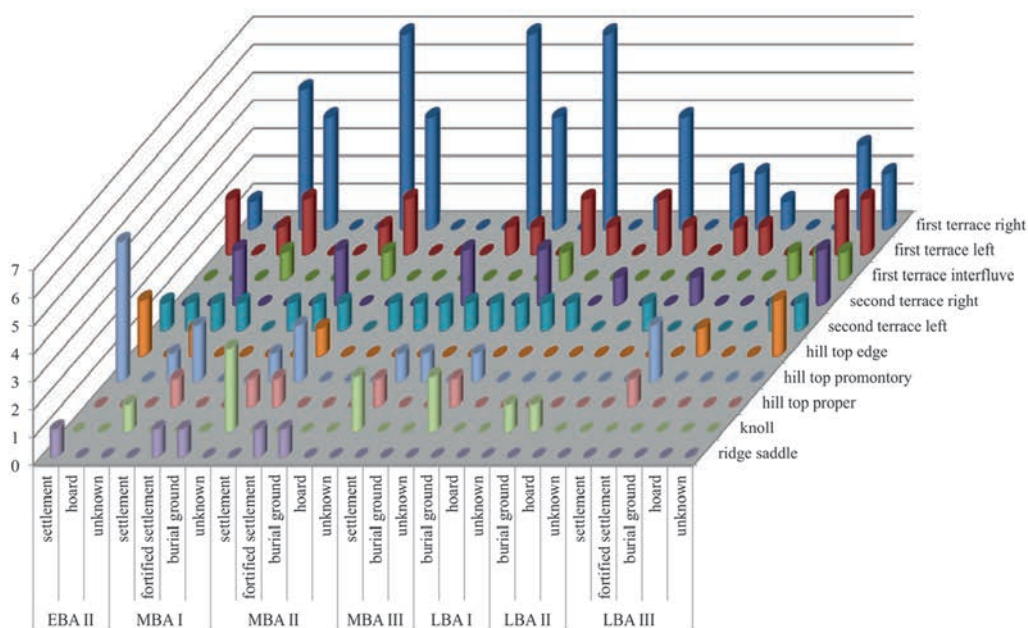




PI. II. Statistics of the BA sites from the Ciuc depression: **1.** Type of research at the BA sites; **2.** Research intensity of BA sites; **3.** Number of sites documented in the BA phases; **4.** Continuity of use of BA sites in consecutive phases; **5.** Number of BA sites starting their use in each phase; **6.** Number of BA sites ending their use in each phase.

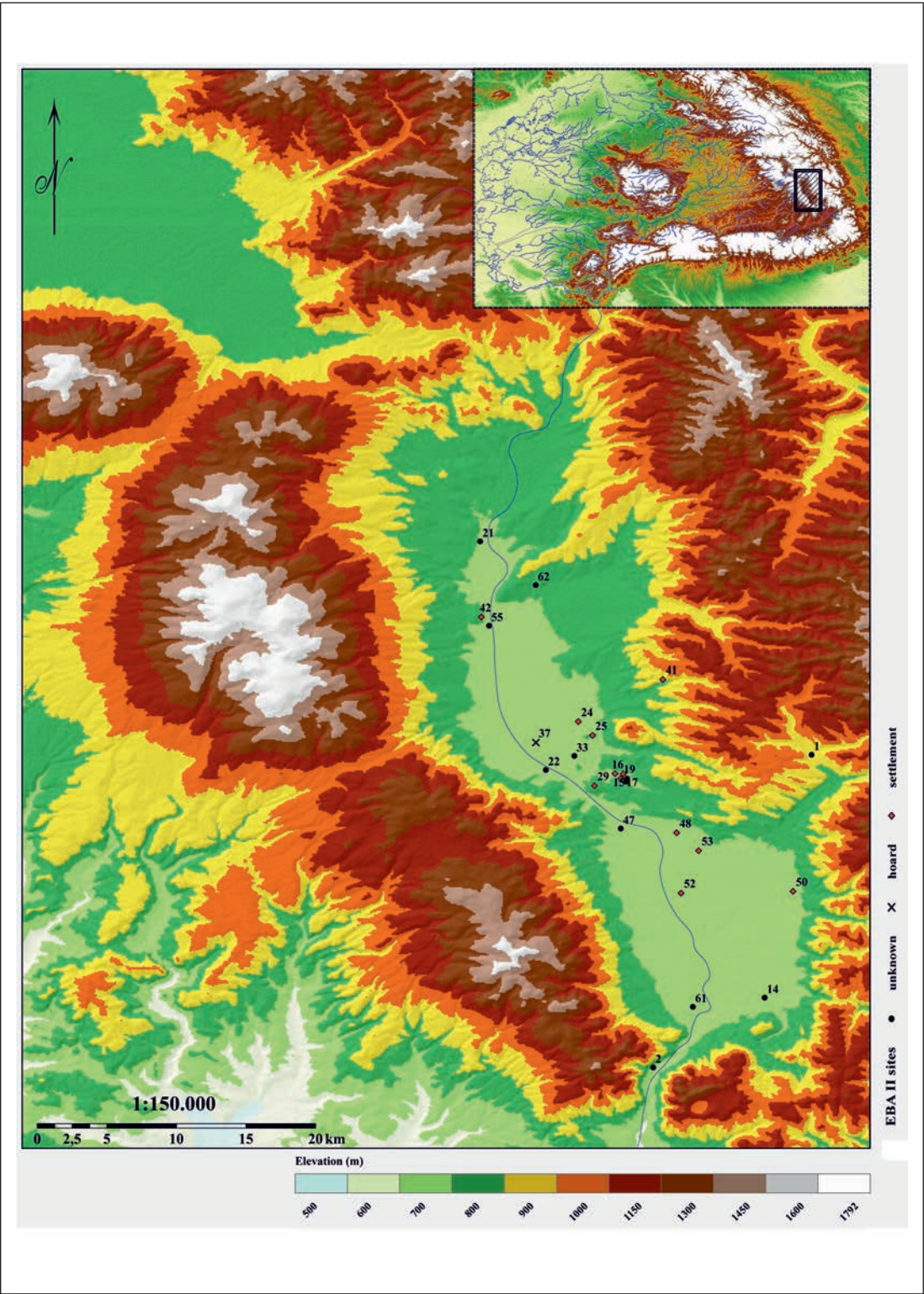


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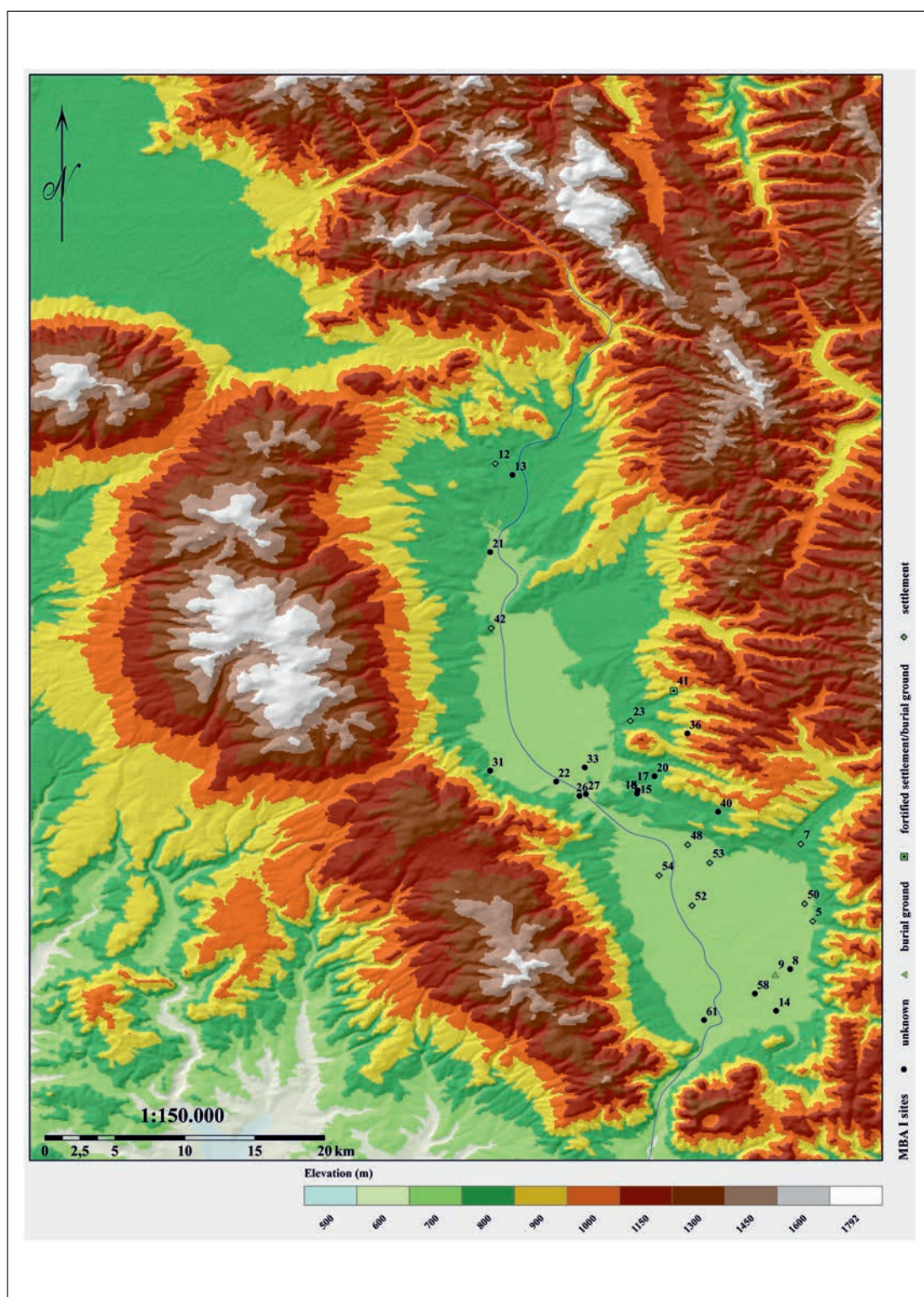


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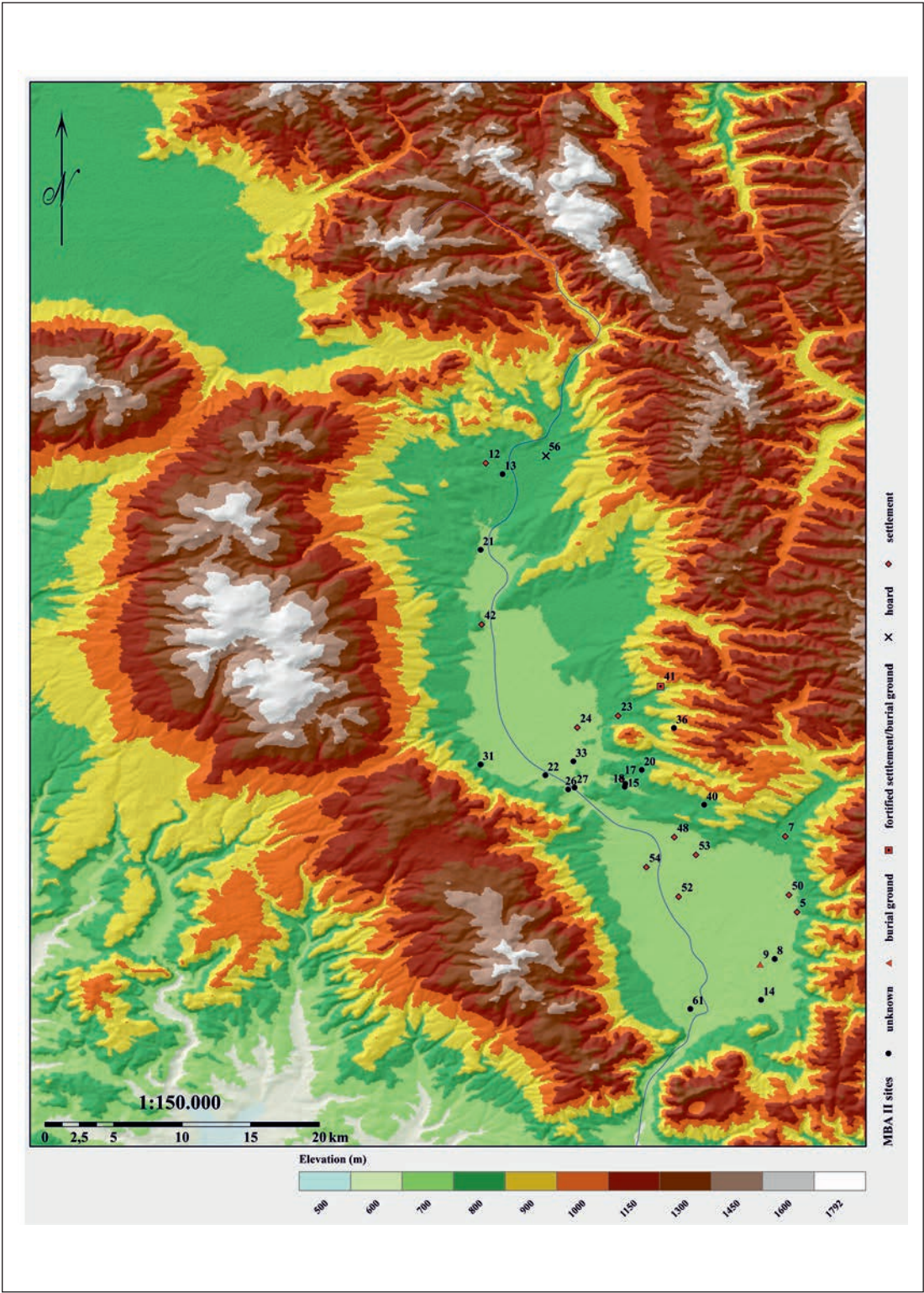
Pl. III. Statistics of the BA sites from the Ciuc depression: 1. Above sea level elevation of sites in each documented phase of the BA; 2. Micro-location of sites in each of the documented BA phases.



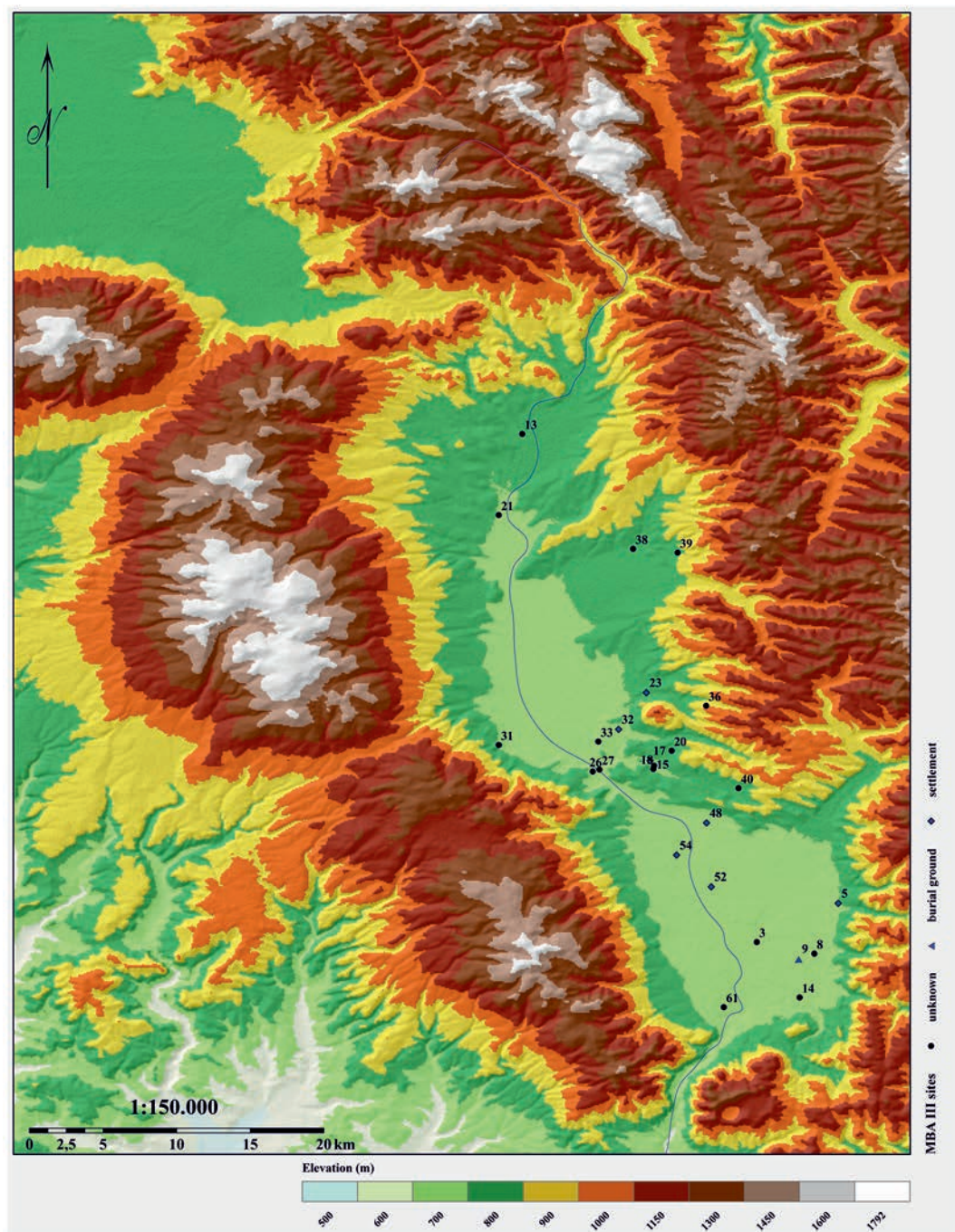
Pl. IV. EBA II sites in the Ciuc depression (medallion-location of the Ciuc depression in the Eastern Carpathian Basin).



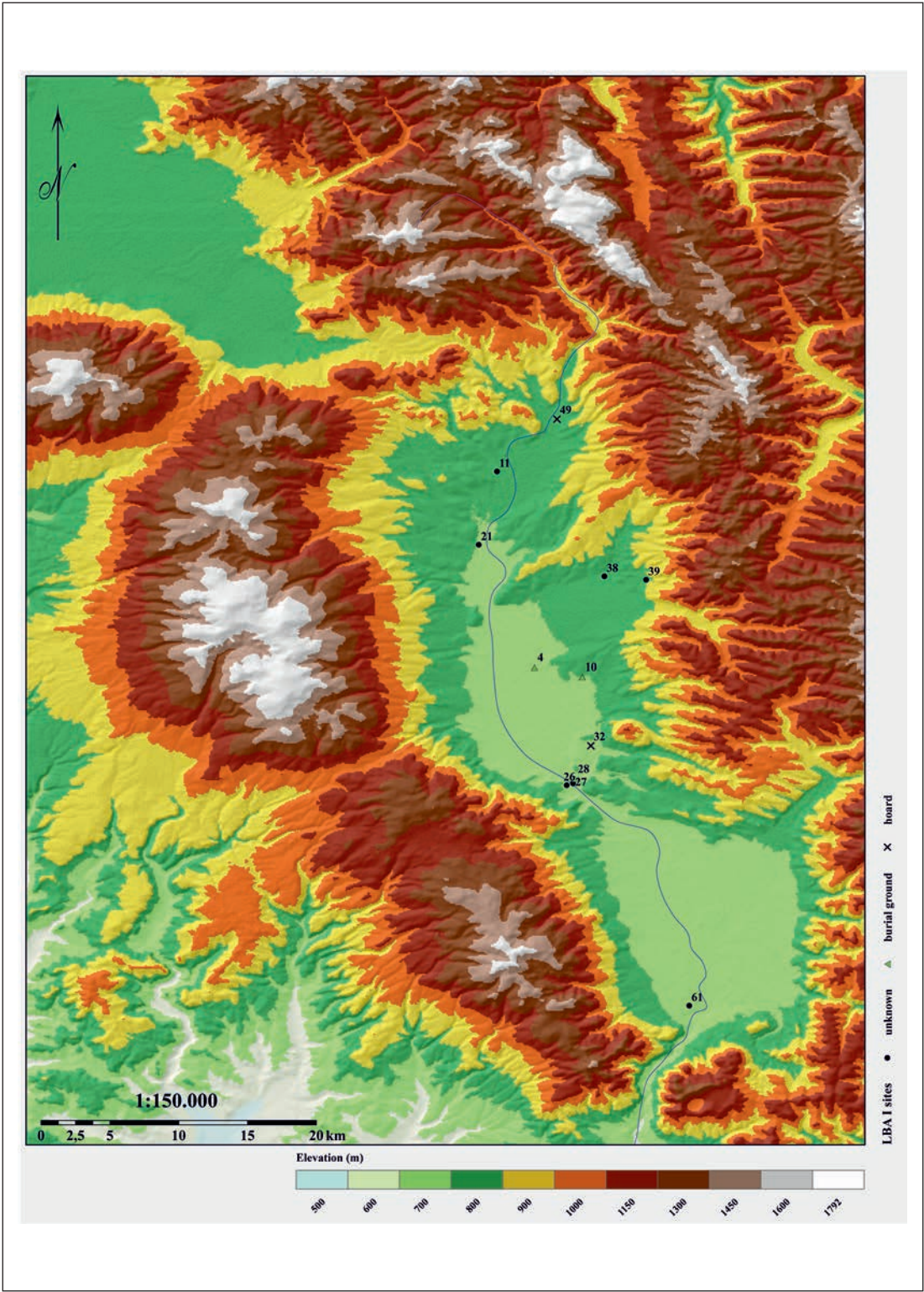
Pl. V. MBA I sites in the Ciuc depression.



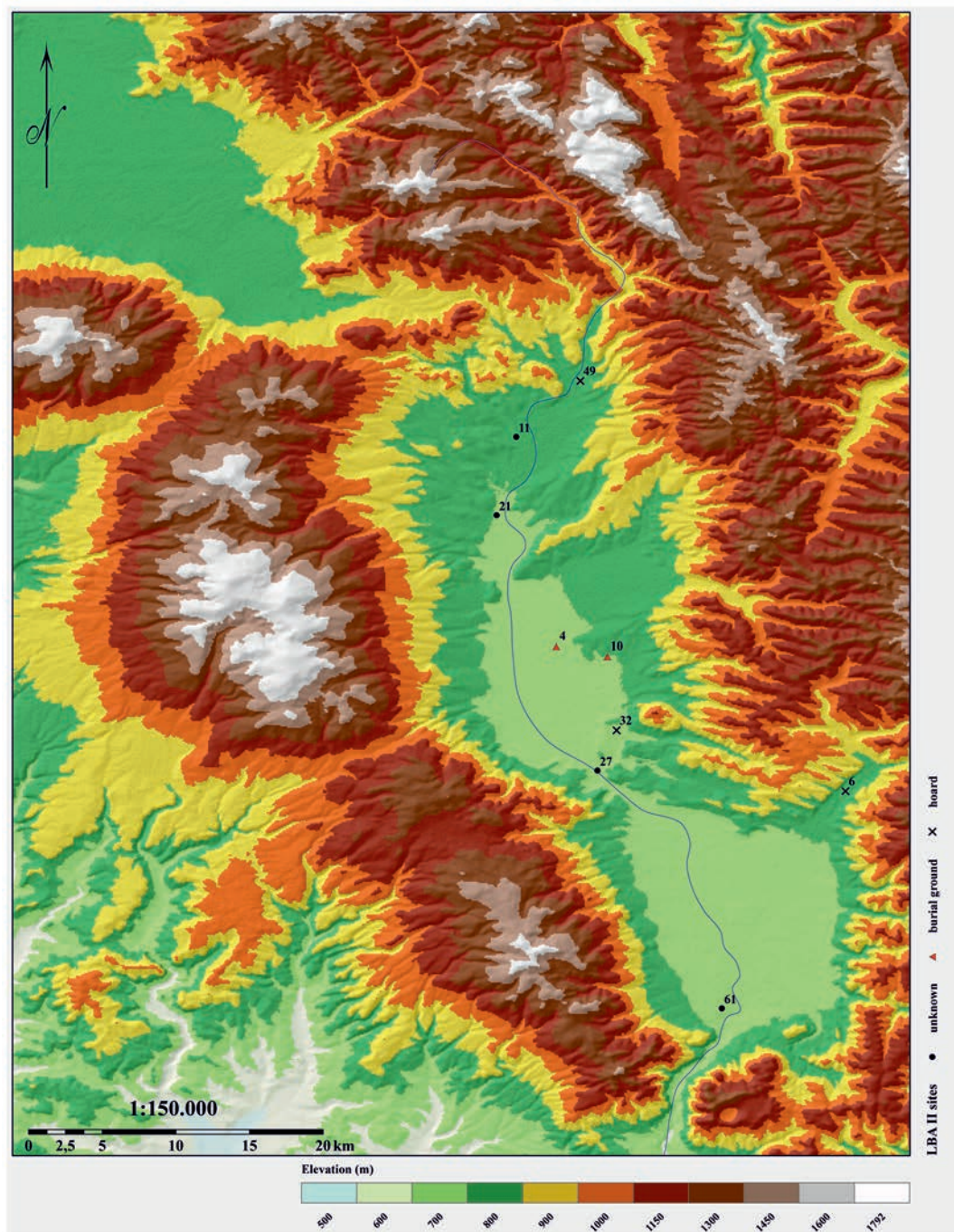
Pl. VI. MBA II sites in the Ciuc depression.



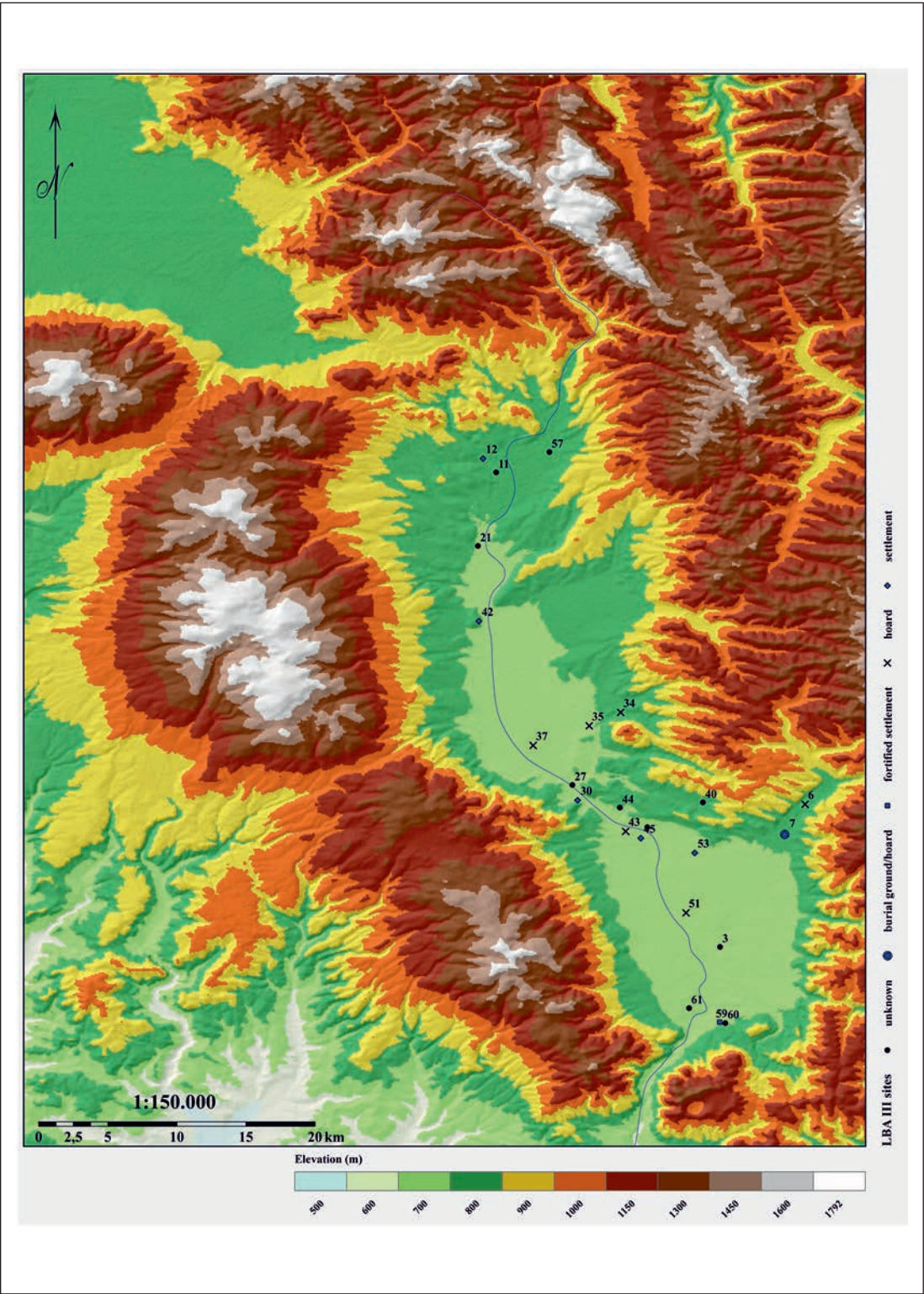
Pl. VII. MBA III sites in the Ciuc depression.



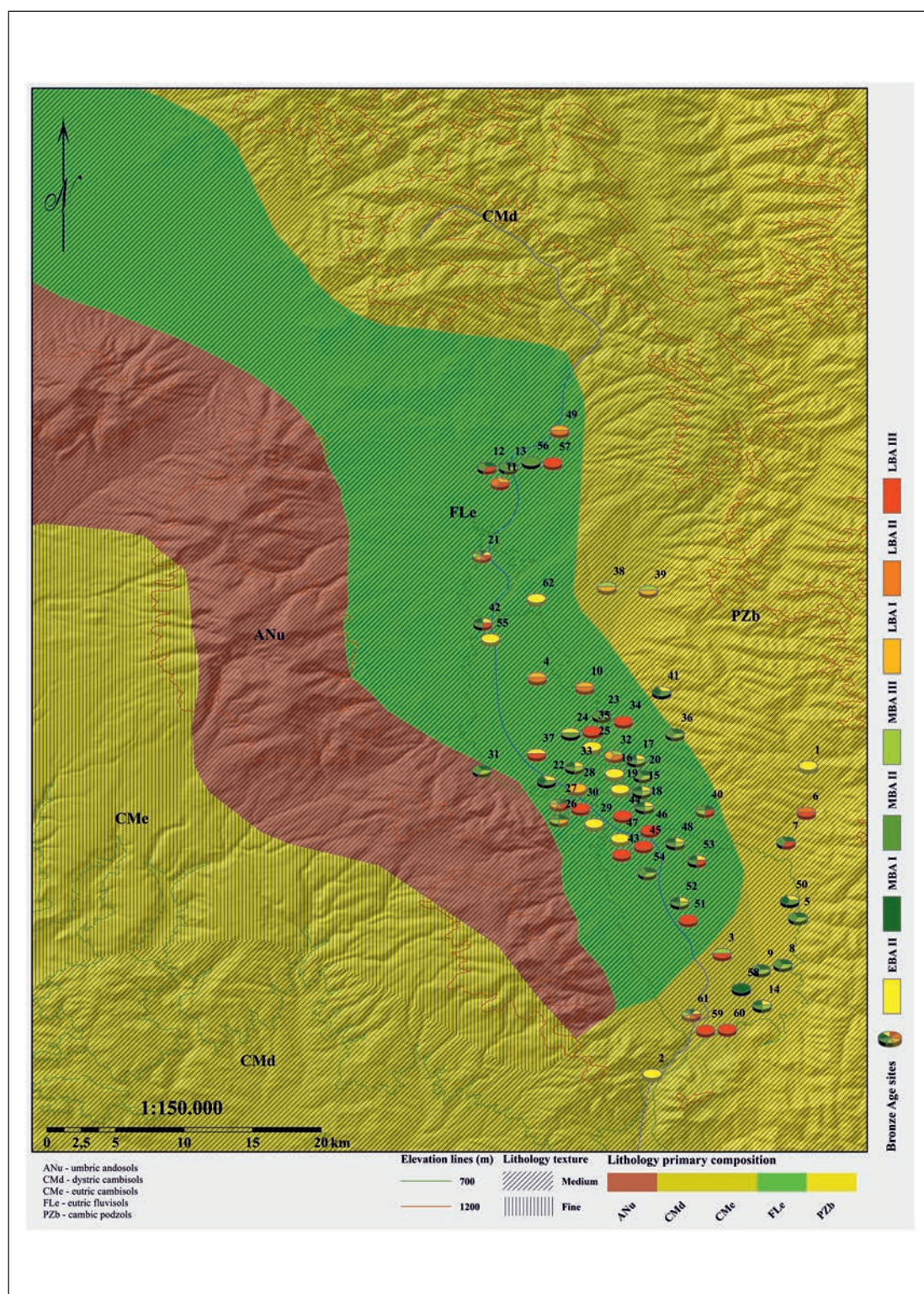
Pl. VIII. LBA I sites in the Ciuc depression.



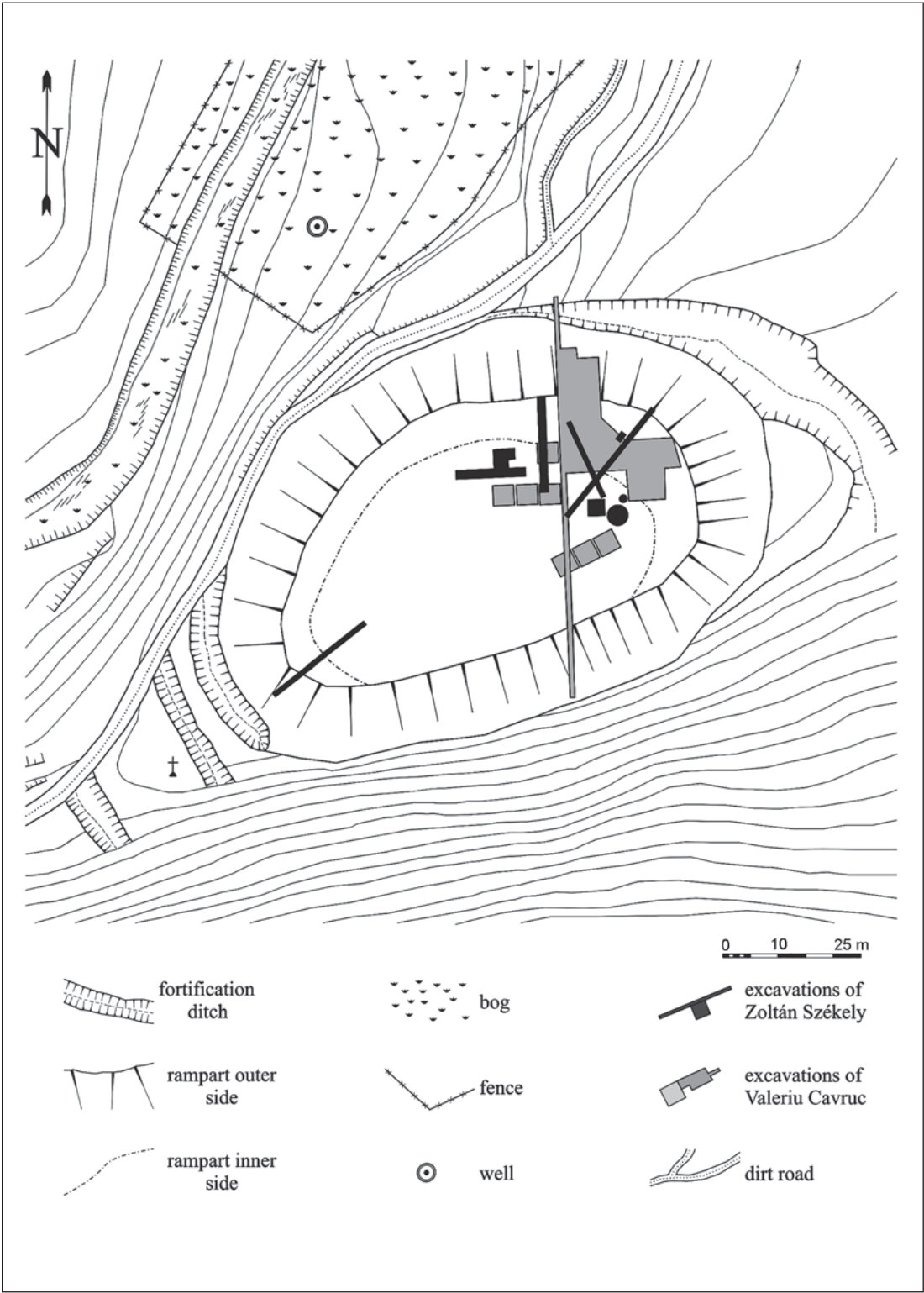
Pl. IX. LBA II sites in the Ciuc depression.



Pl. X. LBA III sites in the Ciuc depression.



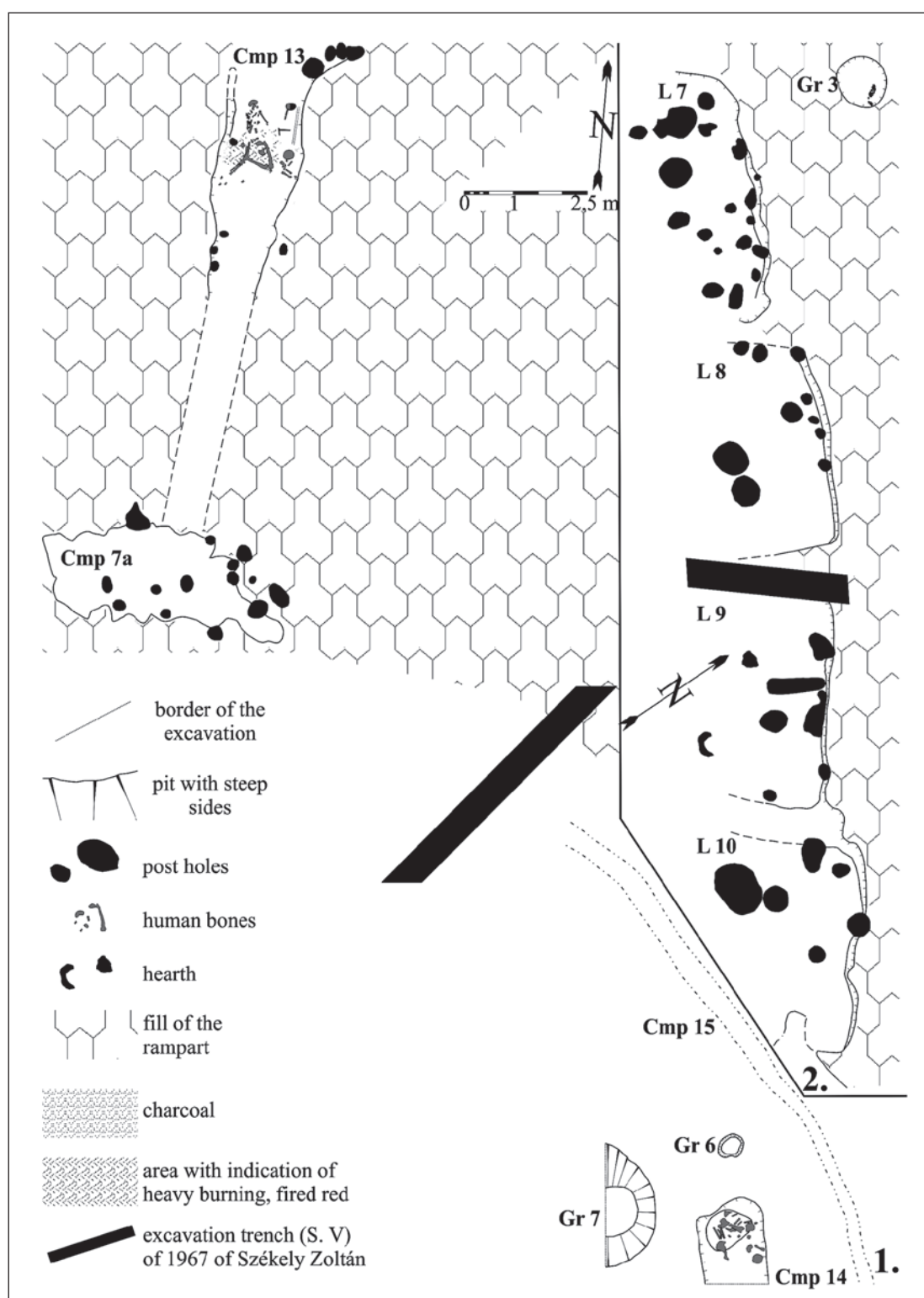
Pl. XI. BA sites relation to the dominant subsurface lithology in the Ciuc depression.



Pl. XII. The fortified MBA I-II settlement of Păuleni-Ciuc - *Dâmbul Cetății/Várdomb* (after Căvruc, Buzea 2002, Pl. I).



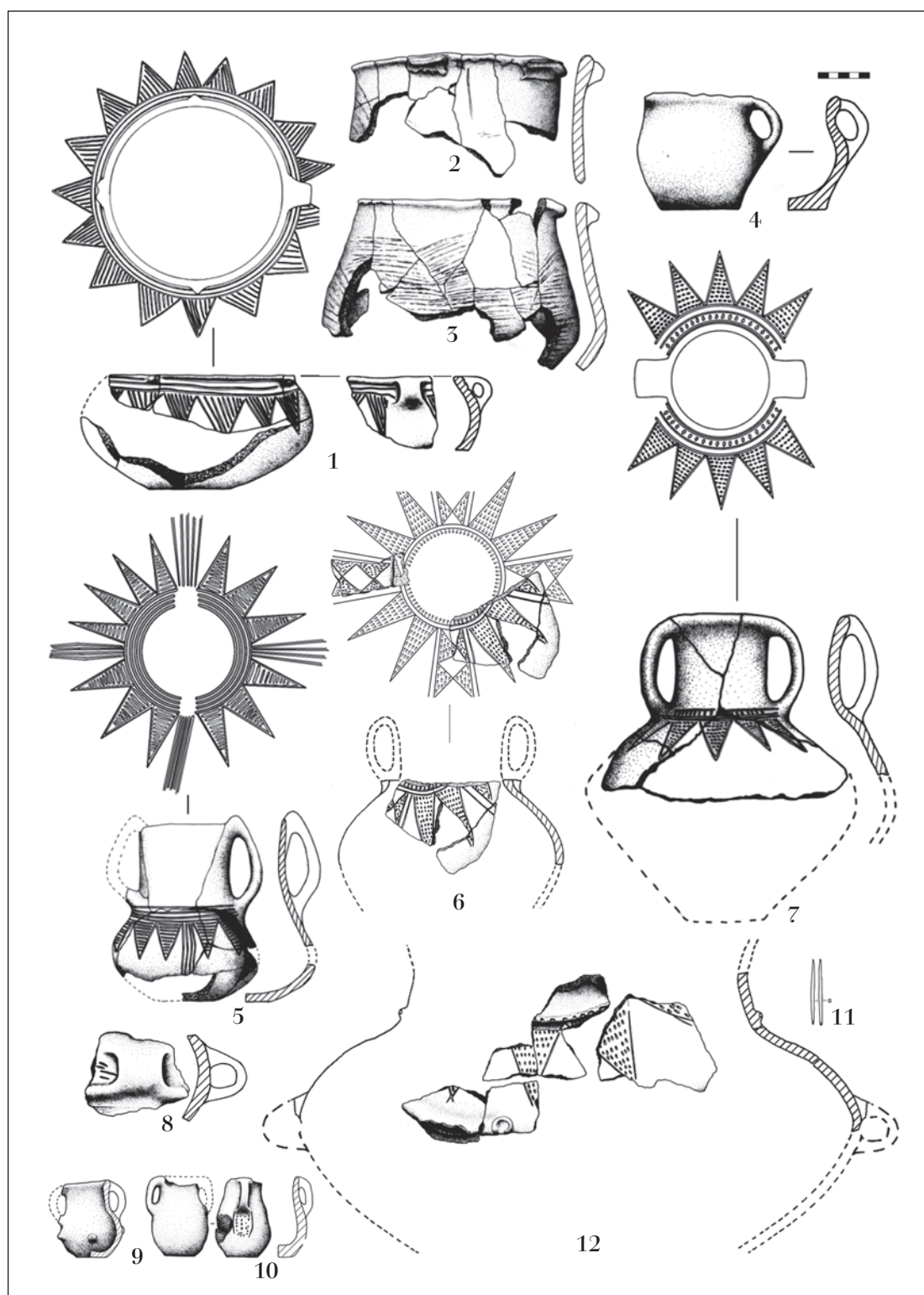
Pl. XIII. The site of Păuleni-Ciuc - *Dâmbul Cetății/Várdomb* (after Buzea, Lazarovici 2005, Pl. I; Kavruk et alii 2008b, Pl. I): 1. View from northeast of the site of the Ciuc depression and the Șumuleu Mare peak in good weather; 2. View from northeast of the site, of the Ciuc depression and the Șumuleu Mare peak in bad weather; 3. View from southwest of the site in good weather; 4. View from southwest of the site in bad weather; 5. View from northeast of the site and the valley below; 6. View from the northwest of the site and the bog.



Pl. XIV. MBA I-II features from Păuleni-Ciuc - Dâmbul Cetății/Várdomb (after Căvruc, Buzea 2002, Pls. II/1, IV, XI-XII, XV, XVIII; Căvruc, Rotea 2000, Pls. III-IV).



Pl. XV. Remains of the MBA Ib-II houses from Păuleni-Ciuc - *Dâmbul Cetății/Várdomb* (after Căvruc, Buzea 2002, Pls. XXVII/1, XXIX/1): **1.** Remains of the MBA Ib-II house L7; **2.** Remains of the MBA Ib-II house L7 with excavated postholes; **3.** Remains of the MBA Ib-II house L8; **4.** Remains of the MBA Ib-II house L9; **5.** Remains of the MBA Ib-II houses L8-10; **6.** Remains of the MBA Ib-II house L32.



PL. XVI. MBA Ia finds from Păuleni-Ciuc - *Dâmbul Cetății/Vărdomb* (after Căvruc, Buzea 2002, Pls. II/2; III/1; 5-8; V).



Pl. XVII. MBA Ib-II finds from Păuleni-Ciuc - *Dâmbul Cetății/Várdomb* (after Cavruc, Buzea 2002, Pls. VIII/1, 2, 5-9; X/1-3; XIII/2-3; XIV/1-4; XVI/5-6, 8; XVII/2).

HALF-FINISHED KNOBBED BROOCHES WITHIN ONE OF THE HOARDS AT SACALASĂU NOU (BIHOR COUNTY)

CORINA TOMA

Abstract: This article revives attention to one of Dacian jewellery hoards discovered close to the settlement at Sacalasău Nou (Bihor county). The resumption of the debate is the result of the completion of the lot published in 1975 by two novel items, which, briefly mentioned as parts of fragmentarily preserved knobbed brooches, eluded the specialists' attention. The re-identification of the items as half-finished brooch parts invalidates, at least in this case, the hypothesis of the knobbed brooches' making out of a single silver bar.

The analysis of semi-finished items and, in parallel, of certain either repaired brooches (Mediaș, Cehețel) or finished (Sacalasău, Tășad) revealed a few technological details related to the way knobs were obtained and the fashion the brooch foot was joined to the bow. Inevitable imperfections resulted from the hammering processing of the knobbed foot and the cracks noted by microscope on the foot rod of one finished brooch, make plausible the possibility it was silver foil plated.

The presence in the jewellery lot, entered in the collection of the Museum of Oradea in 1979, of certain half-finished brooches, beside a brooch exhibiting clear traces of repair intent and the multiple finds of Apollonia and Dyrrhachium drachms, which likely served as source of raw material, evidence the existence of a metalworking workshop in the Dacian inhabitancy area at Sacalasău Nou.

Keywords: the Dacians; hoard; knobbed brooches; processing techniques; metalworking workshop.

Rezumat: Articolul readuce în atenție unul din tezaurele de podoabe dacice descoperite în apropierea așezării de la Sacalasău Nou (jud. Bihor). Reluarea discuției se datorează completării lotului publicat în anul 1975 cu două piese noi, care, semnalate succint drept părți ale unor fibule cu noduri păstrate fragmentar, au scăpat atenției specialiștilor. Reidentificarea pieselor ca părți de fibule în curs de prelucrare infirmă, cel puțin în cazul de față, ipoteza obținerii fibulelor cu noduri dintr-o singură bară de argint.

Analiza pieselor semifinite și, în paralel, a unor fibule reparate (Mediaș, Cehețel) sau finite (Sacalasău, Tășad) a relevat câteva detalii tehnologice legate de modul de obținere a nodurilor și de felul în care se realiza îmbinarea piciorului cu arcul fibulei. Imperfecțiunile inerente prelucrării prin batere a piciorului cu noduri și fisurile observate cu ajutorul microscopului în cazul tije piciorului uneia din fibulele finite, fac plauzibilă posibilitatea plăcării acestuia cu o foaie de argint.

Prezența în lotul de podoabe intrat în colecția muzeului orădean în anul 1979 a unor fibule în curs de prelucrare, alături de o fibulă ce poartă urme evidente ale intenției de reparare și multiplele descoperiri de drahme de Apollonia și Dyrrhachium ce au servit probabil ca sursă de materie primă, scot în evidență existența unui atelier de orfevererie în zona locuirii dacice de la Sacalasău Nou.

Cuvinte cheie: daci; tezaur; fibule cu noduri; tehnici de prelucrare; atelier de orfevererie.

Among the multiple chance finds of metal objects in the Sacalasău Nou area (Bihor county), the single lot of items which was published in detail is the hoard, discovered in 1972, on the hill called *Burcărar*.

The hoard salvaged by E. Molnar, a teacher from the neighbouring locality, Derna, contained a “necklace”, two bracelets, three brooches and the “bar of silver item”¹. Three years later, S. Dumitraşcu together with E. Molnar published two knobbed brooches (one fragmentary), a knobbed foot of another brooch, a massive bracelet with snake *protomae* and a fragment of a silver² “adornment (?)”. When discussing the natives’ accounts, according to whom, 20 years before, the 1972 hoard discoverer’s father had found, on the same *Burcărar* hill, a hoard composed of eight knobbed brooches, the article authors merge the two hoards into one and locate the find place “inside or close the Dacian fortress at Sacalasău Nou”³, which was placed at approximately 300 m from *Burcărar* hill⁴.

A few years later (1981), in an article referring to coin and jewellery finds in the Sacalasău Nou village area, the two hoards deemed to originate from *Burcărar* hill are tackled separately⁵. Moreover, the lot discovered in 1972 is completed by two “recently recovered” items, unknown to the authors of the previous article: “a brooch foot with three disk knobs and a fragment of a brooch spring of which part of the coil was preserved”⁶. It was specified, erroneously, that the hoard is housed in the collection of the Secondary School of Derna.

According to the inventory register of Țării Crișurilor Museum of Oradea (MTȚCO), at least part of the items had already been, as of December 1979, in its collection, having been donated by the police following their seizure from E. Molnar. The report and inventory register show that then, the following pieces had been inventoried:

- *Dacian brooch with broken body* (inv. no. 10.951);
- *brooch pin* (inv. no. 10.954);
- *foot of brooch with three bulbs “with recent filing traces”* (inv. no. 10.952);
- *foot of Dacian brooch with three bulbs* (sic!) (inv. no. 10.953);
- *pin* (sic!) *of Dacian brooch with the sharp end pressed by recent hammering* (inv. no. 10.955);
- *a jewellery fragment made of a bar in twisted state* (inv. no. 10.956, later 10.956a).

The snake ended bracelet and the entirely preserved knobbed brooch had been, until the spring of 1979, in the collection of the Secondary School of Derna, from where they were fetched in order to take part in a series of international exhibitions held between April 1979 – November 1980⁷. Most likely, after such wandering, at

¹ Dumitraşcu, Molnar 1975, 59.

² Dumitraşcu, Molnar 1975, 45–67.

³ Dumitraşcu, Molnar 1975, 59, 64.

⁴ The special reports in the Sacalasău Nou area a Dacian fortress “damaged by treasure hunters”. Indication concerning its existence count a ditch, “possibly accompanied by a rampart”, cutting entrance to the headland plateau, and a few Dacian potshards found, beside Bronze and Medieval pottery, subsequent to an archaeological sondage performed in 1971 (Dumitraşcu 1972, 136, catalogue no. 7, 137; Glodariu 1983, 109, repertory no. 4).

⁵ Săşianu, Konewalik 1981, 331–332.

⁶ Săşianu, Konewalik 1981, 332, catalogue no. 10, 13.

⁷ During 1979–1980 a series of exhibitions were held in Belgium, Italy and France intended to mark

an uncertain date, the two items entered the collection of MȚCO, the bracelet being added under the inventory number 10.956 (b), and the brooch, inexplicably, remaining uninventoried until 2013 (inv. no. 23.129).

Pieced together, we note that the two sources – the literature and the inventory register – do not entirely agree, on the contrary, they provide ambiguous, contradictory information, which raises the question on the composition of the hoard discovered in 1972 at Sacalasău Nou (Bihor county).

The later addition, insufficiently argued, of two novel items, discovered in an area where several finds remained unknown were recorded, of which one of special character – “eight knobbed brooches” –, calls for caution⁸. The interest for the hoard composition issue increases should we take into consideration that the two items recorded in 1981, by Al. Sășianu and his collaborator, are half-finished knobbed brooch elements found precisely in their production area (current counties of Bihor and Sălaj). Poorly described and lacking, when published, photos or drawings, the half-finished brooch/brooches remained unknown⁹.

The condition of the knobbed brooches discovered at Sacalasău Nou

Returning to the hoard's composition, we note that the lot published in 1975 comprised, beside complete or restorable brooches, also disparate parts originating in damaged pieces. The single entirely preserved brooch had, when published, deformed spring since the iron rod, whose prints are still visible here and there inside the coils¹⁰, was rusted. Sometime during 1975–1979, the brooch was restored, its spring being replaced in its natural position¹¹ (Pl. I/1).

a. *Damaged or half-repaired brooches*

The second brooch, the pair of the above, was preserved only fragmentarily, missing part of the knobbed foot¹² (Pl. I/2). The foot was broken by its joining part with the catchplate¹³ and cut near the second intermediary knob. The bow plate exhibits, in the area overlapped by the intermediary knob and the rod part remained after cutting, an orifice made by a punch by hammering from foot pinwards (Pl. I/2 a; Fig. 1 a). When the item was published, the hole on the bow was interpreted as a rivet slot fixing, beside the claw-shaped sides of the last knob, the foot to the brooch bow¹⁴. The orifice

2050 years from the establishment of the Dacian state: *La civilisation classique des Daco-Gètes*, 71, catalogue no. 321; *I Daci*, 80, catalogue nos. 333, 138; *Trésors des Daces*, 337.

⁸ Dumitrașcu, Molnar 1975, 59; Sășianu, Konewalik 1981, 332, catalogue no. 10.

⁹ Rustoiu 1997, 96, catalogue no. 27; Spănu 2012, 239–240, catalogue no. 98B.

¹⁰ Dumitrașcu, Molnar 1975, 60, Fig. 1 a-c.

¹¹ The brooch spring was probably reconditioned when the piece was displayed in above exhibitions (see note 7).

¹² When published, the spring chord was broken into two segments; one of them, completely detached from the brooch bow, was lost.

¹³ Similar splits in the joining area of the foot with the catchplate, are present also on the brooches in the hoards discovered at Șarmășag, Sălaj county (Glodariu 1968, 411, catalogue no. 9, Fig. 2/7; 4/9) and Cehuțel, Harghita county (Spănu 2012, 219, catalogue no. 24, Pl. 19/2), and a brooch with unknown find spot preserved at MNIT – inv. no. V 446 (Rustoiu, Călian 2010, 191 catalogue no. 26).

¹⁴ Dumitrașcu, Molnar 1975, 60, catalogue no. 2, Fig. 2b.

position, over the foot rod, and the hammering blow from foot to the bow indicate it was made either prior the attachment of the knobbed foot or after the temporary removal of its remaining part. The last version is highly likely, since such an attachment rivet would have been necessary only after breaking the foot, the remaining part being supported rather loosely by the last knob acting as a sleeve.

An attempt to recondition the damaged brooches with the aid of rivets was noticed in one of the brooches at Mediaş, where the segment formed by the foot base, catchplate and part of the bow was completely detached by the piece body. The repair was made in the bow area by overlapping, piercing and joining by riveting the broken parts¹⁵. Knobbed brooches discovered in Transylvania and preserved in the collection of the National History Museum of Transylvania (inv. nos. V 430, V 435, V 446) also show repair traces by riveting. The spring detached from the brooch bow was flattened in the attachment area, the widened part being fixed behind the bow plate, both being later pierced and riveted¹⁶.

The means that the rivet could have served in the repair of the brooch foot at Sacalasău Nou remains inexplicable, despite various brooch rivet-reconditioning examples. The bow perforation and rod filing near the cut (Fig. 1 b)¹⁷ suggest the intention to repair the brooch, rather than to voluntarily damage it¹⁸.

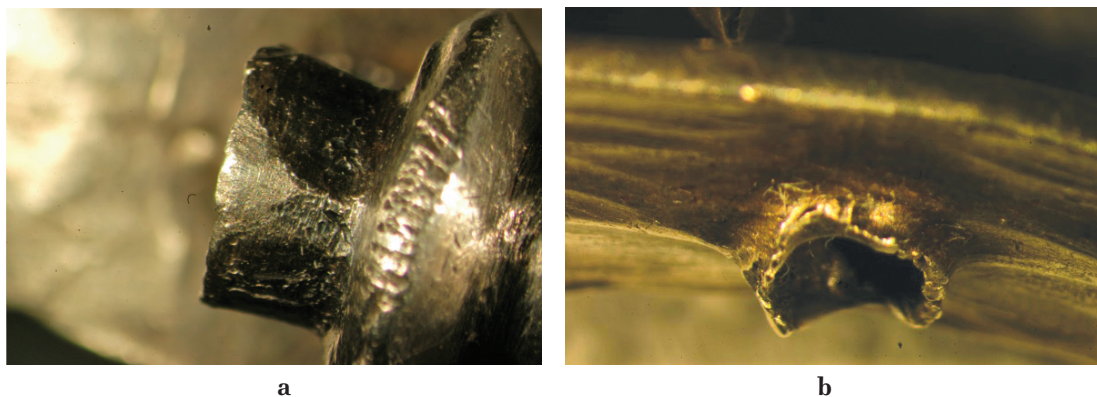


Fig. 1. Microscopic details of the foot (a) and bow of the brooch under repair (b) (MȚCO, 10.951)¹⁹.

Beside the brooches or their easily recognisable parts, both the first publishing of the hoard at Sacalasău Nou (1975) as well as when its composition was reviewed (1981), mentioned a “jewellery? fragment, with thinned and bent ends”, worked

¹⁵ Mărghitău 1976, 35, Pl. X/2; Rustoiu 1997, 26; Spănu 2012, 109, Pl. 75.

¹⁶ Popescu 1941, 191-192, Fig. 11/1, 7-8; Rustoiu, Călian 2010, 191, catalogue no. 25-26; 192, catalogue no. 28; Spănu 2012, 109, Pl. 178/1-2; 180.

¹⁷ The file traces are visible, in the form of small parallel grooves, also on the neighbouring knob.

¹⁸ The fragmentation of the brooch at Sacalasău Nou was interpreted as intentional deterioration, being stated that “all three knobbed brooches” were damaged by bending, breaking or cutting (Spănu 2012, 107). We mention that one of the brooches was preserved complete, while the other displays prints of repairing. On the other hand, in the hoard at Sacalasău Nou, as we shall see below, there is no damaged third brooch, but component parts of several knobbed brooches belonging to different subtypes.

¹⁹ We thank herein my colleague Erika Posmoșanu, for the opportunity to analyse the items with the aid of the microscope in the laboratory of the Natural Sciences Department of MȚCO.

by hammering²⁰ (inv. no. 10.956a). The item is in fact the bow-rod of a knobbed brooch, broken near the catchplate and ended by the other extremity with the first two coils, deformed, of the spring (Pl. II/1a-f). The item was identified as such also by D. Spănu, who, erroneously associating it with the broken foot brooch pin and the foot of the four large-knobbed and other three intermediary knobs brooch preserved in the hoard (Pl. I/3), mistakenly restored a novel variant of a brooch with bow-rod and foot decorated with four knobs²¹. It is possible that the bow-rod had belonged to a richly decorated foot brooch²², however the foot preserved in the Sacalasău Nou hoard comes, in our view, due to the span between the claw-shaped sides of the knob fixing the foot to the bow, from a brooch with widened bow, flattened springwards.

b. *Half-finished items*

According to Al. Săşianu and Şt. Konewalik, the lot of Sacalasău Nou also comprised a fragment of a “*brooch spring preserving part of the coil*”²³. The inaccurately described item is another bow-rod together with the catchplate and part of the spring of a half-finished brooch (Pl. II/2 a-c). It preserves one of the spring arms obtained by twisting a thick silver wire, joined vertically with the brooch bow, the spring not being yet perpendicular on the bow. In this preliminary stage, the bow-rod is oval in profile, narrowing and flattening towards the catchplate. The bow body exhibits chisel and anvil-hammering traces, the edges of the resulted sides not being yet bevelled. The catchplate area, strongly thinned, is in this finishing stage a segment flattened by hammering, having a straight edge, and the other, dented.

The second item briefly mentioned in the article published in 1982 by Al. Săşianu and Şt. Konewalik as “*the foot of a brooch with three disk knobs*”²⁴ is also a half-finished item (Pl. II/3a-f). The brooch foot displays three large knobs and an ending knob, small, interposed between two belts, all placed on a straight rod ending by one of the extremities with a rectangular bar in section, gradually narrowing, becoming sharp. By the other end, that from the spring, the intermediary knob was not finished, while the last knob, for attaching the foot to the bow, is missing. By the attachment place of the knob-sleeve lies a massive rectangular bar, with an arched lower side ending with a folded extension. The central knobs were cut by chisel in the area intended to overlap the brooch bow, a hemispherical part being firstly removed, while, later, another V-shaped piece, with the tip towards the rod (Fig. 2 a) was cut from the remaining part. The entire item has a coarse, unfinished appearance, the imperfections resulted from hammering being mended by polishing (Fig. 2 b).

²⁰ Dumitraşcu, Molnar 1975, 64, Fig. 5; Săşianu, Konewalik 1981, 332.

²¹ Spănu 2012, 43, 240, catalogue no. 98, type 1.4.2, Fig. 4, Pl. 106.

²² Brooches of the type (Rustoiu 1997, 31, type 1c; Spănu 2012, 44, type 1.4.2) appear in the hoards at Oradea-Sere, Bihor county (Fettich 1953, 160, Pl. XXIV/1-2; Chidioşan, Ordentlich 1973, 98, catalogue no. 3), Drăgeşti, Bihor county (Chidioşan et alii 1978, 29, Pl. I/2) or Moigrad, Sălaj county (Pop 2008, 51, Fig. 42).

²³ Săşianu, Konewalik 1981, 332.

²⁴ Săşianu, Konewalik 1981, 332.

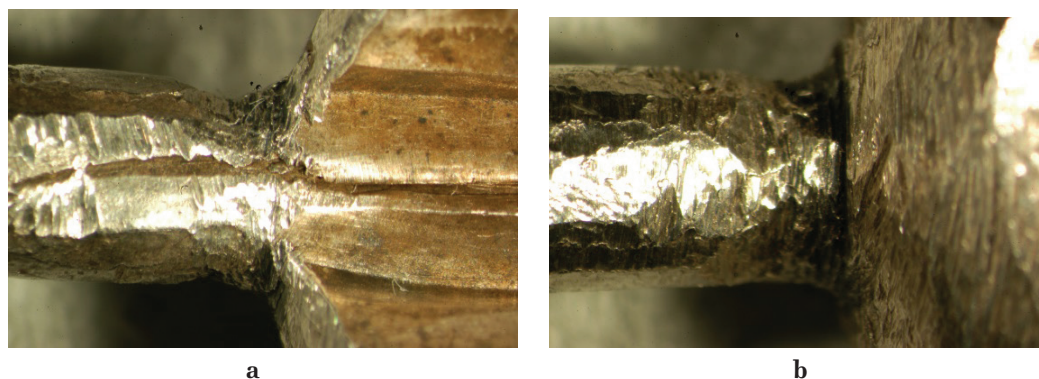


Fig. 2. a-b. Chisel filing and cutting prints on the half-finished brooch foot at Sacalasău Nou (MȚCO, inv. no. 10.952).

The single unpolished portions are the area of the intermediary knob and the place where the knob-sleeve was intended to be attached. The knobs number²⁵ and the way they were cut indicate the intention to make a bow-rod brooch, while in the case of a bow-plate, only the removal of the hemispherical part being sufficient, without the need to intervene in the foot rod area.

Preliminary stages in the making of knobbed brooches

The two parts of half-finished brooches provide additional information on the fashion knobbed brooches with bow-rod were made, illustrating two preliminary technological stages invalidating, at least in this case, the hypothesis of their making of a single silver bar²⁶.

As finished product, the bow-rod brooch appears in two of the three hoards discovered at Oradea, as well as in the hoards at Drăgești (Bihor county) and Moigrad (Sălaj county)²⁷, whose publishing gave opportunity for expressing various hypotheses concerning the technical procedures used in their making. In the case of the brooch at Oradea-Sere, N. Chidioșan and I. Ordentlich argued it was made by a composed technique, which supposed the assembly of the knobbed foot obtained by casting, with the bow and fastening spring worked by hammering. The joining of the two parts was made by hot soldering, hammering, in the portion close to the first disk²⁸. Later, when the hoard at Drăgești was published, this view was reviewed, arguing that knobbed brooches were made of a single piece, while the knobs were hammered in a bivalve mould and then corrected by filing²⁹. The idea of the knobs hammering into the mould

²⁵ The presence on the foot of four large knobs and of a single intermediary knob is specific to bow-rod brooches. We mention though the exceptions illustrated by the bow-plate brooches in the hoard at Mediaș (Mărghitău 1976, Pl. X/2; Spănu 2012, 228, type 1.4.3, Pl. 74-75).

²⁶ When knobbed brooches from various finds were published, it was argued, in general, they were made of a single wire/segment or bar/silver piece by hammering (Floca 1956, 8-9; Székely 1965, 52; Dumitrașcu, Molnar 1975, 60; Iaroslavschi 1982, 271; Rustoiu 1997, 31; Spănu 2012, 42 etc.).

²⁷ See note 22.

²⁸ Chidioșan, Ordentlich 1973, 97-98.

²⁹ Chidioșan et alii 1978, 28-29. The hypothesis of the making of the brooch of a single bar by hot hammering and of the knobbed foot matrix hammering had already been stated in occasion of the publishing

was amended by A. Rustoiu, who agreed on the hypothesis of the separate working of the knobs and their attachment by hammering, without excepting the possibility that the knobbed foot was cast according to the *lost-wax* method³⁰.

Following the analysis of the two half-finished items at Sacalasău, the hypothesis launched by N. Chidioşan and I. Ordentlich proves partially correct. The knobbed foot and bow were processed separately, being joined near the first knob, however the knobbed foot was made by hammering and not casting or matrix hammering. Visible cracks in the knobs maximum diameter area suggest the possibility they were obtained by the hammering of two halves, the imperfect soldering leaving traces especially in the part towards the bow. Cracking is noticeable both in the case of the half-finished knobbed foot as well as in the bow-plate finished brooches from Sacalasău Nou (Fig. 3 a-b).

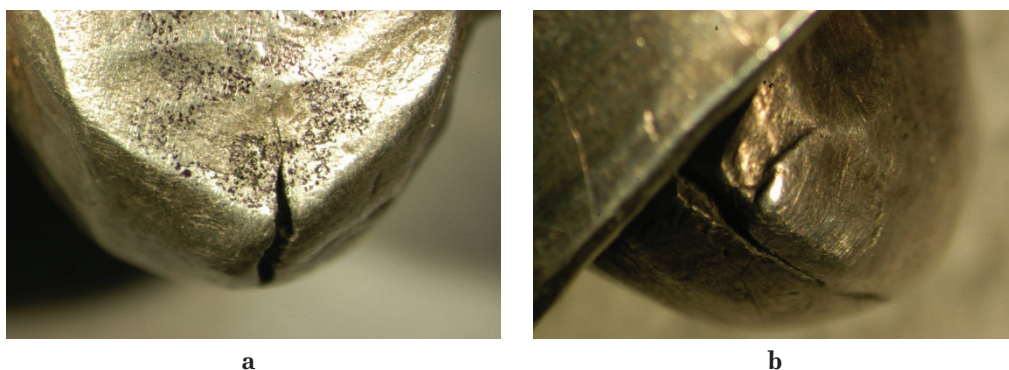


Fig. 3. a-b. Microscopic details of the knobs of the brooches at Sacalasău Nou (MȚCO, inv. nos. 10.953, 10951).

The knobs were hammered separately, or, at least, previously prepared, and later attached on the rod by hammering; otherwise, the silver bar of which the foot would have been made, would have had a thickness equal to that of the knob with maximum diameter. Evidence to this effect is provided by the knobbed brooches at Tășad, where the forced folding led to the bow bending in the knob-sleeve area at an almost straight angle, which resulted in the foot rod curving by the second last knob, which was detached from the rod leaving an empty spot³¹ (Pl. III/1 a). Depending on the bow shape and the arching degree of the foot rod, the middle knobs were occasionally cut by chisel in order to interlock the rod or to be placed on the widened bow plate. The attachment of the knob-sleeve belonged, as shown by the half-finished foot, to a subsequent stage, being modelled by hammering on the core formed by the thickened end of the rod. Its appearance is rather of a ring, of open belt wrapping the foot, extending thinned towards the bow. Its role is functional, the “knob” appearance being given for aesthetic reasons.

N. Chidioşan has deducted the foot joining with the bow near the first knob, without yet providing technological details. The morphology of the half-finished items

of the brooches in the inventory of the house-workshop discovered by N. Chidioşan in the settlement at Tășad (Chidioşan 1977, 30).

³⁰ Rustoiu 1997, 22, 28–29, note 17. See also Săşianu, Konewalik 1981, 331–332.

³¹ MȚCO, inv. no. 9693.

discovered at Sacalasău and the direct notes on the finished brooches imperfections in the collection of MȚCO make us suppose that the connection between the foot and bow was made with the aid of a silver plate, which covered the core of the future catchplate and interlocked, like a sleeve, the thinned, sharpened foot rod. The ingenious means by which the bow and foot rod might have been thus assembled is also supported by the grooving, appearing on the lower part of the rod, before the first knob, with the bow-plate finished brooches in the hoards at Sacalasău Nou and Tășad (Pls. I/1 a; III/2 a).

The sleeve method was used, in different manner, to repair of the knobbed and bow-plate brooches in the hoards at Cehuțel (Harghita county) and Mediaș (Sibiu county). The repair of the brooch at Mediaș was made by the gradual widening of the plate of the catchplate just after the curving towards the foot, in the form of a scabbard interlocking the knobbed rod end (Pl. III/3, 3 a)³². In the bow area, as shown above, the brooch was riveted. If the traces of the double repair are perfectly visible, its causes are much harder to guess³³. Most likely, the brooch broke in the area between the catchplate and the foot rod, the repair supposing the removal of the older catchplate and its replacement with one new, which also provided the opportunity to make the sleeve³⁴. In the case of the two brooches at Cehuțel, the sleeve was obtained by flattening in the joining area with the foot rod, in the form of two free wings, not soldered, of the silver plate of which the catchplate is made (Pl. III/4, 4 a)³⁵. The single ancient intervention seems to be in the sleeve area, which supports the assumption that, in order to make the repair, the foot was “likely, detached from the original brooch body and subsequently assembled on another bow with catchplate, pin and spring made separately”³⁶.

Except the brooch reconditioning cases, the half-finished knobbed foot at Sacalasău Nou and the imperfect soldering noticed in the case of the finished items prove that the procedure was used with much more skilfulness in the making of brooches and was not only an improvised technique for their repair³⁷.

³² MNIR, inv. no. 47.494. We thank our colleague Rodica Oanța-Marghitu from MNIR for the sent photos.

³³ A. Rustoiu supposed that the brooch had a broken bow, its riveting by hammering requiring the removal by cutting of the brooch foot. After riveting, the foot was attached to the brooch body with the aid of the sleeve obtained by hammering one of the cut extremities (Rustoiu 1997, 26, Figs. 13/5; 80/3). At his turn, D. Spânu spoke of a double break – one in the bow area, the other in the foot area – “at a certain point, the catchplate, part of the bow and the foot base were probably completely detached from the rest of the brooch body” (Spânu 2012, 109, 228, catalogue no. 69, lot Mediaș-București, Pl. 75).

³⁴ In our view, the bow, and not the foot, was intentionally cut near the catchplate. The stake was the foot repair, as regardless its intentional cutting or break due to use, it is hard to believe that the part remaining near the catchplate, was large enough to be transformed into a sleeve.

³⁵ MMI Cristur, inv. nos. 1050, 1058. I thank Mrs. Sándor-Zsigmond Ibolya, curator at the Molnár István Museum of Cristuru Secuiesc (Harghita county), for his benevolence and sent photos.

³⁶ Székely 1965, 52–53, Fig 4/1, 4; Spânu 2012, 109, 219, Pl. 18/1–2. The extreme frailty of the plate compared to the foot massiveness and the colour difference between the two parts of the brooches (bow, catchplate, spring and pin, on one hand, and the knobbed foot, on the other hand) compelled D. Spânu to assume the separate working of the two parts.

³⁷ A. Rustoiu assumed that the repair of the brooch at Mediaș was made by a bronzesmith, familiar with the riveting technique, however unfamiliar with the hot soldering the metal, operation well known to a silversmith (Rustoiu 1997, 26).

The issue of the items with core

The general appearance of the knobbed foot, given among other, by the rod of irregular section or by the obvious filing traces, suggests workshop scrap or a piece in progress. The imperfections inherent to only the hand, hammer processing of the brooch, were not fixed or entirely hidden by the simple filing action of the item surface. From this view, should we agree with the idea of a half-finished item, also given the silver foil plating of the catchplate core and foot base, we wonder whether the knobbed rod is only a core which at its turn would be covered with silver foil to mask hammering imperfections³⁸.

The silver foil core plating was noted, decades ago, with the brooch-rod in the hoard at Oradea-Sere. The presence in curve areas³⁹ of a core, deemed a silver and copper alloy⁴⁰ (Fig. 4 a-b), made N. Chidioşan and I. Ordentlich explain the use of this technique for purely functional reasons, the core providing higher flexibility to mobile elements⁴¹. The authors' view is yet undermined by the existence of the core along the entire bow, noticeable due to a modern cut made likely after the hoard was published. In conclusion, the foot base, catchplate, bow and spring⁴², and not only the curved or bent parts, were made of a core over which a silver plate was applied.

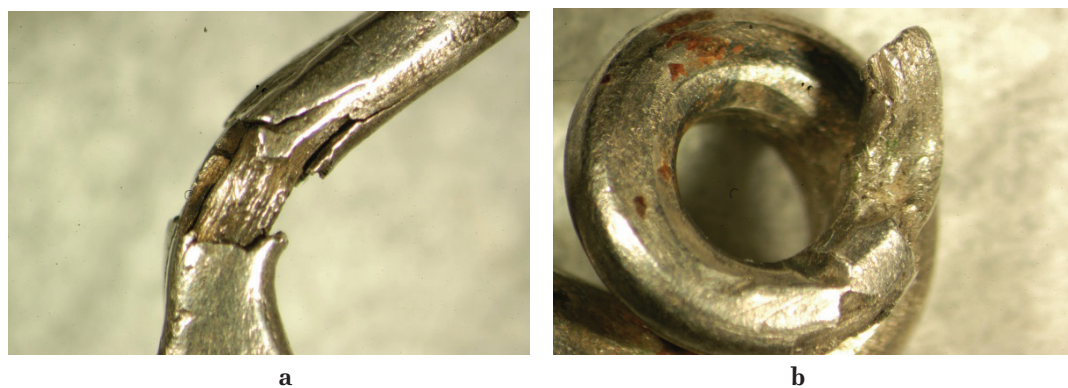


Fig. 4. Structure details of the brooches in the hoard at Oradea-Sere (MŢCO, inv. nos. 6453, 6452).

It was proven also in other hoards that the core plating technique was used in making adornments that did not require elasticity (brooch bows and pins, nail-pendants).

³⁸ In the case of the brooch in the Mediaş lot, preserved with MNIR (inv. no. 47.494), the rod segments between the larger knobs are wound with thin silver plates, soldered in the form of tubes (Pl. III/3).

³⁹ The presence of a silver foil covering a core was apparent to the naked eye in the area where the foot joins the catchplate, in the curving portion between the catchplate and bow, as well as inside the spring coils.

⁴⁰ We underline that the brooches at Oradea-Sere were not subject to either metallographic or chemical analyses that would clearly show the composition of the core alloy and its covering plate. Likely, the authors had in mind the analysis report on a few pieces in the hoard at Şarmăşag, showing an inhomogeneous composition and a silver content varying from 87.8% (21.1 carats) to 58.7% (14.1 carats). The copper presence was detected inside one of the analysed pieces (MNIT, inv. no. 5523) (Glodariu 1968, 418, Annex. Analysis report made by E. Stoicovici).

⁴¹ Chidioşan, Ordentlich 1973, 97-98.

⁴² The brooch bow is missing, yet in the cracking of one of brooch pins preserved in the Oradea-Sere lot the core is noticed (MŢCO, inv. no. 6457/1).

Starting from the premise that the respective adornments' core is made of a silver and copper alloy and the plate is of good quality silver, the use of the plating technique was attributed to the silver crises in pre-Roman Dacia, rather illustrative for the intention to save good quality silver⁴³.

Should the archaeologists' hypothesis on the silver crises in pre-Roman Dacia be accurate, the following question arises: why the Dacian artisans invested their skills in plating small-sized elements, of modest weights, yet wasted good quality silver in making massive knobbed foots weighing approximately half the total weight of the item⁴⁴?

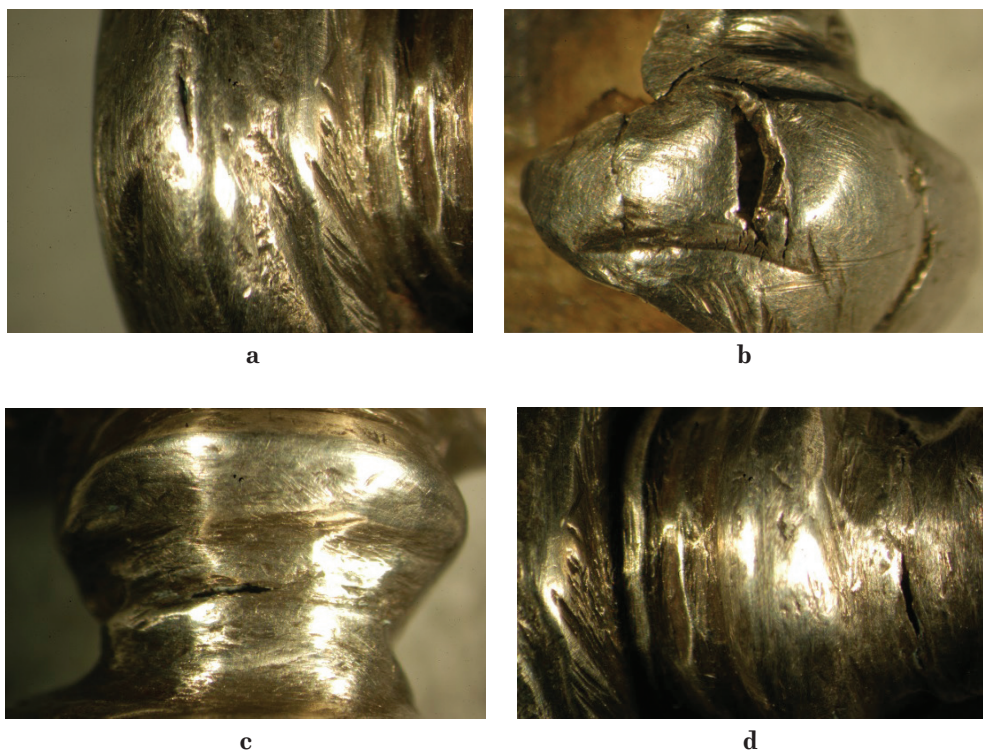


Fig. 5. a-d. Cracks on the knobbed foot surface in the hoard at Sacalasău Nou (MȚCO, inv. no. 10.953).

The presence of the core over which a silver foil was applied was noted, for the lack of analyses, only in damaged brooch portions. The knobbed foot, sufficiently robust, was preserved in most of the cases intact⁴⁵, however, direct observations on the

⁴³ Glodariu 1968, 415; Rustoiu 1996a, 43-54; Rustoiu 1996b, 49-51; Spănu 2005, 67-68. From the reviewed specialty literature, it results though that only the pieces in the hoard at Șarmășag (Sălaj county) were investigated from a metallographic point of view until the publishing of these views on the hypothesis of silver saving in the case of core-jewellery.

⁴⁴ The half-finished knobbed foot in the lot at Sacalasău weighs 50.018 gr., and the knobs diameter varies between 1.41 and 2.14 cm, while the fragmentary bow-rod brooch (missing the spring and pin) at Oradea Sere weighs 85.155 g and has knobs with diameters between 0.95 and 1.92 cm (MȚCO, inv. no. 10.952), and the complete brooch with bow-rod at Drăgești is 83.306 g. and the knobs are between 1.25 cm to 1.70 cm (MȚCO, inv. no. 10.155).

⁴⁵ There are two cases where the knobbed foot of the brooches was sectioned: the brooch at Sacalasău

knobbed foot, detached from a bow-plate brooch body in the hoard at Sacalasău Nou (MȚCO, inv. no. 10953, Pl. I/3) in the curving area towards the catchplate, may be interpreted as landmarks for silver foil plating.

In its upper part, in the knob-sleeve area, appear cracks, small fissures, indicative of the presence of a silver plate, attached likely, on a support, a rectangular bar of the type identified in the case of the half-finished foot (MȚCO, inv. no. 10.952, Pl. II/3, Fig. 5 a-b). The emergence of cracks also on the curved rod between the second last knob and the intermediary knob (Fig. 5 c-d) suggests that the knobbed rod might also have been plated.

Reverting to the half-finished knobbed foot, past the raw, unfinished condition of the item, at first glance, we noted the darker colour of the alloy of which it was made, slightly different from that of the finished brooches in the hoards at Sacalasău Nou, Oradea-Sere or Drăgești. It is possible that this colour difference, unless due to the contact with the sulphur vapours in the air, is the result of the conscious use of a silver and copper alloy⁴⁶, which the artisans intended to hide under a silver foil of a higher finesse. Hypothetically, this is possible, yet colour differences, naked eye or microscope observations do not provide sufficient evidence. Only metallographic and chemical analyses can confirm or invalidate any assumptions made.

We do not know to what extent, even if the half-finished foot in the lot at Sacalasău Nou would be a core, it is indeed made of silver and copper alloy. Although less likely, we cannot self-evidently dismiss the hypothesis of aesthetic plating⁴⁷, the semi-finished condition of the item, the hammering errors and polishing traces requiring a possible concealing by applying a silver foil, a plate that would remedy foot imperfections.

The hoard/jewellery lot at Sacalasău Nou – inventory of a metalworking workshop

The inclusion in the Sacalasău Nou hoard composition of the two half-finished brooch parts, recovered by their seizing in 1979, provides the jewellery lot a special character. We do not know for what reasons Al. Sășianu and Șt. Konewalik⁴⁸ added the two items, “unknown” to the authors of the article issued in 1975⁴⁹, although the

Nou and the three brooches in the grave at Tilișca (Lupu 1989, 34, Fig. 9/1, 4, 6-7). In the case of the brooch at Sacalasău Nou, the foot rod was faceted by filing, while for the brooches at Tilișca we have no direct observations on the outer appearance of the items or their sectioned parts.

⁴⁶ Analyses made on various Dacian jewellery objects indicate that the artisans could either decrease or increase the silver content of the alloy, the copper addition being “perfectly controlled and applied occasionally by choice” (Stoicovici 1973, 542).

⁴⁷ Jevtić et alii 37, 66. Brooches of Jarak type, produced in the 1st century BC in the area of the Scordisci and Transdanubia, had the widened part of the bow between the attachment knob and the spring covered with a silver plate whose edges, not soldered by hammering to the bow body, remain visible in the lower part.

⁴⁸ Șt. Konewalik, the co-author of the notes regarding the finds in Sacalasău area, was a teacher at the General School of Sacalasău Vechi. In August 1976, he attended a sondage made by Al. Sășianu on hill Cherecheș, which resulted in six Dyrhachium and Apollonia drachms (MȚCO, inv. no. N 812). In January 1979, he donated the Museum in Oradea a knobbed brooch and five Apollonia drachms (MȚCO, inv. nos. 10.784, N 966; Sășianu, Konewalik 1981, 332, Pl. I/A).

⁴⁹ Sășianu, Konewalik 1981, 332, note 19.

items were confiscated, according to the delivery report of the items, precisely from one of them, E. Molnar⁵⁰. The mentioned contradiction and the multiple jewellery finds coming from the hills around Sacalasău Nou, call for caution. Practically, there are two working hypotheses concerning the structure of the hoard entered in 1979 in the MŢCO collection:

- i. A lot consisting of items coming from two independent finds, one made in 1972, on *Burcărar* hill and the other, at a date and place remained unknown.
- ii. A single hoard discovered in 1972, on *Burcărar* hill, whose structure comprises knobbed brooches in various conservation states (finished, damaged, half-repaired, half-finished), two bracelets and a chain.

The first hypothesis cannot be, according to the available data, either invalidated or confirmed, however the discovery of half-finished brooches points to the existence of a metalworking workshop in the area of the Dacian settlement at Sacalasău Nou. The second hypothesis reinforces, by associating half-finished items with items bearing obvious traces of the intent for repair, the idea that respective hoard is the inventory of a workshop functioning in a settlement located precisely in the production area of the knobbed brooches⁵¹.

A peculiar aspect of the settlement at Sacalasău Nou is the frequency of jewellery and coin finds, either in mixed or separate hoards⁵². Even though the number and precise composition of these hoards remain unknown, attention is drawn by the supposed find of the 50'ies, made on the same *Burcărar* hill: a homogenous hoard made of eight (?) knobbed brooches, today lost⁵³. On the other hand, the discovery in the settlement and nearby, of many drachm hoards struck by the cities of Apollonia and Dyrrhachium, within an environment lacking monetary economy, suggests the possibility of the brooch production out of the silver obtained from coin recycling. The hypothesis on the making of Dacian jewellery out of the import coins' silver is not new⁵⁴, yet the chronological synchronism between the two object categories (the emergence of the knobbed brooches coincides with the inflow of drachms in pre-Roman Dacia) and the finds clustering in a micro area are only general, indirect arguments.

Metallographic analyses carried out on a lot of drachms belonging to the hoards at Sacalasău Nou and Dieci (Arad county)⁵⁵, compared, for the lack of analyses on the

⁵⁰ When the hoard was published, only a bracelet and one chain were recorded as lost (Dumitraşcu, Molnar 1975, 59, 64).

⁵¹ Rustoiu 1997, 31-32; Spănu 2012, 148-149.

⁵² Săşianu 1980, 146-148; Săşianu, Konewalik 1981, 336, Fig. 2. According to the repertory based on the literature and field research, in the Sacalasău area were discovered six hoards that contain dress and adornment objects (knobbed brooches, bracelets and a decorative chain).

⁵³ See note 8.

⁵⁴ Téglás 1892, 408-409; Popescu 1941, 197; Preda 1958, 113-124; Părvan 1982, 312-313; Spănu 2012, 89-90.

⁵⁵ In 1997, Al. Săşianu sorted a lot of 48 drachms belonging to the hoards at Dieci (Arad county) and Sacalasău Nou, which was subject to analyses performed by B. Constantinescu at the Institute of Atomic Physics. The coins were analysed by two complementary methods of elementary composition analysis: particle-induced x-ray emission (PIXE) and x-ray fluorescence (XRF). The results were published in various specialty journals between 1999-2001, unfortunately not accessible to us. Our notes regarding the coins' composition are based strictly on the results sent to Oradea, during 1997-1998, by B. Constantinescu; the fax being preserved in the MŢCO archive.

adornment objects at Sacalasău Nou, with the results of the investigations carried out on other Dacian hoards⁵⁶, prove similar silver and copper concentrations, however also the presence of same trace-elements, gold and lead⁵⁷. Without jumping to conclusions, we believe that the correct answer, strictly concerning the issue at hand, may be given only following a comparative analysis of the entire lot of objects (coins and jewellery) discovered at Sacalasău Nou.

Conclusions

The republishing of the jewellery hoard discovered in 1972 in the area of the Dacian settlement at Sacalasău Nou is the result of the two brooch parts introduced, after almost a decade, in its composition. Briefly mentioned as knobbed brooch foot and spring fragment, without having been rendered by drawings or photos, the two items passed unnoticed. Their identification as parts of half-finished knobbed brooches brings into discussion a few aspects related to the technique and production stages of this artifact:

- the knobs were made of two parts by hammering on the foot rod;
- the brooches were obtained following the separate processing of the knobbed foot, on one hand, and of the bow together with the spring and catchplate, on the other hand; they were joined with the aid of a plate both covering the catchplate and interlocking the foot rod, like a sleeve;
- the possibility of silver foil plating of the knobbed foot, either for aesthetic purposes to conceal hammering imperfections or mask a core made of a lower silver content alloy.

The presence of half-finished knobbed brooch elements brings into discussion the existence of a metalworking workshop or at least the presence of a metalworking artisan near the find spot of the items. The chance find, by the members of the same family, of two hoards containing brooches, of which one lost, on the same *Burcărar* hill nearby the Dacian settlement at Sacalasău Nou, questions the composition of the

⁵⁶ We take into account the analyses made in '60-'70, by chemical and classical spectrographic methods, of the items in the hoards at Sâncrăieni, Surcea, Bistrița, Cojocna, Stăncuța, Bălănești (Stoicovici 1973, 541; Stoicovici 1974, 20). Recently, with the aid of atomic methods (XRF), were carried out investigations of the Dacian hoards at Coada Malului, Lupu, Senereuș, Slimnic, Mediaș, Sărmășag, Sărăcsău etc. (Oberländer-Târnoaveanu et alii 2010, 5-9).

⁵⁷ The results of the investigations, though similar, were differently interpreted. E. Stoicovici and his collaborators, related the copper presence to controlled introduction and, in parallel, correlated the constant presence of gold with the nature of the local ore from where the metal came. The lead present as accompanying element and the information on the gold present in the content of the Greek coins, revealed by nuclear analyses made outside Romania, were not discussed. By the opposite end, the team of researchers from Bucharest, interpreted the joint presence of the four elements (Ag, Cu, Au, Pb) as evidence of the use of the Greek coins (the Thasian tetradrachms, those of Macedonia Prima type and the Adriatic cities drachms) as raw material source for the Dacian jewellery and dress accessories (Oberländer-Târnoaveanu et alii 2010, 5-9). Following the metallographic analyses made on the items in the hoard at București-Herăstrău, D. Spănu and V. Cojocaru concluded that they cannot either confirm or dismiss the hypothesis on the coins' recycling for obtaining adornment objects. The difference between the metallographic structure of the coins and that of the jewellery is given by the bronze quantity (Cu and Sn), purposefully introduced by the metalworking artisans in order to ensure the rigidity of certain items (Spănu, Cojocaru 2009, 100-116; Spănu 2012, 90-91).

hoard discovered in 1972. The hypothetical introduction in the hoard structure, which already contained a damaged brooch with repair traces, of the semi-finished brooch parts, highlights the idea that a metalworking workshop functioned in an area deemed as the knobbed brooches' production area. The discovery in the surrounding area of many hoards of drachms issued by the Adriatic cities of Apollonia and Dyrrhachium and the results of the metallographic analysis of such coins' composition supports, indirectly, the idea of a workshop operating there.

Since the presence of semi-finished knobbed brooches, unique in the repertory of metalworking item finds in pre-Roman Dacia, challenges a series of previous assertions related to the way the brooch were made, the interpretation file remains open.

In what the raw material issue is concerned, the vicinity between the many finds of knobbed brooches, among which some half-finished, and coin hoards (drachms, Republican denarii), presumable raw material sources, provides the opportunity for a punctual analysis that would verify indirect comparisons only partially supporting the idea of import coins recycling in order to make Dacian jewellery in the workshop at Sacalasău Nou.

Addendum

Technical data concerning the items discovered at Sacalasău Nou (Bihor county)

1. Knobbed brooch. Silver; hammering, stranding, soldering, incising, punching, polishing. G = 194.60 g; brooch L = 14.52 cm; spring L = 8.76 cm; knob diam. = 0.98-2.03 cm; max. bow width = 4.70 cm; MȚCO, inv. no. 23.129; Pl. I/1. Brooch with four large and three intermediary knobs placed on the foot withdrawn on the bow. Mid knobs are cut by chisel in the contact area with the bow, and the knob towards the spring widens and is attached to the bow by two extensions. After attaching the foot, the bow gets the form of a rhombic plate, decorated with stripes of incised lines and small stamped circles. The bilateral spring incorporates a circular iron bar, preserved fragmentarily.

2. Knobbed brooch. Silver; hammering, stranding, soldering, incising, punching, polishing, finishing, piercing. G = 131.173 g; brooch L = 14.17 cm; knob diam. = 1.04-1.98 cm; max bow width = 4.83 cm; MȚCO, inv. no. 10.951; Pl. I/2. Brooch, identical with the previous, is preserved fragmentarily. The foot area preserves only the upper part, with the last two large knobs. In the foot break area, the bow has an orifice. The bilateral spring of the brooch is preserved partially, part of the outer chord being lost after discovery. Inside the coils, rust traces coming from the iron bar designed to reinforce the spring are noticeable. The pin displays a series of incisions. The chord being broken, the brooch was preserved in two pieces.

3. Knobbed brooch foot. Silver; hammering, finishing, polishing. G = 86.149 g; brooch L = 9.64 cm; knob diam. = 0.99-1.92 cm; MȚCO, inv. no. 10.953; Pl. I/3. Brooch foot with four large knobs and other three intermediary, set on a bar which upon finishing became cylindrical. After the first knob, the bar gradually flattens towards the catchplate arching. Before such arching, the foot is slightly deformed and, a centimetre below, it is broken. Two of the large knobs, those by the middle, are cut straight by chisel in the area near the bow.

4. Half-finished knobbed brooch foot. Silver; hammering, finishing. G = 50.018 g; brooch L = 9.66 cm; knob diam. = 1.41-2.14 cm; MȚCO, inv. no. 10.952; Pl. II/3. Half-finished brooch foot with three large knobs, placed on a rod ending towards one of the ends with a rectangular bar, narrowing gradually. By the opposite end, the knob-sleeve was

unfinished and a massive rectangular bar, with the side towards the bow slightly concave, lies by the attachment spot. The central knobs were cut by chisel in sharp angle for attachment to the future brooch bow.

5. Spring, bow and catchplate of a half-finished brooch. Silver; cold hammering, twisting. G = 35.894 g; brooch L = 15.51 cm; bow l = 0.35–1.09 cm; MȚCO, inv. no. 10.955; Pl. II/2. Part of the spring coils are preserved, made by twisting a thick silver wire, located in the extension of the brooch bow. In this processing stage, the bow-rod has an ovoid profile, narrowing and flattening towards the catchplate. The catchplate area, strongly thinned, is a triangular plate with a straight edge and the other, dented.

6. Brooch bow. Silver; twisting, cold hammering, polishing. G = 26.888 g; brooch L = 12.68 cm; MȚCO, inv. no. 10.956a; Pl. II/1. The item is a bar-shaped part of the spring and bow of a knobbed brooch. The spring preserves only a deformed coil and the bow bar exhibits the specific curves of the areas near the foot. Towards the catchplate, the bow body is broken. The bow was slightly deformed.

7. Bracelet. Silver; hammering, incising, punching. G = 113.117 g; D = 8.43 × 8.68 cm; unwound bracelet L = 39.5 cm; body thick. = 0.93 × 0.71 cm; ends thick. = 0.51 × 0.70 cm; MȚCO, inv. no. 10.956b. Bracelet made of a massive silver bar, which by hammering became cylindrical. The loose and overlapped ends have a rectangular profile. The bracelet body is smooth, yet the extremities are decorated by dots, punched circles and incised lines rendering stylised, snake heads.

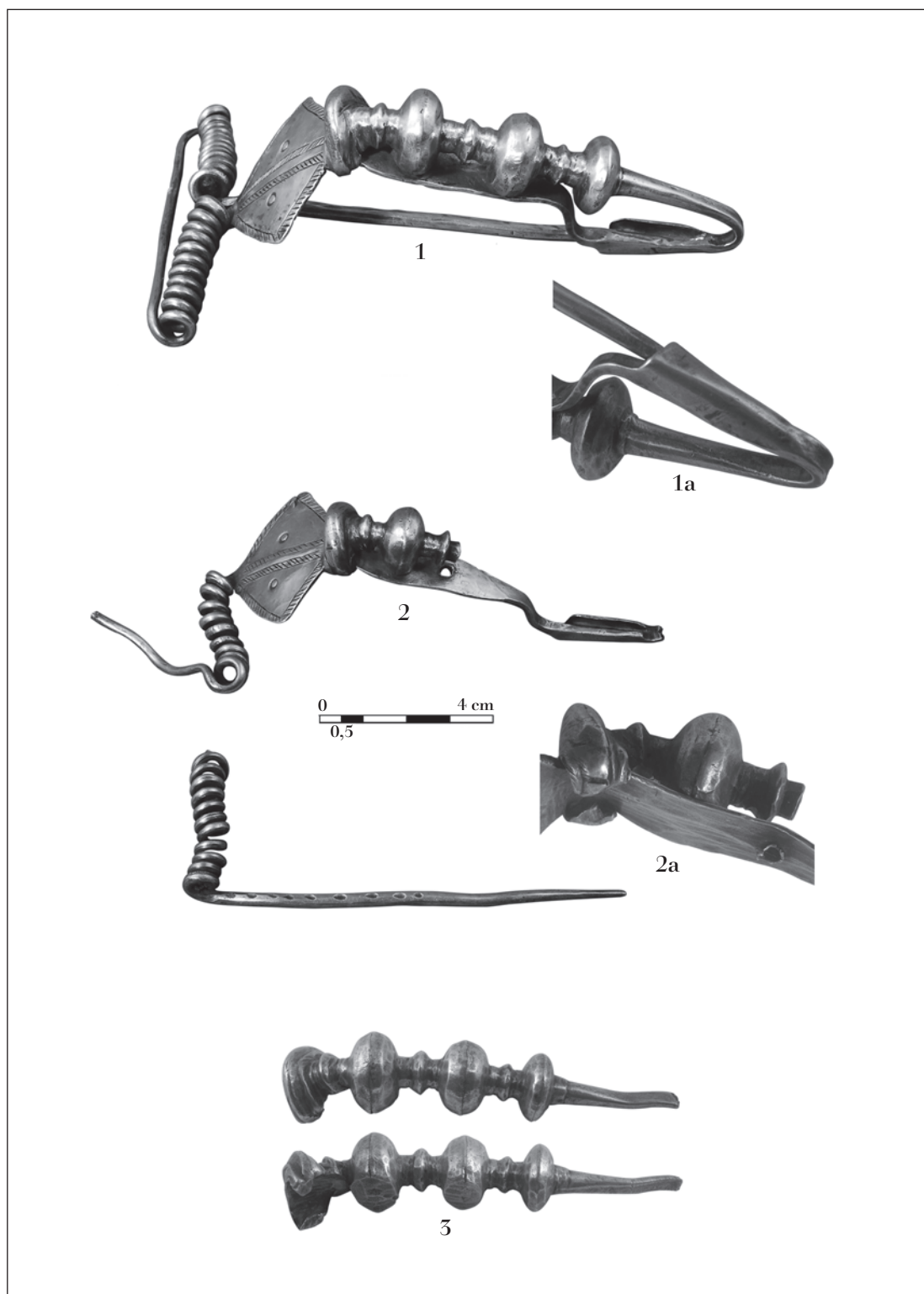
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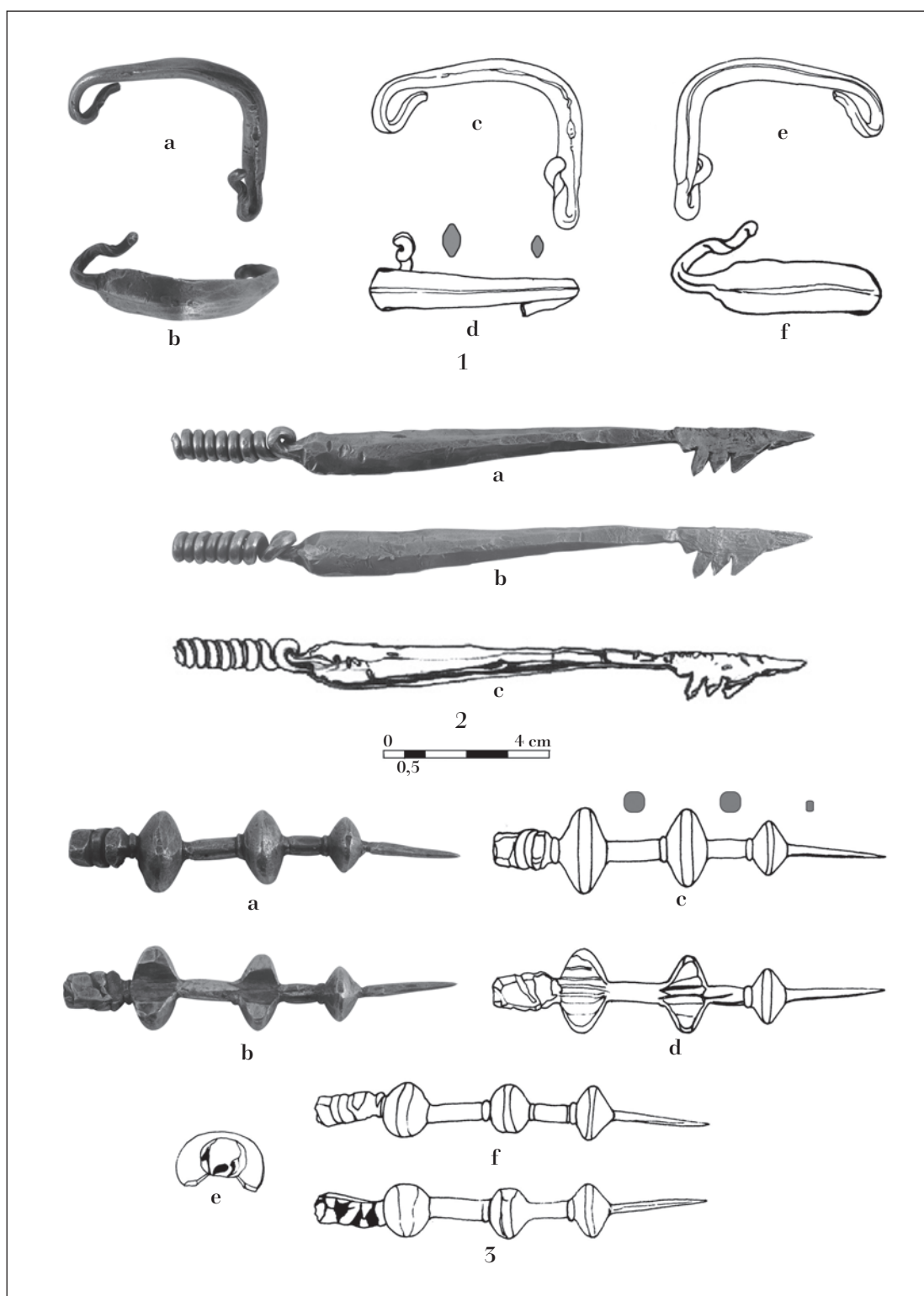
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Corina Toma

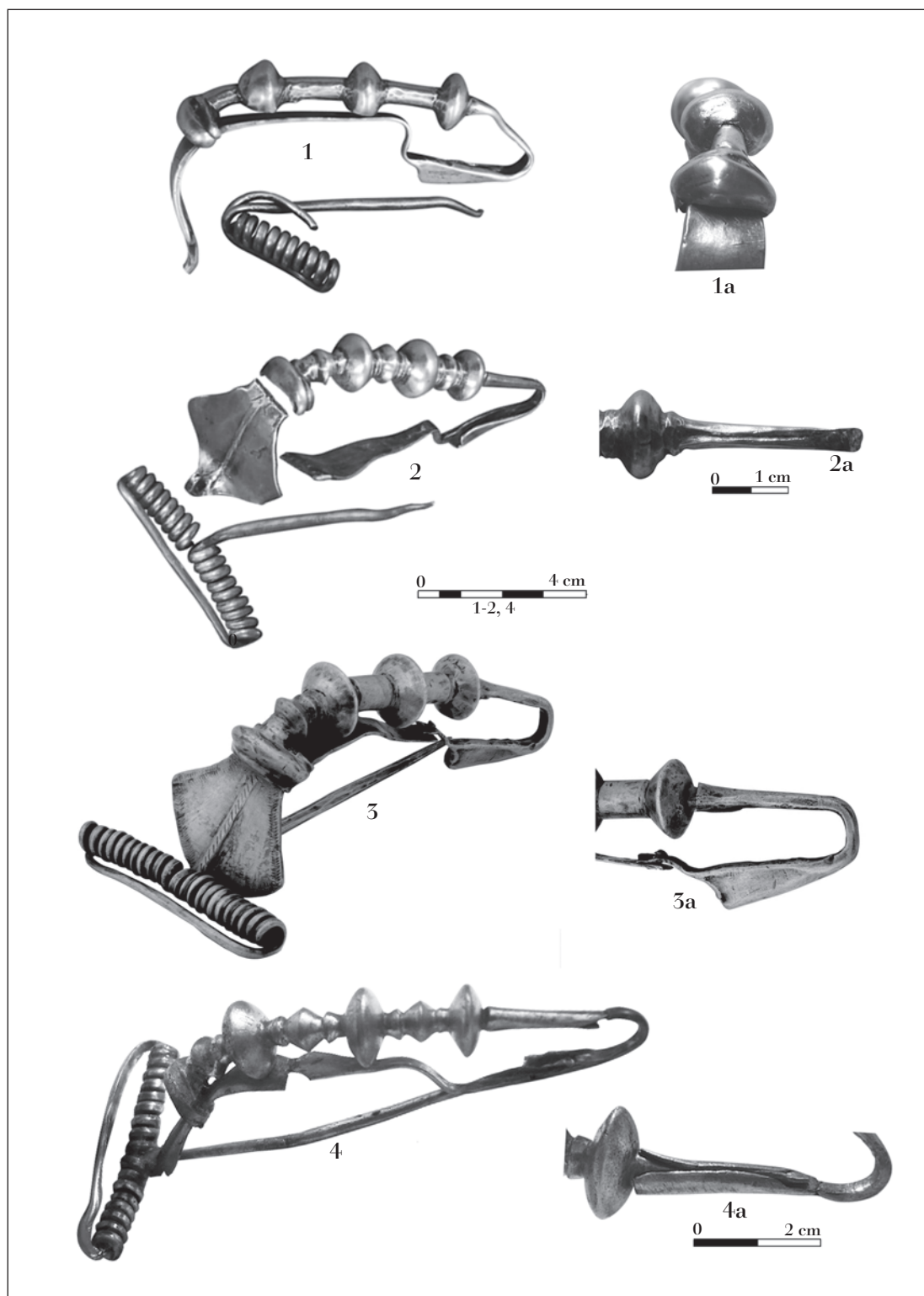
Muzeul Țării Crișurilor, Oradea
corinatoma00@yahoo.com



Pl. I. 1. Knobbed bow-plate brooch; 1a. Foot rod detail (Sacalasău Nou, MȚCO, inv. no. 23.129); 2. Fragmentary knobbed bow-plate brooch; 2a. Brooch foot and bow detail (Sacalasău Nou, MȚCO, inv. nos. 10.951, 10.954); 3. Knobbed brooch foot (Sacalasău Nou 1972, MȚCO, inv. no. 10.953). Photo: Ovidiu Pascu; photo processing: Lucian Mărcușiu (MȚCO).



Pl. II. 1 a-f. Bow-rod of a knobbed brooch (Sacalasău Nou, MȚCO, inv. no. 0.956a); **2 a-c.** Spring, bow and catchplate of a half-finished brooch (Sacalasău Nou 1972?, MȚCO, inv. no. 10.955); **3 a-f.** Half-finished knobbed foot brooch (Sacalasău Nou, MȚCO, inv. no. 10.952). Drawings: Mariana Mechiș (nos. 1, 3); Oana Georgescu (no. 2); photo: Ovidiu Pascu, Lucian Mărcușiu; photo processing: Lucian Mărcușiu (MȚCO).



Pl. III. 1. Bow-plate knobbed brooch in the hoard at Tășad; 1a. Detail of the knobs (MȚCO, inv. no. 9693); 2. Bow-plate knobbed brooch in the hoard at Tășad; 2a. Foot rod detail (MȚCO, inv. no. 9692); 3. Bow-plate knobbed brooch in the hoard at Mediaș; 3a. Detail of repaired parts (MNIR, inv. no. 47.494); 4. Bow-plate knobbed brooch in the hoard at Cehețel; 4a. Detail of the sleeve interlocking the foot rod (MMI Cristuru Secuiesc, inv. no. 1058); Photos: Ovidiu Pascu (MȚCO), Sandor-Zsigmond Ibolya (MNICS), Marius Amarie (MNIR); photo processing: Lucian Mărcușiu, Oana Georgescu (MȚCO).

A SILVER DACIAN BRACELET IN THE KEMÉNY COLLECTION

AURORA PETAN

Abstract: The antiquities collection of count Kemény József (1795–1855) at Luncani (Cluj county) also included, at a certain point, a silver spiralled Dacian bracelet with terminal plates and zoomorphic protomae, originating from Turda, of which though, nothing is known at present. The manuscripts of the Hunedoara physician Fodor András Lugosi (?–1859) preserve yet two sets of drawings and information related to this artifact, signed by Kemény József, respectively J. F. Neugebauer. Based on such data, one may recompose the image of this precious Dacian item, insofar unknown to the scientific world.

Keywords: Silver spiralled Dacian bracelet; the Dacian Kingdom period; Dacian metal-working; antiquities collections; Kemény József; Fodor András Lugosi.

Rezumat: În colecția de antichități a contelui Kemény József (1795–1855) din Luncani (jud. Cluj) s-a aflat, la un moment dat, și o brățară dacică spiralică de argint cu plăci terminale și protome zoomorfe, ce provenea de la Turda și despre a cărei soartă astăzi nu se mai știe nimic. În manuscrisele medicului hunedorean Fodor András Lugosi (?–1859) se păstrează însă două seturi de desene și informații legate de acest artefact, semnate de Kemény József, respectiv de J. F. Neugebauer. În baza acestor date se poate reconstitui imaginea acestei prețioase piese dacice, rămasă necunoscută până acum lumii științifice.

Cuvinte-cheie: brățară dacică spiralică de argint; orfevrărie dacică; epoca regatului dac; colecții de antichități; Kemény József; Fodor András Lugosi.

Famous at the time for his passion for history, count Kemény József (1795–1855) gathered at his mansion at Luncani (Cluj county) a large number of ancient objects discovered on the territory of Transylvania and copied hundreds of ancient documents from both the archives of the Transylvanian government and private archives. By early fourth decade of the 19th century, the count donated his impressive collection of documents, manuscripts and minerals in order to establish a Transylvanian museum, preserving though the collection of artifacts, which included inscriptions, coins, statues, pottery and ancient objects of every sort, from metal items to tools and weapons. During the dramatic events of 1848, the mansion at Luncani was looted and burnt¹, large part of his collection of artifacts being destroyed. The collection of manuscripts, housed today at the Academy Library, Cluj-Napoca branch (the *Kemény Fund*) includes a catalogue of inscriptions and one of coins, which the count collected over time, however none comprising the other artifacts.

Fortunately, the sheets in which some of these items were drawn and described, either by the count himself or by other individuals who have seen the collection, were

¹ Veres 1942, note 8; Bajusz 2005, I/1, 29, note 30.

gathered in a manuscript together with materials from various other sources by the physician Fodor András Lugosi (?-1859) based in Hunedoara, also an antiquities passionate and friend of the count². Most likely, Fodor also intended to publish them, however he did not succeed either. All the material he collected, originally preserved within the Erdélyi Nemzeti Múzeum under the title *Utnutató a három Dáciakban*, was later transferred to “Lucian Blaga” Central University Library of Cluj-Napoca in the “Special collections” department, where today it is grouped in eight tomes under no. 754 with the generic title *András Fodor Lugosi Kézirata [Archaeological data from Transylvania]*. Tomes I-III, drafted in Hungarian, are titled *Panoráma az archeológiai nevezetességeikkel*, tomes IV and V are in German and titled *Führer durch Siebenbürgen für Freunde vaterländischer Alterthümer in verschiedenen Teilen und Ortschaften*, resuming part of the information of the first tomes, while tomes VI-VIII include illustrations (*Abbildungen zum “Führer durch Siebenbürgen” I-III*). Among the latter, tome VIII unifies sheets and original drawings belonging to J. F. Neigebaur, M. Ackner, Fodor A., Kemény J. and others, and tomes VI-VII comprise plates drawn by certain professional drawers, who redrew the original materials in tome VIII. Dacian period information in this manuscript is much less known and used³.

Among the items drawn and described within the sheets gathered by Fodor counts a silver Dacian bracelet, multi-spiralled, with terminal plates and zoomorphic protomae, belonging to the well-known series of spiralled Dacian bracelets that today counts 31 silver specimens and possibly 24 of gold (of which only 13 retrieved)⁴. The item was inventoried in the Kemény collection, however it remained novel until present, lacking from the specialty catalogues drafted over time⁵. Nonetheless, today nothing is known of its fate.

Fodor saved two drawings of this bracelet. The first is included in tome VIII, page 26, beside other objects discovered at Turda. The drawing is at a small scale, made in crayon in a realistic manner. The helix shape of the object is accurately represented in perspective and the piece length is mentioned. The count's writing is recognizable on the plate (Pl. I; hereinafter, *drawing no. 1*). The second drawing, included in tome VIII, page 54, is at large scale and was drawn in crayon, later in ink. The spiral is represented poorly and asymmetrically by a sine curve. Based on the writing style, the sheet belonged to Consul J.F. Neigebaur (Pl. II; hereinafter, *drawing no. 2*)⁶. Both drawings record the origin of the object at Turda (“*Thorda*”) and mention their storage in count Kemény József's collection, under the inventory number 77. The two sketches were re-

² See the correspondence between the two in Ferenczi 1914.

³ Among the Dacian period researchers, only Al. Ferenczi quoted this manuscript, (Ferenczi 1937; Daicoviciu, Ferenczi 1951), which he examined in the Museum of Transylvania; two plates with drawings were firstly published by V. Wollmann in the monograph dedicated to M. Ackner (Wollmann 1982) and later taken over by Daicoviciu et alii 1989.

⁴ Spănu 2012, 62-63. Three and a half decades before, Fl. Medeleț counted only 23 sure silver specimens (Medeleț 1977, 291).

⁵ Horedt 1973; Medeleț 1974; Mărghită 1976; Medeleț 1977; Medeleț 1994; Mărghită 2008; Spănu 2012.

⁶ Both the count's elegant writing and that irregular of the consul are unmistakable. Kemény and Neigebaur had close relations; the latter copied several inscriptions from the count's collection and even wrote together with him, see IDR I, 49.

drawn and included in tome VII, the first at page 41, Tab. XLI, e (Pl. III), the other at page 47, Tab. XLVII, a (Pl. IV). Though less artistic, the original drawings are much more accurate, which is natural since they were made by individuals who have seen the object. The copies included in tome VII deform certain significant details like the shape of the flattened, decorated segment at the end of the bracelet, the shape and details of the zoomorphic protoma, the decoration of the top panel, the number of buttons on the palmettes' mid rib etc. and overlook the size noted by the count on the original drawing. Therefore, we shall make references only to the original drawings.

The two drawings clearly show that the object in the count's collection was a multi-spiralled Dacian bracelet with flattened ends decorated with zoomorphic motifs, complete by all appearances. The object had, at least in Kemény's representation (drawing no. 1), five and a half coils. The protoma, less visible in the small scale drawing, is depicted from the front in drawing no. 2, where the elongated nose of the animal and the cap with the two eyes and arcades marked by two curved lines are distinguishable. The "crest" is rendered by five rows of curved lines one on top of the other, oriented alternately, so to suggest the wavy fur of an animal. The edges of this register are decorated with the "fish back" motif.

The number of palmettes is unclear. In drawing no. 1, the representation in perspective hinders the identification of the palmettes' number; nevertheless, in the lower part one may count five. In drawing no. 2, where the ends of bracelets are represented from the front, there are five palmettes at one end and three at the other. The end with three palmettes is obviously rendered inaccurately, because the drawing space was not carefully considered from the very beginning. The drawing is disproportionate, as the drawer, who seems to have started the sketch from the page bottom⁷, drawing equally the first sine curves, made the last much wider than the others so to be able to figure on the next segment five palmettes instead of three.

The outline of the palmettes is heart-shaped and one may distinguish a mid rib decorated with five knobs. Knobs are also depicted between the palmettes. Other details are not distinguishable in the fields of palmettes, however the spiral's state of preservation was unknown at the time when the drawing was made.

The explanations for the two drawings are found in tome I, f. 99 recto and 99 verso (in Hungarian)⁸ and in tome IV, f. 31 verso and 32 verso (in German) and reference to the plates redrawn in tome VII⁹. The information is confined to only 2-3 text lines, which however brings together several significant data. The two text sets, in the

⁷ It is possible that the drawing sheet was reversed when the identification data were written on it, so the drawer might have still started the drawing from top down; in the re-drawn version, the image is reversed, like the original must have been as well.

⁸ I wish to thank this way too lecturer Dr. Bajusz István for the transcription and translation of the Hungarian texts.

⁹ The first text: „e) Ezüstből csinált fél font nehézségű, mindkét végén kígyófejű oly karperetz milyenekel önmagukat kitüntették, lovas vitézeket szokták a rómaiak megjutalmaztatni.” = „Aus Silber gemachte halb pfund Schwer, auf beiden ende mit Schlangen Koepfe dergestalt gefertigte Arm Ring, mit welche die Roemer ihre ausgezeichnete Ritters zu belohnen pflegten”. “Bracelet made of silver, weighing half a pound, with both ends ending in snake heads, with which the Romans used to reward the knights who distinguished themselves”. The second text: „a) Egy ezüstből csinált egy sing hosszúságu kígyó.” = „In Seiner große abgezeichnete ein ellen Lange, aus Silber gemachte Schlange”. “A snake made of silver, with a length of one ell”.

two languages, reproduce the same information. The first text transcribed by Fodor, very likely belonging to Kemény, as it references his drawing, informs us it is a silver bracelet with both ends in the shape of snakes, weighing half of pound (= ca. 280 gr)¹⁰, and that such bracelets were offered to Roman knights as award for their valour¹¹. The second text, shorter, written by Neigebaur to accompany his drawing, mentions it is a “silver snake” of one ell in length (= 77.70 cm – the equivalent for the Viennese ell “*Elle*”). Kemény’s drawing contained the indication of the piece length, namely 7 feet (= ca. 210 cm).

The spiral seems to belong to type A – Orăștie¹². The number of palmettes is smaller than commonly, yet not singular, another specimen with 5 palmettes existing at Velika Vrbica¹³, while the other known specimens have 6 or 7 palmettes. It is not excluded that their number is rendered correctly, however we cannot necessarily count on the accuracy of the two drawings. Closest analogies for the overall decoration are the silver spirals at Dârlos and Orăștie, as well as three of the golden bracelets at Grădiștea de Munte¹⁴. Regarding the execution of details, the item similarities with those at Oradea and Vălișoara include the mid rib decorated with knobs (detail also found on most golden spirals at Grădiștea de Munte), and with those at Orăștie and Gliganul de Jos, the circular motif (most likely punched) separating the palmettes, also found on some of the gold spirals¹⁵.

The 280 gr weight is plausible and ranks it by the lower limit of this class¹⁶. The size provided by Kemény, of ca. 210 cm, which must refer to the uncoiled length of the spiral, is within the known limits¹⁷. Instead, the ell number given by Neigebaur doesn’t seem to mirror a real size of the item, neither uncoiled, nor twisted¹⁸. The number of five and a half coils is frequently found with the series of multi-spiralled silver bracelets.

The item seems to come from Turda, as recorded within the sheets, however one cannot be certain that this is the real find place. The text provides no details concerning the find place and context and there is no information on how the object ended up in Kemény’s possession. Still, it is not excluded that it might have been discovered precisely in Turda area, where finds of Dacian items and even similar bracelets¹⁹ are also recorded.

¹⁰ The Austrian pound was equivalent to 560.012 gr.

¹¹ Kemény was not familiar with the material culture of the Dacians; M. Ackner also assigned to the Romans two same type bracelets discovered by mid 19th century at Hetiur and Orăștie (Vaidei), see Wollmann 1982, 91–93.

¹² According to Fl. Medeleț’s classification. It is likely that incised decoration also existed beside the stamped one, however it must have been no longer visible in order to be rendered by the drawer.

¹³ Garašanin 1954, 67, no. 4880, Pls. XLIV/10, LIX/6; Spânu 2012, 254, no. 209 and Pl. 195, no. 1.

¹⁴ Spânu 2012, 225–226, no. 55 and Fig. 48, 52 and 54.

¹⁵ I am indebted to Dr. Daniel Spânu (“Vasile Pârvan” Archaeology Institute of the Romanian Academy, Bucharest), for the valuable suggestions provided in relation to determining the item and its analogies.

¹⁶ The bracelet at Bălănești has 278 gr and has an uncoiled length of 196 cm, see Spânu 2012, 215.

¹⁷ All completely preserved spirals measure around 2 meters long, see Spânu 2012, 63.

¹⁸ The maximum height of such a bracelet is 25 cm, see Spânu 2012, 63. Neigebaur was more negligent in noting details, which is also mirrored in the transcription of the numismatic and epigraphic materials, see IDR I, 49.

¹⁹ RepCluj, 404, no. 62g, where are recorded at Turda a silver *torques*, scyphate Dacian coins and

Nothing is known on the fate of this item; however it likely disappeared during 1848–1849 among large part of the collection, when the Luncani castle was ransacked. We may wonder whether the item at Turda had entered other collection, whilst information on its place of origin was lost. Still, none of the 7 silver Dacian spirals with unknown find spot exhibit the decoration like that in the Kemény collection²⁰. Therefore, one may argue this item is novel.

In conclusion, it is safe to say that the number of known specimens in the category of multi-spiralled silver Dacian bracelets with terminal plates and zoomorphic protomae has risen, insofar, to 32. In the event that the location of this item at Turda is accurate, then it sheds new light on the issue of the Dacian finds in the area. Concurrently, it proves that the use of information concerning the Dacians from 19th century documents is far from complete, able still of much surprise.

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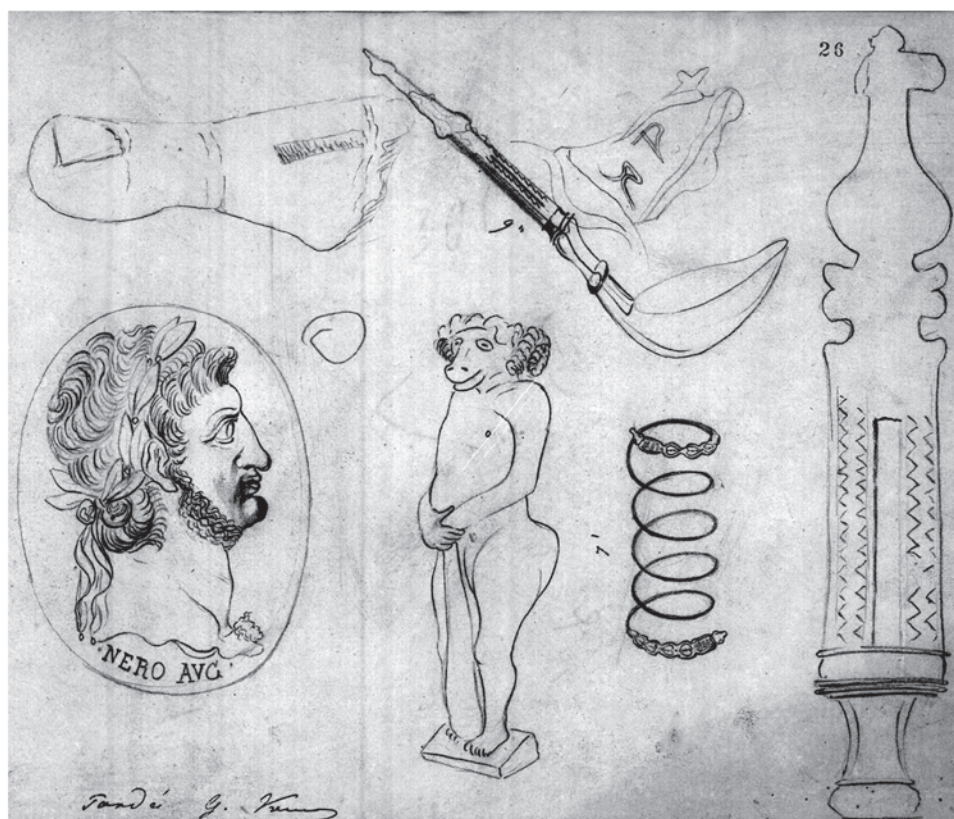
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Dacian tetradrachms; to these adds a possible bronze Dacian bracelet deemed Roman by Téglás I. (Bajusz 2005, I/2, 708, Fig. 46/9). Not far from Turda, on the territory of Vălișoara village, was discovered a silver Dacian spiral in the same category like the one in the Kemény collection (Spănu 2012, 248–249 and Pl. 157). A hoard discovered at Cojocna, also at small distance from Turda, includes a silver Dacian spiral, yet without terminal plates, deemed either in the same type, yet with broken ends (Popescu 1941, 219) or included in the category of simple spiral bracelets, undecorated (Spănu 2012, 22 and Pl. 33).

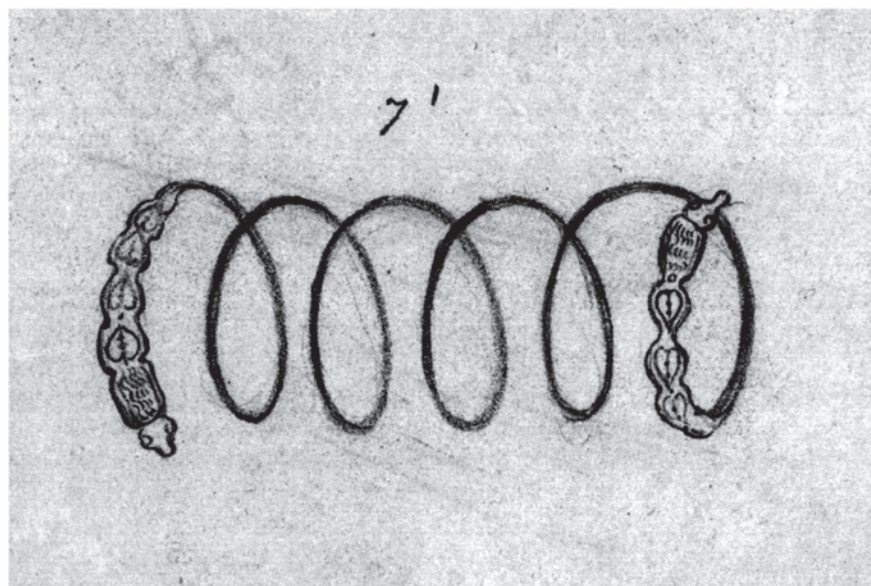
²⁰ According to Spănu 2012, two are now at the Museum in Belgrade (Romania no. 4 and 5), three are at the Museum in Budapest (Transylvania no. 9, 10 and 51), one at MNIT (Transylvania no. 13), and another in the Severeanu collection (Romania no. 1).

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Aurora Pețan
“Babeș-Bolyai” University, Cluj-Napoca
apetan@gmail.com

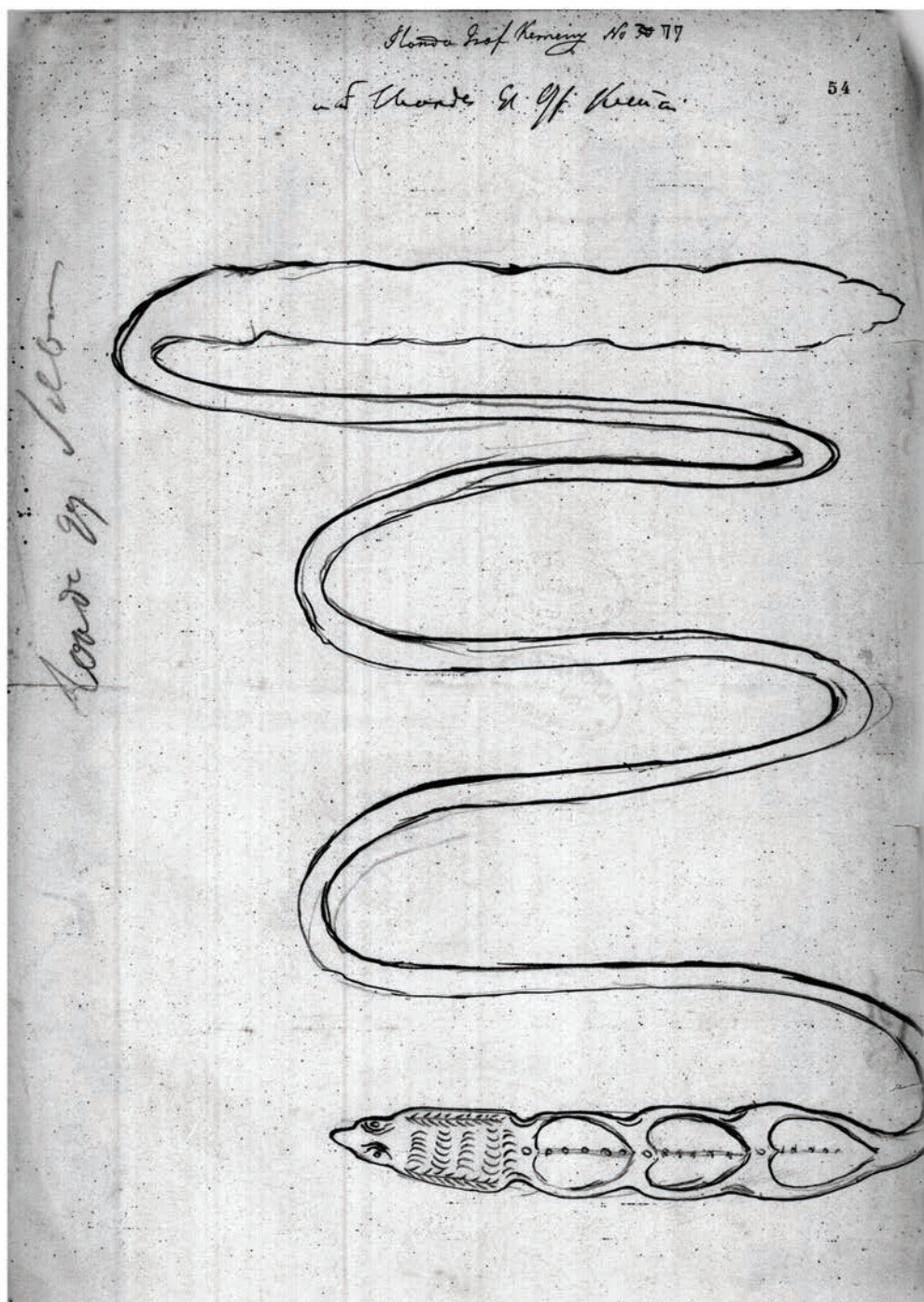


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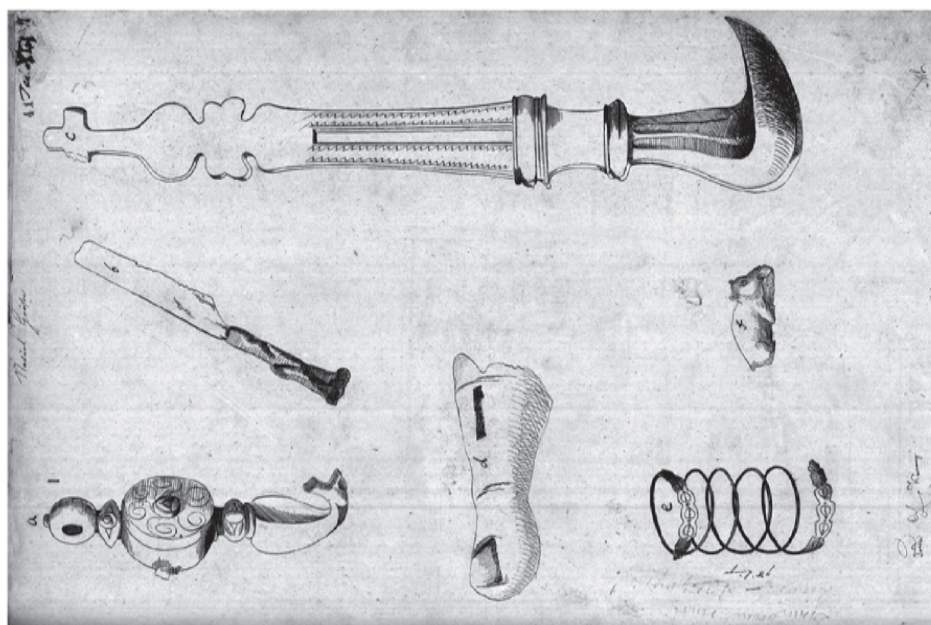


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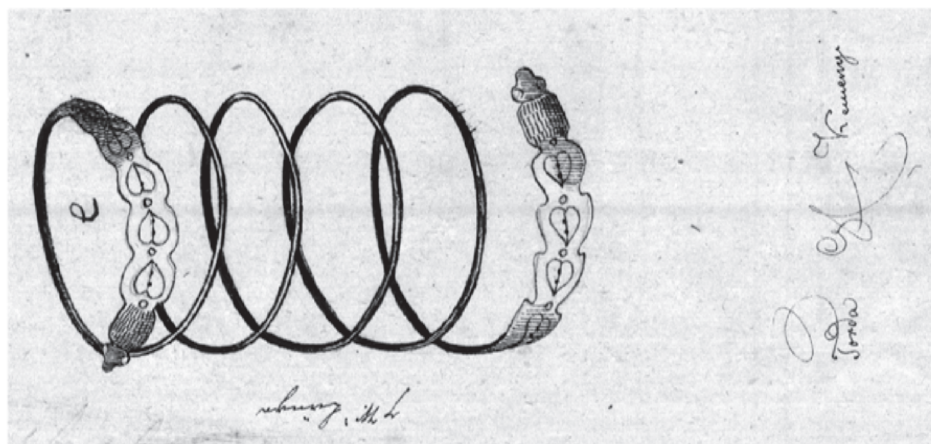
Pl. I. 1. Items discovered at Turda, drawing by Kemény József; **2.** Detail of the multi-spiralled bracelet (Source: Fodor mss, tome VIII, 26).



Pl. II. Bracelet drawn by J. F. Neigebaur (Source: Fodor mss, tom VIII, 54).

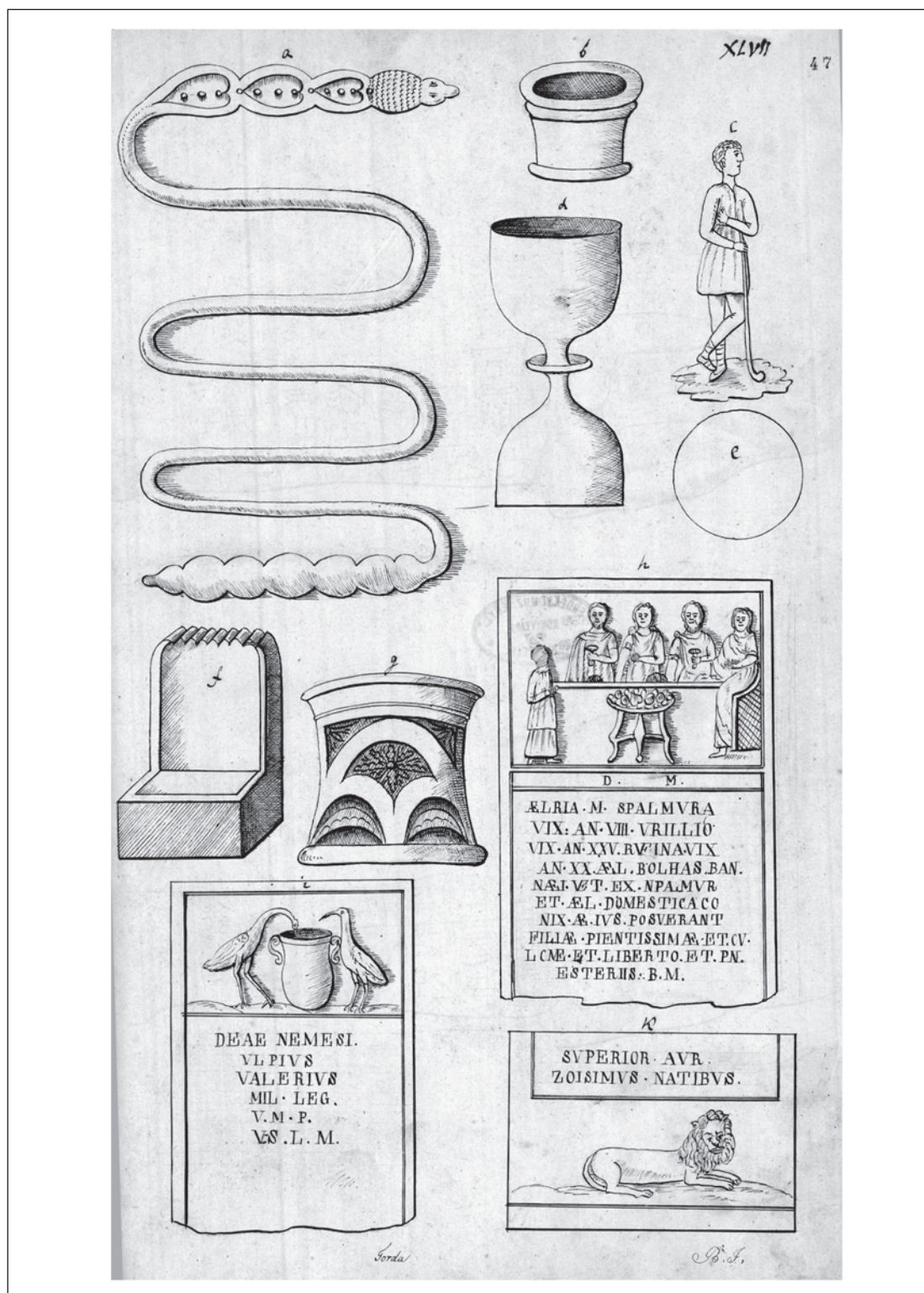


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Pl. III. 1. Items from Turda, redrawn; 2. Detail of the multi-spiralled bracelet (Source: Fodor mss, tome VII, 41).



PL. IV. Neigebaur's sketch, redrawn, on the same plate with other objects coming from Turda (Source: Fodor mss, tome VII, 47).

GOLDENE UND SILBERNE VOTIVBLECHE AUS DEM RÖMISCHEN DAKIEN

CARMEN CIONGRADI

Zusammenfassung: Die Identifizierung dreier neuer goldenen Votivbleche in einer Privatsammlung hat zu einem detaillierten Studium aller Votivbleche aus Dakien, im Vergleich mit denjenigen aus dem gesamten Römischen Reich geführt. Die Bleche aus dem Thermalbecken in *Germisara* sind Quellweihungen und wurden den Nymphen und anderen Natur- und Heilgottheiten hinterlegt. Die anderen drei stellen sehr wahrscheinlich auch Weihungen für die Nymphen dar, am Thermalbecken von *Germisara* oder an anderen Quellen. Die Römer haben in *Germisara* einen Thermalort errichtet und einen Kult der Quellen zelebriert, der schon vor der Errichtung der römischen Provinz existiert hat. Die Dedikanten dieser Votivbleche stellen sowohl die einheimische Bevölkerung, als auch die Kolonisten dar, sowohl Männer als auch Frauen. Die Verbreitung solcher Votive vorwiegend in den keltischen Provinzen, die lokalen Beinamen der Göttern, denen sie geweiht wurden, oder *interpretatio Romana* einiger Naturgottheiten, weisen auf eine Kontinuität lokaler Kultformen, besonders an Quellheiligtümern.

Schlüsselwörter: goldene und silberne Votivbleche; Dakien; Quellheiligtümer; Weihung; *interpretatio Romana*.

Rezumat: Identificarea a trei plăcuțe votive de aur într-o colecție particulară a condus la un studiu detaliat al tuturor acestor plăcuțe votive din Dacia, de aur și argint, comparativ cu cele cunoscute deja în Imperiul Roman. Majoritatea plăcuțelor descoperite în bazinul de apă termală de la *Germisara* au legătură cu cultul izvoarelor și au fost depuse ca ofrandă nymfelor sau altor divinități ale naturii sau vindecătoare. Celelalte trei sunt cel mai probabil tot ofrande aduse nymfelor, la izvoarele de apă termală de la *Germisara* sau la alte izvoare. Romanii au amenajat izvoarele de apă termală și au celebrat un cult al izvoarelor care exista și înainte de constituirea provinciei romane. Dedicantii acestor plăcuțe sunt reprezentați atât de populația autohtonă cât și de coloniști, femei și bărbați deopotrivă. Preponderența acestor plăcuțe în provinciile celtice, epitele locale ale divinităților cărora le erau adresate, sau *interpretatio Romana* a unor divinități ale naturii pledează pentru o origine preromană a acestor forme de ofrandă.

Cuvinte cheie: plăcuțe votive de aur și argint; Dacia; cultul izvoarelor; ofrandă; *interpretatio Romana*.

Im Jahr 2012 kamen die Besitzer dreier goldener Votivblechen (Abb. 9–11; 13) in das Nationalmuseum für die Geschichte Siebenbürgens in Cluj-Napoca¹. Diese erteilten uns die Erlaubnis sie zu veröffentlichen. Sie wurden fotografiert, gezeichnet, vermessen und gewogen; Călin Tămaș von der Fakultät für Biologie und Geologie Abteilung Geologie, der Babeș-Bolyai Universität in Cluj untersuchte anschließend

¹ Für Hinweise, Anregungen und Korrekturen möchte ich R. Haensch, M. Horster, R. Petrovsky herzlich danken.

das Metall. Die Bleche wurden bereits 1994¹ von den Besitzern dem Museum vorgelegt. Sie wurden damals zwar fotografiert und gezeichnet, aber nie veröffentlicht. Nachdem die damalige Bearbeiterin 2008 verstarb, hatten aufgrund der vorhandenen Unterlagen zwei Kollegen, S. Cociş und R. Ardevan sich entschlossen, diese Votivbleche zu veröffentlichen². Da sie aber die Stücke nie sahen und nur mit Zeichnungen und Fotos arbeiteten, haben sich Ungenauigkeiten eingeschlichen und die Inschriften sind nicht korrekt entziffert worden. Deswegen entschied sich die Verfasserin, sie nochmals im Rahmen einer Gesamtuntersuchung aller gefiederter Votivblechen aus dem römischen Dakien vorzulegen.

Fundkontext

Die Besitzer gaben an, die Bleche von einem Vorfahren, der aus der Gegend von Abrud³, Kreis Alba, stammt, geerbt zu haben. Dieser Ort liegt im Goldförderungsgebiet in der Nähe von Roşia Montană – *Alburnus Maior* und war sehr wahrscheinlich eine einfache Siedlung, *vicus* oder *castellum* ohne besonderem Rechtsstatus, so wie diejenige des Bergwerkszentrums von *Alburnus Maior*⁴. Der genaue Fundort bleibt fraglich.

Aus Dakien sind bisher acht Goldbleche aus *Germisara*⁵ und ein silbernes aus *Apulum*⁶, zu Tage gekommen. Mit den drei neuen sind somit 12 Votivbleche aus dem römischen Dakien bekannt, 11 aus Gold und eins aus Silber. Der Fundort des Blechs in *Apulum* selbst ist nicht überliefert. Die drei neuen Bleche könnten von einem Quellheiligtum stammen wie die Goldbleche aus *Germisara*. Bisher sind ausschließlich in diesem antiken Kurort und Quellheiligtum goldene Bleche Dakiens gefunden worden. Im römischen Dakien lagen drei bekannte Quellheiligtümer- und -bezirke: *Germisara*, *Ad Mediam* (Băile Herculane) und *Aquae* (Călan), alle in der Provinz *Dacia Superior* (Taf. I) gelegen.

Quellheiligtümer und- bezirke aus Dakien

Das römische Thermalbad von *Germisara*, heute Geoagiu, liegt im Mureş-Tal, südlich des antiken Goldförderungsgebietes an der Hauptstrasse, die von *Sarmizegetusa* nach *Apulum* verlief. Fünf Kilometer von *Germisara*⁷ entfernt befindet

² Ardevan, Cociş, ms.

³ Über Abrud vgl. Neigebaur 1851, 182–184; Goos 1876, 64; Cserni 1901, 141, 538; Marţian 1920, 1; Daicoviciu 1937–1940, 300; Daicoviciu 1945, 108; Tudor 1968, 196.

⁴ Nach Daicoviciu 1937–40, 300 es befände sich dort ein befestigtes *castellum*, zur Sicherung des Goldförderungsgebietes. Es sind dort jedoch nur römische Mauerreste und andere Kleinfunde entdeckt worden. Mehrere Votivaltäre stammen nicht mit Sicherheit von dort CIL III 1270, 1273, 1274, 1615.

⁵ Piso, Rusu 1990, 9–17; Pescaru 1988–1991, 663–666; Piso 1993, 834, 838; Rusu, Pescaru 1993, 201–214; Rusu 1994, 217–219; Pescaru, Rusu-Pescaru 1995–1996, 326; Rusu-Pescaru, Alicu 2000, 73–74; Piso, Pescaru, Pescaru 2002–2003, 197; Schäfer 2009, 183–188; Schäfer 2009a, 121; Ştirbulescu 2010, 210–213; Ştirbulescu 2013, 498, Nr. 122.1.

⁶ Rodean, Anghel 1999, 56–59, mit Abb.

⁷ Über *Germisara* vgl. Tudor 1968, 130–134, mit der älteren Literatur; IDR III/3, 211–212; Rusu, Pescaru 1993; Pescaru, Rusu-Pescaru 1995–1996; Rusu-Pescaru, Alicu 2000, 65–74; Schäfer 2009, 182–188; Piso, Pescaru, Pescaru 2002–2003, 197–198.

sich das Auxiliarkastell von Cigmău mit einem ausgedehnten Militärvicus. Dort stand der *numerus singularium Britannicianorum*⁸. Am Mureş-Fluss, unweit von *Micia* und an der wichtigsten Strasse der Provinz Dakien gelegen, erfreute sich der Badeort in der Antike über regen Besuchs. Die archäologischen Forschungen von 1986 bis in die neunziger Jahre führten zur Identifizierung des Thermalbezirkes. Der Kurort war zwar groß, aber seine Fläche ist wegen der modernen Bebauung nicht genau zu bestimmen. Die Forschungen haben im Zentrum der Badeanlage, auf einem kleinem Hügel aus Travertin, mehrere Bauten auf einem Areal von 90–95 m² ans Licht gebracht. In der Mitte des Hügels befindet sich ein natürliches Quellbecken⁹. Das Wasser wurde über ein Kanalsystem von diesem Becken zu anderen, künstlich angelegten Becken geleitet. Aus dem Quellbecken stammen die acht Goldbleche (Nr. 1–8), zusammen mit über 600 Bronze- und Silbermünzen, einer Statue der Göttin *Diana* aus Bukova-Marmor, und anderen Weihesteine¹⁰. Die Entdecker sind der Meinung, dass die Weihemonumente ursprünglich um das Becken gestanden haben und später ins Becken gelangt sind. Nordöstlich des Beckens wurden zwei Gebäude ergraben¹¹. Auf einer freien Fläche, östlich davor, fand man weitere Weihemonumente. Seit Beginn der Ausgrabungen (1986) im Quellheiligtum sind insgesamt acht Weihesteine entdeckt, die allerdings bisher als Altäre oder Statuenbasen interpretiert¹² wurden. Diese weisen an der Oberseite weder einen eingearbeiteten *Focus* noch Einlassungen für eine Statue auf. Es handelt sich daher eher um Votivaltäre¹³, wofür auch der lokale Brauch spricht. Um einen Altar von einer Statuenbasis zu unterscheiden, muss die Gestaltung der Bekrönung, das Dekor, die Höhe, die Inschrift, die Werkstattcharakteristika und auch der lokale Brauch berücksichtigt werden.

Monumente, die sicher als funktionsfähige Altäre zu beschreiben sind, d. h. einen eingearbeiteten *Focus* und dazu *Pulvini* oder Eckakrotere aufweisen, sind eher die Ausnahme in Dakien¹⁴. Die Mehrheit der Votivaltäre in Dakien hat keinen freiplastischen *Focus*, *Pulvini* oder Eckakrotere. Nur die Eckakrotere oder die *Pulvini* sind auf dem Gesims angedeutet. Dies ist der Fall auch bei den Weihealtären, die einen eingetieften *Focus* aufweisen, wie bei den meisten Altären aus *Alburnus*

⁸ Zur Truppe, vgl. Petolescu 2002, 129–130.

⁹ Pescaru, Rusu-Pescaru 1995–1996, 326–332; Rusu-Pescaru, Alicu 2000, 65–72; Schäfer 2009, 182–183; Schäfer 2009a, 121.

¹⁰ Piso, Rusu 1990, 9; Pescaru, Rusu-Pescaru 1995–1996, 326; Rusu-Pescaru, Alicu 2000, 67; Schäfer, 2009, 183; Schäfer 2009a, 121.

¹¹ Es gab zwei Bauphasen der Therme, vgl. Anm. 9.

¹² Piso, Rusu 1990, 14–17, Nr. 8, Abb. 14–15 = AE 1992, 1484; Nr. 9, Abb. 16–17 = AE 1992, 1485; Nr. 10, Abb. 18–19 = AE 1992, 1486; Nr. 11, Abb. 20–21 = AE 1992, 1487; Rusu, Pescaru 1993, Abb. 10 = AE 1992, 1484; Abb. 11 = AE 1992, 1487; Abb. 12 = AE 1992, 1485; Abb. 13 = AE 1992, 1486; Abb. 14 = AE 1993, 1341; Abb. 15 = AE 1993, 1342; Rusu 1994, 217; Piso, Pescaru, Pescaru, 2002–2003, 198–200, Abb. 1–2; Schäfer 2009, 183; Schäfer 2009a, 121.

¹³ Für die Bestimmung der Funktion eines Monumentes, vgl. Ciongradi 2006, 215–220; Ciongradi 2007, 60–67.

¹⁴ IDR III/1, 134: *Tibiscum*. Freiplastisch gearbeitete *Pulvini* oder Eckakrotere weisen die Votivaltäre in *Apulum* auf: IDR III/5, 61, 67, 109, 148, 162, 167, 168, 192, 261, 268, 319, 335; *Colonia Dacica Sarmizegetusa*: IDR III/2, 205; 93 (Ehrenaltar); *Micia*: IDR III/3, 71, 95, 140; Cigmău: IDR III/3, 218; Mehadia: IDR III/1, 56; *Tibiscum*: IDR III/1, 134; Sânpaul: IDR III/4, 247; Sânnicoară: Ciongradi 2006, 213–215, 221, Nr. 6, Abb. 4a–c.

*Maior*¹⁵. Der *Focus* kann auch so gestaltet sein, dass man ihn entfernen konnte und die Oberseite der Bekrönung, wie bei manchen Statuenbasen, völlig eben war. Die Votivaltäre, bei denen alle diese Elemente fehlen, könnten auch nur als Weihdenkmal gedient haben. Die Monumente aus dem Quellheiligtum von *Germisara*, bei denen die Bekrönung erhalten ist (vier von sieben), sind auf der Vorderseite der Bekrönung mit Eckakroteren verziert¹⁶. Ein anderer Hinweis, der für die Bestimmung der Funktion des Monumentes wichtig ist, ist die Höhe. Ein Altar ist in der Regel hüfthoch, um darauf etwas darzubringen. Dies bedeutet meist eine Höhe zwischen 60 und 70 cm. Auf jeden Fall darf der Altar eine Höhe von 120 cm nicht überschreiten. Bei den Monumenten aus dem Quellheiligtum beträgt die Höhe 94, 86, 72, 88, 112 cm. Alle sind lokale Produkte, bestehen aus lokalem Stein – Kalkstein – und sind von durchschnittlicher Qualität. Die Statue der *Diana*¹⁷ ist aus Bukova-Marmor hergestellt; die Basis auf der sie aufgestellt war, dürfte auch aus Marmor sein. Die meisten Altäre sind den Nymphen geweiht, einer für die Nymphen, *Diana* und den *fons*, zwei Weihedenkmäler der *Diana*¹⁸ und eines für den *Genius Imp(eratoris) Antonini Aug(usti) pii p(atris) p(atriciae)*¹⁹ gestiftet. Alle dies sprechen für eine Funktion der aus dem Quellheiligtum stammenden Weihedenkmäler als Votivaltäre.

Die Altäre waren wohl am Rand des Quellbeckens aufgestellt, wie schon die Entdecker vermuteten. Ähnliche Ansammlungen oder Reihen von Votivaltären gab es auch in anderen Quellheiligtümern, wie in Bath in Südengland, *Aquincum* (Budapest), Deneuvre (Dep. Meurthe-et-Moselle) und an der Coventinaquelle²⁰. Eine vergleichbare Aufstellung hatten die Votivaltäre aus den Heiligtümern von *Alburnus Maior* in Dakien²¹. Dort handelt es sich um mehrere Höhenheiligtümer und religiösen Versammlungsbauten. Ebenfalls aus *Germisara* stammen auch andere Weihemonumente, deren genauer Fundort nicht bekannt ist²². Die häufigsten Votivdenkmäler, meistens Altäre, die aus *Germisara* stammen, wurden den Nymphen geweiht (10), dann folgt *Aesculapius* und *Hygia* (4), *Iupiter Optimus Maximus* (3), *Diana* (1), *Fortuna* (ein Altar und eine Statue), *Hercules* (1) und *Liber Pater* (1). Es ist zu vermuten, dass außer dem zentralen Felsbecken auch andere Heiligtümer am Badeort genutzt wurden²³. Die Dedikanten sind Besucher des Thermalbadeortes oder Soldaten und Offiziere der Besatzung des Lagers von Cigmău bzw. anderer Truppen²⁴, die individuelle Widmungen hinterlegten.

¹⁵ Ciongradi 2009, 25–28, 35, 38–82.

¹⁶ Piso, Rusu 1990, 14–15, Nr. 8, Abb. 14–15 = Rusu, Pescaru 1993, Abb. 10 = AE 1992, 1484; Piso, Rusu 1990, 16, Nr. 10, Abb. 18–19 = Rusu, Pescaru 1993, Abb. 12 = AE 1992, 1485; Rusu, Pescaru 1993, Abb. 15 = AE 1993, 1 342; Piso, Pescaru, Pescaru 2002–2003, 198–200, Abb. 1–2.

¹⁷ Piso, Rusu 1990, 9, Abb. 1; Rusu, Pescaru 1993, 203, Abb. 24.

¹⁸ Piso, Rusu 1990, 14–15, Nr. 8; Piso, Pescaru, Pescaru 2002–2003, 198–200, Abb. 1–2.

¹⁹ Rusu, Pescaru, 1993, 211, Abb. 15 = AE 1993, 1342.

²⁰ Cunliffe 1969; Póczy 1980; Moitrieux 1992; Müller 2002, 80; Schäfer 2009, 186.

²¹ Ciongradi 2009, 14–15, 25–28; Schäfer 2009a, 121.

²² IDR III/3, 230–247; Schäfer 2009, 184–188.

²³ Wie in Bath, wo es mehrere Heiligtümer gegeben hat, vgl. Cunliffe 1969; Schäfer 2009, 186.

²⁴ *Titus Fabius Aquileienseis*, Tribun des *numerus singulariorum Britannicianorum*, Weihung für die Nymphen: AE 1992, 1487. *Publius Aelius Marcellinus*, *signifer* und *quaestor* des *numerus Brittonum*, Weihung für die Nymphen: IDR III/3, 243. *Ulpus Maximus*, *praepositus* des *numerus Britannicorum singulariorum*, Weihung für *Iupiter Optimus Maximus*: AE 1967, 410 = IDR III/3, 237. *Firmicus Florentinus*, *decurio alae Bosporanorum*: CIL III 7888 = IDR III/3, 246.

Unter den Weihenden befinden sich Statthalter²⁵ von Oberdakien, von *tres Daciae*, städtische Würdenträger und *Augustales* aus den zwei Hauptstädten *Sarmizegetusa*²⁶ und *Apulum*²⁷, Legionslegaten, Offiziere und Soldaten der XIII. Legion aus *Apulum*²⁸. Weihungen im Namen von Kollegien errichteten *Lucius Calpurnius* im Namen des *collegium aurarium*²⁹ und *Lucius Livius Marcellinus* im Namen des *collegium Galatarum*³⁰. Es ist nicht sicher, dass die beiden Kollegien ihren Sitz in *Germisara* hatten. Möglich wäre auch, dass das *collegium aurarium* sein Sitz in dem nahegelegenen Goldbergwerksbezirk hatte und das *collegium Galatarum* in einem benachbarten Ort (*Apulum*, *Sarmizegetusa*, *Micia*?) und dass die beiden Dedikanten als Besucher des Kurortes die Weihungen gestiftet hatten.

Das Quellheiligtum von Băile Herculane (Herkulesbad) *Ad Mediam*³¹ liegt im Cerna-Tal, in der Nähe von Mehadia. Ab 1736 sind hier große Bauarbeiten von den österreichischen Behörden durchgeführt worden, die einen modernen Kurort errichten wollten. Damals wurden römische Gebäudereste, Becken, Wasserleitungen z.T. zerstört. Während dieser Arbeiten wurden auch unzählige Münzen, Statuen, Reliefs, Sarkophage entdeckt, die anschließend nach Wien abtransportiert wurden. 1737 sind sieben Statuen des *Hercules* gefunden worden, von denen man drei nach Wien sandte. Unter den erhaltenen Weihesteinen, waren drei für *Hercules*³², einer für *Hercules Augustus*³³, zwei für *Hercules Invictus*³⁴, einer für *Hercules Salutiferus*³⁵, zwei für *Hercules Sanctus*³⁶, einer *Herculi, Genio loci, Fontibus calidis*³⁷ und einer *Herculi und Veneri*³⁸ gewidmet. Die anderen wurden den *Aesculapio et Hygiae*³⁹ (2) und *Dis numinibus aquarum*⁴⁰ (1) geweiht. Wie im Falle derjenigen aus *Germisara*, sind auch diese Weihungen Votivaltäre. Das Quell- und Heilheiligtum wurde bis in die gallienische

²⁵ *Marcus Statius Priscus*, Statthalter von Oberdakien zwischen 156/157 bis 158 hinterlegt zwei Weihungen für die Nymphen und eine *Genio Imp(eratoris)*: CIL III 7882 = IDR III/3, 240; CIL III 940 = IDR III/3, 241 = AE 1971, 386bis; AE 1993, 1342. *Publius Furius Saturninus*, Statthalter von Oberdakien zwischen 159–161/162 hinterlegt eine Weihung für *Aesculapius* und *Hygia*: AE 1944, 59 = IDR III/3, 232. *Lucius Octavius Iulianus*, Statthalter der *tres Daciae* zwischen 200–202/203, Weihung für *Fortuna*: CIL III 1393 = IDR III/3, 233.

²⁶ *Lucius Livius Marcellus*, Duumvir der Kolonie, Weihung für die Nymphen: AE 1992, 1486. *Marcus Lucilius Lucilianus*, Augustal der Kolonie, Weihung für die Nymphen: IDR III/3, 242. ... *flamen coloniae, praefectus quinquenalis*: IDR III/3, 254. ... *decurio coloniae*: IDR III/3, 247.

²⁷ *Caius Sironius*, *quattuorvir* des *municipium Septimium Apulense*, Weihung für die Nymphen: AE 1992, 1485.

²⁸ *Caius Caerelius Sabinus*, Legionslegat der *legio XIII Gemina* (?183–?185): AE 1974, 542 = IDR III/3, 244. *Caius Valerius Valentinus*, Tribun der *legio XIII Gemina* und des *numerus singularium Brittanicianorum*, (212–217), Weihung für *Diana*: Piso, Pescaru, Pescaru 2002–2003, 198–200, Abb. 1–2 = ILD 318. *Marcus Aurelius Mosianus, optio*, Weihung für die Nymphen: AE 1993, 1341.

²⁹ CIL III 941 = IDR III/3, 235, Weihung für *Iupiter Optimus Maximus, pro salute imperatoris*.

³⁰ IDR III/3, 234, Weihung für *Hercules Invictus*.

³¹ Tudor 1968, 24–29; IDR III/1, 76; Bozu, Micli 2005, 123–142.

³² CIL III 1564 = IDR III/1, 57; CIL III 1565 = IDR III/1, 58; CIL III 1563 = IDR III/1, 59.

³³ CIL III 1568 = IDR III/1, 60.

³⁴ CIL III 1569 = IDR III/1, 61; CIL III 1570 = IDR III/1, 62; CIL III 1571 = IDR III/1, 63.

³⁵ CIL III 1572 = IDR III/1, 64.

³⁶ CIL III 1573a = IDR III/3, 65; CIL III 1573 = IDR III/1, 66.

³⁷ CIL III 1419 = IDR III/1, 67.

³⁸ CIL III 1567 = IDR III/1, 68.

³⁹ CIL III 1560 = IDR III/1, 54; CIL III 1561 = IDR III/1, 55.

⁴⁰ CIL III 1562 = IDR III/1, 56.

Zeit genutzt. Es ist schon möglich, dass das heilende Thermalwasser auch in der vorrömischen Zeit den Dakern bekannt war und auch benutzt wurde, wie das die dort entdeckten republikanischen Denare⁴¹ andeuten. Der Kurort wurde, wie im Falle von *Germisara* u.a. von den Statthaltern von Oberdakien oder der *tres Daciae*⁴² oder von fünf Teilnehmern einer Gesandtschaft aus Sarmizegetusa nach Rom (*legati Romam ad consulatum Severiani c. v. missi*)⁴³, dessen Patron der Statthalter *Marcus Sedatius Severianus* war, besucht. Unter den Dedikanten finden sich ein Dekurio der Kolonie *Drobeta*, Verwaltungspersonal, ein *Augustalis* der *colonia Sarmizegetusa*, Veteranen, Offiziere, Soldaten und andere römische Bürger. Die meisten Weihungen richten sich an *Hercules*, der die dominierende Gottheit der Thermalquelle war. Keine *Nymphe* ist je in einer Inschrift oder ikonographisch bezeugt worden. Auch sind bis jetzt keine Votivbleche in Herkulesbad entdeckt worden.

Der Quellbezirk von *Aquae* (Călan)⁴⁴ liegt an der Hauptstrasse der Provinz, zwischen *Sarmizegetusa* und *Apulum*, in derselben vulkanischen Gegend Siebenbürgens und war Zentrum eines *pagus* von *Sarmizegetusa* und auch Badeort. Ein Quellbecken (37 × 7 × 14 m) aus der Römerzeit, aus dem durch einen Kanal das Thermalwasser abgeleitet wurde, blieb noch erhalten. In der Nähe wurde auch Travertin abgebaut⁴⁵. Die erhaltenen Weihesteine sind nicht *in situ* gefunden worden. Es sind Weihungen für *Fortuna Augusta*, *Hercules* oder *Iupiter* von einem Finanzprokurator der *Dacia Apulensis* oder Oberdakien⁴⁶, von einem Veteran⁴⁷, von einem *decurio* der *colonia Sarmizegetusa* und *praefectus pagi Aquensis*⁴⁸ und von einem römischen Bürger⁴⁹ gestiftet. Wie in Herkulesbad sind auch hier bisher keine Votivbleche entdeckt worden.

Gattung

Was die Form der Votivbleche betrifft, sind es langgestreckte, sich nach oben verjüngende, dünne Bleche, mit abgerundetem unteren Abschluß. Das Kopfteil endet in einer Spitze und besitzt beidseitig flügelartig ausfallende Verzweigungen. Ab etwa der Mitte des Votivblechs strebt eine spitz zulaufende Mittelrippe in die Höhe und teilt

⁴¹ 92–93 v. Chr. und 28 v. Chr. vgl. Gostar 1956, 91–92.

⁴² *Marcus Aurelius Veteranus, praefectus legionis XIII Geminae Gallienianae*, Weihung für *Diis magnis et bonis Aesculapio et Hygiae*, CIL III 1560 = IDR III/1, 54; *Claudius Gallus, c. v. legatus*, Statthalter von Oberdakien zwischen ?205/206–207, Weihung für *Hercules*, CIL III 1564 = IDR III/1, 57; *Simonius Iulianus, c.v. praeses Daciarum* zwischen ?241–?243, Weihung für *Hercules Salutiferus*, vgl. Anm. 34; *Calpurnius Iulianus, v.c. legatus legionis V Macedonicae, legatus Augusti pro praetore provinciae Daciae Superioris*, Weihung für *Hercules, Genius loci, Fontes calidis*, Statthalter Oberdakiens zwischen ?153–?156 oder ?164–?168, vgl. Anm. 36.

⁴³ CIL III 1562 = IDR III/1, 56, *Ulpus Secundinus, Marius Valens, Pomponius Haemus, Iulius Carus, Valerius Valens*, Weihung *Dis et numinibus aquarum*. CIL III 1575 = IDR III/1, 70, wohl auch ein Votivaltar mit denselben Dedikanten.

⁴⁴ Über *Aquae* vgl. Tudor 1968, 115–119; IDR III/1, 20; Schäfer 2009, 188–189.

⁴⁵ In einer Inschrift auf einer Säule ist ein *Diogenes lapidarius* bezeugt, IDR III/3, 6; vgl. auch Ciongradi 2006a, 362–364.

⁴⁶ CIL III 1404 = IDR III/3, 7; Piso 2013, 256–257, *Quintus Decius Vindex*, Weihung für *Fortuna Augusta*.

⁴⁷ CIL III 1406 = IDR III/3, 8, *Marcus Iulius Proclianus*, Weihung für *Hercules*.

⁴⁸ CIL III 1407 = IDR III/3, 10, *Caius Iulius Marcianus*, Weihung für *Iupiter*.

⁴⁹ CIL III 7890 = IDR III/3, 9, *Aurelius? Elico*, Weihung für *Iupiter*.

somit, mit einer Ausnahme (Nr. 12), das Blatt in zwei Hälften. Die Mittelrippe bei Nr. 1, 2, 9 ist schräggerippt, von der Mittelrippe ausgehend sind alle mit schrägliegenden Rippen verziert. Das Blech Nr. 10 besitzt keine Mittelrippe, nur ein Mittelgrat. In der unteren Schafthälfte des Blechs Nr. 12 ist ein Pyramidendach dargestellt, das sich auf einer Aedicula mit syrischem Giebel stützt. Im verbreiterten Unterteil der anderen Votivblechen befindet sich eine Aedicula (Nr. 1, 2, 6, 12) oder eine *tabula ansata* (Nr. 3, 5, 8, 9, 11), welche eine Inschrift trägt. In zwei Fällen (Nr. 8, 11) ist diese *tabula* unbeschriftet. Bei dem Votivblech Nr. 4 befindet sich die Inschrift in einem rechteckigen Inschriftfeld und bei den Blechen Nr. 1 und 2 in einem einfach gerahmten Inschriftfeld mit seitlich eingezogener Umrahmung. Ein Blech (Nr. 7) ist an der Basis, symmetrisch um die Mittellinie, mit zwei Doppelbögen verziert. Nr. 10 trägt überhaupt keine Verzierung an der Unterseite; dort befindet sich nur die Inschrift. Bei den Votivblechen Nr. 5, 6, 11, 12 setzt sich die schräge Rippenverzierung auch unter der Aedicula (Nr. 6, 12) und unter der *tabula ansata* (Nr. 5, 11) fort, aber diesmal abwärts zeigend. Die Unterseite und die unteren Ecken der *tabula* beim Blech Nr. 9 ziert je eine geteilte Sternspitze. Die Aediculae mit Dreiecksgiebel Nr. 1 und 2 und mit syrischem Giebel (Nr. 12) sind von zwei Halbsäulen mit tordierten Schäften und Blattkapitellen (Nr. 1, 2) oder oben mit tordierten und unten mit kannelierten Schäften und Blattkapitellen (Nr. 12) gerahmt. Die Giebelleisten bestehen aus einer Leiste darüber mit einem geripptem Muster (Nr. 1, 2) oder Giebelleisten mit geripptem Muster (Nr. 12). Unten endet die Aedicula mit einer Standleiste. In den Aediculae sind Vollfiguren von Göttinnen dargestellt.

Die Votivbleche besitzen eine Höhe zwischen 7,1 und 18,4 cm, eine Breite zwischen maximal (unten) 9,2 und minimal 1,6 cm und eine Stärke von ungefähr 0,1 cm. Das Gewicht schwankt zwischen 1,09 und 26,10 g.

Von den 12 Votivblechen sind sieben mit einer Inschrift versehen (Nr. 1, 2, 3, 4, 5, 9, 10) und fünf anepigraph (Nr. 6, 7, 8, 11, 12). Sie sind der *Diana* (Nr. 1), *Hygia* (Nr. 2), den Nymphen (Nr. 3, 4, 5, 6) und der *Fortuna* (Nr. 12) geweiht. Die Bleche Nr. 6 und Nr. 12 tragen zwar keine Inschriften, aber auf Nr. 6 sind die Vollfiguren von drei Frauen dargestellt, die als Nymphen zu interpretieren sind, und in der Aedicula auf dem Blech Nr. 12 befindet sich die Vollfigur der *Fortuna*, die durch ihre Attribute identifiziert werden kann.

Zwei der Votivblechen wurden von einer Frau, *Cornelia Marcellina* der *Hygia* (Nr. 1) und der *Diana* (Nr. 2) geweiht. Mit Nr. 6 sind es die einzigen Goldbleche unter denen aus *Germisara*, die eine bildliche Darstellung aufweisen. Nr. 1 und Nr. 2 besitzen auch das größte Gewicht: 25,40 und 26,10 g. Wegen der technischen Ausführung und ihres Gewichts waren sie wohl die am teuersten.

Es ist nicht die einzige Frau, die eine solche Weihung stifetete. *Licina Cale* weihte ein anikonisches Votivblech den Nymphen (Nr. 5). Es ist ein kleines Blech von nur 4,25 g. Ebenfalls ein derartiges Goldblech von 3,33 g. für die Nymphen stammt von einem *Baebius Ingenuus* (Nr. 4). Die interessanteste Inschrift ist die auf dem Blech Nr. 3: *Nymphis Decebalus Luci(i) posuit*. Der Dedikant war also dakischer Abstammung. Darauf werden wir später zurückkommen. Von den drei neuen Goldblechen tragen zwei Inschriften. Im Gegensatz zu denen aus *Germisara* sind in

diesen keine Gottheiten erwähnt. Nr. 9 wurde von einem gewissen *Bitus*, aufgrund eines Gelübdes dargebracht. Das zweite, Nr. 10, wurde von einem *Iulius Claudius*, *Claudianus* oder *Clinias* oder von einer *Iulia Claudia* geweiht, ebenfalls aufgrund eines Gelübdes. Die Dedikanten sind sowohl Männer, als auch Frauen, offensichtlich keine sozial herausrufenden Personen, die aber wirtschaftlich eine gewisse Potenz hatten, wenn sie sich Goldvotive leisten können. Auch im Falle anderer Votivbleche aus dem Römischen Reich ergibt sich ein ähnliches Bild. Zum Beispiel sind die Dedikanten der Bleche aus Hagenbach (D) meist Peregrine⁵⁰. Von 57 ermittelten Namensbestandteilen sind 30 nicht-römisch. R. Noll nimmt für die 28 silbernen Bleche in Mauer an der Url (D) an, dass sich ein Großteil der Kultanhänger aus der einheimischen, mehr oder minder romanisierten Bevölkerung rekrutierte. Mindestens 10 sind allein von Frauen gestiftet⁵¹. Unter den 20 silbernen und goldenen Votivblechen aus Ashwill (GB) sind neun Dedikanten, Frauen und Männer mit einem keltischen, aber romanisierten Namen⁵².

Im Hinblick auf die Datierung dieser Votive aus *Germisara*, weist nur das Blech Nr. 3 ein Datierungskriterium auf, nämlich einen *terminus ante quem* 212 (*constitutio Antoniniana*), da der Dedikant *Decebalus Luci(i)* ein Peregriner war. Er gehört zur zweiten oder dritten Generation seit Einrichtung der Provinz, demnach datiert das Blech ab Mitte des 2. Jhs. bis etwa 200, höchstens 212 n. Chr. Auch wenn die anderen keinen Datierungshinweis vorweisen, könnten sie aus der gleichen Zeit stammen. Die datierbaren Votivaltäre, von Statthaltern, Legionslegaten, oder Tribunen der XIII. Legion geweiht, weisen eine ähnliche chronologische Zeitspanne vor von 156 bis 217⁵³. Die Votivbleche aus Hagenbach sind auf Grund der großen Anzahl peregriner Namen und der Abwesenheit von *Aurelii* ins 1.-2. Jh. zu datieren⁵⁴. Das Votivblech aus Baudacet datiert Mitte - Ende des 2. Jhs.⁵⁵. Aus Mauer an der Url kann mit Sicherheit nur ein Votivblatt datiert werden, und zwar unter Commodus⁵⁶. Nach N. Birkle, die eine Chronologie der gefiederten Bleche vorgelegt hat, datieren diese Bleche ab dem späteren 1. Jh. n. Chr. mit einer Blütezeit im späteren 2. und 3. Jh., bestimmt aber in dieser Zeit durch die zahlreichen Horte, die in dieser Zeit versteckt wurden. Die Form hat im 4. Jh. auch Übernahme in die christliche Kultpraxis gefunden⁵⁷.

Material, technische Ausführung

Die dreineuen Bleche (Nr. 9-11) sind mit Hilfe eines Rasterelektronenmikroskop (REM) und Mikrosonde an der Fakultät für Biologie und Geologie, Abteilung Geologie der Babeş-Bolyai Universität in Cluj untersucht worden. Die Ergebnisse hat Dr. C. Tămaş von der Abteilung Geologie interpretiert und festgestellt, dass

⁵⁰ Engels 1990, 14-18.

⁵¹ Noll 1980, 70-71.

⁵² Tomlin 2008, 314.

⁵³ Vgl. Anm. 25, 28, 42.

⁵⁴ Piso, 1993, 839.

⁵⁵ Plumiers-Torfs et alii 1993, 802, 807.

⁵⁶ Noll 1980, 114.

⁵⁷ Birkle 2013, 140-145.

es sich um Legierungen handelt. Alle drei Bleche bestehen aus einer Legierung aus Gold und Silber. Bei dem Blech Nr. 9 ist die Reinheit der Legierung ca. 920‰ (22 Karat), bei Nr. 10 ist sie 958‰ (23 Karat) und bei Nr. 11 beträgt die Reinheit der Legierung 970‰ (23 Karat). Die Zusammensetzung der Legierung des Blechs Nr. 11 ist weniger homogen. Das Resultat der Messungen zeigt Werte zwischen 958–972‰. Die Legierung des Blechs Nr. 10 enthält auch Blei und Chlor, was dadurch zu erklären ist, dass eine metallurgische Behandlung des Erzkonzentrats Gold-Silber mit Blei und Chlorid für die Reinigung des Goldes durchgeführt wurde, um Gold aus einer Bruttolegierung mit Silber zu gewinnen. Es handelt sich wohl um Gold aus den Minen des nahe gelegenen Goldbergwerksbezirks, eine Annahme, die auch durch eine Weihung eines *collegium aurariarum* in *Germisara* Unterstützung findet⁵⁸.

Die Votivbleche⁵⁹ wurden aus einem Blechstück herausgeschnitten, danach wurden zuerst der Mittelgrat, die Mittelrippe und die seitlichen Rippen der Mittelrippe vorgezeichnet. Der Mittelgrat wurde von der Rückseite, die Mittelrippe von der Vorderseite her durchgedrückt. Eine Ausnahme bildet das Blech Nr. 5, bei dem alles gerade umgekehrt ausgeführt ist und das Blech Nr. 10, bei dem der Mittelgrat ebenfalls von der Vorderseite aus durchgedrückt ist. Die schrägliegenden Rippen, der Dekor an der Unterseite – Aediculae, Inschriftfelder, sonstige Verzierungen erfolgten in der gleichen Art, abwechselnd von der Vorder- oder Rückseite durchdrückt oder eingraviert. Bei den Votiven Nr. 1–2 ist die erste Zeile der Inschrift mit dem Namen der Gottheit an der Unterseite der Aedícula, in der sich auch die Vollfigur der Gottheit befindet, von der Rückseite aus geschrieben. Die Dedikantin bei beiden Blechen ist die gleiche Person, *Licina Cale*. Sowohl das Relief als auch die erste Zeile der Inschrift sind gleichzeitig erstellt worden. Die Qualität der Arbeit ist gut. Unter der Aedícula befindet sich ein Inschriftfeld, in dem nachträglich der Name der Dedikantin von der Vorderseite her eingeritzt wurde. Die Inschrift bei Nr. 5 ist von der Rückseite her graviert und bei Nr. 4 und Nr. 9 von der Rückseite aus durchgedrückt. Dass die Inschrift nachträglich angebracht wurde, beweist am besten das Blech Nr. 4, bei dem die letzte Zeile der Inschrift den unteren Rand des Inschriftfeldes überragt. Manchmal sind die Buchstaben und die Abkürzungen so ausgeführt, dass sie ins Inschriftfeld passen, wie bei Nr. 9, wo in der ersten Zeile der Inschrift nur die erste Haste von *M* Platz in der *tabula ansata* hatte und eingraviert wurde. Ebenfalls ist *solvit* nur als *so(lvit)* abgekürzt in der 2. Zeile aufgeführt.

Verbreitung, Entstehung

Im römischen Reich sind bis 1980 über 320 solcher Votivbleche in *Germania*, *Noricum*, *Gallia*, *Britannia*, *Pannonia*, *Moesia Superior*, Dakien, Kleinasien, Nordafrika und Norditalien gefunden worden⁶⁰. Seitdem wurden noch weitere entdeckt. Nach E. Künzl (Januar 1996), der sowohl die blattförmigen, als auch die Aedícula förmigen

⁵⁸ Siehe oben.

⁵⁹ Die Terminologie folgt diejenige von N. Birkle, vgl. Birkle 2013, 31–32.

⁶⁰ Siehe eine Tabelle bei Noll 1980, 40–41.

gezählt hat, handelt es sich um 616 Stücke⁶¹. Nach N. Birkle, die neulich ein Buch über die blattförmigen gefiederten Votivbleche veröffentlichte, handelt es sich um 522 gefiederte Votive⁶². Die meisten sind aus Silber (422), 37 bestehen aus Gold⁶³ (8 aus Dakien), 50 aus Bronze, vier aus Weißblech, eins aus Blei. Das Votive aus Blei wurde bei Notgrabungen im Hafen der *Colonia Claudia Ara Agrippinensium* entdeckt⁶⁴. Mit diesen drei neuen Votivbleche steigt die Gesamtnummer auf 525 und die Nummer diejenigen aus Gold auf 40, von denen 11 aus Dakien.

Der grösste Hortfund ist derjenige von Hagenbach⁶⁵ mit insgesamt 130 silbernen Votivbleche. Obwohl blattartig, sind sie in der Form verschieden von denjenigen aus Dakien⁶⁶. Sie sind mit einem Schaft und beidseitig mit schräg nach oben gerichteter Fiederung versehen. Der Schaft ist durch eine Mittelrippe in zwei Teile gegliedert; diese können verschiedene Motive aufweisen: Fiederung, zig-zag Linien. Einige enden oben mit einem Aediculafeld, einige tragen lunulaförmige Appliken⁶⁷. 34 von ihnen tragen eingeritzte Inschriften in den Aediculafeldern. Die meisten sind an Gott *Mars* geweiht. Nach der regionalen Titulatur der Gottheit, *Domino Marti Augusto* und den Namen der Dedikanten mit Cognomina nicht-römischen Ursprungs wurde der Fundort der Bleche in Aquitanien lokalisiert, wohl in einem Heiligtum des *Mars*⁶⁸.

Aus Vichy (*Aquae Calidae*) in *Gallia Aquitania* stammen 80 silberne Bleche für *Sabazios*, die von J. Corrocher in Blätter, einfache Bäume, Bäume mit Figurendarstellungen, Bäume mit inschriftlichen Weihungen typologisiert wurden⁶⁹. 32 silberne Votivbleche aus einem Hort wurden in Stony Stratford in *Britannia* gefunden⁷⁰. Diese stellen Weihungen für *Mars* und *Victoria* (2), *Apollo* (1), *Mars* (3), *Vulcan* (1). Im Hort von Mauer an der Url⁷¹ in Noricum befanden sich 28 solcher silbernen Blechen. In der Form sind sie den goldenen Votivblechen aus Dakien ähnlich, sie haben eine blattähnliche Form, doch länglicher und schematisierter.

⁶¹ Künzl 1997, 68.

⁶² Birkle 2013, 44–45.

⁶³ Dakien: Geoagiu (*Germisara*), 8 Bleche, vgl. hier Nr. 1–8; *Britannia*: 7 Bleche aus Ashwill/Near Badlock, Hertfordshire, vgl. Birkle 2013, 201–208, Bal. 01–20, Taf. 3b; 140a, 4a, 4b, 4c, 4d, 3c, 5b, 5c, 5d, 5e; eins aus Stonea, vgl. Birkle 2013, 322, Ston. 01, Taf. 73 c; eins aus Wroxeter, Shropshire (*Viroconim Cornoviorum*), vgl. Birkle 2013, 388, Wrox. 01, Taf. 120a; *Raetia*: ein Blech aus Isny (*Vemania*), vgl. Birkle 2013, 276, Is. 01, Taf. 43h, Nr. 11; ein Blech aus Sanzeno am Nonsberg, vgl. Birkle, 2013, 316, Sanz. 01; *Pannonia Superior*: drei aus Petronell (*Carnuntum*), vgl. Birkle 2013, 308–309, Ca. 01–03, Taf. 68a–c; *Italia*: eins aus Bolsena (*Volsinii Novi*), vgl. Birkle 2013, 217, Bo. 05, Taf. 9e; eins aus Innichen/S. Candido (*Littanum*), vgl. Birkle 2013, 275, In. 01, Taf. 43g; Kleinasien: eins ohne weitere Bestimmung vgl. Birkle 2013, 277, Kl. 02, Taf. 44a; *Gallia Aquitania*: eins aus Saint-Bertrand-de-Comminges (*Lugdunum Convenarum*), vgl. Birkle 2013, 314, St.-B. 01, Taf. 72b; *Moesia Superior*: neun aus Šarkamen, vgl. Birkle 2013, 317–319, Šark. 01–09, Taf. 71b–l, 141d; *Germania Superior*: eins aus Thun-Allmendingen (*Dunum*), vgl. Birkle 2013, 337, Thun 01, Taf. 83a.b; *Gallia Belgica*: eins aus Trier, Altbachtal (*Colonia Augusta Treverorum*), vgl. Birkle 2013, 338, Tr. 01, Taf. 83c.

⁶⁴ Schäfer 2012, 88–89. Votivblatt für *Fortuna*.

⁶⁵ Bernhard, Engels, Engels, Petrovsky 1990; Birkle 2013, 242–267.

⁶⁶ Nach der Typologie von Birkle 2013, 54–55, gehören diese zum Typus 4.2.1. “Sonderform Hagenbach”.

⁶⁷ Petrovsky 2006, 193.

⁶⁸ Petrovsky 2006, 193.

⁶⁹ Corrocher 1981, 250–257; Birkle 2013, 345–370.

⁷⁰ Birkle 2013, 323–332.

⁷¹ Noll 1980, 52–76; Birkle 2013, 290–301.

Unten befindet sich ein Aediculafeld oder eine *tabula*, die meist eine eingeritzte, punzierte oder eingravierte Inschrift trägt. 21 Bleche besitzen eine Inschrift. Die meisten sind für *Iupiter* (17), gefolgt von *Iuno* (3) und *Hercules* (1). Sie stammen alle aus einem Dolichenusheiligtum. In einem Hort, das vorrangig Plünderungsgut aus einem Heiligtum beinhaltet, sind in Brumath (*Brocomagus*) in *Germania Superior* 22 silberne blattförmige Votive ans Licht gekommen⁷². Diejenigen, die gut erhalten sind, sind Weihungen für *Quintanae/Matronae* (1), *Genius (Augusti?)* (1), *Diana* (1), *Minerva* (1), *Victoria* (1), *Mars* (2), *Apollo* (1), *Minerva* und *Mercur* (1). 19 silberne Votivbleche stammen aus Water Newton, Cambridgeshire (*Durobrivae*) in *Britannia*. Diese datieren aus dem 4. Jh. n. Chr., sind Weihungen an Christus und beweisen dass diese Art von Weihungen auch Einzug in die christliche Kultpraxis fand⁷³. 20 blattförmige Votive aus Silber (13) und Gold (7) sind 2002 in einem Hort in Ashwill⁷⁴ in Britannien gefunden worden. Mindestens 10 davon weisen eine Inschrift auf. Zwei goldene und fünf silberne sind der ansonsten unbekannten Göttin *Senuna*⁷⁵ in Gestalt der *Minerva*⁷⁶ in einer Aedicula dargestellt, geweiht. Die anepigraphen Votivbleche zeigen Gottheiten wie *Minerva*⁷⁷, *Victoria*⁷⁸, *Sol* und *Roma*⁷⁹, *Mars*⁸⁰ (2) und eins wohl des *Mercurius*⁸¹. Sie sind alle blattartig gestaltet.

Bei der Ausgrabungen an einem gallo-römischen Tempel für *Mercur* aus Uley, Gloucestershire, in Britannien sind 9 Votivbleche aus Bronze ans Licht gekommen, die von 1. bis 4. Jh. n. Chr. datiert wurden⁸². Drei goldene, fünf bronzene und 2 silberne Votivbleche wurden in Petronell *Carnuntum (Pannonia Superior)*⁸³ gefunden. Nur bei einem ist die Inschrift erhalten; sie ist eine Weihung für *Sol*. 11 silberne Bleche enthielt der Hortfund aus Weißenburg (*Biriciana*) in Raetien⁸⁴. Bei den Ausgrabungen an einem Gebäude, das wohl als Paßheiligtum diente, wurden in Kleiner St. Bernhard-Paß in *Alpes Graiae* 9 silberne solche Votive entdeckt⁸⁵. Von denen wurden 6 dem *Iupiter*, eins dem *Mars* und eins dem *Hercules* geweiht. 8 gefiederte Votivbleche sind in Hockwold-cum-Wilton, Norfolk, ans Licht gekommen, davon 6 aus Bronze und 2 aus Silber⁸⁶. Ebenfalls in Britannien wurden 7 silberne Votivbleche in Barkway, Hertfordshire, gefunden⁸⁷. Sie wurden für *Mars Alator* (1), *Mars Toutatis* (1), *Mars* (3) und *Volcanus* geweiht (2). Im Römisch-Germanischen

⁷² Birkle 2013, 211–228.

⁷³ Birkle 2013, 372–377.

⁷⁴ Tomlin 2008, 306–313; Birkle 2013, 201–208.

⁷⁵ Tomlin 2008, 306–307, Nr. 8; 308, Nr. 14; 309–311, Nr. 16–17; 312, Nr. 21; 313, Nr. 23–24.

⁷⁶ Birkle 2013, 306–313, Nr. 8, 14, 16–17, 21, 23–24. Die Gottheit *Senuna* ist sehr wahrscheinlich, wie die *Sulis Minerva* in Bath, die eponyme Gottheit einer Quelle oder eines Flusses.

⁷⁷ Birkle 2013, 306–313, Nr. 9, 11, 12, 15, 19.

⁷⁸ Birkle 2013, 308, Nr. 13.

⁷⁹ Birkle 2013, 311, Nr. 18.

⁸⁰ Birkle 2013, 312, Nr. 20; 313, Nr. 25.

⁸¹ Birkle 2013, 313, Nr. 27.

⁸² Birkle 2013, 338–344.

⁸³ Noll 1950, 133–135; Noll 1975, 167–170, Taf. 14,2; Birkle 2013, 307–311.

⁸⁴ Kellner, Zahlhaas 1984; Birkle 2013, 377–386.

⁸⁵ Birkle 2013, 277–281.

⁸⁶ Birkle 2013, 273–274.

⁸⁷ Birkle 2013, 209–213.

Museum in Köln befinden sich sieben nordafrikanische Silbervotive, darunter ein blattförmiges⁸⁸ für *Fortuna*. In Tekija (*Transdierna*), in *Moesia Superior* sind in einem Hortfund auch 6 silberne Votivbleche gefunden worden⁸⁹. Neben einem gefiederten Votivblech aus Gold für *Dea Nortia* wurden in Bolsena (*Volsinii Novi*), Italien, weitere vier aus Silber für *Dea Nortia*, gefunden⁹⁰. Fünf Silberbleche aus Heddernheim (Nida), *Germania Superior*, sind für *Iupiter Dolichenus*⁹¹ und fünf bronzene Bleche aus Godmanchester wurden dem unbekannten Gott *Abandinus* geweiht⁹². Vereinzelt sind gefiederte Votivbleche an mehreren Orten, besonders in den Nordwestprovinzen, gefunden worden⁹³.

Die sieben nordafrikanischen Votivbleche aus dem Römisch-Germanischen Museum in Köln haben eine Aediculaform wie diejenigen für *Isis* und *Serapis* aus Dousch (Oase Khargeh, Ägypten), Baudecet (F), Niederbieber (D), Tekija (SRB), oder zwei silberne aus *Apulum-Alba-Iulia* (RO)⁹⁴. Die Aedicula kann entweder freiplastisch oder eingeschrieben sein. Außerhalb des ehemaligen keltischen Siedlungsgebietes sind blattartige Votivbleche seltener. Sie sind auch entlag des Limes präsent, was, zusammen mit der wenigen Funde aus dem westlichen Gallien und die Anwesenheit griechisch-römischen Gottheiten, hat N. Birkle zu der Annahme gebracht, dass die gefiederte Votive durch das Militär in die Provinzen hineingetragen wurden⁹⁵. Es wurde angenommen, dass auch die nicht blattförmigen Bleche, bei denen aber eine Rippenverzierung vorhanden ist, „vegetalisiert“ wurden, was aber nicht immer der Fall ist⁹⁶.

Die Gottheiten auf den Votivblechen in Dakien, welche entweder schriftlich oder nur bildlich auf den Blechen präsent sind, sind *Hygia* (Nr. 1), *Diana* (Nr. 2) – schriftlich und bildlich; die Nymphen (Nr. 3, 4, 5) – nur schriftlich, Nr. 6 – nur bildlich; *Fortuna* (Nr. 12) – nur bildlich. Die dominierenden Gottheiten sind also die weiblichen Natur- und Heilgottheiten, die alle auf den Blechen von *Germisara* erscheinen.

Da der Name *Germisara* vorrömischen Ursprungs ist und „warmes Wasser“⁹⁷ (*Germ-* warm; *sara* –Wasser in der thrakischen Sprache) bedeutet und der Dedikant des Blechs Nr. 3 *Decebalus Luci(i)* lautet, wurde vermutet, dass dieser Kult dort vorrömische

⁸⁸ Naumann-Steckner 1996, 167–184; Birkle 2013, 196–199.

⁸⁹ Birkle 2013, 332–337.

⁹⁰ Birkle 2013, 215–220.

⁹¹ Merlat 1951, Nr. 312–316; Schwertheim 1974, Nr. 78–82; Birkle 2013, 267–271.

⁹² Birkle 2013, 236–238.

⁹³ Siehe die Tabelle bei Birkle 2013, 44–45, Tabelle Nr. 1.

⁹⁴ Doush: Birkle 2013, 401–402; Baudecet: Birkle 2013, 398; Niederbieber: Birkle 2013, 305–306, Nr. 01, Taf. 66a.b; 67a.b; Tekija: Birkle 2013, T. 01–04, Taf. 81a–d; *Apulum*: Popa, Berciu 1977, 218–219, Nr. 4, Abb. 4, Votivblech mit der Darstellung eines *Mercur* in einer Aedicula; 220, Nr. 6, Abb. 6, Votivblech mit Darstellung der *Fortuna* in einer Aedicula; Birkle 2013, 392.

⁹⁵ Birkle 2013, 148. „Gerade aber dort, wo das Aufeinandertreffen des römischen Militärs und der einheimischen Bevölkerung am stärksten ausgeprägt war, scheint sich die Form der größten Beliebtheit erfreut zu haben“.

⁹⁶ Piso 1993, 832; die Bleche aus Vichy, Abb. 9, 10, 13, aus Heddernheim, Abb. 12, die der Autor als rechteckig und aus Weißenburg, Abb. 16, als polygonal bezeichnet, sind nach Form oder Verzierung eher blattförmig. Ein Katalog der nicht gefiederten Bleche, unabhängig von der Form, vgl. Birkle 2013, 392–414. Die Autorin typologisiert hier das Blech aus Baudecet als nicht gefiedert.

⁹⁷ Detschew 1957, 103; Russu 1969, 139; Russu 1981, 82.

Traditionen hatte⁹⁸. Die Metallvotive wurden in das Quellbecken als Spenden – *ex voto* – geworfen, wie auch die noch unpublizierten 600 Münzen. Bei den Thermalquellen von Vicarello in Italien sind drei silberne Votivbleche ebenfalls in der heiligen Quelle gefunden worden⁹⁹. Es handelt sich um Quellweihungen. Die Göttin *Senuna* auf den Votivblechen in Ashwill war wohl die Gottheit einer Quelle, wie *Sulis Minerva* aus Bath; die Votive sind ähnlich denjenigen aus Source de la Seine¹⁰⁰. Nicht nur Votivbleche wurden solchen heiligen Quellen übergeben. In den „gallorömischen“ Quellen von Source de la Seine, den Thermalquellen von Bath (*Aquae Sulis*), der Coventinaquelle am Hadrianswall, den Mineralquellen von Chamalières (Puy-de-Dôme) oder Bad Pyrmont sind außer den Metallvotiven wie Bronzestatuen, Fibeln, Gefäße und Münzen auch Holzvotive wie Statuetten der Gottheiten und anatomische Teile geweiht worden. In der Coventinaquelle wurden 13.490 Münzen neben Reliefs und Keramik und in Bath 12.595 Münzen neben Metallgefäßen, Schmuck und bleiernen Fluchtäfelchen entdeckt¹⁰¹. Die bevorzugte Weihegabe in Brunnen, Quellen und Seen ist also das Münzopfer, wie es auch in den literarischen Quellen für den *lacus Curtius* auf dem *Forum Romanum* und für die Clitumnusquelle bezeugt ist¹⁰². Über die *fons Aponi*, ebenfalls eine Thermalquelle unweit von Padua, berichtet Suetonius von Weihungen goldener Würfel¹⁰³; die Weihungen dort lagen in der Tradition venetischer Seeopfer¹⁰⁴.

Die Daker kannten die Thermalquellen und verehrten sie als Naturheiligtum, was sowohl der Name des Ortes *Germisara* als auch die Auffindung von Münzen aus *Thasos*, *Apollonia*, *Dyrrachium* und von republikanischen Denare belegt¹⁰⁵. Nach der Entstehung der Provinz Dakien, haben die Römer an der Quelle ein Thermalbad errichtet. Die bestimmenden Gottheiten, die dort verehrt wurden, sind die Nymphen. Hier handelt es sich um die *interpretatio Romana* dakischer Gottheiten der Thermalquelle¹⁰⁶, die nach der Eroberung der Provinz in Gestalt römischer Nymphen weiter verehrt wurden. Die Votivbleche aus *Germisara*, die keine Inschrift tragen, und dasjenige mit der figürlichen Darstellung der drei Nymphen bestätigen, dass keine Inschrift nötig war, da jeder die vorherrschenden Gottheiten der heiligen Quelle kannte. Auch andere heilige Quellen bezeugen Quellweihungen bei den Dakern, darunter ein silbernes Armband¹⁰⁷.

⁹⁸ Piso, Rusu 1990, 17; Piso, Pescaru, Pescaru 2002–2003, 197; dagegen Schäfer 2009, 184.

⁹⁹ Künzl, Künzl 1992.

¹⁰⁰ Tomlin 2008, 314.

¹⁰¹ Künzl 1997, 68–69.

¹⁰² Suetonius, *Augustus*, 57, Weihungen von Münzen im *lacus Curtius* auf dem *Forum Romanum*: *Omnes ordines in lacum Curtium quotannis ex voto pro salute eius stipem iacebant*. Plinius d. J., *Epistolae* VIII, 8, Weihungen von Münzen in der Clitumnusquelle.

¹⁰³ Suetonius, *Tiberius*, 14.

¹⁰⁴ Dämmer 1968; Künzl 1997, 70.

¹⁰⁵ Gostar 1956, 90, mit Anm. 1; Tudor 1968, 130; Pescaru, Rusu-Pescaru 1995–1996, 325, mit Anm. 2. Es handelt sich nicht um die 600 unpublizierten Münzen aus der Thermalbecken, die vom 1. bis 3. Jh. n. Chr. datiert sind, sondern um andere Funde.

¹⁰⁶ Pârvan 1927, 146; RE VI, A, 1, 1936, 512 s. v. Thrake (Religion) G. Kazarow; Gostar 1965, 247.

¹⁰⁷ Sanie 1999, 31–34. Solche heiligen Quellen sind in Brad (Gem. Negri, Kr. Bacău), Nr. 1 im Verzeichnis; Ciolănești din Deal (Kr. Teleorman), Nr. 2 im Verzeichnis (dort fand man auch ein silbernes Armband in der Quelle) Ghermănești (Gem. Banca, Kr. Vaslui), Nr. 3 im Verzeichnis; Strălești (București), Nr. 4 im Verzeichnis, identifiziert worden.

Neulich sind Deponierungen von Goldobjekten, die als Weihungen für Naturgottheiten der Daker interpretiert werden können, gefunden. Im Jahre 2000 wurden an der Basis eines hohen Felsens an einem abrupten Hang des Hügels Căprăreăța, nur 600 Meter von den Heiligtümern in *Sarmizegetusa Regia*, Hauptstadt des Königiums Dakien, entfernt, 10 goldenen spiralartigen Armbänder in einem Hortfund entdeckt. Der Hortfund könnte als Weihung für Naturgottheiten interpretiert werden¹⁰⁸. Die Armbänder wurden in einer Kiste aus Steinplatten deponiert. Dass es sich eher um eine Weihung als um ein Verstecken handelt, beweist die Anordnung der Armbänder in der Kiste: je zwei ineinander und in zwei Reihen (3×2 in der ersten Reihe und 2×2 in der zweiten Reihe). Die Reihen wurden durch eine 10 cm starke Erdschicht getrennt¹⁰⁹. Die Armspiralen stellen sehr wahrscheinlich Amtsinsignien und Auszeichnungen der Priester, die diese am Ende ihrer Amtszeit oder bei anderen Gelegenheiten den Götter weihten¹¹⁰. Es handelt sich aber nicht nur um einen einzigen Fund. An fünf verschiedenen Stellen in demselben Areal (Grădiștii-Căprăreăța Hügeln) wurden Goldspiralen entdeckt, manche allein, manche zusammen mit goldenen und silbernen Münzen. Den Dakern war also das Münzopfer auch bekannt. Die Nachbarschaft der dakischen Heiligtümer verleiht diesen Funde sehr wahrscheinlich einen gemeinsamen religiösen Inhalt und kann in der Votivpraxis begründet werden¹¹¹.

Der Name einer Siedlung aus *Alburnus Maior* hatte den dakisch/thrakischen Namen *Deusara*, was „Wasser“ oder „Quelle des Gottes“ oder „Götter“ bedeutete¹¹². In *Alburnus Maior* sind zwei Votivaltäre für die Nymphen von Kolonisten aus *Dalmatia* geweiht¹¹³. Auch südlich der Donau, bei den Thrakern, wurden die Nymphen bei *Aquae Calidae* in Glava Panega und wahrscheinlich auch die *Diana Germethita*¹¹⁴ geehrt. Dort handelt es sich um einen einheimischen Kult, was die häufige Darstellung von drei Nymphen, manchmal in Begleitung eines thrakischen *Apollo* belegt¹¹⁵. Drei Nymphen erscheinen auch auf Votivblech Nr. 6 aus *Germisara*. In Dalmatien sind Weihungen für die Nymphen an den Thermalquellen von *Aquae Iasae* und *Aquae Balissae*¹¹⁶ nachgewiesen.

Die Fundorte der Votivbleche streuen von Britannien, Gallien, Germanien, Raetien, Noricum, Pannonien, Moesien, Dakien bis Galatien. Die meisten finden sich

¹⁰⁸ Spănu 2011, 27, 35. Das Begraben von auffälligen Metallstücke in Wäldern, an Pässen, in Abgründen, Sümpfen war bekannt in mehreren vorgeschichtlichen Kulturen. Dagegen Mateescu 2010, 128-131.

¹⁰⁹ Ciută, Rustoiu 2008, 177-202.

¹¹⁰ Dass es sich um Auszeichnungen der Priester (Männer und/oder Frauen) handeln könnte, darauf weist auch die Darstellung einer Göttin auf einer *phalera* aus dem Hort in Lupu, die ähnliche Armbänder trägt, Crișan, 1986, 98; Medeleț 1993, 18. Über die Zeremonialtracht der Priester und die Weihung von silbernen Trachtstücken: Spănu 1998, 49-50; Spănu 1999-2000, 95-106.

¹¹¹ Spănu 2010, 304-305. Die auf dem Hügel Căprăreăța entdeckten Werkstätten und die Nachbarschaft der Heiligtümer könnten auf Gründungopfer, bzw. Gründungsdeponierungen hinweisen.

¹¹² CIL III, TC I = IDR I, TabCerD I; Russu 1969, 139.

¹¹³ Ciongradi 2009, 46, Nr. 16, Taf. 12; 76-77, Nr. 83, Taf. 38. Eine *interpretatio illyrica* für diese Votivaltäre schlägt Nemeti 2005, 91-93, mit Anm. 55, 56 vor, der die Nymphen als lokale *numina* aus den Herkunftsorten der dalmatischen Kolonisten interpretiert, die an der Quelle geehrt wurden.

¹¹⁴ RE VI, A, 1, 1936, 507-509, s. v. Thraker (Religion), G. Kazarov.

¹¹⁵ RE VI, A, 1, 1936, 509-512, s. v. Thraker (Religion), G. Kazarov.

¹¹⁶ Rendić-Miočević, Šegvić 1998, 8-9.

in den Nordprovinzen vor allem in den ehemaligen keltischen Siedlungsgebieten und entlag des Limes. Das spricht gegen die Annahme einer Herkunft aus dem Osten, auf dass das Palmzweigmotiv weisen könnte. Allerdings gehört seit der La Tène-Zeit die Palmette auch zum Verzierungsrepertoire keltischer Kunst¹¹⁷. Die Daker benutzten auch die Palmette und das Blatt als Verzierung der goldenen und silbernen Armbänder¹¹⁸, der silbernen Ringe¹¹⁹, der eisernen Ziernägel, der Appliken¹²⁰ und der geschmiedeten Diskusscheiben¹²¹. Nach P. Merlat und R. Noll entstand das Motiv aus der Kombination zwischen Palmzweig und Lanzenspitze¹²². E. Will vermutet ebenfalls eine Herkunft aus dem Osten und meint, dass Blätter mit Endungen in „fleur de lys“ gemeint seien¹²³. I. Piso nimmt an, dass eine Interpretation als Lanzenspitze nur für Bleche gilt, die aus militärischen Provinzen stammen, wie Noricum oder Dakien¹²⁴, was aber eher unwahrscheinlich ist. N. Birkle ist der Meinung, dass diese Nachbildungen von Bäumen, Zweigen oder Blättern, Abbilder heiliger Bäume darstellen. Die Heiligkeit der Bäume beschränkte sich nicht nur auf den Kelten, sondern galten die Bäume bei den Griechen und Römern als die ersten Tempel der Götter¹²⁵.

Die Gottheiten, denen diese Votive geweiht wurden, sind auch lokale und orientalische Gottheiten. Sie führen oft einen keltischen Beinamen wie *Cocidius*, *Abandinus*, *Senuna*. Der Gott *Mars* trägt die Beinamen *Alator*, *Toutatis* oder *Deus* und *Dominus Augustus*. Auch die Gottheiten des griechisch-römischen Pantheons sind bezeugt, bei manchen handelt es sich um eine *interpretatio Romana*. Die Verehrung lokaler Gottheiten in römischem Gewand spricht für die Kontinuität lokaler Kultformen, besonders an Quellheiligtümern. Während bei den Dakern das Gold nur von der herrschenden Oberschicht¹²⁶ benutzt und den Göttern geweiht wurde, bringt die römische Provinz eine Demokratisierung, was den Umgang mit Edelmetallen angeht. Ab dieser Zeit kann jeder, der sich leisten könnte, eine Weihung aus Gold deponieren, in diesem Fall ein Votivblech. Ihre Form mit dem Schaft und den zwei Fortsätze entspricht jeder einer stilisierten Palmette (*Palmette ouverte*)¹²⁷, die Verzierung mit schrägliegende Rippen jener eines Blattes. Als Metallvotive verbreiteten sie sich ab dem 1. Jh. n. Chr. in den Nordwestprovinzen und entlag des Limes.

Die Aufstellungsmöglichkeiten der Votivbleche waren verschieden. Es hing davon ab, ob man die Weihung in einem Heiligtum oder an einer heiligen Quelle

¹¹⁷ Kruta 1976-1977, 17.

¹¹⁸ Spănu 2011, 24-25; 32-33.

¹¹⁹ Trohani 2013, 390, N. 82, Ring aus Popești-Argheș, Mihăilești, Kr. Giurgiu; Mirea 2013, 391, Nr. 83, Ring aus dem Hort von Măgura, Gem. Măgura, Kr. Teleorman.

¹²⁰ Glodariu, Iaroslavschi, 1979, 177-178, 180, Abb. 62-64.

¹²¹ Florea, Ferencz 2007, 47-54, Abb. 2-5, 8, mit der älteren Literatur. Die Herkunft der Verzierung mit Blätter und Palmette auf dem Diskusscheibe von Piatra Roșie stammt aus dem Mittelmeerraum, vgl. Florea, Suciu, 1995, 51.

¹²² Merlat 1960, 187; Noll 1980, 75-76; Corrocher 1981, 251, 253, 255-257.

¹²³ Will 1955, 40-42.

¹²⁴ Piso 1993, 834 Anm. 39. Er argumentiert mit den in Militärprovinzen bekannten Miniaturlanzen, die den Tragenden einen magischen Schutz verleihen.

¹²⁵ Birkle 2013, 191-192.

¹²⁶ Nach Glodariu 2010, 819, scheint das Gold nur für das „Kaiserhaus“ reserviert zu sein, das Silber für die Aristokratie und Priester.

¹²⁷ Ginouvès, Martin 1985, 183, Taf. 58-59,4.

darbrachte. Zum Beispiel wurde bei den 130 silbernen Blechen aus dem Hortfund aus Hagenbach angenommen, dass diese in einem Heiligtum des *Mars* in einem eigens dafür vorgesehenen Bereich mit weichem Untergrund, wohl Sand, der von einem Bogen aus Silberblech umrahmt war, aufgestellt waren¹²⁸. Dieselbe Aufstellung nimmt R. Noll für die Bleche aus dem Dolichenusheiligtum in Mauer an der Url als eine Möglichkeit an, alternativ, dass sie in schmalen Schlitze einer gespalteten Holzleiste gesteckt worden sein könnten¹²⁹. Auf einem Votivrelief aus Villadecanós erscheint ein kleiner Altar, auf dem ein blattförmiges Votive dargestellt ist, was eine solche Annahme unterstützt¹³⁰. Manche haben Nagellöcher, was zu der Annahme führte, dass sie an Wände oder Gestelle genagelt waren¹³¹. Die silbernen Votivbleche aus Vicarello wurden in die heilige Quelle geworfen, was auch für die Votivbleche in *Germisara* zutreffen könnte; denn das legt die Fundlage im Quellbecken zusammen mit den 600 Münzen nahe¹³².

Zusammenfassung

Acht goldene Votivbleche wurden im Becken der Thermalquelle von *Germisara* in Dakien gefunden (Nr. 1–8). Sie wurden dort als Weihungen für die Nymphen und andere Natur- und Heilgottheiten deponiert. Auf dem Blech Nr. 6 sind drei Nymphen dargestellt, für Nr. 7–8, obwohl anepigraph und anikonisch, können wir auch eine Weihung an die Nymphen annehmen. In *Germisara* gab es demzufolge ein Quellheiligtum für die Nymphen. Die anderen drei goldenen (Nr. 9–11) Votivbleche haben einen unbekannten Fundort. Eins davon ist anepigraph und in den Inschriften der anderen zwei erscheint keine Gottheit. Man könnte ebenfalls an Weihungen an die Nymphen denken, die entweder an der Thermalquelle von *Germisara* oder an einer anderen Quelle deponiert waren. Die Dedikanten solcher Votivbleche rekrutierten sich sowohl aus den Einheimischen als auch aus der romanisierten Bevölkerung, es waren sowohl Männer, wie auch Frauen. Sie gehörten wohl zu den Besuchern solcher Kurorte, die gleichwohl auch Quellheiligtümer waren. Dieses Publikum war kosmopolit und wählte verschiedene Formen solcher Weihungen. Während Personen aus der Oberschicht der Gesellschaft, aus der Provinzial- oder Reichselite Votivaltäre und Statuen aus Marmor spendeten, die gleichzeitig auch der Selbstdarstellung dienten, wählten die übrigen Dedikanten Votivbleche oder Münzen, eine Form der Weihung, die die eigene Person in den Hintergrund stellte. In diesem Fall war der Kult und die Spende wichtiger als die Betonung der gesellschaftlichen Position. Die Bleche wurden vor Ort gekauft und beschriftet, was die Diversität der Formen und der Schriftweise bezeugt. Sie werden häufig in den keltischen Provinzen und entlang der Rhein- und

¹²⁸ Petrovsky 2006, 193.

¹²⁹ Noll 1980, 76; Engels 1990, 10 schlägt auch für die Bleche in Hagenbach eine solche Aufstellung vor.

¹³⁰ Noll 1980, 76, Beilage VII 3–4. Nach Birkle 2013, 191–192 stellt das kein getreues Abbild eines gefiederten Bleches dar, sondern eine vereinfachte Form eines Baumes; das Motiv Baum auf einem Altar findet sich schon auf griechischen Vasenbildern und römischen Votivaltären.

¹³¹ Merlat 1960, 184; Künzl 1997, 66.

¹³² Dagegen Piso 1993.

Donauprovinzen, in Tempel- und Quellheiligtümer angetroffen. In *Germisara* wurde in römischer Form ein vorrömischer, dakischer Kult der Nymphen weiter zelebriert.

Katalog

1. Votivblech, Abb. 1

FO: *Germisara*-Geoagiu Băi, 1986–1987, während der Notgrabungen, aus dem Becken der Thermalquelle.

AO: Muzeul Național al Unirii Alba-Iulia. Inv. Nr. R 8280.

Oberfläche leicht zerknittert. Bei einem Entwendungsversuch nach der Auffindung wurde das Stück gefaltet. Der linke Flügelfortsatz ist beschädigt.

Goldblech, 22 Karat.

H. 16,0 cm; Br. 7,1 cm; T. 0,1 cm; Bh. 0,4 cm; G. 25,40 g.

Die erste Zeile der Inschrift in der Aedicula und der Buchstabe *A* außerhalb der rechten Halbsäule.

Piso, Rusu 1990, 10–11, Nr. 2, Abb. 4 (falsche Angabe AO: Muzeul Civilizației Dacice și Romane Deva); Rusu 1994, 217, Nr. 87.2, Abb. (falsche Angabe AO: Muzeul Civilizației Dacice și Romane Deva); AE 1992, 1480; Petolescu 1993, Nr. 583; Rusu, Pescaru 1993, 203, Abb. 17; ILD, 322; Știrbulescu 2010, 213, Nr. 36.7, Abb.; Știrbulescu 2013, 498, Nr. 122.1; Birkle 2013, 234, G. 02, Taf. 18a. C. 134a (Typus 3 E; mit falschem AO).

Langgestrecktes, sich nach oben verjüngendes Blech, unten abgerundet. Das Kopfteil endet in der Mitte spitz und beidseitig in ausfallenden Verzweigungen. Ab der Blechmitte strebt eine spitz zulaufende Mittelrippe in die Höhe. Sie ist der Länge nach in zwei Teilen gegliedert. Von dem Mittelgrat gehen schrägliegende Rippen ab, ähnlich wie von dem Schaft. Die Rippen umfassen die Oberfläche außerhalb der Aedicula und des Inschriftenfeldes. Im verbreiterten Unterteil befindet sich eine Aedicula mit Dreiecksgiebel und darunter ein einfach gerahmtes Inschriftfeld, mit eingezogenen Seitenrändern. Die Aedicula wird von zwei Halbsäulen mit tordierten Schäften und Blattkapitellen gerahmt. Die Halbsäulen stützen ein Dach, das durch die rezente Faltung zerquetscht wirkt. Die Giebelleisten bestehen aus einer Leiste und oben aus einem gerippten Muster. Unten endet die Aedicula in einer Standleiste. Innerhalb der Aedicula befindet sich die Vollfigur der Göttin *Hygia*, nach rechts blickend. Am rechten, angewinkelten Arm hält sie eine Schlange. In der linken Hand hält sie einen Topf (Obst nach Piso, Rusu), zu dem die Schlange strebt. Das rechte Bein ist leicht nach vorne gebeugt, das Gewicht des Körpers stützt sich auf das linke Bein. Auf dem nach rechts gerichteten Kopf trägt sie ein Diadem. Die Göttin ist mit einem langen, gefalteten Kleid bekleidet, darüber ein *chiton*, der über den linken Arm hängt und vorne um die Hüfte, bis unterhalb der Knie gefaltet, dargestellt ist.

(*H*)*ygia*(*e*)

Corne-

l(ia) Marcel-

lina.

In der Z. 3–4 Piso, Pescaru; AE; ILD: *Mar/cellina*; Știrbulescu 2010: *Marcell/ina*.

2. Votivblech, Abb. 2

FO: *Germisara*-Geoagiu Băi, 1986–1987, während der Notgrabungen, aus dem Becken der Thermalquelle.

AO: Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 32263.

Oberfläche leicht geknickt. Linker Rand etwas beschädigt.

Goldblech, 22 Karat.

H. 17 cm; Br. 7,1 cm; T. 0,1 cm, Bh. 0,4 cm; G. 26,10 g.

Die erste Zeile der Inschrift in der Aedicula, die letzte Zeile unter dem Inschriftfeld.

Piso, Rusu 1990, 10, Nr. 1, Abb. 2–3, 5; Piso 1993, 834, 838, Abb. 22; Rusu 1994, 217–218, Nr. 87.1, Abb.; AE 1992, 1479; Petolescu 1993, Nr. 582; Rusu, Pescaru 1993, 203, Abb. 16; ILD, 321; Știrbulescu 2010, 210, Nr. 36.1, Abb.; Birkle 2013, 233–234, G. 01, Taf. 17b. 18b. 124b (Typus 3 E).

Im Aufbau ähnlich wie Nr. 1. In der Aedicula befindet sich die Göttin *Diana* in Bewegung, nach rechts schreitend. Der linke, gebeugte Arm hält den Bogen während der rechte, nach oben angewinkelte Arm, einen Pfeil aus dem am Rücken befestigten Köcher zieht. Der Kopf ist nach rechts gerichtet, die Haare sind auf dem Hinterkopf zusammengebunden. Das Gewicht des Körpers stützt sich auf ihr angewinkeltes linkes Bein. Das rechte, entlastete Bein, ist nach hinten ausgestreckt. Sie trägt den dorischen *chiton* und das *chimation*. Unten, hinter ihrem linken Bein befindet sich ein Hund nach rechts springend. Unterhalb der Aedicula ist ein einfach gerahmtes Inschriftenfeld, mit eingezogenen Seitenrändern, der linke Rand ist sogar doppelt eingeritzt.

Dia(nae)
Corne-
lia Mar-
cellin(a).

3. Votivblech, Abb. 3

FO: *Germisara*-Geoagiu Băi, 1986–1987, während der Notgrabungen, aus dem Becken der Thermalquelle.

AO: Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 34536.

Oberfläche stark zerknittert. Rechter Fortsatz beschädigt, das spitze Ende oben ist weggebrochen.

Goldblech, 22 Karat.

H. 16, 2 cm; Br. 6,9 cm; T. 0,1 cm; Bh. 0,7 cm; G. 13,53 g.

Piso, Rusu 1990, 12, Nr. 5, Abb. 10–11; Piso 1993, 834, 838, Abb. 23; Rusu 1994, 218–219, Nr. 87.5, Abb.; Ghinescu 1998, 125, Nr. 15; AE 1992, 1483; Petolescu 1993, Nr. 586; ILD, 325; Rusu, Pescaru 1993, 203, Abb. 20; Bărbulescu 2003, 287; Știrbulescu 2010, 210, Nr. 36.2, Abb.; Birkle 2013, 235, G. 05, Taf. 17c 18f (Typus 3 C).

Langgestrecktes, sich nach oben verjüngendes Blech, von fast trapezförmiger Form, mit geschwungenen Seitenkanten. Das Kopfteil endet in einer heute weggebrochenen Spitze mit beidseitig ausfallenden Verzweigungen. Unten endet das Blech ebenfalls in einer Spitze. Die unverzierte Mittelrippe ist in zwei Teile gegliedert und sitzt auf einer eingeritzten *tabula ansata* mit Inschrift. Die schrägliegenden Rippen sind nur seitlich der Mittelrippe und der *tabula ansata* vorhanden.

Nymf-
is Dece-
balus Lu-
ci(i) posuit.

Ein Hinweis auf die Datierung gibt der Name: vor 212. *Decebalus Luci(i)* war Peregriner. Er trägt einen dakischen Namen¹³³. Das Patronymikon ist römisch. Er gehört zur zweiten oder dritten Generation seit der Entstehung der Provinz Dakien. Das Blech datiert ungefähr zwischen 150–200, auf jeden Fall vor der *constitutio Antoniana*, 212.

¹³³ Dana 2014, 114–117; Der Name ist in *Moesia, Roma, Italia, Britannia, Pannonia, Mauretania Caesariensis* bezeugt. Es handelt sich meist um Soldaten, Veteranen oder um Mitglieder ihrer Familien.

4. Votivblech, Abb. 4

FO: *Germisara-Geoagiu Băi*, 1986–1987, während der Notgrabungen, aus dem Becken der Thermalquelle.

AO: Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 34537.

Oberfläche leicht geknickt.

Goldblech, 22 Karat.

H. 11 cm; Br. 4,6 cm; T. 0,1 cm; Bh. 0,5 cm; G. 3,33 g.

Letzte Zeile der Inschrift halb außerhalb, halb innerhalb des Inschriftfeldes.

Piso, Rusu 1990, 11, Nr. 3, Abb. 6–7; AE 1992, 1481; Petolescu 1993, Nr. 584; Rusu, Pescaru 1993, 203, Abb. 18; Rusu 1994, 218–219, Nr. 87.3, Abb.; Ghinescu 1998, 125, Nr. 13; Nemeti 1999, 137, Nr. 17; ILD, 323; Știrbulescu 2010, 212, Nr. 36.3, Abb.; Birkle 2013, 234–235, G. 03, Taf. 17f. 18d (Typus 3 C).

Langgestrecktes, sich nach oben verjüngendes Blech, von fast trapezförmiger Form. Das Kopfteil endet in der Mitte spitz und beidseitig in ausfallende geschwungene Verzweigungen. Unten endet das Blech in einer durchlochenden Spitze. Die in zwei Teile gegliederte Mittelrippe ist unverziert und sitzt auf einem rechteckigen Inschriftenfeld, das die Inschrift trägt. Die schrägliegenden Rippen sind nur seitlich der Mittelrippe und des Inschriftfeldes vorhanden.

Nymp(his)

Baebius

Ingen(uus).

Z. 1, Piso, Rusu; Rusu; Ghinescu; Știrbulescu: *Nym[ff(is)]*; Nemeti: *Nymf(is)*; Birkle: *Nymf*.

5. Votivblech, Abb. 5

FO: *Germisara-Geoagiu Băi*, 1986–1987, während der Notgrabungen, aus dem Becken der Thermalquelle.

AO: Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 34640.

In zwei Teile gebrochen. Oberfläche leicht geknickt.

Goldblech, 22 Karat.

H. 9,4 cm; Br. 4,1 cm; T. 0,1 cm; Bh. 0,2–0,4 cm; G. 4,25 g.

Piso, Rusu 1990, 11, Nr. 4, Abb. 8–9; AE 1992, 1482; Piso 1993, 834, 838, Abb. 21; Rusu, Pescaru 1993, 203, Abb. 19; Petolescu 1993, Nr. 585; Rusu 1994, 218–219, Nr. 87.4, Abb.; Ghinescu 1998, 125, Nr. 14; Nemeti 1999, 137, Nr. 18; ILD, 324; Știrbulescu 2010, 212, Nr. 36.5, Abb.; Birkle 2013, 235, G. 04, Taf. 17e. 18e (Typus 3 C).

Langgestrecktes, sich nach oben verjüngendes Blech. Das Kopfteil endet in der Mitte spitz und beidseitig in ausfallenden, stark geschwungenen Verzweigungen. Unten endet das Blech in einer Spitze. Die unverzierte Mittelrippe, die in zwei Teile gegliedert ist, sitzt auf einer *tabula ansata*, die die Inschrift enthält. Die schrägliegenden Rippen sind seitlich der Mittelrippe, der *tabula* und unter der *tabula* vorhanden.

Nymph-

is Lici(nia)

Cale.

6. Votivblech, Abb. 6

FO: *Germisara-Geoagiu Băi*, 1990, während der Notgrabungen, aus dem Becken der Thermalquelle.

AO: Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 35358.

Rechte seitliche Verzweigung teils abgebrochen. Oberfläche stark zerknittert.

Goldblech, 22 Karat.

H. 9,5 cm; Br. 3,5 cm; T. 0,1–0,2 cm; G. 2,31 g.

Pescaru 1988–1991, 663–666, Abb. 2; Rusu, Pescaru 1993, 203, Abb. 21; Rusu 1994, 218–219, Nr. 87.8, Abb.; Ghinescu 1998, 126, Nr. 4; Știrbulescu 2010, 213, Nr. 36.6, Abb.; Birkle 2013, 236, G. 08, Taf. 17g. 18g (Typus 3 A).

Langgestrecktes, sich nach oben verjüngendes Blech. Das Kopfteil endet in der Mitte spitz und beidseitig in ausfallenden Verzweigungen. Unten endet das Blech ebenfalls in einer Spitze. Die unverzierte Mittelrippe, die in zwei Teile gegliedert ist, sitzt auf einer Aedicula mit Dreiecksgiebel. Die Giebelschrägen sind mit Rippen verziert. Die Schrägen links und rechts der Aedicula sind unterschiedlich lang. An der Spitze des Giebels befindet sich ein Akroterium. Schrägliegende Rippen befinden sich auch seitlich der Mittelrippe und unter der Aedicula. Unter der Aedicula sind diese giebelartig. In der Aedicula befinden sich drei weibliche Vollfiguren im Profil nach links blickend. Die Figuren stützen sich auf das rechte Bein, das Linke ist entlastet und leicht angewinkelt. Sie tragen jeweils einen langen *chiton* und die Haare hinten zusammengebunden. Es handelt sich wohl um drei Nymphen. Der Bereich zwischen dem Dach und den Figuren ist mit einem Kreuzmotiv verziert.

7. Votivblech, Abb. 7

FO: *Germisara*-Geoagiu Băi, 1986–1987, während der Notgrabungen, aus dem Becken der Thermalquelle.

AO: Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 35552.

Oberteil und seitliche Verzweigungen weggebrochen. Oberfläche leicht gefaltet.

Goldblech, 22 Karat.

H. 16 cm; Br. 7,4 cm; T. 0,1 cm; G. 12,54 g.

Piso, Rusu 1990, 13, Nr. 6, Abb. 12; Rusu 1994, 218, Nr. 87.6, Abb.; Rusu, Pescaru 1993, 203, Abb. 23; Ghinescu 1998, 127, Nr. 6; Nemeti 1999, 138, Nr. 21; Știrbulescu 2010, 212, Nr. 36.4, Abb.; Birkle 2013, 235–236, G. 06, Taf. 17a (Typus 3 A).

Langgestrecktes, sich nach oben verjüngendes Blech. Unten endet das Blech in einer Spitze. Die Mittelrippe, in zwei Teilen gegliedert, endet unten in symmetrisch um die Mittellinie angesetzten, bogenartigen Doppellinien. Die Mittelrippe wird von schrägliegenden Rippen begrenzt.

8. Votivblech, Abb. 8

FO: *Germisara*-Geoagiu Băi, 1986–1987, während der Notgrabungen, aus dem Becken der Thermalquelle.

AO: Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 34538.

Oberteil und seitliche Verzweigungen weggebrochen. Rechte untere Seite durchgebrochen, aber vorhanden. Oberfläche stark zerknittert. Die Konturen ungleichmäßig ausgeschnitten.

Goldblech, 22 Karat.

H. 7,1 cm; Br. 3,3 cm; T. 0,1 cm; G. 1,09 g.

Piso, Rusu 1990, 13, Nr. 7, Abb. 13; Rusu, Pescaru 1993, 203, Abb. 22; Rusu 1994, 218–219, Nr. 87.7, Abb.; Nemeti, 1999, 138, Nr. 22; Birkle 2013, G. 07, Taf. 17d (Typus 3 A).

Langgestrecktes, sich nach oben verjüngendes Blech. Unten endet das Blech in einer Spitze. Die Mittelrippe, in zwei Teile gegliedert, ist unverziert und sitzt auf einer unbeschrifteten *tabula ansata*. Mittelrippe und *tabula* werden von schrägliegenden Rippen umrahmt.

9. Votivblech, Abb. 9; 13

FO: unbekannt¹³⁴.

AO: Privatbesitz Mateș Niculina.

Beschädigt am oberen linken Rand. Oberfläche stark zerknittert.

¹³⁴ Siehe S. 1–2.

Goldblech, 22 Karat.

H. 7,7 cm; Br. 3,5–1,6 cm; T. 0,1 cm; Bh. Z. 1: 0,4 cm, Z. 2: 0,3 cm, Z. 3: 0,4–0,3 cm. Ungleichmäßige Buchstabenhöhe. Manche mit kursivem Duktus; G. 2,71 g.

Ardevan, Cociș ms, 318, Nr. 3, Abb. 1, 4a-b.

Langgestrecktes, sich nach oben verjüngendes Blech. Das Kopfteil endet oben in einem Halbkreis und beidseitig in ausfallenden Verzweigungen. Die in zwei Teile gegliederte Mittelrippe sitzt auf einer *tabula ansata* mit Inschrift. Sowohl die Mittelrippe als auch seitlich davon bis zur *tabula* sind mit schrägliegenden Rippen versehen. An der Unterseite und an den unteren Ecken der *tabula* befindet sich je eine in zwei Teile geteilte Sternspitze.

Votum

libe(n)s so(lvit)

Bitus.

Z. 2, Ardevan, Cociș: *s(olvit)*. Der Buchstabe *O* ist aber klar auf dem Blech zu erkennen. Vom Buchstaben *M* in *votum* ist nur die erste schräge Haste dargestellt. Der Buchstabe *O* im Wort *so(lvit)* durchquert die Unterseite des Buchstabes *S*. Der Buchstabe *L* und *I* im Wort *libe(n)s* sind kursiv, sowie *B*, *T* und *V* im Wort *Bitus*. Der Buchstabe *I* im Wort *Bitus* ist kleiner. *Bitus*, der Name des Weihenden, ist thrakisch¹³⁵.

10. Votivblech, Abb. 10; 13

FO: unbekannt¹³⁶.

AO: Privatbesitz Mateș Niculina.

Linke Seite und rechte Verzweigung beschädigt. Sie wurde mehrmals gefaltet und zerknittert. Goldblech, 23 Karat.

H. 10,4 cm; Br. 4,1–2 cm; T. 0,1 cm; Bh. 0,5–0,7 cm; G. 5,484 g. Ungleichmäßige Buchstabenhöhe, manche mit fast kursivem Duktus. Trennpunkte/Verzierungspunkte am Anfang und am Ende der Zeilen und zwischen den Buchstaben. Auch am *C* oder *O* und an den Enden der ersten Haste des *V* befinden sich solche Trennpunkte, die aber eher als Verzierungspunkte anzusehen sind.

Ardevan, Cociș ms., 316–317, Nr. 1, Abb. 1, 2a-b.

Langgestrecktes, sich nach oben verjüngendes Blech. Das Kopfteil läuft in der Mitte spitz und beidseitig in ausfallenden Verzweigungen. Unten endet das Blech in einer Spitze aus. Das Blech ist mit schrägen Rippen verziert, die bereits an dem Mittelgrat beginnen. Die Verzierung befindet sich auf dem oberen Teil des Blechs, auf dem unteren Viertel befindet sich die Inschrift.

I V C L

vo(tum) s(olvit).

Z. 1, Ardevan, Cociș: *I(ovi) C(ustodi) Cl(audius/a?)*. Die Autoren dachten an eine Weihung an eine Gottheit, nämlich an *Iupiter*, obwohl sie bemerken „... der Name einer heilenden Gottheit wäre hier passender“. Anstelle des Buchstabens *V*, sehen sie ein „skiziziertes C“, und dachten an *Iupiter* als *Custos*. Aber *V* ist klar auf dem Blech zu erkennen. Ardevan und Cociș sehen an dem Buchstaben eine weitere schräge, nach rechts orientierte Leiste, die zwischen den zwei schrägverlaufenden Leisten des *V* orientiert sei. Diese hat aber mit der Inschrift nichts zu tun, es ist eine spätere Verformung des Objektes. Die Buchstaben *I*, *V* und *L* sind durchgedrückt, *C*, *O* und *S* aber sind eingeritzt, *C* und *S* sind sogar mehrmals übereinander eingeritzt.

Der Name des Weihenden könnte *Iu(lius) Cl(inias)* oder *Cl(audius)* oder *Cl(audianus)* / *Iu(lia) Cl(audia)* sein. Ein *Iulius Clinias* ist in *Apulum* bezeugt (CIL III 1193 = ILS 2746 = IDR III/5, 542). Über die weniger belegte Abkürzung *Iu(lius)* vgl. *OPEL* 203. In Dakien taucht die Abkürzung zweimal auf: CIL III 7894 = IDR III/3, 20, Grabinschrift aus Valea Sîngeorgiului und AE 1975, 729 = IDR III/3, 195,15, Stempel einer *tegula* in *Micia*.

¹³⁵ Dana 2014, 40–58.

¹³⁶ Anm. 134.

11. Votivblech, Abb. 11; 13

FO: unbekannt¹³⁷.

AO: Privatbesitz Mateş Niculina.

In zwei Teile gebrochen. An der linken Seite und an der Oberseite beschädigt. Stark deformiert und zerknittert. Ardevan und Cociş sehen an der Spitze und an den Verzweigungen je eine Bohrung, was jedoch nicht der Fall ist. Die Löcher, die an der Oberseite zu sehen sind, haben mit dem schlechten Erhaltungszustand zu tun.

Goldblech, 23 Karat.

Frg. 1. (oben) H. 6 cm; Br. 2,4–4,5 cm; T. 0,1 cm; G. 2,34 g.

Frg. 2 (unten) H. 4,2 cm; Br. 1,6–3 cm; T. 0,1 cm; G. 0,920 g.

Ardevan, Cociş ms., 317–318, Nr. 2, Abb. 1, 3a-b.

Langgestrecktes, sich nach oben verjüngendes Blech. Das Kopfteil endet in der Mitte spitz und beidseitig in ausfallenden Verzweigungen. Unten läuft das Blech in einer Spitze aus. Die unverzierte Mittelrippe ist in zwei Teile gegliedert und sitzt auf einer unbeschrifteten *tabula ansata*. Die schrägliegenden Rippen sind seitlich der Mittelrippe und unter der *tabula* schwach zu erkennen.

12. Votivblech, Abb. 12

FO: *Apulum* (Alba-Iulia, Kreis Alba).

AO: Muzeul Național al Unirii Alba Iulia. Inv. Nr. R 9552.

In 13 Frg. Gebrochen, mehrere Teile fehlen.

Silberblech.

H. 18,4 cm; Br. 2,2–9,2 cm; T. < 0,1 cm.

Das Blech wurde bei der Restaurierung auf einem Untergrund fixiert und kann heute nicht mehr gewogen werden.

Rodean, Anghel 1999, 56–59, Abb.

Langgestrecktes, sich nach oben leicht verjüngendes Blech. Unten endet das Blech in einem rechteckigen Ausschnitt. Die Mittelrippe ist bis zur Mitte in zwei Teile gegliedert und mit schrägen Rippen verziert, die an einem Mittelgrat angesetzt sind. Der untere Teil der Mittelrippe geht in ein Pyramidendach über, das auf einer Aedicula mit syrischem Giebel sitzt. Der Raum zwischen dem Dach und den Rändern der Mittelrippe ist mit je einem stilisiertem *S* verziert. Die Aedicula wird von zwei Halbsäulen gerahmt, die oben tordierte und unten kannelierte Schäfte mit Blattkapitellen präsentieren. Die Halbsäulen stützen ein Dach, das durch die Faltung zerquetscht wirkt. Die Giebelleisten sind mit einem gerippten Muster verziert. Unten endet die Aedicula mit einer Standleiste. In der Aedicula befindet sich die Vollfigur der Göttin *Fortuna*, mit dem Kopf nach rechts blickend. Ihr linkes Bein ist leicht gebeugt und schreitet nach vorn. Im linken Arm hält sie das Füllhorn. Sie trägt eine lange, gefaltete Tunika. Unten rechts ist das Rad dargestellt. Der rechteckige Abschluss des Blechs ist ebenfalls mit schrägen Rippen, die um einen Mittelgrat dargestellt sind, ausgestattet. Das Blech ist mit einem Band umgeben, das mit halbkreisförmigen Motiven und mit drei parallelen, gepunzten Linien verziert ist. An der Oberseite ist das Band rechts schräg und links gerade an die Mittelrippe heranführend dargestellt.

¹³⁷ Anm. 134.

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Abkürzungen

| | |
|---------|-----------------------------------------------------|
| Bh. | Buchstabe |
| Br. | Breite |
| G. | Gewicht |
| H. | Höhe |
| TabCerD | <i>Tabulae Ceratae Dacicae</i> , IDR I, S. 164–256. |
| TC | <i>Tabula cerata</i> , vgl. CIL III S. 924–960. |
| T. | Tiefe |



Abb. 1. Foto Muzeul Național al Unirii Alba-Iulia. Inv. Nr. R 8280; 2. Foto Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 32263; 3. Foto Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 34536 (Digitalisierung D. Serban).



Abb. 4. Foto Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 34537; **5.** Foto Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 34640; **6.** Foto Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 35358 (Digitalisierung D. Serban).



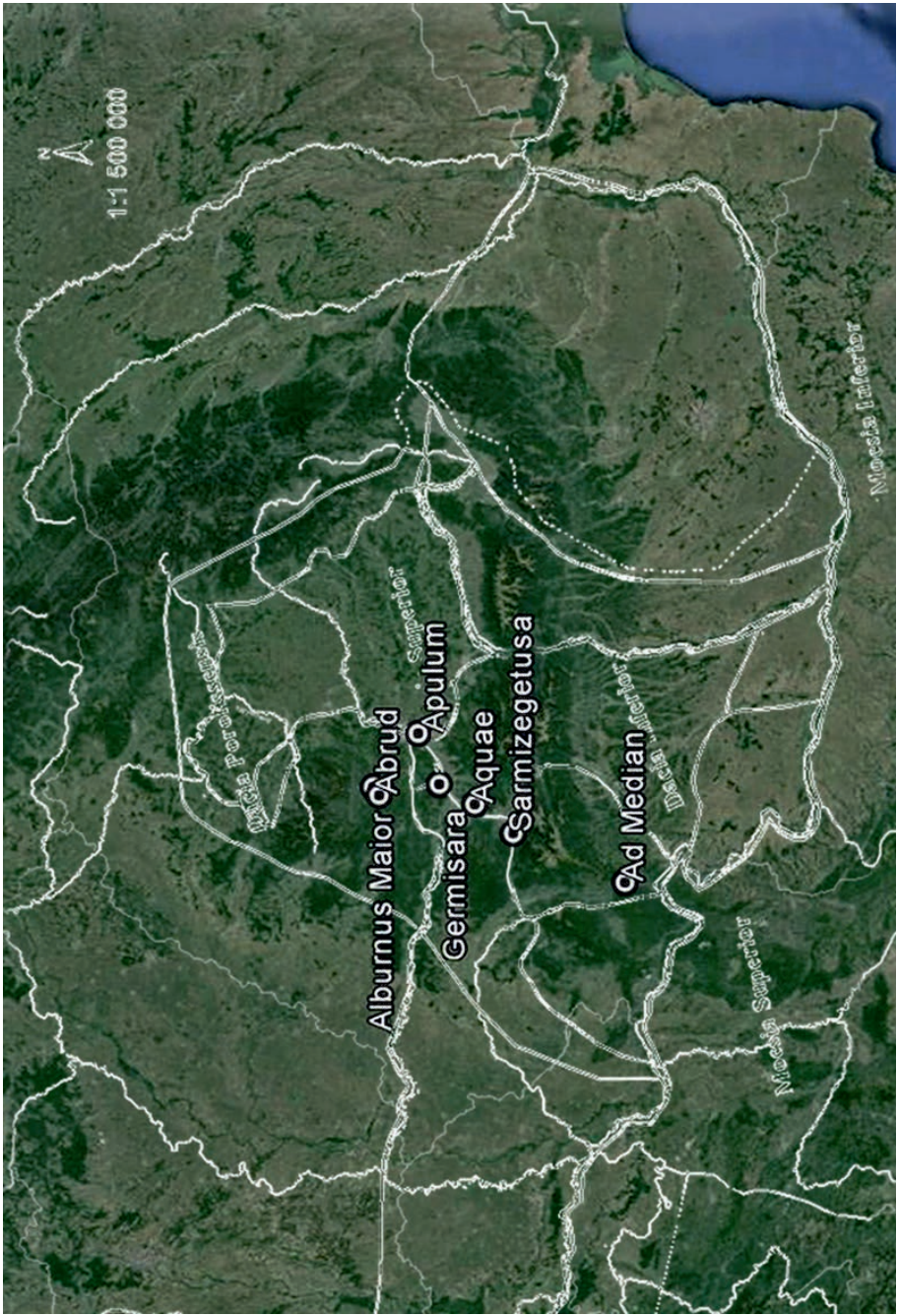
Abb. 7. Foto Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 35552; **8.** Foto Muzeul Civilizației Dacice și Romane Deva. Inv. Nr. 34538 (Digitalisierung D. Serban).



Abb. 9–11. Privatsammlung Niculina Mătiș (Foto S. Odenie; Digitalisierung D. Serban).



Abb. 12. Foto Muzeul Național al Unirii Alba Iulia. Inv. Nr. R 9552; **13.** Privatsammlung Niculina Mătiș (Zeichnungen und Digitalisierung D. Șerban).



Tafel I. Dakien (Digitalisierung D. Şerban)

CIVILIANS IN THE FORT. RĂCARI CASE

EUGEN TEODOR, MARIA NICOLAE

Abstract: Documentary sources give little indication about where militaries' families lived. Archaeological evidence comes to support the theory of civilian presence in military milieu, emphasizing the fact that some of the non-combatant personnel left some traces within the fort. The aim of this paper is to present and analyse the artefacts that came to light from the auxiliary fort from Răcari (Dolj County), artefacts that belong rather to civilians and not to military staff. Attention will be put upon the spot where these artefacts have come to light, in order to understand the relationships between different spaces within the camp, but as well the connection between the activities that the discoveries attest and the people who carried them out. Another important feature highlighted by the analysis of these artefacts that point civilian presence in the fort is the way in which the army integrated into provincial society. With the exception of marching camps, most Roman military bases were relatively long-lived communities. Given that a soldier usually served for 20 to 25 years, much of his adult life was spent in active service. While the Roman administrative system would have considered it an expensive option to allow these soldiers to have legitimate Roman marriages, this does not render ordinary soldiers' families non-existent. The presence of ordinary soldiers' families and followers providing food, entertainment and other services within the fort sheds new light on the space available to each soldier, and calculation of the strength of a specific troop based on space. Likewise, the analysis of artefacts discovered within the Răcari fort might suggest the relation established between the fort and the settlements outside its gates.

Keywords: gender archaeology; Roman fort; Dacia Inferior; small objects; statistics.

Rezumat: Sursele literare dau puține indicații asupra locului unde trăiau, zi de zi, familiile militarilor romani. Evidența arheologică vine să sugereze că existau relativ mulți civili în forturi, personalul necombatant lăsând urme concrete ale viețuirii lor între zidurile de apărare. Scopul acestui articol este de a analiza câteva obiecte din fortul auxiliar de la Răcari (jud. Dolj), în sprijinul acestei ipoteze. Atenția noastră va fi direcționată spre poziția planimetrică și stratigrafică a contextelor unde au apărut artefacte care ar putea interesa în dezbateri, pentru a putea face legătura dintre activitățile corelate obiectelor și principalele zone funcționale ale fortului. Un alt aspect al analizei este felul cum aceste inventare arheologice ilustrează integrarea armatei în societatea provincială. Cu excepția castrului de marș, cele mai multe baze militare romane sunt comunități cu o istorie îndelungată, cel mai adesea de-a lungul mai multor generații. Luând în considerare că un soldat servea în armată 25 de ani (posibil mai puțin în *numeri*), cea mai mare parte a vieții sale de adult se petrecea în serviciul activ. Deși administrația romană a considerat multă vreme că prezența femeilor în forturi ar fi un factor perturbator, existența familiilor „neoficiale” nu poate fi contestată. Civiliile ofereau armatei servicii din cele mai diverse, de la bucătărie, curățenie, comerț sau meșteșuguri, până la divertisment; pe de altă parte, aceiași civili ne vor constrânge să reconsiderăm spațiile de cazare necesare unei unități militare, respectiv să diminuăm trupa combatantă existentă efectiv în forturi. Astfel, obiectele aflate în discuție vor sublinia relația foarte intimă dintre comunitatea dinlăuntrul și din afara porților fortului.

Cuvinte cheie: antropologie culturală; castru roman; Dacia Inferior; artefacte arheologice; statistică.

1. Introduction

Gender issues in archaeological research are not quite new¹, nor the criticism against the “schism”². Nevertheless, the subject is almost a brand new one in Romanian archaeology, at least for its Roman *legio*. Therefore, we will produce here the paradox of writing in English, but reasoning mostly on Romanian research. When we firstly proposed this subject, in late 2010³, we thought we will be the first; we were not. Exactly in the same time, a comprehensible first study of the Roman forts from Dacia was published in an engendering perspective, in the *Marisia* journal⁴, which spares us from long introductions. More than that, we are now able to use an existing overview of the issue along Roman camps from Dacia, and to compare Răcari case with Buciumi case⁵, already known.

The central object of debate is the ban against soldiers’ marriage, enacted probably under Augustus, part of a general reform of the army, serving the idea that the presence of women would affect the necessary discipline⁶. The ban did not include a punishment for the infringement⁷, but legal consequences concerning the civil rights of the (unofficial) wife or children. This is the basement for the supposition that one will find exclusively men in a Roman fort dating to the early Principate, precisely their objects and their work products – ramparts, buildings, weapons, military costume implements etc. The soldiers themselves were not very happy with the situation, as one could easily guess, trespassing the ban, as literary testimonies, funerary monuments and, lately, a closer look at the small finds obviously prove. The process of crossing the ban was favored by the new defense concept, from Hadrian onward, which decreased the mobility of troops, intimately linking the garrisons to the social life in a certain province. The emperors which tried to keep the army happy, as Trajan and Hadrian did, progressively diminished the bitterness of the law for the – still – unofficial families. The final result of the process is due to Septimius Severus, the emperor which came directly from the army, imposed by army, who abolished the ban⁸.

The problem is that artefacts that can be connected with women and children are found in contexts which can be dated in the first two centuries AD, as proved for the camp of Vindolanda, including soldiers’ barracks from the early 2nd century⁹. On the other hand, just a minority of soldiers was married (one fifth of them), even in the 3rd century¹⁰. Civilians, others than family, named *lixae* (camp followers) could also be present in the fort¹¹. All these are not just “gender issues”, because finally they will

¹ Gero, Conkey 1991.

² Bahn 1992.

³ The subject was presented at the *International Conference “Defensive System, Military Infrastructure and the Daily Life on the Borders of the Roman Empire”*, Târgu-Mureș, the 3rd–5th of December 2010.

⁴ Vass 2010.

⁵ Vass 2010, 136, 139.

⁶ Alisson 2006, 1.

⁷ Scheidel 2005, 2.

⁸ Campbell 1976.

⁹ Van Driel-Murray 2001.

¹⁰ James 2006, 31–32; suggesting considerably higher figures: Saller, Shaw 1984, 139–144; Phang 2001, 404–409 and Scheidel 2005, 4.

¹¹ Oelschig 1999; Feig Vishnia 2002; James 2006, 32–33.

affect our sense of what a Roman garrison was, what functions had certain areas, and how many soldiers could they really host.

Having to detail some field research about Răcari, we will need a basic description of the fort, along some specifications about the contexts in which focused artefacts were found. Some of those objects are already published¹², others will be included in a catalog within this paper. After that we will make a discussion oriented on artefacts and classes of artefacts, on size of the objects related to human scale, about probabilities and other figures.

2. Basics about the fort from Răcari

The fort is placed in the very middle of modern Oltenia, on Jiu River, 29 km north of Craiova city and 6 km south of Filiași town¹³. Jiu River is the backbone of the communications in Oltenia, placed in the rear side of the Roman defense of Dacia Inferior, being equally remote of Drobeta, Bumbești or Slăveni, the other major fort places from Oltenia. The first fort from Răcari was built by *legio V Macedonica* during the time of Dacian Wars (101–106), which was removed from the new conquered territories soon after that, at Troesmis. The only other military unit attested in Răcari is a *numerus Maurorum* E..., being unclear what happened between Dacian Wars and Marcomannic Wars, being unlikely to have a *numerus* before Antoninus Pius¹⁴. The fort is a middle range one, rather large for an auxiliary fort (if different of an “irregular” one), covering about 2.4 ha between walls, as well as other garrisons from Dacia, but unlike *numeri* from Germania¹⁵.

The fort was investigated several times, by several different teams, led by G. Tocilescu (1897–1898), G. Florescu (1928–1929), C. Vlădescu (1991–1992), work resumed in 2003–2010 by E. S. Teodor. Florescu issued a booklet (1931) with a selection of artefacts. Tocilescu’s results were published only in 1968¹⁶. A recent book¹⁷ collects published artefacts and unpublished small finds from the repository of Oltenia Museum, item remarked by L. Vass as containing lots of interesting artefacts under the theme.

Details about the fort from Răcari are available both in Romanian¹⁸ and English¹⁹, therefore we will present here only a minimum necessary to follow the text.

The first fort from Răcari (noted as phase 1), earth-and-timber made, had only 1.8 ha. It was rebuilt, with the same orientation (phase 2), but wider, sometime after the year 157 AD. The fort was completely reconstructed in early 3rd century, with stone walls, on the same plan of the defensive (170 × 141 m between walls), but with different inner lay-out; in the third decade of the 3rd century was completely burned out,

¹² Bondoc, Gudea 2009.

¹³ For the geographical location see Vass 2010, 134, Fig. 3.

¹⁴ Southern 1989.

¹⁵ Southern 1989.

¹⁶ Tudor 1968, 233–256.

¹⁷ Bondoc, Gudea 2009.

¹⁸ Teodor n.d.; Teodor 1996.

¹⁹ Teodor 2009.

being reconstructed almost identical, including the internal plan; those two sequences are noted as phases 3.1 and 3.2. The large stone fort was again completely busted during the *Carpi* invasion (245–247); it was partially rebuilt, in a completely different way (ruins not leveled, internal roads blocked by new features), noted as phase 4. Albeit the field research did not clarified all facts, apparently it was divided in two parts, a northern one, refortified, and a southern one, abandoned as a fort place and filled with so called “civilian buildings”. Our paper uses these phases to describe and ascribe archaeological contexts.

Although detailed annual reports are available on the Internet²⁰, it would be much easier to our reader to have a brief statement about each of the contexts in which artefacts of interest were found in the respect of the proposed subject.

3. Contexts of the finds

For the specific needs of this paper we drawn up a plan of the fort, on which recent archaeological trenches are figured, named further “sections” not only due to a Romanian “tradition”, but also because this is what they are – stratigraphic sections (Pl. I). That was not exactly an option, because otherwise we would prefer working in surfaces, but just a consequence of the poor logistic. Not all the plan is rendered on Pl. I, but only the eastern and central areas of the fort, those in which excavations have been made in the last 8 years. The drawing is made up from different sources, beginning with the general plan published by Gr. Florescu²¹, on which the *horreum* was added, following D. Tudor²². All the stone buildings, as the fortification, *principia* and *horreum*, were dug (and partially destroyed) by the archaeological research performed before the Second World War; those interventions are not marked on the map, but just some isolated old sections from Gr. Florescu or Vlădescu. Our own sections are labeled „S.”, numbered from 1 to 9, and dated with the campaign (five to six weeks each year). The main features of the fort were checked in a topographical survey, even where we did not dig, following the ditch made by Gr. Florescu all around the curtain, visible on the field, or discrete features under the grass, like some walls of *principia*. Some inconsistencies of the old drawings have been observed, mostly inside our own excavations, but they will be revealed here only if connected with our subject.

We will further list the contexts in which relevant artefacts occurred, in chronological order, with a provisional name, giving only the necessary details.

The first *praetorium* was made entirely of wood, with trench foundations, in *latus dextrum*, being a string of relatively square rooms, disposed in U, facing west. Plausible, such a large house, closing a yard, would have posts on the inner part sustaining a porch (not seen; most of the plausible places are inside Vlădescu’s excavation). The building was dismantled *manu militari* and almost all the goods were saved, therefore the archaeological inventory is poor, except for a bag with four *aurei* (Vespasianus, not published), suggesting that not only the position in the camp is right, but the wealth

²⁰ Teodor n.d.

²¹ Florescu 1931.

²² Tudor 1968.

too. The second phase of the *praetorium* is far from being clear, due to the little surface investigated; it is certainly completely different in plan, but also very “clean”. We have only an artefact harvested on the ground level corresponding to the phase 2.

The second phase contains only one other context of interest. It is a large and very deep pit (more than 3.1 m), possibly a well, placed in the southeastern corner of the *atrium* from *principia*. The third phase is represented by a *principia* built up of stone, the fountain being earlier. The pit, no matter the function, was filled with rolling stones and burned stuff resulted from the perished phase 2 (southern and northern palisades, as well as the layer around the *horreum*, are strongly burned), in order to make room for a larger *atrium*.

The third phase – the “stone fort” – gives the absolute majority of the inventory. This phase, made generally with perennial materials, has almost everywhere two distinct sub-phases, the reconstruction being made on the same plan. It makes default exactly *praetorium*, where the generous space needed redesign, after each fire. This is the situation of the Building 3.1, placed beside *via principalis*, that doesn’t have the sub-phase 3.2.

Three barracks of the phase 3 have been partially investigated. One is placed facing the eastern rampart and *via sagularis*, with no number on Pl. I (has no “gendering” artefacts). A pebbled alley and another barrack, beginning in the extremity of S.1, named here Barrack 1 (Br1) were westwards. Another barrack (Br2 in Pl. I) is placed at the western end of *praetorium*, overlapping *via quintana*; its orientation, pointing west, or north, it is impossible to be established now.

The Workshop is the most important feature of the fort, related to the artefacts provided for this paper (10 out of 23, that is 43.48%). It is placed inside the *praetorium* area, and has almost 8 m long, on an east-west axis, and at least 5 m on a north-south axis. Its initial floor was made 1.3 m below surface, on which repeatedly manipulations of hot objects were practiced and large amounts of slag were left (of different natures!), being repaired and reconditioned several times for each phase. In the second sub-phase (3.2), the space was divided in two rooms, the western one remaining a workshop, but the eastern half becoming a kitchen, with plenty of animal bones inside. The building ended in the fire put by *Carpi*, in the events around 246, having a collapsed roof. A part of the roof was found undisturbed, the rest being rummaged. At the limit of the two areas, a fragment of human skull was found – a woman (see the Appendix). Obviously, somebody was looking for something, possibly the body, but after a relatively long time, allowing the skeleton to dismember. Was the ruined fort abandoned for so long?

Two discoveries from this set were found in *agger*. The earth rampart was rebuilt and raised for each phase and sub-phase. Those for phases 3.2 and 4, of interest here, were both of clay, usually clean.

Nevertheless, two female items were found there; but women do not make ramparts... We have to admit that those objects were lost in previous situations and brought with the earth.

The catalog makes also reference to some late buildings (Bld1 and Bld2 in Pl. I). Building 1 was made over *via sagularis* – a typical feature of the mid and late

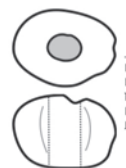
3rd century. Building 2 seems to overlap *via principalis*, but it does not; it stands along it (another feature of the late 3rd century). This is one of those cases when the old plans and the new survey do not fit each other. It also means that the gates from the end of the road should be about 2 meters eastward. But this is not yet proven.

4. Catalogue: artefacts from recent excavations

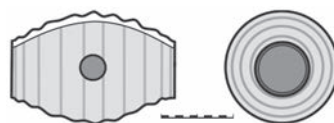
The artefacts are grouped in two broad categories: A) jewellery, adornments and accessories; B) artefacts related to women's activities. Inside each category, they are sorted upon name and inventory number. The last is a field inventory number. Inside each record, the data is provided in the following order: 1. Field number; 2. Category of artefact; 3. Basic raw material (and techniques, where not obvious); 4. Dimensions (mm); 5. Description; 6. Archaeological context; 7. Chronology; 8. Analogies; 9. Comments. 10. Scale (in drawing).

A) Jewellery, adornments and accessories

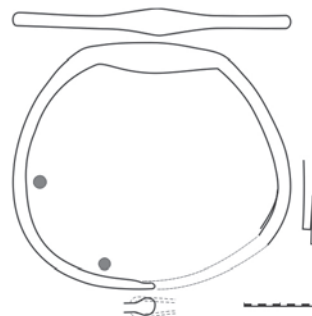
- 1 1. RAC5349; 2. **Bead**; 3. Chalk; 4. D = 13.7 × 10; d = 4.2 × 3.3; H = 10; 5. Bead with ellipsoidal plan and symmetrical hole; irregular, possibly due to the nature of the raw material (soluble); transversal hollows, possibly decoration (the „melon” type); 6. “Workshop”, phase 3.2, (*Praetorium?*), Section 5; 7. Second quarter of the 3rd century; 10. 1:1.



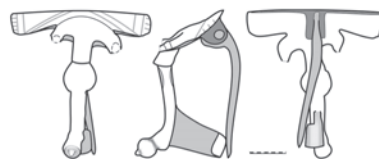
- 2 1. RAC7187; 2. **Bead** (?); 3. Lead alloy; 4. H = 21.8; d max. = 15; d min. = 9; d hole 1 = 6; d hole 2 = 3.5; 5. Barrel-like bead (?) decorated with transversal incisions; two axis holes, which raises serious doubts about the functionality of the artefact; whitish coat of corrosion, as a result of a heavily leaded copper alloy; 6. Wooden building from the first *Praetorium*; Section 7; 7. Early 2nd century; 9. The function is not obvious, neither the gender allocation; 10. 1:1.



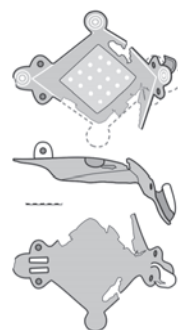
- 3 1. RAC5056; 2. **Bracelet**; 3. Iron; 4. Ext. d = 73 × 65; 5. Bracelet made of round section wire (3.4 mm), narrowed to the open end (3.1 mm), with flattened ending; one end is missing, part in which the wire is double; the front part is thickened, curved inside and rhombic in plan; 6. Ground level, phase 2, (*Praetorium?*), Section 5; 7. Late 2nd century; 8. Absent in Isac classification (Bajusz, Isac 2001, 430, Fig. 2) (To be found in finger-ring classifications?); 9. The flattened end could serve as fastening with the aid of a “U” shape hook, made of two closed wires (see the right side of the drawing); 10. 1:2.



- 4 1. RAC7628; 2. **Anchor brooch**; 3. Cooper-alloy; 4. H = 39.1 (in functional position); Length (face) = 44.4; Head width = 37; Foot L = 14.4; 5. Typical description of the anchor-shaped head brooches (Cociş 2004, 105, type 20, variant a); fasten system in hinge (Cociş 2004, 30, type 4); catchplate type 4 (Cociş 2004, 31); 6. “Workshop”, phase 3.1, (*Praetorium?*), Section 7; 7. Early 3rd century; 8. Cociş 2004, 200, cat. 1249, type 20a1a3; 201, cat. 1259, type 20a1c2; 9. Răcari brooch does not tightly fit any artefact of Cociş’s catalog, having a longer foot, but it has a good analogy in Răcari (Bondoc, Gudea 2009, cat. 1053); 10. 1:2.



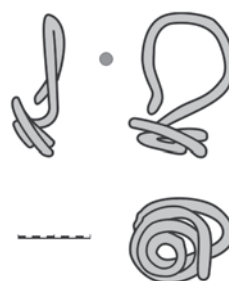
- 5 1. RAC3030; 2. **Enameled brooch**; 3. Cooper-alloy, enamel; 4. Width = 31.3 (preserved); H = 43 (preserved); 5. 1 mm bronze sheet; restituted dimensions: ~ 36 × 44.6 mm; rhombic plan with volutes; missing pin, deformed lower half, missing parts; shifted central rhomb is enameled (original colour uncertain); fasten on hinge, short catchplate; pair holes on each side, for hanging chains; 6. *Agger*, phase 3.2, Section 3; 7. End of the first quarter of the 3rd century; 8. Johns 1996, Pl. 13; Hattatt 2000, cat. 1586; Cociş 2004, 208, cat. 1504 = Porolissum; Cociş 2004, cat. 1511 = Micia (loose connection), both types 24b1 (= Feugère 26b1); 9. The chronology is late for this kind of *fibula* (Cociş 2004, 125), but we date the context (*agger* phase 3.2, with deployed earth from elsewhere), not the object; 10. 1:2.



- 6 1. RAC9102; 2. **Bulla**; 3. Cooper-alloy; 4. H = 23; width (partial) = 17; thickness = 6.2; 5. Very thin bronze sheet (ca. 1 mm); fragmentary and bent, mostly the back side (left in drawing); estimated width = 19.5 mm; 6. Posthole of a wooden building, next to *via principalis*, phase 3.1, Section 9; 7. First quarter of the 3rd century; 8. Diaconescu, Opreanu 1987, 60, Fig. 4/26; Alicu, Cociş, 1988, 225 (other analogies and references), 231 with Pl. I/1-3; Bajusz, Isac 2001, 418, Pl. II/20; 9. The kernel usually closed into a *bulla* is missing, but the dimensions are suggesting something like a cherry fruit; 10. 1:1.



- 7 1. RAC7380; 2. **Earring**; 3. Bronze wire; 4. Hook d = 16.8; loop d = 10.8 × 10.5 section d = 1.7; 5. Made of one round section wire, three times looped at the end; 6. Posthole of a building from the latest phase (4), next to *via principalis*, Section 7; 7. Mid-3rd century; 8. Gramatopol, Theodorescu 1966, 70-71, Pl. XII (20 gold wire earrings); Alicu, Cociş 1988, 235, Pl. V/46 (distant analogy); 9. Right earring; 10. 1:1.



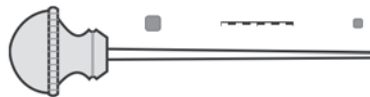
- 8 1. RAC5187; 2. **Hairpin** (miniature); 3. Cooper-alloy; 4. Conserved L = 30; head L = 7; d = 1.6; 5. Fragmentary, incomplete, bent; the upper part is suggesting a pine cone, separated by the body with two incisions, all of 7 mm; round section body (1.6 mm); 6. "Workshop", phase 3.2, (*Praetorium*), Section 5; 7. Second quarter of the 3rd century; 8. Alicu, Cociş 1988, 236, Pl. VI/54; 237, Pl. VII/55; 10. 1:1.



- 9 1. RAC5251; 2. **Hairpin**; 3. Cooper-alloy; 4. Preserved L = 53.2; head L = 11; max. d = 3.2; 5. Fragmentary, incomplete, the decorated part shaped as a flame, separated from the shaft by two incisions; round section, widened at the upper part of the body; 6. "Workshop", phase 3.2, (*Praetorium?*), Section 5; 7. Second quarter of the 3rd century; 8. Bajusz, Isac 2001, Pl. VII/55; Ciugudean 2002, 299, Pl. IV/4; 10. 1:1.



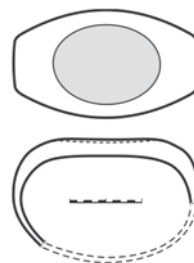
- 10 1. RAC7152; 2. **Hairpin** with detachable head; 3. Silver (head), cooper-alloy (shaft); 4. Preserved L = 48; head L = 13; head d = 12; section width = 2; 5. Mushroom-like silver head, with „pearl-string” on the maximum diameter, with horizontally incised foot; detachable cooper-alloy shaft, with rectangular section, thinner downwards; the pin is broken, but the missing part should be pretty short (no more than 10 mm); 6. "Workshop", phase 3.2, (*Praetorium?*), Section 7; 7. Second quarter of the 3rd century; 8. Cool 1990, 160, type 8; 10. 1:1.



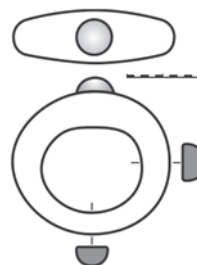
- 11 1. RAC7137; 2. **Hairpin**; 3. Cooper-alloy; 4. L (bent) = 110; head d = 72; shaft d = 36; 5. Enlarged rounded head (mushroom shape), round section, thicker at the middle, very thin at the end (below 0.4 mm); bent and fragmented, but complete; restituted length = 125 mm; 6. Building from the latest phase (4), next to *via principalis*, Section 7; 7. Mid-3rd century; 8. Alicu, Cociş 1988, 236, Pl. VI/57; Ciugudean 2002, 298, Pl. III/3; formal head analogy: Elefterescu 2008, cat. 121-123; 10. 1:2.



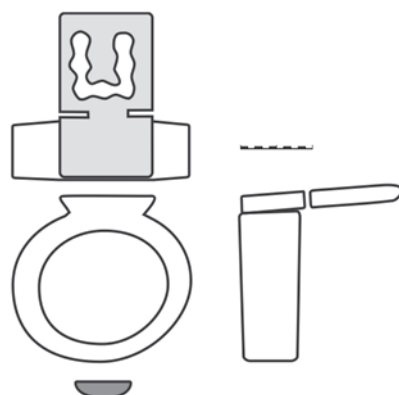
- 12 1. RAC0129; 2. **Ring**; 3. Cooper-alloy; 4. $D^* = 24.3 \times (16.4)$; $d = 20.1 \times (13.3)$; stone $d = 14.1 \times 10.5$; 5. D-shape section, widening to the bezel (missing oval stone). Broken inferior loop; 6. Barrack, west end of the Section 1; 7. Second quarter of the 3rd century; 8. Hica-Cîmpeanu 1980, 660, Fig. 2/2; Alicu, Cociș 1988, 232, Pl. II/17; Bajusz, Isac 2001, 417, Pl. I/2 (ratio w/h = 1.47); 430, Fig. 2, type II.1; Facsády, Verebes 2007, 6, Fig. 9 (type III); 9. Unusual ratio between width and height of the loop (~1.5); a male ring (?) transformed for an unusual gracile lady or a child (variant: a ring intended to be worn on the thumb); the narrowest diameter (13.3 mm) is below adult women scale; nevertheless, this is a marriage ring (Johns 1996, 65, Fig. 3.27), or at least similar; 10. 1:1.



- 13 1. RAC7693; 2. **Ring**; 3. Cooper-alloy; 4. $D = 21 \times 19$; $d = 13 \times 11$; pearl $d = 5$; 5. d shape section ring, widened and flattened to the whitish "pearl" from above; low quality cooper-alloy (iron like rust); the "pearl" seems made of bronze too, of better quality (with tin?); 6. Barrack (phase 3.2) at the western end of Section 7; 7. Second quarter of the 3rd century; 8. British Museum no. reg. 1900, 1122.4 (gold, 1st-2nd century); missing in classifications made for Dacia Porolissensis (Bajusz, Isac 2001), and for Aquincum (Facsády, Verebes 2007); 9. Dimensions are recommending a pre-teenager; 10. 1:1.

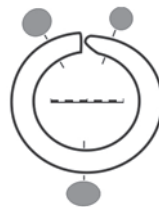


- 14 1. RAC7335; 2. 'Key' ring; 3. Cooper-alloy; 4. $D = 23.8 \times 22.2$ (with bezel); $d = 17 \times 15$; bezel = 12.2×21.7 ; 5. "Key"-ring, transitional type (Johns 1996, 56, Fig. 3.15, down-right); D-shape section, easy widening to the bezel. The plaque is welded on the ring in an obtuse angle. The ring is slightly skewed (or deformed). The whole decoration is a bit asymmetric; 6. "Workshop", phase 3.2, (*Praetorium?*), Section 7; 7. Second quarter of the 3rd century; 8. Cristești (Man 2011, 197, Pl. CXLVIII/19); Johns 1996, 56, fig. 3.15, right-down; 9. Woman size; 10. 1:1.



* D = external diameter; d = internal diameter.

- 15 1. RAC7775; 2. **Ring** (loop?); 3. Cooper-alloy; 4. $D = 20 \times 18.4$; $d = 14 \times 13$; section from 3×3 to 3.5×3.9 ; 5. Little ring with opened ends, of which one is narrowed; relatively round section, variable in dimensions; no mechanical stress observed; 6. Barrack (phase 3.1) at the western end of Section 7; 7. First quarter of the 3rd century; 8. Discovered by chance; for typology see Facsády, Verebes 2007, 9, Fig. I/c (type VIII b); 9. If considered finger-ring, it rather fits a teenager than an adult women; 10. 1:1.

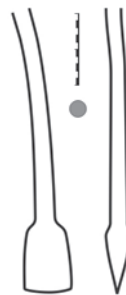


- 16 1. RAC7612; 2. **Ring** (loop); 3. Cooper-alloy; 4. $D = 22 \times 19$; $d = 16.8 \times 14$; round section from 2.9 to 2.3; 5. Cooper-alloy ring with welded ends; the section is round but not homogenous, ranging from 2.3 to 2.9 mm, not counting the welding node; 6. "Workshop", phase 3.1, (*Praetorium?*), Section 7; 7. Early 3rd century; 8. Discovered by chance; Alicu, Cociş 1988, 231, Pl. I/4-8; Isac, Gaiu 2006, Pl. 1/9; Facsády, Verebes 2007, 10, Fig. I/d (type X a); 9. If a ring - the size is for a slender woman or a teenager; but the function is not obvious, neither the gender attribute; the diameters ratio (1.2) is typical for fingerings, but the weld is not; no mechanical stress observed; 10. 1:1.



B) Artefacts related to women's activities

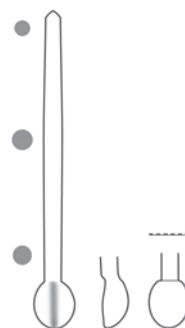
- 17 1. RAC5321; 2. **Spatula** (fragment); 3. Cooper-alloy; 4. Preserved $L = 27$; handle $d = 2$; spatula = $9.4 \times 6.1 \times 5.1$; 5. Fragmentary, incomplete, handle with round section; trapezoidal ending, with sharp front edge; 6. "Workshop", phase 3.2, (*Praetorium*), Section 5; 7. Second quarter of the 3rd century; 8. Diaconescu, Opreanu 1987, 59, Fig. 3/21 (as medical scoop); 9. The medical purpose can't be excluded (for removing a tooth, for instance); the sharp front edge better recommends this tool for handling ointments, usually employed in makeup; 10. 1:1.



- 18 1. RAC7716; 2. **Spatula** (fragment); 3. Cooper-alloy; 4. L (partial) = 17; handle = 2.6×2.2 ; 5. Fragmentary spatula, with rectangular handle section; flattened end, quasi-trapezoidal in plan (maximum width = 5.3 mm); 6. Barrack (phase 3.2) at the western end of Section 7; 7. Second quarter of the 3rd century; 10. 1:1.



- 19 1. RAC7641; 2. **Spatula** (scoop ear? *ligula*?); 3. Bone; 4. Length = 84; Spoon = 11 × 12.3; Handle D1 = 4; D2 = 5.3; D3 = 4.8; 5. Made of bone, nicely polished, with round section handle, wider in the middle height; spoon-like end; 6. Barrack (phase 3.2) at the western end of Section 7; 7. Second quarter of the 3rd century; 8. Ciugudean 2002, 300, Pl. V/2 (scoop ear, spoon 4.5 × 4.8); Elefterescu 2008, 217-220 (*auriscalpia*, width <7 mm), 221 and 223 (width 9-10 mm, cosmetic use; wrong graphic scale; see description); 9. Artefacts with a spoon transversal diameter over 8 mm are unlikely to be useful in the cavity of an ear; 10. 1:2.



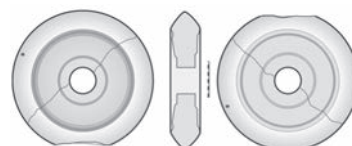
- 20 1. RAC8076; 2. **Spatula**; 3. Iron; 4. L = 104; handle section = 37 × 33; spoon = 12 × 13; 5. Relatively rectangular handle; little active end, spoon-like shape; the thickness makes the tool relatively unhandy, but the rust could be responsible for that; 6. *Principia*, atrium, pit (fountain?), Section 8; filling from the second phase (final); 7. End of the 2nd century; 8. Read 2001, 95, item 708; 9. Close analogies in two classes of artefacts, with different utility: ear scoop (cosmetics and medicine) and *ligulae* (specialties eating device); ear scoop is endemic on detectorists' sites (especially in UK); see better documented Metropolitan 74.51.5491 ("ear probe")*; this spoon is even wider (12 mm), that qualifies the artefact as a tiny *spatula* of cosmetic use, not as a scoop ear; 10. 1:2.



- 21 1. RAC0032; 2. **Spindle whorl**; 3. Clay, turned; 4. Max. d = 17.4; hole d = 7.4; H = 22.2; weight = 6.12 g. (restituted ~ 9 g); 5. Coarse fabric, sandy, yellowish-brown, barrel shape, without decoration; partially broken; 6. Civilian (?) house, Section 1; 7. Mid-3rd century; 8. Gudea 2008, Pl. XXIX/9; Bondoc, Gudea 2009, cat. 424; 9. The type is not very usual (H > D); 10. 1:2.

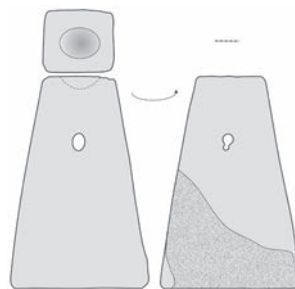


- 22 1. RAC0179; 2. **Spindle whorl**; 3. Bone, lathed; 4. D = 37; hole d = 7; H = 7.8; weight = 10 g; 5. Well-polished, decorated with concentric circles; broken in half; 6. *Agger*, last phase, Section 2; 7. Mid-3rd century; 8. Alicu, Nemeş 1982, 365, Pl. IX/3 ("rondel"); Alisson 2006, 8, Fig. 1/a; Gudea 2008, Pl. LXXI/9; XXIX/4; 10. 1:2.



* See also <http://www.hr-replikate.de/katalog/indep/detail.php?lang=en&image=0127>, from Augusta Raurica.

- 23 1. RAC7502; 2. **Loom weight**; 3. Clay; 4. H = 85; upper base = 30 × 37; lower base = 55 × 54; 5. Burned clay weaving weight; the initial hole was round, 2 mm in diameter, enlarged by use to 4 × 6 (5 × 7) mm; one side broken; on the upper base there is an alveole, with diameters of 16 × 12 mm and 5 mm deep, probably as a result of a secondary use (support for spinning?); 6. Walking level (pebbles paved courtyard), phase 3.2, west to the “Workshop”, Section 7; 7. Second quarter of the 3rd century; 10. 1:3.



5. Comments on categories of artefacts

Following the order chosen in the catalog above, we will proceed presenting some problems connected with each type. We used the data published by L. Vass²³, slightly modified, to which the artefacts from our own catalog were added.

| object type | overall | Răcari |
|---------------|---------|--------|
| bead | 20.55% | 18.64% |
| bracelet | 4.74% | 11.86% |
| brooch | 4.35% | 6.78% |
| bullae | 0.40% | 1.69% |
| comb* | 0.79% | 3.39% |
| earring* | 0.79% | 1.69% |
| hairpin | 39.92% | 11.86% |
| necklace | 0.79% | 0 |
| pendant | 3.95% | 1.69% |
| ring | 8.30% | 6.78% |
| spatula* | 1.58% | 6.78% |
| spindle whorl | 13.44% | 27.12% |
| weight* | 0.40% | 1.69% |

Table 1. “Sexing” artefacts in Roman forts from Dacia. Comparative data regarding overall data (253 items) and Răcari figures (including Bondoc, Gudea 2009) (Items with asterisk are based only on Răcari).

Beads are well represented in forts, apparently much better than in other type of sites²⁴, which is odd; they represent 20.55% from all “gendered” artefacts from forts and 18.64% in Răcari²⁵. Our own are not only few, but unaccustomed; bead no. 1 is ellipsoidal and we found no exact match, though a kind of analogy is another bead from Răcari²⁶, made of glass paste, also not round in plan; bead no. 2 is also a

²³ Vass 2010.

²⁴ Like some cemeteries; see, for instance, Damian et alii 2008, where they make completely default (on over 300 graves). Yet beads are not absent in Roşia Montană area, as proved by discoveries in habitation from Balea or in the cemetery from Tăul Săcuilor-Pârâul Porcului (kindly information provided by Ionuț Bocan).

²⁵ Counting also Bondoc, Gudea 2009.

²⁶ Bondoc, Gudea 2009, cat. 1132; see yet Benea 2008, Pl. II/1-7; 9-10.

rare form, finding a good equivalent in Răcari as well²⁷. Having a second hole, on another axis, bead no. 2 could have various functions, like hanging, from its middle, another pendant. Its context, dated in early 2nd century, suggests rather a military function.

On overall statistics, bracelets take almost 5% from the evidence, but almost 12% in Răcari (see Table 1). That is pretty much. Catalog number 3 finds no match, although some formal similarities could be found²⁸. Regarding the others published, except one made of silver²⁹, which can be a military sign of honor, the others, made of glass, are likely female accessories. Of course, on auxiliary forts of the irregular troops, this judgment should be applied taking into consideration the ethnic origins, where known. Accustomed for Celts or German warriors, bracelets were an abnormal Roman social behavior, becoming a sign of bravery from the practice of looting the killed enemies; therefore, men wearing bracelets had a precise meaning, and *those* bracelets are anyway made of gold (for high ranking officers) or silver (for others), being large and heavy artefacts, more frequent during the first two centuries³⁰.

The first brooch of our catalog (no. 4) is included in Vass selection of types ascribed to females³¹, Cociș type 20b, styled as “anchor *fibula*”, frequently associated with fine silver chains for hanging pendants³², sophisticated fashion incompatible with a functional military outfit. Anyway, the best analogies for the brooch no. 4 come from the sub-type 20a, considering both design and dimensions. A very close analogy is to be found in Răcari.

The second brooch (cat. no. 5) is related to Cociș type 24b1, not considered between *fibulae* worn by women. There is only one straight analogy in Dacia, from Porolissum; anyhow, the type is not rare³³. The reason why we took it in this collection is simple: the brooch has a pair of little holes on both ends from the longer axis, which would make sense for hanging chains, as suggested by the horizontal display of the drawing from catalog, standing in British Museum exhibition.

Bulla is not a casual object in a fort. This special and symbolic recipient, wore as a pendant, as a sign of a child³⁴ born free³⁵. This is especially interesting in a camp inhabited by *numeri*³⁶; the artefact was found in a building confining *praetorium* area. The custom of wearing *bullae* is as Roman as possible (with Etruscan origin), strongly suggesting that the officer in command was a Roman citizen, and, more than that,

²⁷ Bondoc, Gudea 2009, cat. 582 “pendant”.

²⁸ Metropolitan acc. no. 17.190.1657, gold, or 17.190.1651, gold, credited for the 4th century.

²⁹ Bondoc, Gudea 2009, cat. 1102.

³⁰ Sas 2004, 354.

³¹ Vass 2010, 130, Fig. 1.

³² Cociș 2004, 105.

³³ See British Museum reg. no. 1872,0604.785; 1904,0602.1; 1990, 1003.1; 1990, 1003.3 etc., usually not earlier than the 2nd century AD.

³⁴ See http://www.vroma.org/images/mcmanus_images/nerochild.jpg (the future Emperor Nero as a child, wearing *bulla*).

³⁵ Diaconescu, Opreanu 1987, 59; Alicu, Cociș 1988, 225; girls are not excluded: Bajusz, Isac 2001, 400; Sas 2004, 369.

³⁶ Southern 1989.

probably a military with service in cavalry³⁷. That would be perfectly proper for leading a large military unit like this *numerus Maurorum*...

Earring is another rare item on a camp inventory, missing from Vass's list; it is known as a male item, for Roman history, but rather as extravagance of oriental fashion³⁸. Obviously the class of artefacts could be legitimately included on "sexing" small finds. The motive of evidence scarcity could be the fact that Roman earrings are usually very fine adornments, composed by many tiny elements, difficult to survive in archaeological layers (if not gold involved), or to be correctly identified on small "unknown fragmentary artefacts".

The hairpins are the most numerous female related artefacts found in forts from Dacia (almost 40%, Table 1). The provocative figure made some thinkers to imagine all kind of possible (miss-) functions of the artefact, like fastening clothes³⁹ or writing with a pseudo-*stilus*⁴⁰; why not the bare knife, for writing? The basic condition for improvising functions is *to have* the object. Could a (metallic) hairpin be used for writing on *tabella cerata*? Of course! A lady would do so⁴¹... The finds from Răcari are less common (12%). Our catalog's four artefacts are of four different types, from which no. 10 is less encountered, but not unknown⁴².

The rings are the most present kind of artefact in our catalog (nos. 12–16), picturing 5 different types. First (no. 12) is a common type, with an oval (missing) stone. The second ring (no. 13) is not usual at all, being more an improvisation (a loop with an added bronze "stone"). The third one (no. 14) is the most interesting, another infrequent artefact, second of his kind known for Dacia, labeled with the generic name of "key"-ring⁴³. Apparently it has lots of analogies in Răcari⁴⁴, but those are (chest-) keys attached to a loop, for hanging on the belt. At the origin, one century earlier, such little keys could be attached also to a proper fingering. With clear practical purposes, at the beginning, the object evolved to a symbolic item ("Key of the House"), key-like plaques, with hole designs, being attached at larger fingerings, but the practical aim was completely lost, being obvious that neither Răcari, nor Cristești artefacts are usable for locks. This is why it is named "the transitional (key-) type"⁴⁵.

Many troubles make the simple loops, in two variants, with opened ends (no. 15), or with welded ends (no. 16). They are considered either loops, or rings, but the motivation for one or the other is not transparent. We need some criteria before taking chances and make a decision. For instance, an open loop has no mechanical

³⁷ Stout 2001, 77.

³⁸ Stout 2001, 77; Allison 2006, 5.

³⁹ Elefterescu 2008, 222.

⁴⁰ Becker 2006, 36.

⁴¹ For hairstyles as gender and social messages: Bartman 2001, especially 105 with Fig. 8 (use of hairpin). For other uses of hairpins, like torture tool: Treggiari 2007, 148.

⁴² Cool 1990, 160.

⁴³ Johns, 1996, 55–56; see also <http://www.flickr.com/photos/museumoflondon/4755264050/sizes/z/in/photostream/> and <http://www.shenley.u-net.com/romanfinds.htm>.

⁴⁴ Bondoc, Gudea 2009, cat. nos. 630–639.

⁴⁵ Transition to pure decorative models, with lavish decorative extended bezel, see Johns 1996, 57, Figs. 3.16 and 3.17.

strength and should rather be a “ring”. A closed loop with a D shape section would be, as well, a ring. Also, a closed loop with unequal diameters, if made of copper alloy, could be also a fingering. The sizes are also important. Vass⁴⁶ took his cautions and decided – a little bit too on scent – that one should count as female objects only the rings below 17 mm on the inner diameter. We made the next step, asking an old jeweler from Bucharest which are the most common measures for wedding rings (Table 2).

| Diameter | Women | Men |
|----------|-------|-----|
| 15 | 1 | |
| 16 | 6 | |
| 17 | 19 | 1 |
| 18 | 40 | 4 |
| 19 | 20 | 8 |
| 20 | 8 | 20 |
| 21 | 6 | 40 |
| 22 | | 19 |
| 23 | | 7 |
| 24 | | 1 |

Table 2. Wedding rings’ diameters (mm) for our days people from Bucharest. Estimates (jeweler Ioan Busuioc), percent.

This is not quite a “statistic”, but it is better than the “archaeologist’s hunch”. Consequently, the most usual measure for men is 21 mm on inner diameter, and the most usual female measure corresponds to 18 mm; for less than 17 mm there are only 7 percent of the women... Using our-days data could be debatable, because the size of people evolved; on the other hand, the folks from Bucharest are not quite farmers, with palms formed on rough works, as soldiers in a camp should be. As estimates they are, such comparative data could be useful ranging specific measures, as already tried on other categories of artefacts (shoes⁴⁷ or bone “rondels”⁴⁸).

If so, a 19 mm inner and smaller diameter ring would be a female ring (probability 71.4%), and a 20 mm diameter would mean a male ring (same probability). On statistic supported by 38 rings previously published, resulted that only 3 fulfill the condition of a “male size”, that is below 8%⁴⁹; these are artefacts of different types (including those with twisted ends, currently considered more feminized, being technically similar to some earrings), from which one is a massive gold ring⁵⁰. With such enhanced – even not perfect – criteria, the set of artefacts which could be considered for a gendered analysis, as that undertook by Vass, would certainly increase.

⁴⁶ Vass 2010, 132.

⁴⁷ Van Driel-Murray 2001.

⁴⁸ Allison 2006, 7.

⁴⁹ Inflicting thus with an old authoring idea (Gramatopol 1971, 21) that the earrings are typical female adornment, and the ring would be also a typical male thing. The art historian was referring anyway to adornments made of precious metals, and for that he could be right.

⁵⁰ Alicu, Cociș 1988, cat. no. 23.

We cannot close the rings' section without mentioning three silver rings from Răcari⁵¹, published only as photographs, with no dimensions, so they can't be used in this paper (they also miss from the report from Table 1).

The artefacts collected under the generic of *spatulae* (nos. 17-20) are new in the debate about gender in Dacia. The reasons why they were avoided till now are obvious: they can be medical devices, or cosmetic implements, but other uses (like tools for eating delicacies) are not excluded; their capacity to be multi-functional tools is also easy to guess. The selected artefacts divide in two groups: the first comprises two little *spatulae*, both fragmentary (nos. 17-18), with the active end enlarged, flat shovel like shape. Their tiny dimensions seem to exclude medical utility (except for dental purposes?), recommending powder manipulation, as those used in make-up. The second group is made of two miniature *ligulae*, with relatively long handles but very small spoons. This kind of objects is formally connected with ear scoops, but, for anatomical reasons, spoons wider than 7-8 mm would be unusable inside a human ear. The only other utility seems to be for handling delicacies inside or from tiny glass jars⁵².

Spindle whorls are the most "feminist" archaeological artefacts and one of the most frequent finds on forts (see Table 1). Their significance is not contested even by the most conservative of the archaeologists⁵³, being deeply connected with the status of married women, from antiquity to the 20th century⁵⁴. The first item (no. 21) has not the most usual form, but it is a spindle whorl anyway. The second item, made of bone, could raise questions. Previous studies, performed on rich contexts, thoroughly investigated, allowed yet the distinction between similar morphologies, but completely different functions, like beads, spindle whorls or furniture fittings⁵⁵. Our item 22 is fulfilling the conditions of outer diameter between 35 and 48 mm and central hole between 6 and 9 mm, to be pretty sure that it is a spindle whorl. In Romanian archaeology, for similar objects are used concepts like "playing token" (which regularly has no hole or a very small one⁵⁶) or "rondel", just a word for "I don't know"⁵⁷.

Artefacts connected with weaving, like the loom weight (no. 23), are still obscured about "sexing finds", partially due to a generalized conviction that both men and women were involved in antique weaving⁵⁸, partially due to the scarcity of archae-

⁵¹ Gramatopol 1971, Figs. 3, 7, 13.

⁵² See the interesting collection published recently by Elefterescu 2008, cat. nos. 217-223, for both functions discussed.

⁵³ With funny exceptions, like Bondoc, Gudea 2009, 196, for which spindle whorls are some kind of sweethearts' souvenirs... See instead better balanced questions about spinning and weaving in Roman forts in James 2006, 34-35. Anyway, spinning is mentally connected not only with marriage, but with slavery too (Hemelrijk 2004, 150; Treggiari 2007, 10), dishonorable and unlikely association for an armed man. Speaking about "man" under the label of gender, we should carefully watch the dichotomy between free and enslaved men, working both inside a fort and in civilian society.

⁵⁴ Girls education: Lightman, Lightman 2008, 163-164; woman as *lanifica*: Treggiari 2007, 16; "working wool" like a life-time job and the goddess of Fate - "The Spinner": Sebesta n.d.; spinning in Greek classic tradition: Suhr 1963; ethnographical references (weaving and fate prediction, marriage, etc): Pavelescu 1995; spinning as effeminacy: Allison 2006, 5-6.

⁵⁵ Allison 2006, 7, table 1.

⁵⁶ Alicu, Nemeş 1982, 349.

⁵⁷ Bondoc, Gudea 2009, 196, 199 etc.

⁵⁸ Extended references in Wild 2002, 29; Allison 2006, 5.

ological finds. However, commentaries connected with Roman customs or public mentality stress the connection between spinning and weaving, as symbols of the married women, as a householder and keeper of the tradition, something that girls should be taught for a proper future⁵⁹. Of course, there are also accounts about men wearing beads or earrings, or even working in a... weaving *officina*. This is the case with Valerius Licinianus Licinius – the Younger, the adopted son of the Emperor Licinius and *caesar* before 324, whose life was spared in the aftermath of the final defeat of his father, but he was turned into a slave and sent to work in an imperial *officina*, a weaving mill⁶⁰. Like other narratives of the kind, this story is an exemplary one in a negative way, telling us *what is not* a man (weaver, as long as “weaving mill” was rendered in Greek as *gynaecēi*) or a Roman citizen (slave). In our case, the item 23 from the catalog is a loom weight with a particular feature – an alveole on the upper part – which directly connects it with spinning. The paucity of this item on Roman sites from Dacia could be explained by the fact that around the year 100 the warp-weighted loom was displaced – but not completely replaced – by the two-beam loom, which worked without weights⁶¹.

6. Distribution of “gendered” finds in space and time

One of the earliest GIS applications studying the distribution of artefacts inside forts was performed on some small sites from Germany⁶². Although the option was right, as the author explained, her conclusions seem now not fully applicable in larger forts, as Buciumi and Răcari. The idea that the place of the women, in a garrison, would be closer to the gates, or along the roads driving to the gates, is contradicted by both Vass’s analysis⁶³ and ours (see Pl. I). Most of the items on the list were collected in an area suspected to be a *praetorium*, which is normal, being outside the ban of marriage and conforming to a long tradition of officers’ rights⁶⁴. Looking again on the map from Plate I, we can see that such items were found also in two barracks (investigated only in part), placed far away from gates or the main roads, as well in other places (as *agger* area), where no woman-goods were expected. As a secondary observation, useful in reading the plan: the northern area of the fort from Răcari, almost empty, was our colleague’s – Dorel Bondoc – sector of research. In his recent monograph, heavily cited here, he lists, among over 1200 items of the catalog, 38 of which were incorporated in the report from Table 1; of those, only one item is from its own excavation (on Section 6), the rest being the result of old research, traditionally not interested for the link between the object and the context. Among those 38 items, two fragmentary combs are also counted, another class of scarce artefacts

⁵⁹ For instance Hemelrijk 2004, 20–22, 27, 56, 72; for Late Empire revalorization of weaving: Lightman, Lightman 2008, 21, 34, 277.

⁶⁰ Evans Grubbs 1995, 285.

⁶¹ Wild 2002, 11.

⁶² Allison 2006.

⁶³ Vass 2010, 136–137.

⁶⁴ Allason-Jones 2007.

in Dacian forts⁶⁵ and obliterated from previous analyses. If true that combs, in general, can be of Germanic origin (much more frequent in Germanic sites), in this case we are dealing with *copper alloy* combs⁶⁶, which points out to a Roman manufacturer but also on wool combing, operation that precedes and prepares spinning⁶⁷.

Shifting on the distributions along the timeline, the first two phases of the fort from Răcari are very poor. It looks that the ban worked... In fact, the ban could work out along the 2nd century, but the general inventory to ascribe for those two phases is almost proportional poor. The first appearance of women in fort preceded Septimius Severus reign anyway. Yet the lift of the ban helped the process, driving to dramatic changes of the internal layout of the forts, earlier than the “chalets” phenomenon, in the 4th century, as suggested by researches in South Shields⁶⁸.

| fort | obj. no. |
|---------------|----------|
| Bologa | 2 |
| Brâncovenești | 7 |
| Buciumi | 40 |
| Cășei | 17 |
| Feldioara | 8 |
| Gherla | 23 |
| Gilău | 27 |
| Ilișua | 42 |
| Inlăceni | 4 |
| Porolissum | 13 |
| Potaissa | 1 |
| Praetorium | 7 |
| Răcari | 59 |
| Râșnov | 3 |
| TOTAL | 253 |

Table 3. Distribution of the “gendered” artefacts on forts from Dacia.

| obj. type | Buciumi | Gilău | Ilișua | Răcari |
|----------------|---------|--------|--------|--------|
| bead | 35.00% | 18.52% | 33.33% | 18.64% |
| bracelet | | 7.41% | | 11.86% |
| brooch | 5.00% | | | 6.78% |
| <i>bullā</i> | | | | 1.69% |
| comb | | | | 3.39% |
| earring | | | | 1.69% |
| hairpin | 42.50% | 40.74% | 38.10% | 11.86% |
| pendant | | 14.81% | 7.14% | 1.69% |
| ring | | 18.52% | 9.52% | 6.78% |
| <i>spatula</i> | | | | 6.78% |
| spindle whorl | 17.50% | | 11.90% | 27.12% |
| weight | | | | 1.69% |

Table 4. Types of artefacts’ distribution in the first four better represented forts.

Concluding, the place of the fort from Răcari looks now prominent (Table 3). But things are rarely what they appear to be. Potaissa is *legio V Macedonica* head-quarter, Porolissum is the greatest auxiliary fort, and other large forts are missing from the list (let’s say only those already mentioned in Oltenia), therefore we are still far from some relevant outcomes... For a camp excavated at most as a quarter of the surface, as Răcari, the figures are already great; even sweeping off the doubtful artefacts, around 50 are left, suggesting an overall of at least 200 artefacts of interest

⁶⁵ A hypothesis explaining why combs are so rare in Roman Dacia is suggested by the fact that lots of *wooden* combs were discovered in wet lands (or extremely dry, like Egypt), including in forts (Derks, Vos 2010), material extremely rarely surviving on Romanian soils.

⁶⁶ Bondoc, Gudea 2009, cat. 749-750.

⁶⁷ Wild 2002, 5-6.

⁶⁸ Hodgdon, Bidwell 2004, 153-154.

lost in fort. Applying the algorithm of the lost coins (about 3–4% each year) we speak about around... 7000 objects worn by women and children, in an overall less than one century of certain occupation. Speaking – shortly – about the children, they seem to be about half of the civilians in the fort (see the comments from Catalogue)... Making calculations oriented to the people, taken as an optimistic average of 10 items for each civilian (no matter slave or free, woman or child), for 5 generations, the total estimate number of civilians in the fort, on more or less permanent bases, is 140, thus for every three soldiers in the fort (500, as a loose base) there was one civilian⁶⁹; that is an average rate, lower in the beginning, larger to the end, when the pure military presence could be much diluted, as expected for a military crises and financial failure.

As concerning the distribution of classes of artefacts in the best represented four forts (Table 4), the distribution of artefacts has good similarities (for an *incomplete* report). The situation from Răcari, in this comparison, is peripheral only in what concerns a deficit of hairpins and an excess of spindle whorls. Giving the fact that almost all comparison terms from the lists above are from northern Dacia, inside Carpathian Mountains (Dacia Superior and especially Dacia Porolissensis), we may provisionally guess that those differences could be due to some regional habits.

7. Short conclusions

Progresses have been made in criteria regarding “sexing” some classes of artefacts, as shoes, bone “rondels” or rings; on others, like *spatulae*, there is a long way to run; others, like glass recipients, never occurred in speech. The presence of non-combat people in Roman forts is today beyond doubt, even if inclusion of some artefacts on this agenda is not “beyond any doubt”. The pretention of a “necessary” absolute certitude⁷⁰ is absurd, just for the simple fact that archaeology is not an “exact” science; in fact, who can have an absolute certitude that pottery found in a fort is not made or manipulated by women? No rational researcher would ever ask for that.

There is a trend in research, oriented more and more on querying the small finds and engendering artefacts⁷¹. This paper is not about being in trend, but to get a way out from that “positivist” science of archaeology⁷², delighted to describe, too shy to conceive.

We would like to conclude paraphrasing Silvia Tomášková⁷³ and Simone de Beauvoire, together: “*The body [of evidence] is not a thing, it is a situation, because the archaeological evidence is the consequence of research questions*”.

⁶⁹ Huge figures if compared to those from the auxiliary fort from Ellingen (Zanier 1992, apud Allison 2006, 6); there are some evidently methodological differences into the calculation.

⁷⁰ Becker 2006, 37.

⁷¹ Pitts 2007, 699–700.

⁷² Criticism in Allison 2001, 203; Vass 2010, 128.

⁷³ Tomášková 2006, 20.

Appendix. Anthropological notes

A fragmentary skull was discovered during the excavation campaign 2005 – frontal bone broken in two parts – in Section 5, division 16, context 5018, at 53 cm below the actual soil. The stratigraphic situation excludes the hypothesis that the bones were dumped in a trash-pit, because the “workshop” was completely filled with its own burned ruins (the roof tiles level is *above* the bones).

The bones were analyzed by Sandu G. Vasile, anthropologist at the National History Museum of Romania from Bucharest, which presented a technical report. We present here only his conclusions: the fragment of skull belongs to a woman, most probably in the early adult age (20 to 34 years old).

A second opinion was asked to Andrei Soficaru (Institute of Anthropology, Bucharest), which, at that time, run a Fulbright scholarship in Ohio State University; consequently, he was not able to study the bones, but only some snapshots and measurements performed by the archaeologist. Promising a future detailed study of the remains, dr. Soficaru sent us just some brief and preliminary conclusion: the frontal bone belongs to a woman dead before 40, but most likely between 20 and 24 years old.

Full reports will be published in a specialized publication.

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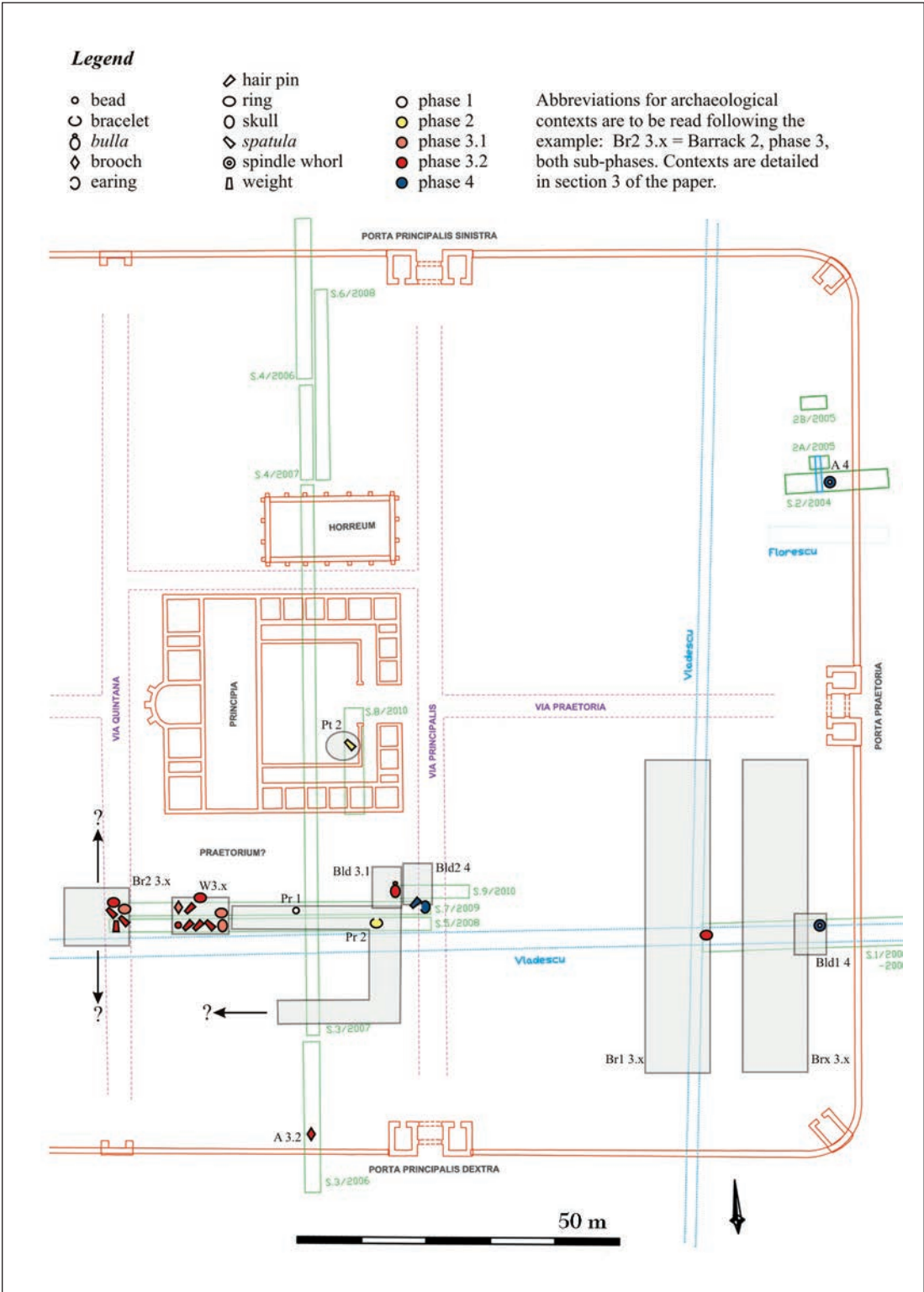
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Eugen S. Teodor,
esteo60@yahoo.co.uk

Maria C. Nicolae,
corina_nicolae@gmail.com

National History Museum of Romania, Bucharest



Pl. I. The fort from Răcari (Dolj county). Partial plan with diggings from 2003-2010.

EVIDENCE OF BRONZE WORKING AT DUROSTORUM

DAN ELEFTERESCU

Abstract: This article draws up a catalogue of 91 various artifacts (moulds, crucibles, linings, wasters, casting sprues) related to bronze working in the Roman settlement at Durostorum. The site is a prevailing crafts centre, evidenced by the collection of thousands of small finds made of clay, metal, bone and glass, many wasters from all over its surface as well as the presence of many kiln and pottery waste pits prints.

Keywords: Durostorum; Moesia Inferior; metal working workshops; moulds; wasters.

Rezumat: În articol sunt catalogate 91 de artefacte diverse (tipare, creuzete, anvelope, piese rebutate, capete de turnare) legate de prelucrarea bronzului în aşezarea romană de la Durostorum. Situl prezintă o puternică componentă meşteşugărească, certificată de recoltarea de pe suprafaţa sa a mii de piese mărunte din lut, metal, os şi sticlă, multe rebutate, precum şi de prezenţa a numeroase urme de cuptoare şi gropi cu deşeuri ceramice.

Cuvinte-cheie: Durostorum; Moesia Inferior; ateliere metalurgice; tipare; rebuturi.

The materials presented below are the result of research carried out on the territory of the Roman settlement at *Durostorum* (Ostrov, Călăraşi county)¹. As previously mentioned², the settlement was a crafts centre as evidenced by the collection from the area of thousands of small finds made of clay, metal, bone and glass, many wasters as well as by the identification of many kiln and pottery waste pits prints (Pl. IA).

The majority of the items described below were discovered in waste assemblages. Four of them, numbered G41, G41B, G41C and G80³, lay in a border area of the settlement (Pl. IB), seasonally used for clay extraction and reused, sometimes concurrently, for waste depositing. Except for one⁴, all coin finds in the area frame in the first three quarters of the 2nd century AD. Subsequent to the clay extraction, these assemblages (clay extraction pits) were filled at some point with materials resulted from a small workshop⁵ dealing with bronze and bones and antlers materi-

¹ The settlement, located within the territory of Farm 4 - Ostrovit, site code 62547.01, is known in the specialty literature as having economic and very likely administrative connections with ancient *Durostorum*, lying less than 3.5 km to the west - see Arginteanu 1920, 1; Culică 1978, 113; Muşeteanu 2003.

² Elefterescu 2004-2005, 221; Elefterescu 2005a; Elefterescu 2005b; Elefterescu 2008; Elefterescu 2010a; Elefterescu 2010b; Elefterescu 2011a; Elefterescu 2011b.

³ Until the stratigraphic situation of this assemblage, excavated only in small part in 2009 is clarified, it was numbered G41D, name under which appears in Elefterescu 2010a, 163.

⁴ Coin from Constantius II (351-354 AD, cf. Dima, Elefterescu 2009, 216, catalogue no. 1301).

⁵ Circumstances often found, for instance, in the crafting workshop at Dierna - see Bodor, Winkler 1979, 149. Similar examples may be quoted at: Villeneuve-Saint-Germain (Aisne), where many pits containing evidence for the working of various metals and bones and antlers materials were identified (Debord 1993, 78-82); at Blicquy (Hainaut) - see Amand 1975, 10-11, 14. The author believes that the presence of crucible fragments, "pellets", ingots and leafs seem to confirm the existence of a crafting workshop and

als working⁶. It was most likely discontinued or was under development⁷. Beside abundant crucible and small bronze items casting mould fragments, complete bronze or fragmentary items⁸, small pieces of slagged earth, lead remains⁹, animal bones with traces of processing¹⁰, a few bronze coins¹¹ were also discovered, thus further confirming above dating.

The rest of the items were discovered either by chance on the Danube bank or in the material recovered from two refuse pits (both former clay extraction pits), numbered G10 and G21. From pit G21 come the coins struck at Nicopolis (Septimius Severus: Caracalla Augustus), Philippolis (Commodus), Nicaea (Septimius Severus: Caracalla Augustus), Marcianopolis (Diadumenian, Elagabal)¹², which additionally confirm the note in an 1985 article¹³, where the studied assemblages were chronologically dated from the second half of the 2nd century AD until the first half of the following century. Such conclusion was substantiated by most of the archaeological

its appendages (Amand 1975, 19-20); a similar example in Britannia, at Caerleon, where the remains of a workshop emerged in the filling of a dismantled fountain – see Zienkiewicz et alii 1993, 124.

⁶ We believe that many of the workshops made items requiring the working of several raw material types. See to this effect Jospin 2005, 61; Chardron-Picault 2005, 135: „Comme à Alésia et à Autun, la diversification des artisanats, travail des alliages à base de cuivre, travail du fer et travail de l'os, suggère une production d'objets dont la fabrication implique plusieurs matériaux”; Vomer Gojković 2008, 174 for Poetovio. In Dacia, we mention the workshop at Tibiscum (Benea 1983, 218; Benea 2004, 267), the workshop at Dierna, for bronze as well as glass working (Bodor, Winkler 1979, 153; Cociș 2006, 111), the workshop at Moldova Nouă – “Ogașul Băieșului” where, in the rooms of a single building, emerged evidence of iron, silver and bronze working (Bozu 1996, 77). The note made by D. Benea (2004, 219) concerning the crafting activity in the *vicus* settlement at Tibiscum: „Conlucrarea officinelor apare firească și probabil ar putea constitui un indiciu al existenței unei comunități complexe de artizani, sub aspectul meșteșugurilor, stabilită pe arealul așezării vicane de la Tibiscum” (“The cooperation of the *officinae* seems natural and could likely evidence an existent complex crafting community of artisans, established within the area of the *vicus* settlement at Tibisum), is possibly also valid in the case of the settlement at *Durostorum-Ostrov*.

⁷ Possibility further supported by the lack of relations between the potsherds of the same pot.

⁸ Most of these artifacts were deposited, beside a few small bronze items, all clearly used, in a fragmentary beaker decorated in the barbotine technique (Pl. II/8, 10): sewing needles, hairpins (Pl. II/7, 9), a votive applique (a small bust of god Mars) (Pl. II/11 a-b), a perforated applique (Pl. II/12). They were likely deposited for re-melting. Similar circumstances were recorded both in Dacia, at Potaissa (Bărbulescu 1994, 109); at Tibiscum (Benea 2008, 108) and Porolissum (Țeposu-Marinescu, Pop 2000, 171, note 521), as well in other parts of the Roman empire – see Amand 1975, 18, 43; Roussel 1979a, 216; Redó 1995, 290, Pl. 218-220.

⁹ Even though the activity of lead artisans is undoubtedly confirmed in the settlement by the very high number of discovered items, many wasters (see Elefterescu 2004-2005; Elefterescu 2005a, 61-63, 65-67; Elefterescu 2010b), the small, insignificant quantity discovered within these assemblages (G41, G41B, G41C, G80) makes us believe it was likely a material used to obtain the bronze alloy (Cociș 2006, 112) and not the evidence of the production of lead items in this workshop.

¹⁰ Most half-finished cattle ribs (Pl. II/1-4).

¹¹ In G41 were identified four asses from Trajan, Hadrian, Antoninus Pius and Antoninus Pius: Diva Faustina and a *dupondius* from Antoninus Pius (Dima 2002, catalogue no. 158); Dima, Elefterescu 2009, 138, catalogue no. 619-622; 62, catalogue no. 109. In G41C were discovered two items: Antoninus Pius: Marcus Aurelius, As; AE ã 11.13 g; 23.8 × 26.1 mm. (MDJC, inv. no. 55299); cast copy, unspecified provincial workshop: Antoninus Pius?, OR á 4.94 g; 17.9 × 21 mm; missing fragment, cast (MDJC, inv. 55308); determination M. Dima.

¹² Dima, Elefterescu 2009, 109, catalogue no. 427; 110, catalogue no. 430; 111, catalogue no. 438; 123, catalogue no. 518; 128, catalogue no. 547; 135, catalogue no. 600; 150, catalogue no. 685; 153, catalogue no. 707.

¹³ Mușețeanu, Elefterescu 1985, 76, regarding the assemblages numbered G1-G7.

material, including the coins, recovered in the following years by rescue excavations performed in many collapsed assemblages¹⁴.

Catalogue of finds

The presentation order of the items in the catalogue is as follows: name of the item; plate; preservation state; sizes; description of the item; archaeological context; bibliography; analogies; place of storage/preservation; inventory number. Also, for item sizes we used the following abbreviations: L = length; l = width; h = height; gr. = thickness; d = diameter; dmax = maximum diameter; Lp = preserved length; lp = preserved width; hp = preserved height.

We mention that since most of the items are common, well spread and frequently used during the Roman period, we attempted to limit analogies, with a few exceptions, to only the moulds, wasters and items with confirmed production place.

A. Moulds

As also shown by R. Florescu in 1980, three different casting procedures of metal objects are known: by monovalve and bivalve moulds and by the “lost-wax” method¹⁵.

All the moulds discovered in the perimeter we investigated were, in principle, disposable (made by “lost-wax” method)¹⁶. We say in **principle** as we believe that part of the moulds, subsequent to small changes, were or could be reused. These moulds obtained by simple impressing¹⁷ may be **univalve**, **bivalve** and **multivalve**. Although there are items which could be cast in univalve moulds (thin, single-sided item)¹⁸ there is no material evidence to the fact insofar, except for a small fragment, unfortunately poorly preserved (catalogue no. 31).

From the making point of view, the discovered moulds clearly differentiate in two groups. The first (catalogue no. 5–7, 16–17) includes carefully made moulds, with regular shapes, generally made of a fine fabric containing much kaolinite, well fired prior fitting and lining¹⁹. Their walls are in general thin (possibly also due to the fabric and firing quality). The second group (catalogue no. 1, 9–15, 27) comprises items

¹⁴ Fountains, clay pits (the majority secondarily transformed into waste pits), pits near pottery firing kilns. It seems, at least in the current state of research, that in the northern area (from the Danube), the existent assemblages did not exceed this period. We are strictly referring to the Roman period, as in the area appeared sporadically, sometimes cutting Roman assemblages, scarce prints of early medieval inhabitancy (9th–10th centuries).

¹⁵ Florescu 1980, 347.

¹⁶ Cociş 2007, 404, with the bibliography from note 28.

¹⁷ We use this term in the sense that impressing was made simply, directly, without intermediary operations, even in the case of multivalve moulds.

¹⁸ Beside bronze objects that could be cast (appliques, belt buckles, decoration or cult plates), still in univalve moulds were cast bronze mirrors (Treister, Zolotarev 1993, Figs. 1–3, 7–9), and very likely, the lead frames for square “glass mirrors” which, compared to those round, with handle, had no groove/support edge of the lid on the back side, which would have clearly required a second valve.

¹⁹ The lack of lining traces in some of the items suggests the existence of two times for firing/drying of the mould: a first time where the valves were separated; b. the second, after they were glued and coated (thus explaining the clear differentiation of the lining layer).

generally made carelessly, of a coarser fabric, sandy, with various intermediate firing degrees (possibly simple drying near a heat source).

Among the presented moulds, we noted in two cases identical moulds in shape, manufacture and fabric, discovered in different assemblages, located at approximately 200 m distance one from the other (G10 and the pit assemblage in S IIC): the first three items (catalogue no. 12-15) are brooch moulds and the following three (catalogue no. 24-26) – were used to make knobs.

By the conclusion of the first part of the catalogue, we presented two small fragments that seem to belong to bivalve moulds with broad casting funnel. The following support their framing to the mentioned category: the find context, respectively the fabric of which they were made and the general appearance. Also adds their resemblance to bivalve moulds with casting funnel discovered in different cultural and geographical contexts – for instance, from Dura Europos comes the valve of a bivalve mould exhibiting a small funnel, similar to that of our item²⁰, in the upper part. Also, the bronze bipedis moulds used for “lost wax” casting are similar to the analysed items²¹. Due to the small preserved parts and the lack of use prints we cannot be sure of identification. Nevertheless, we introduce them in our catalogue with the required precaution.

A1. Bivalve moulds obtained by simple impressing

1. Bivalve mould. Pl. IV*. Complete, definitely not used. Lp = 75.2 mm; l = 69.7 mm; gr. = 16.6–20.4 mm. Casting imprint sizes: d = 65 mm. Many cracks and lining flaking. Fine, sandy fabric, with light brown mica particles, with areas from grey to dark grey. Circular valves. After fitting and lining, the mould became ovoid. The thickness of the coating layer varies from 2 to 3.7 mm (much thicker in the contact areas of the two valves and the casting orifices area where it had to form also a small funnel). Obtained by simple impressing for making (by casting) of a large size ring. Systematic archaeological research**, S IIC, 607, G41C, -2.50–3.20 m deep. Elefterescu 2010a, Pl. 2, 163–164. MDJC, inv. no. 54656.

2. Mould valve. Pl. III/1 a-b. Preserving a small part. Possibly not used. Lp = 31.8 mm; l = 29.2 mm; gr. = 8.5 mm; depth of imprint = 2.3 mm. Casting imprint sizes: d approx. = 80 mm; l = 5 mm. Fine, very sandy fabric, with many mica particles, light orange, with brown to black-grey hues on the outside, brown with a slight orange hue on the inside. Probably circular shape. According to the print, it is, likely, a ring mould. Systematic archaeological research 2006, S IIC, 578, G41, trench 014 C-E; -2.40–3.27 m, close to the bottom pit, below a yellow earth layer. Unpublished. MDJC, inv. no. 54671.

3. Mould valve. Pl. III/3 a-c (c – positive in modelling clay). Complete. Definitely not used. Lining layer with thicknesses from 0.5 mm to 3.2 mm cracked and flaked on

²⁰ Toll 1949, 43, Pl. IX/35.

²¹ One of the halves of a bronze bivalve mould for casting brooches by “lost wax” method was discovered in 2008 in one of the buildings of the military *vicus* on Pomet Hill at Porolissum. The item was dated by the excavators to the 3rd century AD – see Gudea, Tamba 2008, 95–96.

* The drawings were made by Gabi Dobre, photos by Florin Rădulescu and make-up by Răzvan Clondir, whom I also thank this way.

** With four exceptions (catalogue nos. 34; 81; 83; 89), all presented items were discovered by the author herein.

small portions. $L = 49.3$ mm; $l = 41.1$ mm; print depth = 1.2 mm. Casting imprint sizes: $L = 36.6$ mm; $l = 22.5$ mm. Sandy brown fabric, with stains from light orange to grey. On the outside, colour variations from grey to dark grey. Oval shape. On the preserved valve, the casting orifice has a small crest. On one of the sides, the imprint outline is slightly doubled (by model slipping). Used to make objects likely belonging to horse harness. Likely after the gluing and hardening of the mould, during the firing process or after its completion, the two valves broke loose. Systematic archaeological research 2009, S IIC, 607, G41C, between -2.50–3.20 m. Unpublished. MDJC, inv. no. 54658.

4. Mould valve. Pl. III/2 a-c (c - positive in modelling clay). Used. $L_p = 37.2$ mm; $l = 13.4$ – 2.6 mm; $h = 7.5$ – 7.9 mm; print depth = 4.2–4.8 mm. Casting imprint sizes: $L_p = 33.7$ mm; $l = 6.5$ mm; l attachment ear = 13.3 mm. Fabric, due to the strong firing²², is hard to describe. Black colour with slight grey hues. Lining with colour variations from grey to dark grey. Used to make a belt tongue. Although at first sight (massiveness of the item, imprint depth), we were tempted to believe we are dealing with a monovalve mould²³, the irregular surface and the existent lining contradicts such possibility, however for certain, the second valve was but a simple smooth plate lining tracing the preserved valve. Crack by both ends. The second layer (very thin, of 1 mm) survived on less than half the mould surface. Systematic research 2009, S IIC, 607, G41C, -2.50–3.20 m. Unpublished. MDJC, inv. no. 54660.

5. Mould valve. Pl. V/1 a-d (c - positive in modelling clay). Definitely used. Preserving approximately two thirds of the item. $L_p = 35.7$ mm; $l = 37.5$ mm; $h = 6.3$ – 7.6 mm; print depth = 1.5 mm. Casting print size: L probable = 27 mm; $l = 22$ mm. Whitish fabric with vague grey hues in the breakage, very fine, likely with much kaolinite (also emerge a few ferrous small inclusions and small hollows left by firing certain organic origin fragments). The item is rectangular with round corners. Mould used to cast an almost square applique, with decorated narrow edges and five orifices, likely for attachment. No traces of the lining layer survived. Systematic archaeological research 2009, S IIC, 604, G41, trench 02 B; -2.10–2.70 m. Unpublished. MDJC, inv. no. 54657.

6. Mould valve. Pl. V/2 a-b. Definitely used. Preserved approximately two thirds of the item. $L_p = 45.1$ mm; $l = 31.3$ mm; $h = 7.2$ – 8.6 mm; print depth = 1.5 mm. Casting print sizes: $L_p = 35.4$ mm; $l = 26.4$ mm. Mould used for casting a rectangular applique, with decorated narrow edges. Poor prints of the lining layer. Fine fabric, likely kaolinic, whitish on the outside, with hues from smoky to light grey (in the metal contact area) in the breakage (similar to the fabric of the previous mould). The fabric plasticity, at the time of impressing, was relatively low, which in addition to the striated appearance of the fabric (in the break) point to an incomplete/incorrect prepared fabric. By the preserved end, on the exterior side, a small rectangular elongation is noticeable, which seems to have played the role of guiding when fitting the moulds. The item is rectangular, with rounded corners. Systematic research 2010, S IIC, G80.

²² It is possible this valve, due to its soundness, was used for several times, not being necessary to break it in order to remove the object.

²³ The drawings were made by Gabi Dobre, photos by Florin Rădulescu and make-up by Răzvan Clondir, whom I also thank this way. Also, we kept in mind that many of such items (belt tongues), exhibit filing traces on the back side (Florescu 1980, 347).

Unpublished. Analogies: from the workshops of *legio I Adiutrix* at Brigetio comes a mould for a rectangular applique²⁴. MDJC, inv. no. 55533.

7. Mould valve. Pl. III/5. Intensively used. Preserving half a valve, likely ovoid. $L_p = 48.4$ mm; $l_p = 25.3$ mm; $h = 5.9$ – 10 mm; print depth = 1.8 mm. D preserved of the casting imprint = 23.1 mm. Mould, likely used for casting a circular pendant. The second layer (the lining), very well preserved, and is practically common body with the impressing layer. The fabric contains fine iron oxide particles, mica particles, possible also small calcareous particles, which frames it in ceramic group 4²⁵, of which a large part of the pottery items discovered in the area are made. Due to the intensive use, the fabric became porous, of low density. On the preserved side, a small cut seems to have played the role of creating the air and excess metal vent. Systematic research 2010, S IIC, G80. Unpublished. MDJC, inv. no. 55534.

8. Mould valve. Pl. V/3. Used. Preserving only a small part. Surviving lining preserved in the item imprint. $L = 33$ mm; $l = 16.1$ mm; $h = 6.9$ – 8.3 mm; print depth = 0.5 mm. D preserved of the casting print = 22.2 mm. Fine fabric, very sandy, with black stains. On the outside, colour variations from grey to dark grey. Oval shape. Mould likely used for casting a circular pendant, similar to that made by the previous mould. In the elongated area appears a flaring extension, very likely representing the casting gate and vent areas. The fact that the edge groove is concave in the preceding valve (catalogue no. 7) and convex in this valve, and on the other hand, the sizes which seem similar, make us believe that the two valves fragments represent the mould of the same item type. We mention though they definitely come from two different moulds. Systematic research 2009, S IIC, 607, G41C, -2.50–3.20 m. Unpublished. MDJC, inv. no. 54664.

9. Mould valve. Pl. III/4. Preserved two thirds of the item. $D = 34.4$ mm; $h = 11$ mm; print depth = 3.5 mm. D preserved of the casting print = 20.7 mm. Fine fabric, very sandy, with many mica particles in composition, light orange with brown hues. Approximately circular shape. Mould used to make a circular item. Due to fact that subsequent to use, except for a small area around the gate (and the gate itself) the entire interior surface became flaked, we cannot specify whether it represents the mould of a circular pendant or, appealingly (see resemblances with the moulds at Carnuntum)²⁶, yet less likely, a coin mould. Cast coins represent a significant percentage of the coin material of the settlement²⁷. The lining with thicknesses from 0.5 mm to 4.3 mm is cracked and flaked, especially in the fracture area. The imprint, deep, covers at least three quarter of the diameter of the cast item. This shows that the two imprints did not necessarily have to be equal (in depth). Systematic research 2009, S IIC, 607, G41C, -2.50 and -3.20 m. Unpublished. MDJC, inv. no. 54661.

10. Mould valve. Pl. V/4 a-b (b – positive in modelling clay). Preserving approximately half of the piece. No trace of a possible lining, possibly not used. L_p (very close to the total length) = 30 mm; $l_p = 13.3$ mm; $h = 5.8$ – 7.4 mm; print depth = 0.8 – 1.2 mm. Casting imprint sizes: $L = 18/7$ mm; $l = 7.7$ mm. Fine, very sandy fabric, with many

²⁴ Bónis 1986, Pl. 2/5.

²⁵ Muşeteanu, Culică, Elefterescu 1980, 284.

²⁶ Găzdac, Humer 2008.

²⁷ Dima, Elefterescu 2009, 142–203.

mica particles in composition. The fabric colour varies from light orange, creamy to smoky. Elongated shape. On the piece back side, deforming caused during impressing is noticeable. Possibly waster²⁸. Mould used to make a flat decorative accessory in shape of a pawn (applique). Most likely, the piece was fitted with the aid of the two side stems (of which only one survived), after the completion of the item, by bending. Systematic research 2006, S IIC, 587, G41, 13 D-F (a small part), -2.00–3.20 m. Unpublished. Analogies: Similar items, belonging to a horse harness, yet with different attachment systems, were found in Pannonia, at Tihany²⁹. MDJC, inv. no. 54670.

11. Mould valve. Pl. VI/1 a-c (b - positive in modelling lay). Preserving approximately half item. No trace of any lining, possibly not used. Lp = 33.7 mm; lp = 3.6 mm; h = 8.4–9.7 mm; print depth = 0.4–2.1 mm. Casting imprint sizes: Lp = 24.3 mm; l = 14.4 mm. Fine, sandy fabric, with many mica particles in composition, whose colour vary from light orange to grey. The appearance of the item, including the uneven back, seem to point to the same workshop, if not, the same artisan who made the preceding item as well (catalogue no. 10). Waster? Rectangular shape. Preserving the catchplate imprint³⁰ and part of foot. Mould used to cast a strongly profiled brooch. Systematic research 1998, S IIC, 270, G41, 08C; -0.83–1.27 m. Muşeteanu, Elefterescu 1998³¹; Elefterescu 2011a, 1, Pl. II/1a-b. Analogies: from the fort at Gilău comes a similar item³², and from the workshops of *legio I Adiutrix* at Brigetio comes a mould for casting two items identical with this piece³³. MDJC, inv. no. 43376.

12. Mould valve. Pl. VI/3 a-b. Preserving approximately the lower third. Used. Exhibits lining traces. The lining, alike the mould, evidences the same sloppy execution, the making being strictly functional. Lp = 31.1 mm; l = 31 mm; h = 4.8–10.5 mm; print depth = 1.4–1.9 mm. Casting imprint size: Lp = 22.3 mm; L catchplate = 17.1 mm; h catchplate = 5.3 mm. Fine, sandy fabric, with many mica particles in composition. The fabric colour varies from strong orange on the outside to light orange with creamy hues on the inside. A few fissures emerged during impressing are noticeable. Rectangular shape. Preserving the catchplate imprint³⁴ and part of foot. Mould used to cast a strongly profiled brooch. Rescue excavation 1987, G10. Elefterescu 2011a, 2, Pl. II/2. MDJC, inv. no. 55321.

13. Mould valve. Pl. VI/5a-c (b - positive in modelling clay). Used. Lp = 18 mm; lp = 28.5 mm; h = 8–8.4 mm; print depth = 0.5–4.1 mm. Casting imprint sizes: L catchplate = 17.4 mm; h catchplate = 5.3 mm. Fine, sandy fabric, with many mica particles in composition. Very thick lining, surviving in continuous layer. Mould used for brooch casting. Surviving the catchplate area. Similar to the preceding. Systematic

²⁸ Due to the ragged appearance and lack of lining.

²⁹ Palágyi 1990, Fig. 13 (79.11.55); Fig. 14 (79.11.44; 79.11.47); Fig. 16 (79.11.24; 79.11.38; 79.11.1).

³⁰ Cociş 2004, type 4 (with rectangular catchplate), Pl. CLXX/4. The author believes that brooches of the type *endure until mid 3rd century AD* - see Cociş 2007, 32; knee brooch (type Cociş 19a5b1), half-finished, Pl. 1/11.

³¹ C. Muşeteanu, D. Elefterescu, *The traces of a workshop for casting small bronze objects discovered at Ostrov-Ferma 4*. Paper presented in the National Session "Pontica" in 1998.

³² Cociş 2004, type 8b2b1 brooch, catalogue no. 452.

³³ Bónis 1986, Pl. 1/1–1a.

³⁴ Cociş 2004, 32, type 8, Pl. CLXX/8. Types 8 and 16 emerged sometime after mid 2nd century AD and were in circulation until mid following century.

research 2009, S IIC, 607, G41C, -2.50-3.20 m. Elefterescu 2011a, 3, Pl. II/3. MDJC, inv. no. 54663.

14. Mould valve. Pl. VI/4 a-c (b - positive in modelling clay). Preserved the catchplate area. Used. Similar appearance with the preceding. $L_p = 16.3$ mm; $l_p = 28.4$ mm; $h = 7.9$ mm; print depth = 1.4 mm. Casting imprint sizes: L catchplate = 15.7 mm; h catchplate = 4.9 mm. Mould used to cast a brooch. Systematic research 2009, S IIC, 605, G41C, 2.40-2.70 m. Elefterescu 2011a, 4, Pl. II/4. MDJC, inv. no. 54666.

15. Mould valve. Pl. VI/2 a-b. Preserved the catchplate area. Possibly not used. Similar with the preceding ones. $L_p = 16.6$ mm; $l_p = 26.7$ mm; $h = 9.9$ mm; print depth = 2-3.3 mm. Casting imprint sizes: L catchplate = 14.7 mm; h catchplate = 4.9 mm. Mould used to cast a brooch. Systematic research 2007, S IIC, *passim*. Elefterescu 2011a, 5, Pl. II/5. MDJC, inv. no. 55535.

16. Mould valve. Pl. VII/1 a-c (c - positive in modelling clay). Preserving approximately one third. Possibly not used. No lining traces, $L_p = 41.1$ mm; $l_p = 19.5$ mm; $h = 4.8-7.1$ mm; print depth = 0.1-2.8 mm. Casting imprint sizes: $L_p = 37.4$ mm; L catchplate = 13.2 mm; h catchplate = 11.6-13.9 mm. Fabric with much kaolinite (two small areas preserve a whitish colour and it has a cretaceous appearance), smoky, very fine (with only a few ferrous inclusions and small gaps left by firing certain organic origin fragments emerge). The fabric plasticity, at the time of impressing, was relatively low, which is proven by the many cracks appeared as a result. Relatively neat appearance, the mould thinness, the intended regular shape and last but not least the fabric, approximate this mould and the subsequent to the preceding moulds (catalogue no. 5-6). Rectangular shape. Narrow catchplate, almost square, with a slightly curved edge. Mould used for casting a brooch. Systematic research 2009, S IIC, 605, G41C, between -2.40 and -2.70 m. Elefterescu 2011a, 6, Pl. III/1a-b. Analogies: moulds with similar prints appear in the brooch workshop at Napoca³⁵. MDJC, inv. no. 54659.

17. Mould valve. Pl. VII/2 a-c (c - positive in modelling clay). Preserved the catchplate area. Definitely used. Thin lining layer, well preserved. $L_p = 23$ mm; $l_p = 23.4$ mm; $h = 2.9-4.9$ mm; print depth = 0.1-1.9 mm. Casting imprint sizes: $L_p = 37.4$ mm; L catchplate = 13.7 mm; h catchplate = 11.5-13.7 mm. The fabric appearance and specificities are identical with that of the preceding item (yet the imprint is of a slightly different item). Following use, it became smoky on the inside (identical with that of the previously mentioned items), and pink-orange on the outside. Rectangular in shape. Mould used for brooch casting. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m. Elefterescu 2011a, 7, Pl. II/6a-b. MDJC, inv. no. 54662.

18. Mould valve. Preserved a part of the mould, yet we cannot specify what sort of items were cast. Thin lining layer, relatively well preserved. Definitely used. Preserving two fragments very thick: 33.1×34.1 mm; $H = 11-15.4$ mm; print depth = 4.8 mm. The fabric appearance and specificities approximates it to mould inv. no. 755534. Following use, it became grey-black on the inside and, with variations from light-pink to pink-orange, on the outside. Rectangular in shape. Systematic research 2009, S IIC, 607 (G41C, between -2.50 and -3.20 m) and 608 (the area on top of G41C). Unpublished. MDJC, inv. no. 54665.

³⁵ Cociş 2004, Pl. CLXXI/5-8.

19. Mould valve. Preserved only a small part. 15.2×2.4 mm; $h = 14.4$ mm; print depth = 2.9 mm. Thin lining layer, relatively well preserved. Definitely used. Identical appearance and specificities with the preceding item. It might even belong to the same mould, given the edges, concave in this item and convex in the previous. Subsequent use, it became grey-black on the inside and light pink on the outside. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m. Unpublished. MDJC, inv. no. 55536.

20. Mould valve. Fragmentary. Lined, not used. 36×44.5 mm; $gr. = 18.4$ mm. Fine, very sandy fabric, with many mica particles and occasional traces of vegetal materials, orange-brown. Possibly oval valve. Mould used, most likely to cast a circular item. Systematic research 2010, S IIC, G 80. Unpublished. MDJC, inv. no. 56638.

21. Mould valve. Fragmentary. Strongly fired, lined, used. 38.5×41.2 mm; $gr. = 7.5-14.2$ mm. Fine, sandy fabric, black-grey on the inside and sand-colour on the outside. Similar to the preceding item in shape, yet thinner. Seems to have been used in making a circular item. Systematic research 2010, S IIC, G 80. Unpublished. MDJC, inv. no. 55539.

22. Mould valve. Fragmentary. Strongly fired, lined, used. 35.6×42.9 mm; $gr. = 6.2-10.7$ mm. Fine, sandy fabric, orange-grey with dark hues on the inner side and orange on the outer side. Similar to the preceding in shape. Despite the poor state of preservation, the small surviving areas seem to indicate its use in making a circular item. Systematic research 2010, S IIC, G 80. Unpublished. MDJC, inv. no. 55540.

The careless execution, shape and last but not least the discovery within the same archaeological context of the last three items evidence their making by the same artisan and the use as model of a single piece.

23. Mould valve. Preserving a small fragment, which according to the appearance, shape and clear existent lining layer makes us argue it represents the edge of a bivalve mould, fitted, lined and used. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m. Unpublished. MDJC, inv. no. 55542.

A2. Multivalve moulds for simple impressing

24. Mould valve. Pl. VIII/3 a-c (c - positive in modelling clay). Preserving approximately two thirds of the lower valve. Not used. $Dp = 46.4$ mm; $h = 15.8$ mm. Casting imprint sizes: $d = 24.6$ mm; h of the small *umbo* at the knob top = 5.5 mm; indent depth in the knob upper part = 3.1-5.4 mm. Fine, sandy fabric with much mica particles; the interior surface is cream-clayish and the exterior - displays stains from cream-clayish to orange. The fabric plasticity, at the time of impressing, was relatively low, which was proven, as mentioned above, by the many fissures emerged as a result. Circular shape, relatively neat appearance. On the mould edge preserves one of the knobs used for guiding when fitting the valves. The shape and sizes of the obtained item make us believe that the mould was composed of a lower valve, circular, and several vertical valves (very likely four), concave. Thin lining layer also due to the massiveness of the mould (the more the sizes of the item to be imprinted are larger, the greater the thickness of the impressing surface). Despite the fact it was definitely fitted and lined, therefore prepared for casting, for reasons unknown to us, it did not

occur. Mould made for casting a decorative knob. Systematic research 2009, S IIC, 608, area above G41C, with mixed material. Elefterescu 2011b, 1, Pl. II/1. MDJC, inv. no. 54667.

25. Mould valve. Pl. VIII/1 a-c (c - positive in modelling clay of both active sides). Not used. Vertical valve, fragmentary. Lp = 32.7 mm; h = 27.3 mm; gr. = 7.1-10.4 mm. Casting imprint sizes: h = 20.6 mm. Concave, elongated shape. On the lower edge survives one of the fitting holes, and on one of the sides - one of the fitting rods used for sliding when assembling the valves. Both the appearance, specificities of the fabric and lining as well as the find place are identical to the preceding, which makes us consider they are the valves of the same mould. Systematic research 2009, S IIC, 608, area above G41C, with mixed material. Elefterescu 2011b, 2, Pl. II/2. MDJC, inv. no. 54668.

26. Fragmentary mould valve (similar to the preceding). Pl. VIII/2 a-b. Unused. Hp = 49.3 mm; l. In upper part = 30.8 mm; lp in lower part = 11.9 mm; gr. = 10.2-11.4 mm. Casting imprint sizes: h = 32 mm; h upper part = 16.7 mm; hp of peg = 9.6 mm; h collar print = 6.2-7.7 mm. On the lower part, complete, survives one of the fitting holes, and on the right side, the fitting rod. Both the appearance, specificities of the fabric and lining are identical with item no. 12 herein, being discovered in the same feature. Concave, elongated shape. Mould used to cast a decorative knob. Given that the piece preserves complete the upper part and left side in at least 90%, we may draw a description/reconstruction of this mould type. It comprised a lower, circular valve and four trapezoid, grooved vertical valves. Four fitting rods lay on the lower valve. The vertical valves were provided in the lower part and on the left side with a fitting hole, and on the right side - with a fitting rod each. Noticeably, in the previous piece, the fitting rod was set in the lower third, while in the discussed valve it is placed in the upper third. Likely, such interrelated fitting rods were designed for a better and safer fitting of the valves. The gate formed to obtain the fitting peg was also used for metal casting. Given the evidence indicating the production of bone decorations, of the small bust of god Mars and the existence of certain toiletry boxes decorated with such knobs as well³⁶, we may assume that such artifacts may have been produced in the workshop at Durostorum. In the collection of the Museum of Călărăși there are numerous such knobs, some with shapes and sizes similar to those of the items obtained with the presented moulds. Rescue excavation 1984, G 10. Elefterescu 2011b, 3, Pl. II/3. Analogies: since these knobs, with their numerous variants and uses are common items, discovered in very large numbers in Roman period settlements, we believe that listing analogies is no longer required. MDJC, inv. no. 55322.

27. Mould valve. Pl. VII/3 a-c (b - positive, both active sides in modelling clay). Trivalve mould, used. Preserving one of the two vertical valves of the mould. Very well preserved lining layer, in continuous slip (1.3 mm thickness). L = 35.1 mm; h = 26.3 mm; gr. = 7.7-12 mm. Casting imprint sizes: d knob = 22.4 mm; h peg = 12.3 mm; L gate = 14 mm. Mould used to cast a decorative pin/knob. Fine, sandy fabric, with many mica particles; the inside surface is cream-clayish and the exterior varies from

³⁶ Gáspár 1986, Pls. XXXII; CCCXXII-CCCXXIV; CCCXXVI; LXXVI-LXXVII; Gáspár 1997, Pls. XXXV and LXXIII; Redő 1995, Pl. 218, 220; Elefterescu 2008, Pl. X.

cream-clayish to smoky-grey. The print surface is grey. The appearance and specificities of the fabric are very similar to items number 24 and 25 herein. Two fitting holes are set on the upper mould edge. On the internal side, on either sides of the imprint, appear two fitting rods. The area of the casting hole is strongly everted, air and excess discharge being made by the tip of the fitting peg. Systematic research 2006, S IIC, *passim*. Unpublished. Analogies: two similar items (yet of different sizes), were discovered in Bulgaria, in a Thracian barrow grave dated to the 2nd century AD. They were part of the fitting elements of small toiletry box belonging to the deceased³⁷. MDJC, inv. no. 54669.

28. Mould valve. 27.9 × 31.1 mm; gr. = 6.9–8.7 mm. Casting imprint sizes: d probable = 40 mm; Lp stem = 8.1 mm. Despite the fact that the shape of the preserved fragment resembles that of the bivalve moulds, the sizes and existence of a fitting rod makes us believe it is a multivalve mould³⁸. Used. Very well preserved lining layer, in continuous slip, very thick (2.5 mm). Relative fine, sandy fabric, with frequent inclusions of mica particles, sporadically with traces of vegetal materials in composition. Grey orange in colour with black hues on the inside and orange with pink hues on the outside. The imprint of a circular object with a strong, wide stem. Systematic research 2010, S IIC, G 80. Unpublished. MDJC, inv. no. 55537.

29. Small fragment of a possible multivalve mould (there is a fitting hole), strongly burnt. The vitrification degree, synonymous with that of the crucibles, points to a possible secondary burning after the disuse of the item. Grooved valve. The fitting hole is set on the upper edge. Systematic research 2010, S IIC, G 80. Unpublished. MDJC, inv. no. 55538.

A3. Varia

30. Fragmentary mould valve. Relatively well preserved lining. Intensively used. Very fine, strong dark fabric. It likely belonged to a circular mould, tubular. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m. Unpublished. MDJC, inv. no. 55541.

31. Small fragment of a mould valve strongly burnt, possibly secondary (until it became vitreous). 19 × 22 mm; h = 7–12 mm. Rectangular shape. It seems to belong to a univalve mould. Rescue excavation 1988, G 21. Unpublished. MDJC, inv. no. 43355.

32. Mould?. Pl. XI/1. Preserving a small part of the casting funnel area. No traces of use. Hp = 30 mm; d casting mouth = 30 mm; gr. = 11.1 mm. Fine, sandy, grey fabric. Systematic research 2010, S IIC, G 80. Unpublished. MDJC, inv. no. 55543.

33. Mould?. Preserving a small part in the casting funnel area. Smaller sizes than the preceding. No traces of use. Hp = 22 mm; lp = 20 mm; gr. = 0.8 mm. Fine, sandy fabric, with many mica particles, light orange, with a slight grey hue in the casting funnel area. Systematic research 2010, S IIC, G 80. Unpublished. MDJC, inv. no. 55544.

³⁷ Bujukliev 1984, Fig. 20 a-b.

³⁸ Large pieces, including bivalve moulds, had to be provided with fitting elements – see Jankov 1994, Fig. 1 and Minkova, Jankov 2004, 320, Fig. 1 – decorative applique for toiletry boxes, with d = 65–72 mm; gr. = 25 mm, dated to the end of the 1st century – early 2nd century AD, produced in a workshop belonging to a *villa rustica*.

B. Crucibles

B1. Crucibles (original use)

They are items made in general of fire clay³⁹ having, according to use, a porous appearance with many large hollows, grey-bluish and occasionally strongly vitrified on the outside. Their shape and appearance is similar to the many crucibles discovered, regardless the period and geographical area, on many archaeological sites like: Buciumi⁴⁰, Porolisum⁴¹, Potaissa⁴², Tibiscum⁴³, Moldova Nouă⁴⁴, Gomolava⁴⁵, *Claudia Celeia*⁴⁶, *Flavia Solva*⁴⁷, Vindobona⁴⁸, *Nemetacum* (Arras)⁴⁹, Villeneuve-Saint-Germain (Aisne)⁵⁰, *Mediolanum* (Côte-d'Or)⁵¹, Jemelle (Rochefort, prov. de Namur, Belgium)⁵², Blicquy (Hainaut)⁵³, Caerleon⁵⁴, Walesland Rath, Pembrokeshire⁵⁵, *Burrium* (Usk?)⁵⁶ etc.

Without the benefit of physical-chemical analyses⁵⁷, we may say there are three types of fabric of which the crucibles we shall present below were made and that there is no visible relation between shape and fabric.

Group a. Most crucibles were made of a fine, dense fabric. After use, depending on the temperature to which they were exposed, various size air wholes appeared on their surface, the fabric becoming grey with different degrees of vitrification on the outside. The rather large appearance and structure differences is given by the large number of crucibles made of this fabric and the used manufacture techniques

³⁹ Analyses performed on some of crucible fragments discovered in Dacia show they were made at Potaissa of a mixture of lime, feldspar and quartz (Bărbulescu 1994, 109, Fig.18/9) and at *Dierna* (Orșova) of a "pottery fabric composed of best quality kaolinite, quartz and feldspar, which burns white flame and withstands high temperatures" (Stoicovici 1978, 245).

⁴⁰ Chirilă et alii 1972, 58, Pl. XXXI/1-3 - many fragments coming from at least 25 crucibles.

⁴¹ Gudea 1989, Pl. CV/9-10.

⁴² Bărbulescu 1994, 109.

⁴³ Benea, Bona 1994, Fig. 43-44, 47-48; Benea 2008, Figs. 3/1-5; 4/1-3; 5-6.

⁴⁴ Bozu 2009, 153 - metal processing workshop, where were identified three crucible fragments with metal traces.

⁴⁵ Gomolava 1986, 86, Fig. 260 - cone shaped crucibles, with copper oxide traces.

⁴⁶ Kolšek 1993, 265, Fig. 20, crucibles dated to the 2nd-3rd centuries AD.

⁴⁷ Gschwantler, Winter 1989-1990, 112, catalogue no. 1 (h = 93 mm; d = 38-47 mm; capacity 60 cm³).

⁴⁸ Sedlmayer 1998, Abb. I/1aM, 1bR.

⁴⁹ Arras-*Nemetacum* 1986,138, no. 294, end of the 2nd century AD.

⁵⁰ Debord 1993, Fig. 13/3-4.

⁵¹ Roussel 1979b, 223. In this site operated three metal working workshops during the 1st-3rd centuries AD - see Roussel 1979a, 215.

⁵² Bousier et alii 2001, Fig. 7.

⁵³ Amand 1975, 26, Figs. 10; 11/1-3. The microchemical analyses evidenced bronze traces on the inside (copper alloy with few zinc), and on the outside - wooden charcoal traces.

⁵⁴ Zienkiewicz et alii 1993, Fig. 46. The crucibles were discovered on all levels, confirming the fine metal working (copper, silver, gold alloys) during the entire existence period of the site (AD 75-200).

⁵⁵ Wainwright 1971, 90, 124-126, Fig. 36, crucibles dated to the 1st century BC - 1st century AD.

⁵⁶ Evans et alii 1989, catalogue no. 360, 365, Fig. 15.

⁵⁷ Zienkiewicz et alii 1993, 125: "most of the crucibles and trays are simply hand modelled of fire clay, which is remarkably homogenous; Benea 2008, 122-123: "The crucibles were made of clay fabric with grey or kaolinite tempers. In order to protect the recipient walls during the melting process and prevent metal sticking to the crucible, a protective layer was applied, which in the modern period consists of one part of sodium carbonate and three parts sodium borate (borax)".

(catalogue no. 35–39, 41–42, 44–45, 47–49, 51, 57–58, 61; in this pottery category also frame two of the lids – catalogue no. 75–76).

Group b. Seven of the items are made of a porous fabric, even with spongy appearance in some cases (displaying traces of many vegetal fragments in composition). In general, the walls of these recipients are thicker, likely for added endurance as well, given the poor quality of the fabric (catalogue no. 50, 52–53, 62 and lids no. 77–78).

Group c. The last group is produced of a fine fabric, dark-grey, slightly porous, with rare calcareous inclusions (catalogue no. 53, 59–60).

Item no. 64 evidences the existence of certain crucibles, which for various reasons, originally or after a few uses, had received a protective layer⁵⁸. The specialty literature also describes the technique of the so-called moulds/crucibles. This technique consists in the reuse of multivalve moulds: after the wax melted and leaked, a crucible filled with the casting material was added, valves were fitted again and covered in a layer of consolidating clay and were used for casting objects. Unfortunately, the very small sizes of our fragment and the lack of analogies in the area, known to us, leave the issue open to discussion.

Subsequent use, most of the crucibles had the interior covered with slag and bronze oxides and the exterior with a vitreous layer, with colour variations from grey-greenish, brown-greenish, brown-dark brown to black.

34. Crucible. Pl. X/1. Preserving the lower third. Not used. Hp = 35.6 mm; dmaxp = 48.2 mm. Fine, brown-whitish fabric, with light grey to light maroon hues. The numerous small fissures in the surface evidence reduced plasticity of the clay of which it was made. According to the interior, with more regular walls, it was possible that a mould was used in obtaining the crucible (a simple wood piece with truncated-cone end), which it freely traced, without the use of the wheel. Truncated-cone shape with thick walls, at least in the preserved area (9.1 mm), slightly flattened bottom. Sizes and shape similar to the following item. Shore, 1956, *passim*. Elefterescu 2005a, 45. MDJC, inv. no. 40010.

35. Fragmentary crucible. Pl. X/2 a-c. Several fragments. H = 73.5 mm; dg ≈ 60 mm; gr. walls = 3–10.3 mm. Deformed and deep fissures on whole body, as result of intense use. Truncated cone shape, lightly inverted rim. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m. Unpublished. MDJC, inv. no. 55309.

36. Fragmentary crucible. Hp = 49.4 mm; gr. of walls = 10.2 mm. Inside the recipient is noticeable an iron slag piece overlapping bronze oxide traces, remained during casting. In the lower third, part of the wall became friable and whitish subsequent burning. Similar, very likely, to the preceding item (catalogue no. 35). Systematic research 2009, S IIC, 605 (G41C, between -2.40 and -2.70 m) and 608 (area above G41C). Unpublished. MDJC, inv. no. 55310.

37. Fragmentary crucible. Body and rim fragments. Similar to item no. 35 herein, yet shorter. Hp. (≈ 90%) = 54.4 mm; dg ≈ 50–60 mm; gr. of walls = 4.9–9.5 mm.

⁵⁸ Walke 1965, 61, 160, Taf. 129/7–9, 11; Chardron-Picault 2005, Fig. 2–3 – Vertault-Vertillum (Côte-d'Or) and Fig. 8 – Augustodunum; Roma sul Danubio 2002, III, 7, 224 – Carnuntum; Kortüm, Lauber 2004, 16, Pl. 46 and 219; 265, Pl. 226; 18–19 – Walheim; Ulbert 1969, 57, Pl. 61/8–10 – Rheingönheim (fort).

Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m. Unpublished. MDJC, inv. no. 55313.

38. Fragmentary crucible. Body and rim fragments. Hp ($\approx 90\%$) = 42.2 mm; gr. of walls = 4.9–9.2 mm. Strongly deformed, the item surfaces are almost vitreous. Similar to the preceding item. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m. Unpublished. MDJC, inv. no. 55314.

39. Fragmentary crucible. Surviving part of rim and wall. On the latter lies a large bronze slag piece, most likely glued subsequent to casting. Hp = 42.3 mm; dg \approx 40 mm; gr. of walls = 5.4–6.8 mm. Similar to the preceding ones. Systematic research 1997, S IIC, 180, G 33, trench 014a; -1.80 m.; Elefterescu 2005a, 45. MDJC, inv. no. 43373.

40. Fragmentary crucible. Preserving a fragment covering almost the entire height of the crucible. Similar to the preceding items. Hp ($\approx 90\%$) = 59.6 mm; gr. of walls = 5.4–10.8 mm. Systematic research 2005, S IIC, 549, G 41, between -1.60 and -2.60 m. Unpublished. MDJC, inv. no. 56632.

41. Fragmentary crucible. Preserving part of rim and wall. Hp = 20.3 mm; gr. of walls = 4.5–5.1 mm. Truncated cone shape, with slightly inverted rim. Similar, very likely, to item no. 37 herein. Systematic research 2010, S IIC, G 80. Unpublished. MDJC, inv. no. 55546.

42. Crucible. Fragment of base and body. Hp = 42.1 mm. Truncated cone shape. Similar, very likely, to item no. 37 herein. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m. Unpublished. MDJC, inv. no. 55311.

43. Crucible. Small fragment of body and rim. Hp = 23.2 mm; gr. of walls = 4.4–7.2 mm. Truncated cone shape, slightly inverted rim. Similar to previous recipients. Systematic research 2002, S IIC, 448, G 41, trenches 08–012G; between -0.86–1.32 m deep. Unpublished. MDJC, inv. no. 56629.

44. Fragmentary crucible – surviving part of rim and wall. Strongly deformed and deep fissures in the body upper part, all as a result of intensive use. Truncated cone shape. According to the walls' thickness and curvature, it seems that the item was relatively short and broad (H \approx 40 mm; dg \approx 50 mm). Hp. = 36.7 mm; dg \approx 50 mm; gr. of walls = 5–10.9 mm. Systematic research 2003, S IIC, 472, trenches 02 B–D, between -0.65–1.35 m deep. Elefterescu 2005a, 45. MDJC, inv. no. 47912.

45. Fragmentary crucible – preserving part of rim and wall. Hp = 24 mm; dg \approx 30 mm; gr. of walls = 4–7 mm. Flattened rim, thus obtaining a broad gate. Truncated cone shape, slightly inverted rim. Similar, likely, with item no. 35 herein. Systematic research 2010, S IIC, G 80. Unpublished. MDJC, inv. no. 55545.

46. Fragmentary crucible – preserving two small wall fragments. One of the fragments (of the upper part) evidences we are dealing with an item similar to the preceding, having a flattened rim in order to obtain a gate. Likely truncated cone shape, slightly inverted rim. Systematic research 2010, S IIC, G41B. Unpublished. MDJC, inv. no. 56631.

47. Fragmentary crucible, of which preserved a small rim and body fragment. Fine fabric, similar in appearance and colour to that of item no. 35 herein. Systematic research 2002, S IIC, 447A, G 41, trench 012E; between -2.98 and 3.52 m deep, below a layer of yellow earth. Unpublished. MDJC, inv. no. 55559.

48. Fragmentary crucible, preserving a small body fragment. Fine fabric, similar in appearance and colour to item no. 35 herein. Systematic research 2001, S IIC, 434, trenches 010-011 D-E, -0.70-1.60 m deep. Unpublished. MDJC, inv. no. 55547.

49. Fragmentary crucible, preserving part of the body. Due to the very high temperatures to which it was exposed, the item has the structure of a sandwich. It seems to belong to a crucible with sizes at least similar to item no. 35 herein, possibly with a larger diameter (a small deepening seems to have played the role of balancing the base). Systematic research 1998, S IIC, 354, G 41, trench 09 1-2 D, E; -1.15-1.20 m deep. Unpublished. MDJC, inv. no. 43375.

50. Fragmentary crucible, preserving part of rim and body. Pl. X/4 a-b. Hp = 53 mm; gr. of walls = 8.9-9.3 mm. Coarse fabric, spongy structure, very likely with many organic fragments in composition; variable colour, from cream-clayish to dark grey. The recipient has thick walls. In the lower part, the surface became vitreous. Truncated cone shape, very likely of sizes similar to crucible no. 35 herein. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m deep. Unpublished. MDJC, inv. no. 55255.

51. Fragmentary crucible, preserving a small rim and body fragment. The recipient has thick walls and a bronze print survived on the inside. Systematic research 1997, S IIC, 145, G 33, trench 06 a; -1.42-1.80 m deep. Unpublished. MDJC, inv. no. 55255.

52. Fragmentary crucible, preserving a small body fragment. Fine fabric, porous, grey. The recipient has thick walls and was intensively used. Systematic research 1998, S IIC, 258, G 33, trench 04 B; at -0.53-0.79 m deep (outside the pit) and at -0.79-0.92 m deep nearby. Unpublished. MDJC, inv. no. 55549.

53. Fragmentary crucible, preserving a small base and body fragment. Hp = 30.4 mm. Fine, slightly porous fabric, with a few calcareous inclusions, yellowish on the exterior and purple in the break. The interior surface of the recipient is covered with spongy matter, dark coloured. Systematic research 2009, S IIC, 608, from the area on top of G41C. Unpublished. MDJC, inv. no. 55312.

54. Fragmentary crucible, missing the base. Pl. X/3 a-b. Hp = 32 mm; dg ≈ 41-45.9 mm; gr. of walls = 3.6-9.6 mm. Due to intense use, of the very thick layer of bronze and metal oxides deposited especially on the interior walls of the vessel, it is hard to establish the fabric of which the crucible was made. The exterior surface, grey, exhibits vitreous areas or covered with oxides. Hemispherical shape, of small size, with rim inverted to obtain a gate. Systematic research 2006, S IIC, 564, area G 41, trenches 011-017 H, -0-2.00 m deep. Unpublished. Analogies: Tibiscum⁵⁹, Caerleon⁶⁰. MDJC, inv. no. 55323.

⁵⁹ Benea, Bona 1994. 98, 100, Figs. 47/6; 48/2. Similar items in shape and sizes, yet at least the specimen illustrated by Fig. 47/6 has no casting funnel. The workshop where they were found was deemed by the excavators as specialised in making silver and gold jewellery. Interestingly, in the fourth workshop at Tibiscum, partially investigated, all discovered crucibles had a *metal casting funnel*. This last workshop is dated to the first half of the 3rd century AD based on a brooch deemed waster; see also Benea 2008, Fig. 7/2.

⁶⁰ Zienkiewicz et alii 1993, 126, Fig. 46/1. The crucible is d = 29 mm, has vitrified walls and on the base - slag and gold droplets.

55. Fragmentary crucible, preserving two fragments of rim and body. Hp = 25 mm; gr. of walls = 3.5–7.8 mm. Fine, slightly porous fabric. Identical in shape with the preceding item. Systematic research 2005, S IIC, 557, G 41, trenches 015–016 E (½)-F, -1.37–1.90 m deep. Unpublished. MDJC, inv. no. 56628.

56. Fragmentary crucible, preserving a rim and body fragment. Hp = 29.9 mm; gr. of walls = 4.2–9.3 mm. Vitrified. Similar to preceding items. Systematic research 2002, S IIC, 448, G 41, trenches 08–012G; -0.86–1.32 m deep. Unpublished. MDJC, without inv. no.

57. Fragmentary crucible, preserving the upper third. Hp (\approx 90%) = 30.8 mm; gr. of walls = 3–6.4 mm. Truncated cone shape, slightly inverted rim. Systematic research 2010, S IIC, G80. Unpublished. MDJC, inv. no. 55550.

58. Fragmentary crucible, preserving a rim and body fragment. Hp (\approx 90%) = 31.6 mm; gr. of walls = 3.9–7.9 mm. Strongly deformed, the item's surfaces are almost vitrified. The general appearance is similar to that of item no. 38 herein. Of small sizes, likely hemispherical, with broad rim. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m deep. Unpublished. MDJC, inv. no. 55551.

59. Fragmentary crucible. Missing small part of the body and rim. Pl. XI/2 a-b. H = 22 mm; dg \approx 40 mm; gr. of walls = 3.4–5.3 mm. Large rim portions became vitreous. Strongly fissured on the inside as a result of intensive use. Fine, slightly porous fabric, dark grey. Of very small sizes, truncated cone, broad mouth. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m. Unpublished. Analogies: Tibiscum⁶¹. MDJC, inv. no. 55254.

60. Fragmentary crucible, preserving part of the body. Seems to come from an identical piece with the preceding (catalogue no. 59). Less pronounced use traces. Systematic research 2009, S IIC, 604, G 41, trench 02 B, -2.10–2.70 m deep. Unpublished. MDJC, inv. no. 55552.

61. Fragmentary crucible, preserving the upper third. Hp (\approx 90%) = 23.7 mm; gr. of walls = 4.4–7.6 mm. Truncated cone shape, broad mouth, slightly inverted. Smaller diameter than the preceding two. Systematic research 2010, S IIC, G 80. Unpublished. MDJC, inv. no. 55553.

62. Fragmentary crucible, preserving a body fragment. Likely coming from a large size crucible. Systematic research 2003, S IIC, 482, G 41, passim. Unpublished. Analogy: Micia⁶². MDJC, inv. no. 55554.

63. Fragmentary crucible, preserving a body fragment. Although the appearance of the fragment is almost identical to that of the preceding item, the existence of a lining layer clearly shows we are dealing with two different recipients. Systematic research 2005, S IIC, 557, G 41, trench 015–016 E (½)-F, -1.37–1.90 m deep. Unpublished. MDJC, inv. no. 56633.

⁶¹ Benea, Bona 1994. 98, Fig. 47/3; 48/3 – the workshop where they emerged was considered by the authors as specialised in making gold and silver jewellery; see also Benea 2008, Fig. 7/3.

⁶² Petculescu, Mitar, Barbu 2007 – a bottom/base of a large size crucible was discovered in the depositions on the workshop level.

B2. Crucibles (secondary use)

Crucibles obtained by converting common wares

The conversion of common wares into crucibles may be also found at Dierna⁶³, Moldova Nouă⁶⁴, *Vicus Fortunae (Poetovio)*⁶⁵, Verulamium⁶⁶. Special artifacts seem to be the items discovered at Caerleon⁶⁷. Even better documented is the lining method (consolidating crucibles with the aid of a clay layer) in glass making workshops⁶⁸. It is though worth mentioning that the majority of these wares (used in glass making workshops) are of relatively large sizes, being used in reheating and colouring glass fabric and/or its clearing⁶⁹.

64. Crucible/bowl. Pl. XI/3 a-c. Preserving eight rim and body fragments. Crucible obtained by hardening the exterior surface of a small cup. The item is of small sizes, has a strongly everted rim and grooved body. Fine, sandy fabric, with small ferrous particles in composition, yellow-whitish. In areas affected by temperature, the colour is grey. Inside the piece, which became dark with dark purple areas, are noticeable slag pieces and bronze droplets. Slag pieces also appear on the exterior of the piece. Based on structure, appearance, endurance to high temperatures, the consolidating layer seems to have been made of the same clay as in crucible no. 35 herein. The lining seems to have not covered the entire vessel (one of the fragments has no lining traces, being covered with a thin layer of vitreous appearance), at least at a certain point of its use. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m. Unpublished. Analogies: a small bowl changed into a crucible was discovered at Tibiscum⁷⁰. For analogies of the recipient shape see Rădulescu 1975, Pl. IV/1-3; Popilian 1976, one-handled cups type 3; Mușețeanu, Elefterescu 1985, 73, catalogue no. 5a, Pl. III. MDJC, inv. no. 55256.

⁶³ Stoicovici 1978, 245; Bodor, Winkler 1979, 144, Fig. 3; 149; 153.

⁶⁴ On site "Ogașul Băieșului" (miner settlement dated to the 2nd-3rd centuries AD), excavations carried out showed that four of the investigated building rooms functioned as workshops-foundry – see Bozu 1996, 77.

⁶⁵ Vomer Gojković 2008, 174, Fig. 2.

⁶⁶ Frere 1972, 81, Fig. 141, Pl. LII a-b; some of the crucibles preserved gold traces on the inside.

⁶⁷ Items similar to small cups, the author believing though they are crucibles made on the potters' wheel, whose walls were lined with fire clay on the outside – see Zienkiewicz et alii 1993, 124, Fig. 46/10.

⁶⁸ D. Foy and M.-D. Nenna show that pots made of fire clay, often discovered in glass making workshops by the end of the Antiquity, are used during the 1st-4th centuries AD not only in the *officinae* from Gallia, but from all over the Roman West and that despite the refractory qualities, these crucibles were lined in clay – see Foy, Nenna 2001, 64-65. At Avenches, they are in the shape of cylinder pots (form 3), being covered with a protective clay crust (Amrein 2001, 81-84, cf. Motte, Martin 2003, 316). At Tibiscum these recipients "...were simple red ceramic pots, usually covered on the outside with a protective clay layer of 1 cm thick, for increased endurance of the pots to high temperatures..." (Benea, Bona 1994, 101). A dating similar to the workshops in the settlement at Durostorum-Ferma 4 is at Sanxay (Vienne), where a settlement active during the 2nd-3rd centuries was identified (Simon-Hiernard, Dubreuil 2003, 160; 195; 198, Fig. 3-4. Other examples come from the settlements at Lyon (La Butte) (Motte, Martin 2003, 316) and Tibiscum (Benea 1983, 208-209; Benea 2004, 167, 169).

⁶⁹ Benea, Bona 1994, 101.

⁷⁰ Benea 2008, Fig. 4/4 – based on drawing, the text does not specify that respective item was reused as crucible.

65. Crucible/small cup. Small rim and shoulder fragment. The recipient shape and fabric are similar to the preceding. On the vessel walls appear large bronze oxide pieces. Systematic research 2001, S IIC, 425, G 41, trench 011 C-E; -1.50 m. Unpublished. MDJC, inv. no. 56637.

66. Crucible/small cup. Small rim fragment. Similar to the preceding. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m. Unpublished. MDJC, no inv. no.

67. Crucible/small cup, preserving a body fragment. The entire exterior surface is strongly vitrified, including also slag pieces. Systematic research 1998, S IIC, 187, above and in G 33, trenches 08-09 b-c; -0.75-1.70 m. MDJC, inv. no. 43374.

68. Crucible/average size vessel. Pl. XI/4 a-b. Body fragment. The recipient was obtained by lining an average size vessel (according to the walls' thickness). Fine, sandy fabric, whitish. Based on structure, appearance, endurance to high temperatures, the consolidating layer seems to have been produced of the same clay with crucible no. 35 herein. Systematic research 2002, S IIC, 445E, G 60, 02 (20 cm)-04 F, -1.10-1.60 m. Unpublished. Analogies: similar sizes and shape with those of the vessels at *Vicus Fortunata* (Poetovio)⁷¹. MDJC, inv. no. 55555.

From assemblage G41C also come four small fragments of lined small cups, morphologically identical with those presented herein.

B3. Lining

69. Fragmentary lining. It consolidated the outer surface of an average size vessel, likely a bowl. Semifine fabric, with much organic matter (currently having a porous appearance and a light grey colour). On the inside wall, in fact attached to the wall, there is a piece of bronze oxide or even of metal and beside, traces of another piece, this being likely due to the successive application of clay layers (for consolidation or repair). We do not exclude the possibility that these metal fragments reached there accidentally. Systematic research 2009, S IIC, assemblage G 41, passim. Unpublished. MDJC, inv. no. 55556.

70. Fragmentary lining. Likely consolidated the exterior surface of an average to small size vessel. Systematic research 1999, S IIC, 383, above G 41, trenches 09-010 (30 cm) 1/2 D; -0.60-1.20 m. Unpublished. MDJC, inv. no. 55557.

71. Fragmentary lining. Likely consolidated the exterior surface of an average to small size vessel. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m. Unpublished. MDJC, inv. no. 55558.

72. Lining. Preserving rim and body fragment. Db = 100 mm. Many fissures on the exterior. Fine, sandy fabric, with many mica particles and rare iron oxide particles in composition, brown in colour, with yellow stains on the outside. On the inside and good part of the walls' thickness, the fabric became black with slight grey hues. The cut and clearly finished rim, the smooth interior, even though with many fissures, suggests the possibility that the layer covered/consolidated a hemispherical bowl, with vertical rim, changed into a crucible. On the inside appear traces of iron oxide. Rescue excavation 1988, G 21. Unpublished. MDJC, inv. no. 43352.

⁷¹ Vomer Gojković 2008, 174, Fig. 2.

73. Lining. Preserving rim and body fragment. Db = 100 mm. General appearance similar to the preceding, yet the smaller height and find context make us believe it as the lining of the above item lid. Rescue excavation 1988, G 21. Unpublished. MDJC, inv. no. 43353.

74. Lining. Preserving two fragments that seem to belong to the same item. Very thick lining layer (7.9–11.5 mm), with the exterior strongly barbotined (we do not know whether this specificity also had a practical, intended role, the surface increase resulting in preserving the temperature). Coarse fabric, with vegetal fragments and calcareous inclusions in composition, of variable colour, after use, from brown-orange to black. Systematic research 2009, S IIC, 607, G41C, between -2.50 and -3.20 m. Unpublished. MDJC, inv. no. 56636.

B4. Crucible lids

75. Deformed crucible lid. Pl. XII/1. Preserving part of the rim, body and one knob. Db = 60 mm; hp = 27.5 mm. The fabric seems (according to the appearance, structure, colour, endurance to high temperatures), similar to crucibles in group a. The difference, also possibly just an accident, is given by the existence in the fabric structure of at least one iron oxide piece, used in the area as temper for certain pottery categories⁷². Very thick walls, with many fissures. On the surface appear traces of iron and bronze oxides. Circular shape, with convex interior. Systematic research 2001, S IIC, 435B, G 41, trench 011D, -2.60–3.33 m. Unpublished. MDJC, inv. no. 42982.

76. Crucible lid. Pl. XI/2 a-b. Preserving part of the rim, body and one knob. Db = 50 mm; hp. = 24.3 mm. Fabric with no visible inclusions, of grey-brownish colour in the break and grey-bluish on the outside. Following the high temperatures to which it was exposed (close to the vitrification point), the fabric exhibits in the break a porous appearance, of low density. It is very possible that the lack of original plasticity also contributed to this appearance, which is supported as well by the visible disinterest for shape, appearance, the worker clearly aiming at usefulness. The lid edges, whose surfaces became vitreous, are stained with oxides. Circular shape, with flat useful surface. Slightly deformed. Systematic research 2001, S IIC, G 41, passim. Unpublished. MDJC, inv. no. 55315.

77. Fragmentary crucible lid, of which part of the rim and wall survived. Db = 80 mm; gr. of walls = 7.1–12.9 mm. Rough execution, strictly functional. Grey-smoky fabric, coarse, porous structure, similar to item no. 50 herein. Very thick walls. Circular shape, concave on the inside. Slightly deformed. Systematic research, S IIC (uncertain marking). Unpublished. MDJC, inv. no. 55320.

78. Fragmentary crucible lid, of which part of the rim and wall survived. Db ≈ 120 mm; gr.p. of walls = 8.6–15.1 mm. Fabric similar to the preceding. Very thick walls, very large, which supports the idea of the existence within the workshop of average and large crucibles⁷³. Circular shape, concave on the inside. Systematic

⁷² There are two specific groups of common wares in the area – pottery groups 4 and 9 – see Mușețeanu, Culică, Elefterescu 1980, 284; Mușețeanu, Elefterescu 1985, 67–68.

⁷³ From the glass workshops at Hambach comes a dark grey fabric vessel, covered on the outside with a clay protection mantle. This vessel was of 6 litres in capacity (15 kg of glass paste) – see Gaitzsch 2001, HA 500, Figs. 15–16; Wedepohl, Gaitzsch, Follmann-Schulz 2001, 56, Fig. 1.

research 1999, S IIC, 405, S IIC, G 41, trenches 05-07 ½D; -0.80 m. Unpublished. MDJC, inv. no. 47913.

There are no analogies for our items insofar, with one exception, at Tibiscum (and that for glass working workshops)⁷⁴.

C. Semi-finished and waster items

We start by mentioning that often, in the literature, we found that artifacts exhibiting clear use traces (applique with bent fitting peg, lock plate with already pierced key orifice, spikes, bent nails, hence fitted, a “waster” brooch yet having a black glass bead fitted in a cabochon etc.) were deemed wasters. If specimens identified as deposited for re-melting have no bearing on the context analysis, those discovered in workshops and deemed their products clearly corrupted the conclusions, being believed local products.

79. Zoomorphic brooch (“Tierfibel”), depicting a horse. Pl. XII/3 a-c. Complete. Brooch. L with excess casting = 47.2 mm; L = 35.1 mm; l = 19.2 mm; gr. = 2.7 mm. Cast in a bivalve mould of unequal valves, finishing not removed. Waster, made in a mould with blurred details (or the mould was made after a piece with worn details). In the lower part it exhibits bent portions and faults in the basic field. The fastening systems in the back side were not finished. Field research, shore, passim. Elefterescu 2011a, 8, Pl. III/2 a-c. Analogies: An identical specimen with unknown find place was published by D. Popescu in 1945⁷⁵. Similar items in shape were discovered at Buciumi⁷⁶, Dura Europos⁷⁷ and Lauriacum⁷⁸. Two similar items are framed by J. Matouschek and H. Nowak in the category of horse and rider brooches, variant 2a⁷⁹. S. Cociş dates such simple brooches, with no enamel and detached spring discovered in Dacia during the entire 2nd century AD⁸⁰. By mid the same century is dated an item discovered at Thamusida⁸¹ and another discovered in the cemetery at Viminacium⁸². A brooch similar in shape, of silver, was recently discovered in one of the two main graves of a barrow in the Târgovişte (Bulgaria) region, dated to the last quarter of the 2nd century AD⁸³. MDJC, inv. no. 55560.

⁷⁴ Benea 2004, 170 – around oven no. 2 for glass melting were discovered “two handmade lids, in Dacian manner, of a coarse fabric with much large temper in composition. The pieces had on the exterior surface a glaze layer. Inside, glass traces were found”.

⁷⁵ Popescu 1941-1944, 501, Pl. IX/100; Cociş 2004, type 22a1, catalogue no. 1399, Pl. C/1399.

⁷⁶ In building no. 4 (*praetorium*) of the fort – see Chirilă et alii 1972, 90, Pl. XCVI/4; Gudea, Lucăcel 1979, 338, Pl. XV/167; Cociş 2004, type 22a1, catalogue no. 1398, Pl. C/1398.

⁷⁷ Toll 1949, catalogue no. 166, Pl. XVII (L = 39 mm; l = 23 mm).

⁷⁸ Jobst 1975, 114, 207, type 29, zoomorphic brooches (“*Tierfibeln*”), variant B (horse-shaped), catalogue no. 322, Pls. 46; 70.

⁷⁹ Matouschek, Nowak 1986, type 2, variant a (“*Pferde-und Reiterfibeln*”), 188-189, 220, Figs. 13-14, photo 19/13-14.

⁸⁰ Cociş 2004, 118-119.

⁸¹ Gerharz 1987, 96, Abb. 14/96 (Thamusida, Maison du dallage).

⁸² Redžić 2008, 66, Pl. XXIV/272 – type XXVI, variant 1, zoomorphic brooches dated to the first half of the 2nd century AD (by coins from Faustina Minor and Marcus Aurelius).

⁸³ Rusev 2012, 338, M1, Pl. 6/2.

80. Belt tongue. Pl. XII/4 a-b. Complete. L = 35.4 mm; l = 10.4–11.9 mm; gr. = 2.9 mm. Sizes of the cast item (without finishing): L = 7–10 mm; l = 2.7–13.1 mm; gr. = 6.5–7.9 mm. Cast in a bivalve mould, finishing not removed. Waster. Compared to the preceding mould (catalogue no. 79), the mould in which the item was cast had equal prints in depth (the finishing is by mid thickness of the item) and on one of the valves lay a small orifice for air and excess metal removal. The item has no casting flaws, nothing visible to justify the finishing cessation. Systematic research 1998, S IIC, 288, G 41, trench 09C; -0.64–0.85 m. Analogies: from Porolissum comes a waster (fact evidenced by the inexistent orifice and non-removed finishing)⁸⁴. MDJC, inv. no. 43377.

81. Buckle. Pl. XIII/1 a-b. Complete. L = 28.1 mm; l = 18.2–23.2 mm; gr. = 3.7 mm. Sizes of the cast item (without finishing): L = 25.9 mm; l = 16.2–23 mm; gr. = 3 mm. Cast in a bivalve mould, non-removed finishing. Mould with slightly unequal prints. The item has no casting flaws. Collection Vasile Culică⁸⁵. Unpublished. Analogies: the valve of a mould for making an identical item was discovered at Tibiscum, among the ruins of a military character workshop, dated to the 2nd century AD, specialised in making harness pieces⁸⁶. Similar items were discovered in the fort at Buciumi⁸⁷, Porolissum⁸⁸, Dierna⁸⁹, Micia⁹⁰, Carnuntum⁹¹, Brigetio (in the workshops of *legio I Adiutrix*)⁹², Lauriacum⁹³. MDJC, inv. no. 55563.

82. Spike. Pl. XIII/4. Complete. L = 25 mm; l = 1.9–10.9 mm; gr. = 3–8 mm. Sizes of the cast item (without finishing): L = 24.9 mm; l = 2.7–7.7 mm; gr. = 6.5–7.9 mm. Cast in a bivalve mould, non-removed finishing. Mould with unequal prints. It shows no casting flaws. Field research, shore, passim. Elefterescu 2005a, 60. MDJC, inv. no. 41211.

83. Spike. Pl. XIII/3. Complete. L = 16.5 mm; l = 2.9–6.6 mm; gr. = 2.1–4.5 mm. Sizes of the cast item (without finishing): L = 16.5 mm; l = 1.9–4.5 mm; gr. = 2.1–4.5 mm. Cast in a bivalve mould, non-removed finishing. Mould with equal prints. It shows no casting flaws. Collection Vasile Culică. Unpublished. MDJC, inv. no. 55564.

⁸⁴ Gudea 1989, 658–659, Pl. CCXIII/13 – type XXII (belt appliques with lamellar body) (sic!).

⁸⁵ We mention that most of the items in the collection come from the field research carried out by late V. Culică in the area of the settlements at *Durostorum*-Ferma 4 Ostrovit and *Sucidava* (Pârjoaia/Izvoarele, Constanța county). Although we are not sure to which of the settlements they belong, we believed necessary to publish herein two of the items (catalogue nos. 81 and 83).

⁸⁶ Benea, Bona 1994, 97–98, Fig. 44/4; Benea 2008, Fig. 5/4.

⁸⁷ Chirilă et alii 1972, 69, buckles no. 7, Pl. LXXI/11, 34; LXXI/42.

⁸⁸ Gudea 1989, 675–676, catalogue no. 11 (in fact 12)–17 (in fact 18), Pl. CCXXII – type VI buckles (with attachment ear and semicircular body, the variant with triangular ear). From Porolissum also come two moulds that seem to have been used still for casting buckles (which seems to be evidenced as well by the large number of items and the similar sizes of the buckles above with respective moulds) – see Gudea 1989, 509, Pls. CV/1 and Pl. CV/6. See also Gudea 1986, Fig. 34, image in the middle.

⁸⁹ Bodor, Winkler 1979, Fig. 8/3–4. One of the illustrated pieces – Fig. 8/3 – is definitely a local product (the drawing shows that the finishing was not removed); Cociș 2006, 113.

⁹⁰ Petculescu 1991, Figs. 1–2, 9 (we hereby thank the author for the information); Alicu, Țentea 2005, 68, Fig. II/2–3 – two waster buckles, similar in shape; Petculescu 2006, 140–141.

⁹¹ Gschwantler, Winter 1989–1990, 128, catalogue no. 21, piece dated to the interval comprised between mid 2nd and mid 3rd centuries AD.

⁹² Bónis 1986, Pl. 2/1.

⁹³ Wieser 1999, 15, Taf. III/14 – piece with not removed finishing.

84. Ring-key. Pl. XIII/2 a-c. Fragmentary (missing ring). D ring = 18.5 mm; L active part = 18.3 mm; hp = 23.6 mm; gr. = 12.1 mm. Cast in a bivalve mould, non-removed finishing. Waster. Mould with unequal prints. Many casting flaws (the proper key displays many hollows and the upper half of the ring may have not been even). It clearly shows that the active part of the key was cold worked to suit the corresponding lock element (subsequently, it was cast and finished). Field research 1984, shore, passim. Unpublished. Analogies: A ring-key (tubular) waster was discovered at Micia⁹⁴, another at Porolissum⁹⁵. MDJC, inv. no. 15205.

85. Decorative knob. Pl. XIII/8 a-b. D top = 7.5–9.8 mm; d base = 10–11.5 mm; h = 20.8 mm. Complete. Cast in a bivalve mould, non-removed finishing. Waster. Mould with slightly unequal prints. It shows many casting flaws (many hollows). Pawn-shaped knob with an attachment orifice by the base. Field research 2003, shore, passim. Unpublished. MDJC, inv. no. 56634.

86. Decorative knob. Pl. XIII/6. D top = 7.2–8.3 mm; d base = 7.9–8.1 mm; hp. = 13.5 mm. Complete. Cast in a bivalve mould, non-removed finishing. Waster. Bobbin-shaped knob. An attachment stem (possibly fragmentary) lies by the base. Field research 2007, shore, passim. Unpublished. MDJC, inv. no. 56635.

87. Fragmentary waster. Pl. XII/5 a-b. Lp = 46.8 mm; l = 14.5 mm; gr. = 6.5–7.9 mm. Sizes of the cast item (without finishing): Lp = 43.4 mm; l = 2.7–13.1 mm; gr. = 6.5–7.9 mm. Cast in a bivalve mould, non-removed finishing. Mould with unequal prints. Field research, shore, passim. Elefterescu 2005a, 60. MDJC, inv. no. 41210.

D. Casting sprues

88. Casting excess (casting sprue). Field research, shore, passim. Unpublished. MDJC, inv. no. 21788.

89. Casting excess (casting sprue). Field research 1978, shore, chance find E. Pană. Unpublished. MDJC, inv. no. 55562.

90. Casting excess (casting sprue). Pl. XIII/7. Seems to come from a multiple mould, with two gates, likely for two items cast concurrently. Systematic research 1999, S IIC, 389, G 41, trenches 09–010 1/2 D (15 cm); -1.57–2.02 m. Unpublished. MDJC, inv. no. 55561.

91. Casting excess (casting sprue). Pl. XIII/5 a-b. Seems to come from a multiple mould, with several gates. Systematic research, shore, passim. Unpublished. MDJC, inv. no. 52070.

Analogies for casting sprues are numerous, therefore we shall present a few examples discovered on the sites at Tibiscum⁹⁶, Dierna⁹⁷, Maria Saal, Zollfeld⁹⁸, Blicquy (Hainaut)⁹⁹ etc.

⁹⁴ Alicu, Țentea 2005, 68–69, Fig. II/5.

⁹⁵ Tamba 2008. Among the pieces discovered in building LM1 are also presented two ring-keys (Fig. VI/3, 30), which seem wasters or half-finished items.

⁹⁶ Benea 2008, Fig. 4/7.

⁹⁷ Cociș 2006, Pl. 2/10–12; Benea 2008, Fig. 17/1–3.

⁹⁸ Gschwantler, Winter 1989–1990, 114, catalogue no. 4.

⁹⁹ Amand 1975, Fig. 11/4; 12/5.

However, we cannot disregard the possibility, suggested for the time being by only the last two presented items, that the workshop/workshops in the area made also use of multiple moulds especially for the concurrent cast of several objects.

Conclusions

We believe that the pedoclimate conditions¹⁰⁰ and the vicinity to a water course, which allowed the circulation of merchandise at lower prices, underlay the emergence and development of this settlement, which, in our view, is clearly defined as a true crafting quarter¹⁰¹, related (regardless distances, to the ancient topography and legal form of the settlements) to the fort and *canabae* located less than 3 km away.

Similarly to the finds in Dacia¹⁰², the production of these workshops seems to have been limited to making small items, of daily use and small trading value.

The simple impressing means likely also allowed the reproduction of items not found in the artisan's repertoire, the items brought by the orderer being easy to copy¹⁰³, possibly with even small changes to the model¹⁰⁴. Such modelling proficiency, the possibility of small changes¹⁰⁵, the existence of travelling artisans or of those called in for special orders¹⁰⁶, make it hard, in our view, if not occasionally even impossible¹⁰⁷, to confirm, alike the case of the finds from other settlements, the local **prints/peculiarities**, with the mention we are strictly referring to the production of small common objects¹⁰⁸, fact also mentioned by S. Tassinari and F. Burkhalter in their presentation of the ancient metal working workshop at Tartous (Syria)¹⁰⁹.

¹⁰⁰ The ancient settlement is located in a loop-shaped valley, protected from wind, rich in springs, of which some reached the area of the pottery workshops (even now, above this area appear small reed portions). Moreover, in the area many portions lay nearby sloping banks, which facilitated the construction of pottery firing kilns.

¹⁰¹ See the case of the workshops at Montée at Butte, which operated extensively during the second half of the 1st century AD. This *officina* belonged to a vast ancient crafting quarter, located on the left bank of Saône River. The workshops located there (pottery and glass making), thus benefited of a naval access way facilitating both imports of raw materials as well as the export of finished goods – Motte, Martin 2003, 318. Other examples include the “*industrial assemblage*” at Usk (*Burrium?*), dated to the 1st century – early following century (Evans et alii 1989, 33–35, 66) and the great crafting centre discovered in the Arbanas quarter at Radomir. The latter, located on the Struma river bank, was dated to the 2nd century – mid 3rd century AD – see Ljubenova 1985, 37.

¹⁰² See to this effect the numerous and valuable contributions of L. Țeposu-Marinescu, N. Gudea and especially D. Benea and S. Cociș on the topic.

¹⁰³ Barnea 1955, 102–104; Adam, Feugère 1982, 134–139.

¹⁰⁴ A very clear example, a mould at Dura-Europos (Toll 1949, 43). See also Adam, Feugère 1982, 133–145, Fig. 10.

¹⁰⁵ We believe that such checks were made simply, by casting clay, the differences emerged upon drying facilitating the removal of the piece without the mechanical destruction of the mould.

¹⁰⁶ Morel, Chevalley 2001, 141–162, Fig. 3–10. A simple feature in the courtyard of a *villa*, whose owner, sufficiently “elevated” and “rich”, ordered the making of a large size statue to a specially arrived artisan. Noticeable is the simplicity/precariousness of the feature.

¹⁰⁷ The used metal, of different sources, coming inclusively from re-melting certain discarded or waster items, makes irrelevant its analyses.

¹⁰⁸ At the risk of easily contradicting ourselves, we cannot fail to note the clear unity of the two mould groups: from *Durostorum*-Ostrov and Porolissum – see the practically identical appearance of the three moulds discovered on this site (at least this results from the published photo) – see Gudea 1986, Fig. 34.

¹⁰⁹ Tassinari, Burkhalter 1984, 87.

Before concluding, we believe justified, to pose the question of the specially made models¹¹⁰ and their necessity (why the need for making two almost identical models, when the same model could be used for successive impressing¹¹¹). We wish to mention that, far from denying the existence of the “standard models”¹¹² as previously specified¹¹³, we believe that original items, often brought for copying by even the orderer were used especially for making objects of small commercial value and for a usually local market. These unfunctional “standard models” made of lead, bronze, zinc, iron, bone and wood might have rather been commercial presentation samples. It is hard to accept the idea of the use of lead (material of high malleability) or bone or wood standards (small items, the standard having a definite poor endurance when pressed into the mould)¹¹⁴. It is yet possible that casting test specimens made of lead existed (malleable and with a low melting point) for changing decoration or particularising an item when directly working on the fresh imprint and especially for checking the wear degree of reusable moulds¹¹⁵.

As a general conclusion, we believe that the existence of the workshops (regardless, in principle, the worked material)¹¹⁶, servicing a local or provincial market, also dealing with the repair of already existent pieces (be it either tools, weapons, accessories or jewellery), workshops that made various objects, fashionable and according to the demographic (local tradition or immigrant group) and social structures (purchasing power), were part of the daily life of any more developed Roman settlement (under civil or military administration) (starting with small *vicus*, *canabae* type settlements etc.).

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¹¹⁰ Rustoiu 1997, 24–25; Cociş 2004, 25–26.

¹¹¹ Cociş 2004, type 22f2, Pl. CLXXI/3 – clay mould discovered at Napoca, obtained by the “lost-wax” method, bearing the prints of two similar, **yet not identical** zoomorphic brooches.

¹¹² Cociş 2004, 24.

¹¹³ Elefterescu 2010a, 164.

¹¹⁴ See to this effect the fact that for “Jezerine” brooches, wax models, despite the fact they could be easily curved by heating (yet clearly increasing accident fragmentation risks), are cast in rectilinear format, curves being obtained after bronze casting – Adam, Feugère 1982, 133–145, Fig. 10.

¹¹⁵ A possible example is the lead brooch (half-finished? or water?) in the collections of MNIT, inv. no. I. 396. It obviously lacks the part onto which the spring was attached, and the catchplate is already bent – see Crişan 1979, 297–299, 309, Pls. VII/3; XVIII/2 (bronze brooch with unfinished semicircular plate, inv. no. I. 396, Şimleul Silvaniei, Sălaj county); Cociş 2004, type 19, knee brooches “*likely a model for this type specimens*” (Cociş 2004, 89), Pl. LXI/903 – type 19a1b1b; Pb; Porolissum, MNIT, inv. no. I. 396 (Cociş 2004, 190). The catchplate was bent after removal from the mould, which is clearly noticeable on the brooches discovered still in Dacia (Cociş 2007, Pl. 1/1 (correct Pl. 1/2) and Pl. 1/12).

¹¹⁶ The existence and trade of the raw material, also impacting transport facilities (various metal ingots and glass), the reuse of materials (including glass), the small necessary quantity (most of the items being of small size), make possible the working of materials which were not found, were not extracted in the respective area. Incidentally, in the deposit of the Lower Danube Museum of Călăraşi counts a red coral piece brought from the Mediterranean areas, likely for working (for making beads), item discovered by chance in the settlement.

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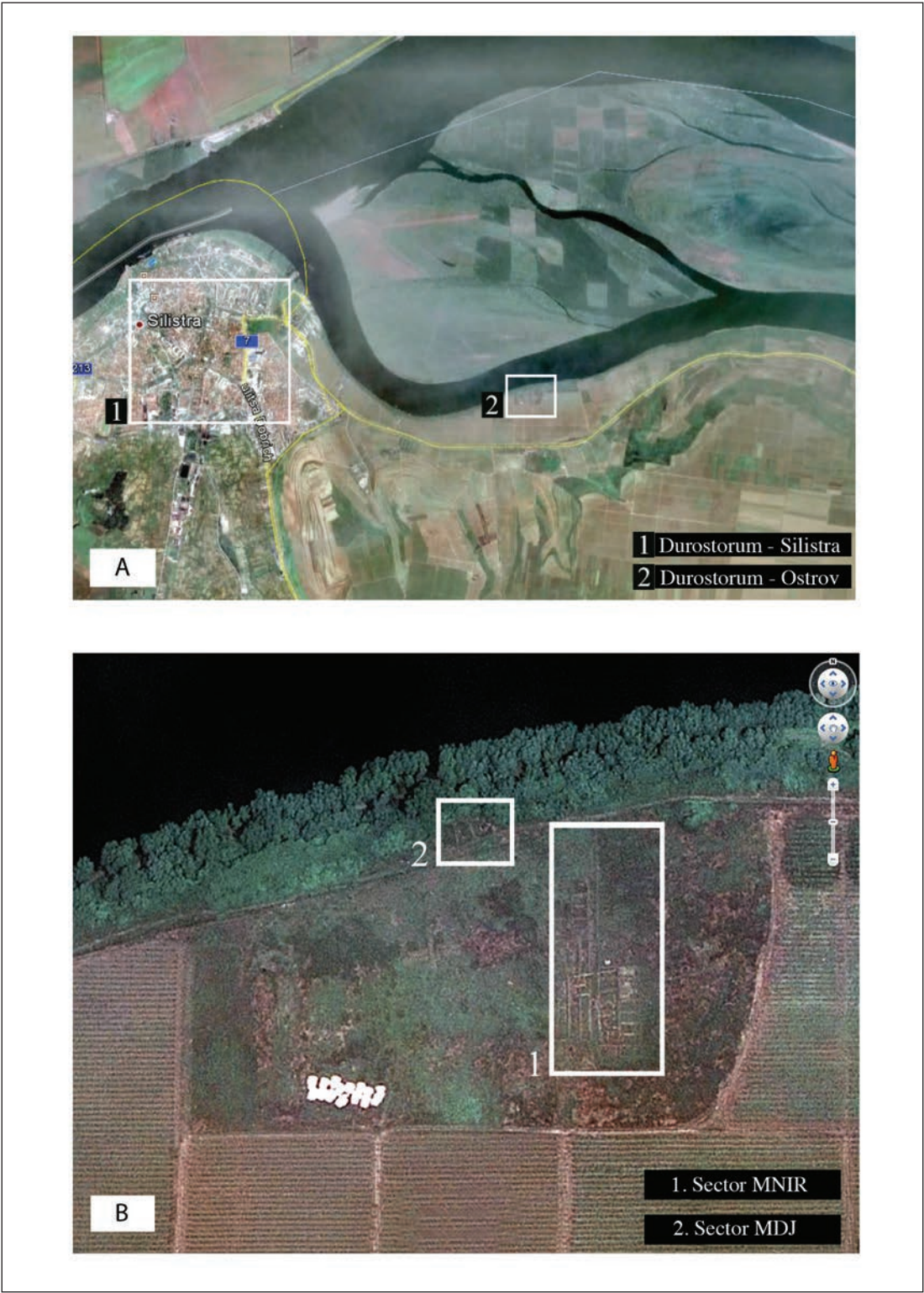
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Dan Elefterescu

Lower Danube Civilisation Museum, Călărași
elefterescud@yahoo.com



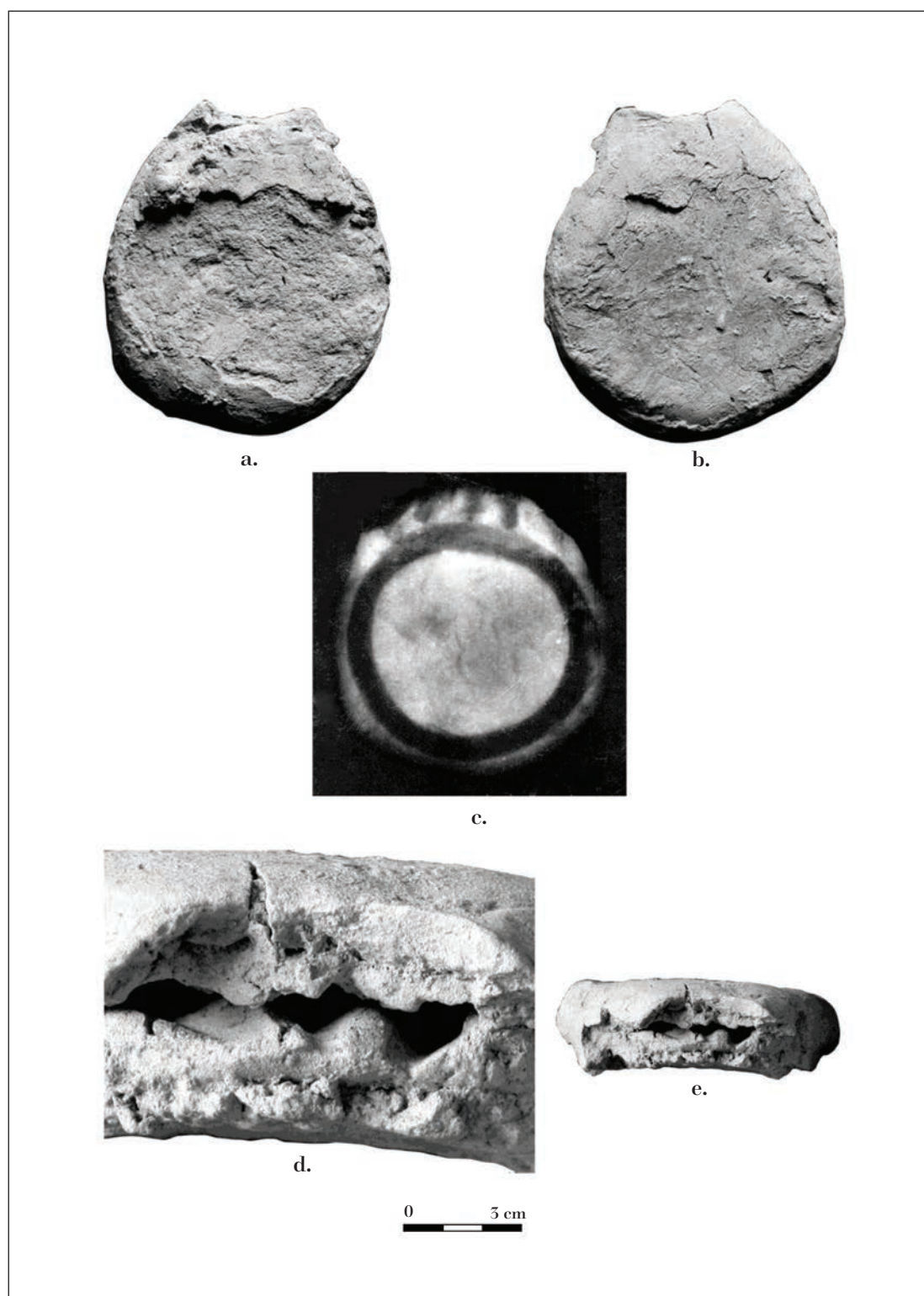
Pl. I. A. Map: *Durostorum*-Silistra, *Durostorum*-Ostrov (see on Google Earth). B. The site area at *Durostorum*-Ostrov (see on Google Earth).



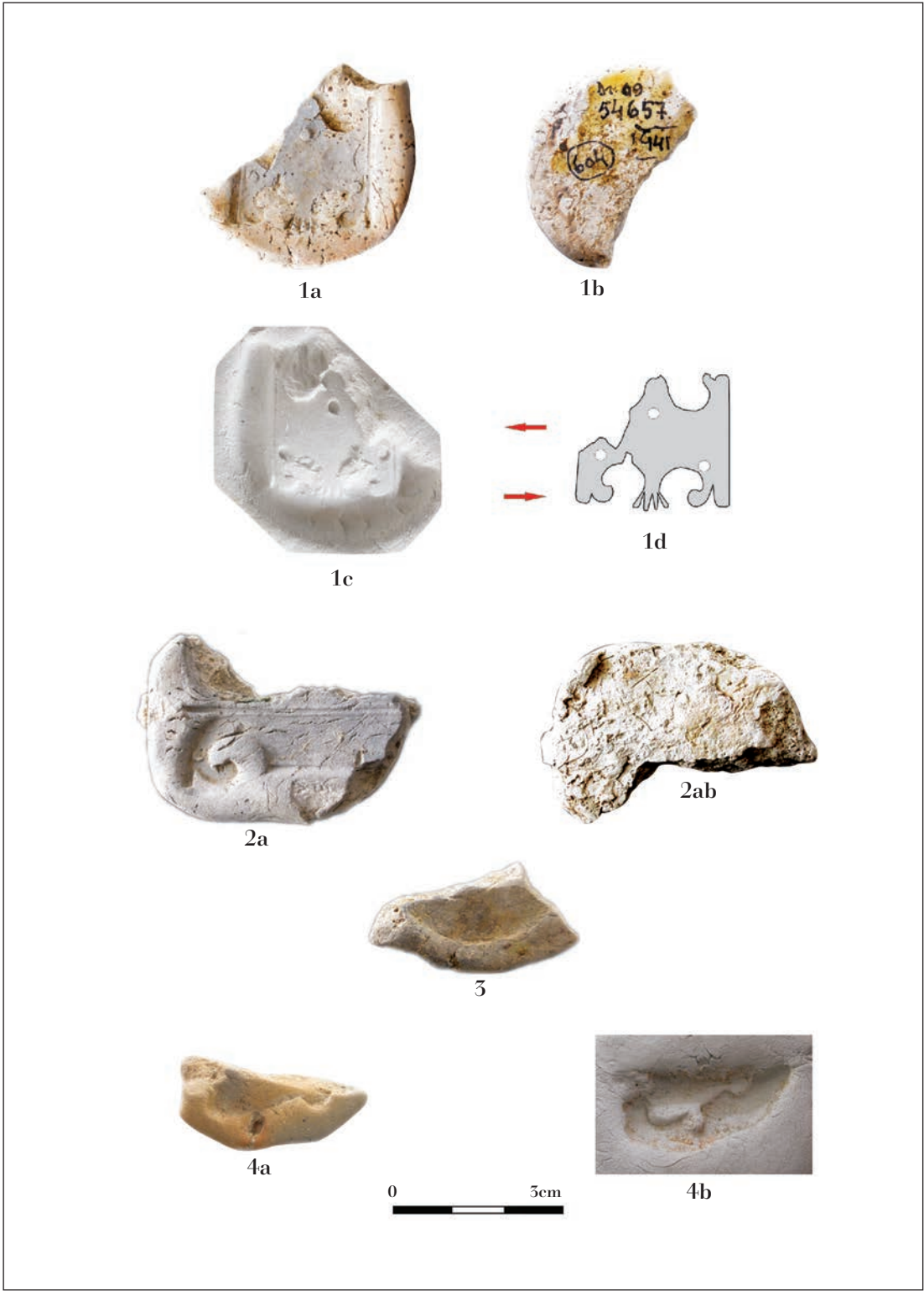
PL. II: 1-5. Half-finished items in assemblage G41C; 6, 11-12. Bronze items most likely deposited for remelting; 7, 9. Items for which there is no evidence of having been made in the workshop: sewing needles, hairpins and an *auriscalpium*; 8, 10. Barbotined pot (8 - inside detail).



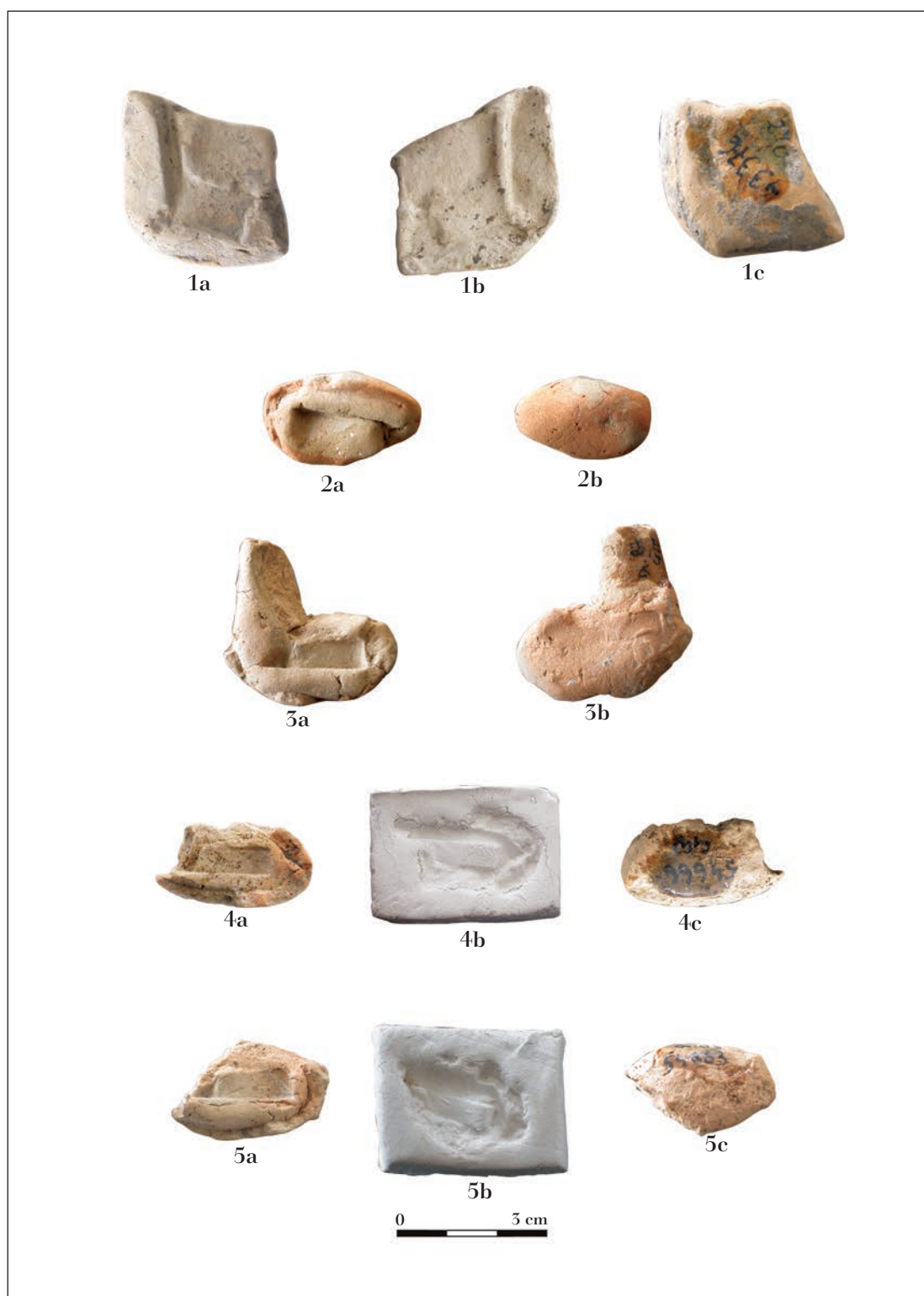
Pl. III. 1-5. Clay moulds.



Pl. IV. Clay mould, not used, for casting bronze rings: **a-b.** General views; **b.** radiography; **c-d.** details.



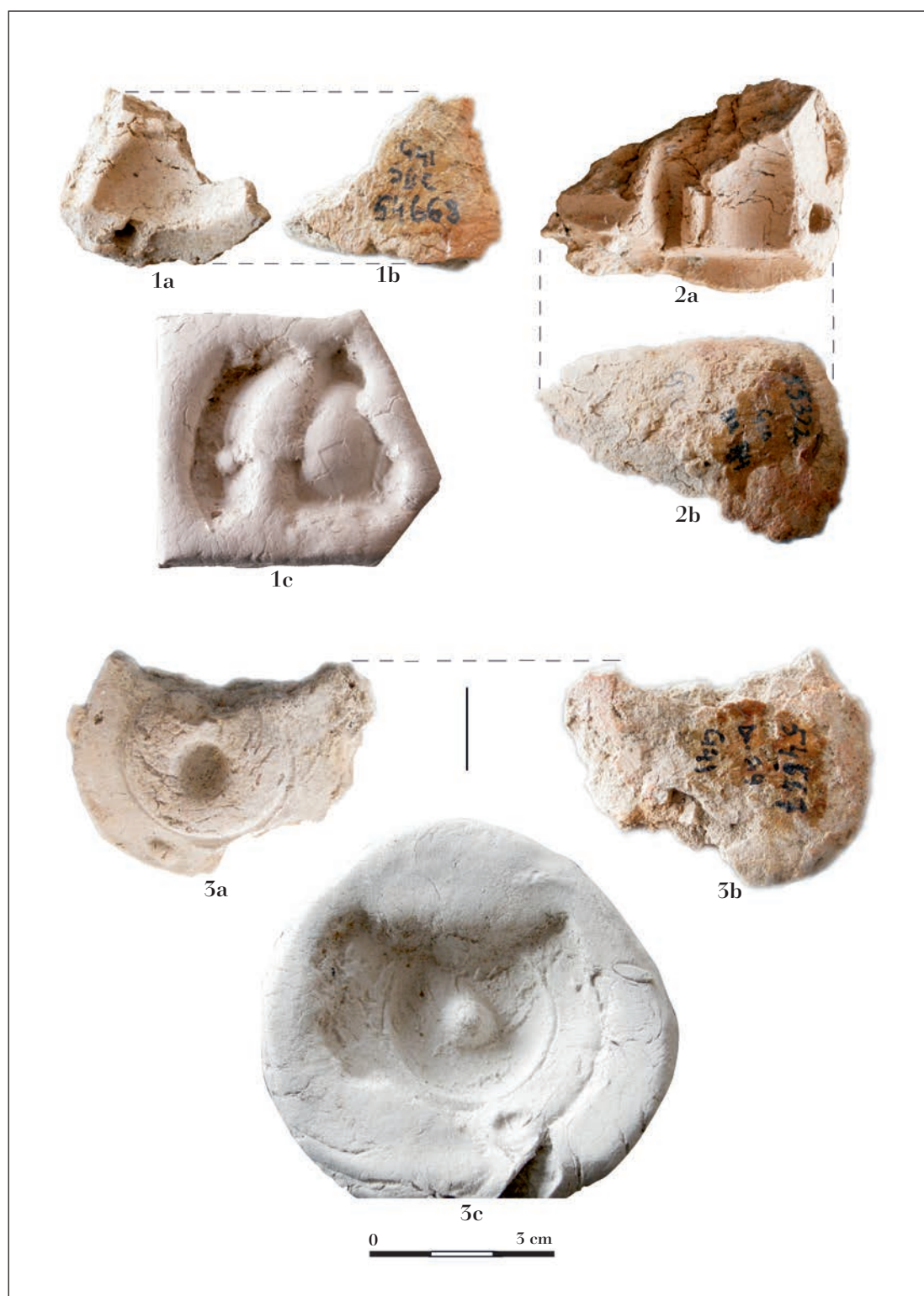
Pl. V. 1-4. Clay moulds for casting various items.



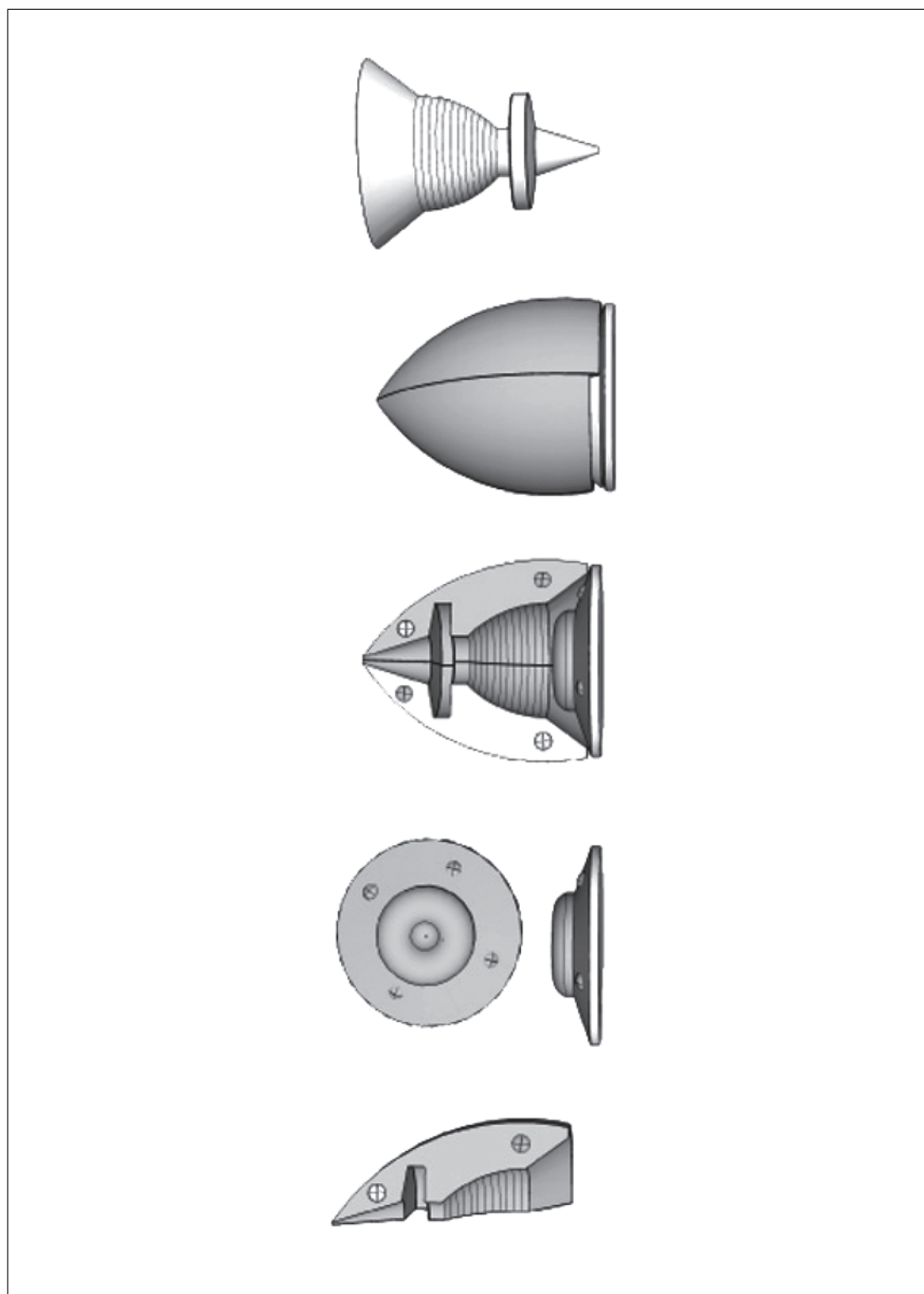
Pl. VI. 1-5. Clay moulds for brooch casting.



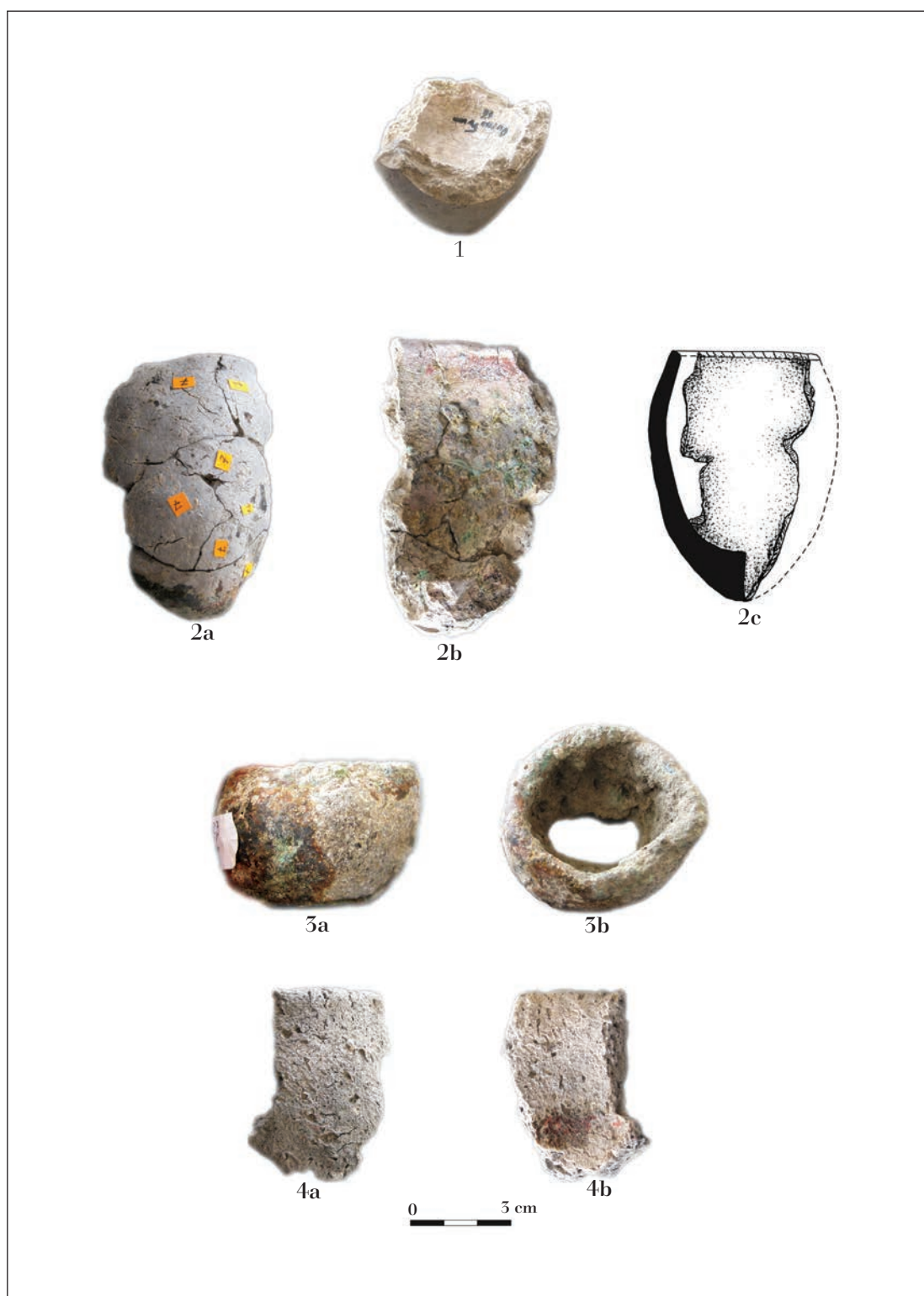
Pl. VII. 1-2. Clay moulds for brooch casting; 3. Mould for casting a decorative nail/knob.



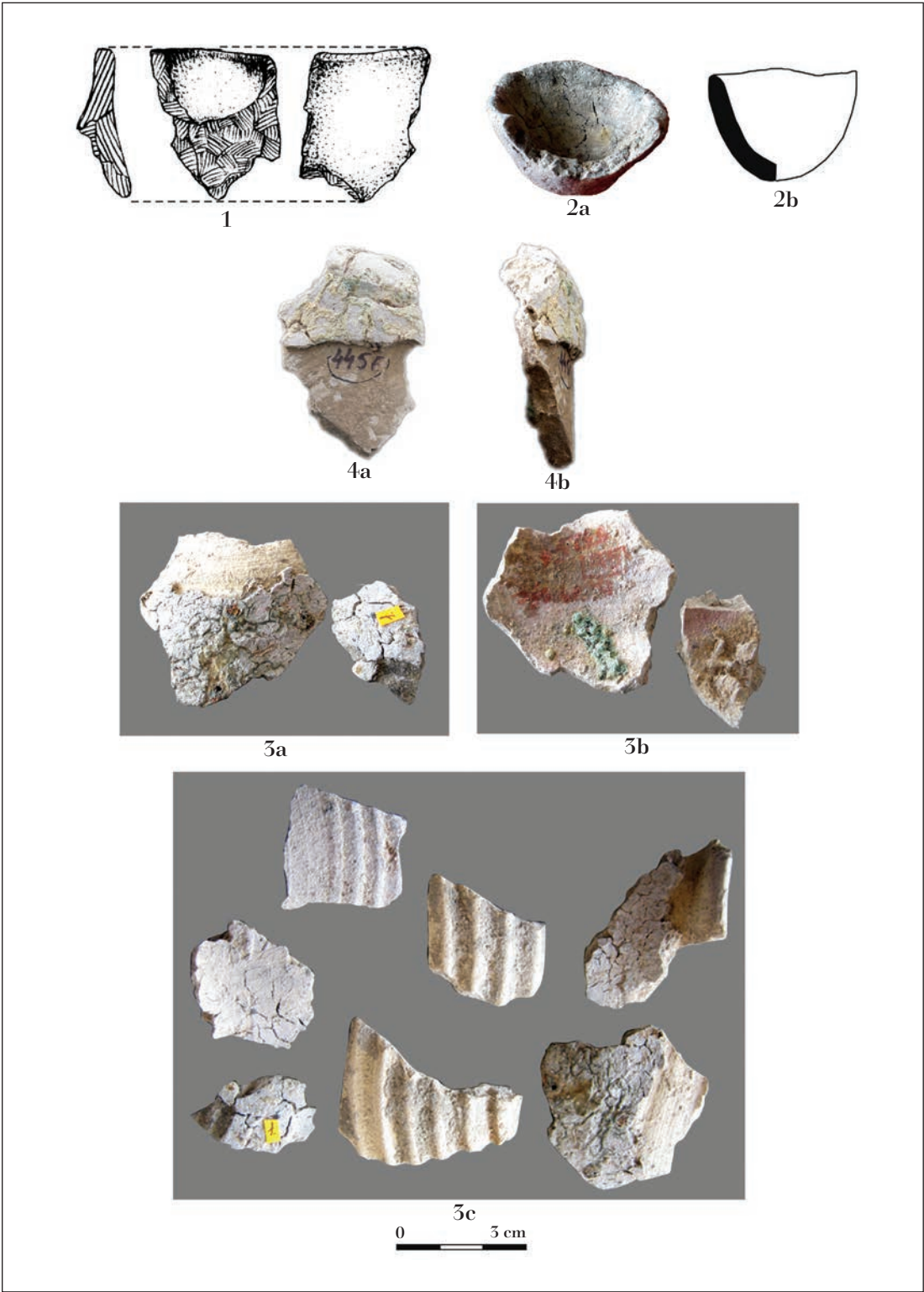
Pl. VIII. 1-3. Clay moulds for decorative knobs.



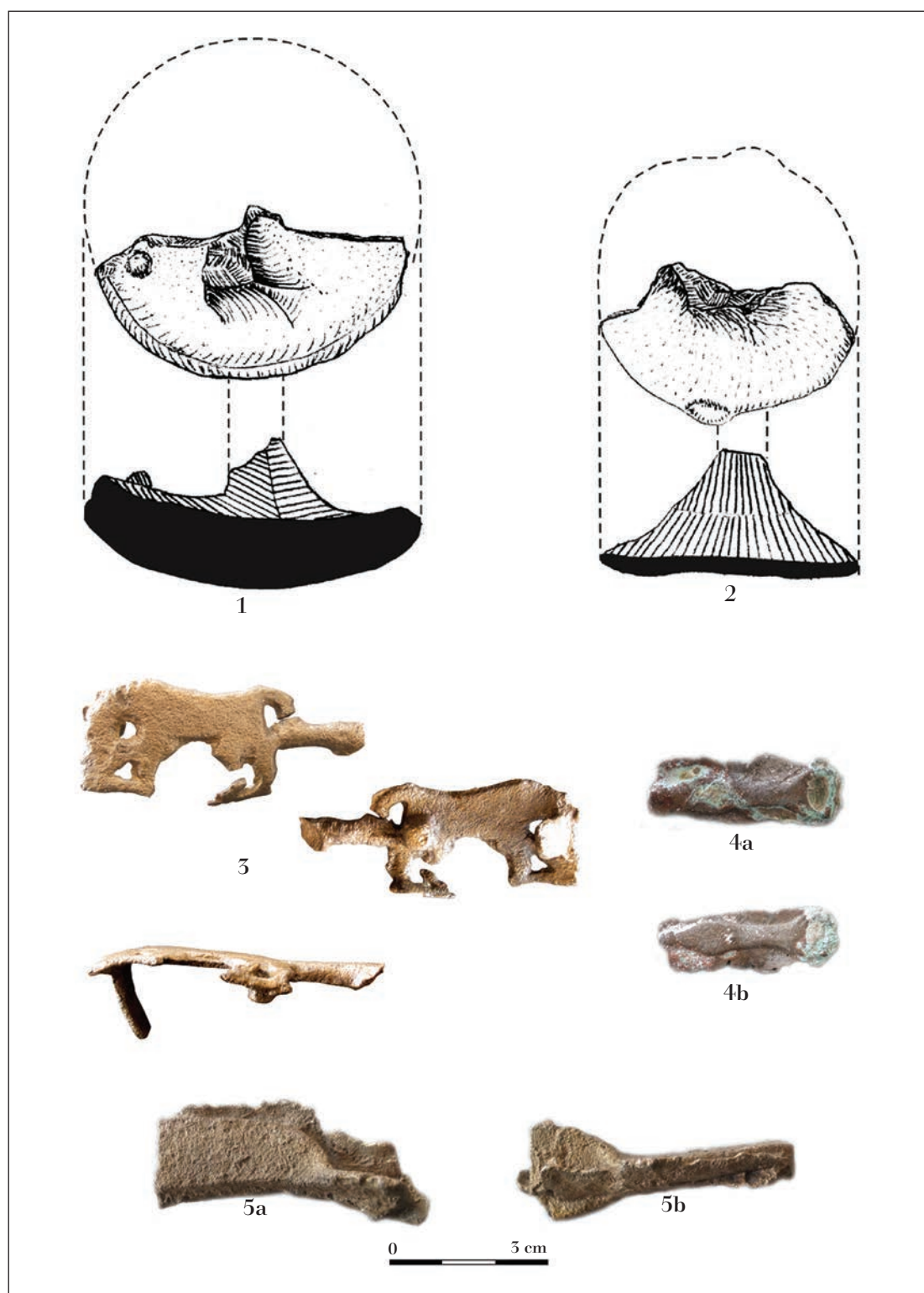
Pl. IX. Mould for decorative knobs - virtual reconstruction Răzvan Clondir.



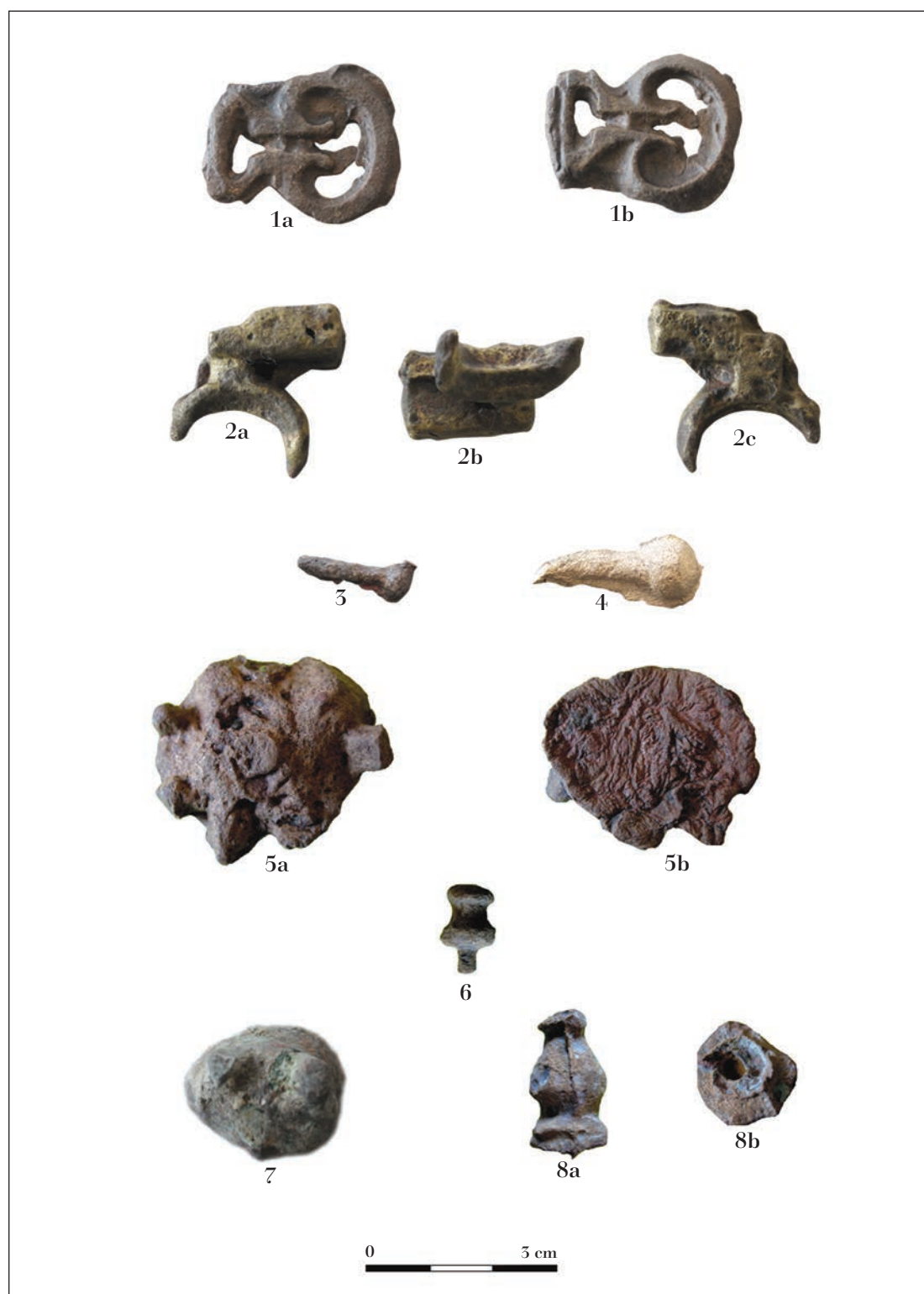
Pl. X. 1-4. Crucibles.



Pl. XI. 1. Mould (?). 2. Crucible. 3-4. Crucibles obtained by the reuse of common ware.



Pl. XII. 1-2. Crucible lids; 3-5. Wasters.



Pl. XIII. 1-4, 6, 8. Wasters; 5, 7. Casting sprues.

RECENT DISCOVERIES OF BONE ARTEFACTS AT HISTRIA, “BASILICA EXTRA MUROS” SECTOR

CORNELIU BELDIMAN, VIORICA RUSU-BOLINDEȚ,
DIANA-MARIA SZTANCS, ALEXANDRU BĂDESCU

Abstract. The paper presents the results of the analysis of recent data regarding an assemblage composed of 19 artefacts retrieved during the 2010 and 2012 archaeological excavations in the *Basilica extra muros* Sector of the ancient city of Histria (today Istria, Constanța County, Romania). The objects represent completed and used pieces (tools, adornments, tube) and raw material (cattle metapodials and radius). The 5 artefacts discovered in 2010 represent (probably) raw materials for anvils manufacturing (cattle metapodials, radius); other 9 pieces discovered in 2012 were used as anvils for manufacturing the toothed iron sickles and were dated back to the 2nd century AD. The assemblage contains also 4 bone hair pins and a bone tube (for preserving needles? or used as whistle?). In the past six decades, the bone (and antler) anvils have arisen numerous controversial debates related to their origins, diffusion and especially to their functional role. They were discovered in two large geographical areas including the Western Basin of the Mediterranean Sea and the Western and North-Western regions around the Black Sea and are dated between the 5th century BC and the 18th century AD. The methodology of research includes the analysis of various parameters such as: data relative to the context of their discovery, type, state of conservation, raw material, dimensions, manufacture, traces of use, reshaping, and traces of reuse. The traces of manufacture and use were currently analysed using an optical microscope. Apart from the relative rarity of these pieces we can mention the fact that the study of antique bone (as well as antler) anvils from Romania has the advantage of an extended and unitary research and brings an important documentary contribution to the presence of these controversial artefacts in some Central-Eastern regions of Europe. The artefacts in question illustrate complex interconnections between traditions extended over a long period of time, ancient crafts and an agrarian economy at the contact between the iron technology (iron smelting, manufacture of iron tools), the bone and antler processing, the use/reuse of the artefacts resulted, and the cultivation of cereals in Antiquity in the regions around the Black Sea.

Keywords: bone anvil; bone hair pin; bone industry; bone tube; Histria.

Rezumat. Lucrarea prezintă rezultatele analizei datelor recente privind o categorie specială reprezentată de 19 piese, recuperate în campaniile arheologice 2010 și 2012 de la Histria, Sectorul *Basilica extra muros*. Pieseile reprezintă materie primă neprelucrată (patru metapodii și un radius de vită), piese finite și utilizate, cum sunt suporturile pentru dințarea secerilor de fier (9), acele de păr (4) și un tub de os. Artefactele sunt datate în secolul al II-lea p. Chr. În ultimii 60 de ani suporturile pentru dințarea secerilor de fier au generat numeroase controverse, legate de origine, difuziune și, mai ales, rolul lor funcțional. Ele au fost descoperite în două mari arii geografice incluzând bazinul occidental al Mediteranei și zonele de vest și nord-vest din jurul Mării Negre și sunt datate între secolele al V-lea a. Chr. și al XVIII-lea p. Chr. Metodologia de studiu include analiza unor parametri variați ca: datele relative la contextul descoperirii, tipul, starea de conservare, materia primă, dimensiunile, modul de fabricare, urmele de folosire, reamenajarea, urmele de reutilizare. Urmele de fabricare și utilizare au fost analizate sistematic în microscopie optică. În afară de relativa raritate a acestor piese, putem

menționa faptul că studiul suporturilor antice de os (și corn de cerb) pentru dințarea secerilor de fier descoperite în România are avantajul unui demers extins și unitar, furnizând o importantă contribuție documentară asupra prezenței acestor controversate artefacte în regiunile central-estice ale Europei. Obiectele în discuție ilustrează interfața complexă a unor tradiții de lungă durată, vechi meșteșuguri și economie agrară la contactul între tehnologia reducerii și prelucrării fierului, procesarea osului și a cornului și utilizarea/reutilizarea artefactelor rezultate și cultivarea cerealelor în antichitate în regiunile din jurul Mării Negre. Studiul nicovalelor antice de os și corn din România și în primul rând cele descoperite la Histria oferă, astfel, o importantă contribuție la cunoașterea tehnologiei și economiei în Europa antică.

Cuvinte cheie: suport de os; ac de păr de os; industria osului; tub de os; Histria.

1. Context

The archaeological researches of the past decade (2001–2012) at Histria (Istria, Constanța County), ancient city placed on the western slope of the Black Sea led by Alexandru Suceveanu and Mircea Victor Angelescu (“Vasile Pârvan” Institute of Archaeology of the Romanian Academy, Bucharest)¹; in the *Basilica extra muros* Sector researches led by Alexandru Suceveanu and Viorica Rusu-Bolindeț (National History Museum of Transylvania, Cluj-Napoca)², while in the *Basilica with Crypt-“Florescu”* Sector, researches led by Irina Adriana Achim (“Vasile Pârvan” Institute of Archaeology of the Romanian Academy, Bucharest)³.

Bone and antler industry coming and analysed from the both sectors is represented so far by 118 pieces: 6 (2001); 28 (2002); 13 (2003); 31 (2004); 20 (2006); 1 (2008); 10 (2010); 9 (2012): tools (bone “anvils” used for serrated iron sickles, two bone pins with a proximal perforation which might been used like needles); adornments (bone pins without proximal perforation considered hair pins); bone bands probably used like elements of marquetry; a bone tube; a bone handle; blanks, different partially shaped raw materials, waste products etc. Two pieces coming from *Basilica with Crypt* (“Florescu”) and 116 have been discovered in the *Basilica extra muros* Sector⁴.

Archaeological excavations led by PhD Viorica Rusu-Bolindeț at Histria in the *Basilica extra muros* Sector made in 2010 and 2012 have revealed another important assemblage of bone artefacts. The artefacts are preserved in the collections of National Museum History of Transylvania, Cluj-Napoca. They were discovered abandoned in

¹ Suceveanu 2002; Suceveanu 2003; Suceveanu 2004; Suceveanu 2005; Suceveanu 2006; Suceveanu 2007. For other results of archaeological research at Histria see: Suceveanu 2008, Suceveanu 2009, Suceveanu 2010; Angelescu 2011; Angelescu 2012; Angelescu 2013.

² Suceveanu et alii 2002; Suceveanu et alii 2003a; Suceveanu et alii 2004; Rusu-Bolindeț, Bădescu 2006; Rusu-Bolindeț et alii 2005; Rusu-Bolindeț et alii 2006; Rusu-Bolindeț et alii 2007; Rusu-Bolindeț et alii 2008; Rusu-Bolindeț et alii 2009; Rusu-Bolindeț et alii 2010; Rusu-Bolindeț et alii 2011.

³ Suceveanu et alii 2003b; Achim et alii 2004; Achim et alii 2005; Achim et alii 2006; Achim et alii 2007; Achim, Bădescu, Munteanu 2008; Achim, Beldiman, Munteanu 2009; Achim et alii 2010; Achim et alii 2011.

⁴ Beldiman 2013; Beldiman et alii 2007; Beldiman et alii 2008a; Beldiman et alii 2008b; Beldiman et alii 2009b; Beldiman et alii 2009c; Beldiman et alii 2010a; Beldiman et alii 2010c; Beldiman et alii 2011a; Beldiman et alii 2011b; Beldiman et alii 2011c; Beldiman, Sztancs 2007; Beldiman, Sztancs 2009a; Beldiman, Sztancs 2009b; Beldiman, Sztancs 2009c; Beldiman, Sztancs 2010a; Beldiman, Sztancs 2010b; Beldiman, Sztancs 2011.

secondary contexts and come from structures, pits and from the vicinity of some complexes used for reducing the iron ore, connected to the crafting area from Section I dated to the Early Roman period (probably, 1st–7th decades of the 2nd century AD)⁵.

During the 2010 campaign, ten bone pieces were discovered (Pls. I – XXIII). Among them, five were long bones (metapodials, radius) which were probably chosen as raw materials for tools used in order to dent the iron sickles (in our articles we called them “anvils” as in international literature), four bone hair pins and a bone tube⁶. During the 2012 campaign, nine pieces were discovered (Pls. XXIV–LV). All of them are anvils⁷.

The typological structure of the assemblage comprises: adornments and accessories: bone hair pins; tubes; technical pieces; raw materials.

These types of artefacts have been the subject of several articles published during the last years⁸.

2. Bone anvils

The cattle long bones (metapodials, radius) were selected in order to be used as raw materials for anvils used in order to dent the iron sickles. In Romania the most anvils were discovered at Histria – *Basilica extra muros* Sector. They have presented a high interest and have developed a very complex and actual issues regarding the iron metallurgy and function of workshops for manufacturing farming tools (sickles, among them) and the processing of skeletal animal materials⁹.

On this occasion, we present data regarding the special category of discoveries made of bone and antler: anvils. These were pointed out recently in Romanian archaeological literature for the first time on the western shore of the Black Sea in the ancient fortress city, Histria, and they illustrate in a unique way some technologic and economic aspects of those times.

Among the discoveries of bone and antler artefacts at Histria a special attention was drawn by the bone (and exceptionally) antler anvils. This group of artefacts has an important documentary potential because it illustrates, in a unique way, the economic activities that seem very different and complex, but in reality they were interconnected (farming, agricultural activities, iron craft, bone and antler industry craft, woodcraft etc.).

The systematic and detailed study of these materials began in 2007 when artefacts discovered in 2004 in the *Basilica extra muros* Sector were analysed. In 2008 the systematic study of bone and antler industry discovered during 2001–2003 was finished.

⁵ Rusu-Bolindeț, Bădescu 2006; Rusu-Bolindeț et alii 2007; Rusu-Bolindeț et alii 2008; Rusu-Bolindeț et alii 2009; Rusu-Bolindeț et alii 2010; Rusu-Bolindeț et alii 2011.

⁶ Rusu-Bolindeț et alii 2011.

⁷ Unpublished field research report.

⁸ Beldiman 2013; Beldiman et alii 2007; Beldiman et alii 2008a; Beldiman et alii 2008b; Beldiman et alii 2009a; Beldiman et alii 2009b; Beldiman et alii 2009c; Beldiman et alii 2010a; Beldiman et alii 2010b; Beldiman et alii 2010c; Beldiman et alii 2010d; Beldiman et alii 2011a; Beldiman et alii 2011b; Beldiman et alii 2011c; Beldiman, Sztancs 2007; Beldiman, Sztancs 2009a; Beldiman, Sztancs 2009b; Beldiman, Sztancs 2009c; Beldiman, Sztancs 2010a; Beldiman, Sztancs 2010b; Beldiman, Sztancs 2011.

⁹ Beldiman et alii 2011a; Beldiman 2013 – with bibliography.

Other studies were related to artefacts discovered in 2006 in the *Basilica extra muros* Sector and to artefacts retrieved in the Basilica with Crypt-“Florescu” Sector¹⁰.

Pieces from *Basilica extra muros* Sector are preserved in the collections belonging to the National History Museum of Transylvania, Cluj-Napoca, while the artefacts from Basilica with Crypt-“Florescu” Sector are part of the collection of the “Vasile Pârvan” Institute of Archaeology, Bucharest.

The artefacts from *Basilica extra muros* Sector called “bone anvils” were discovered abandoned in secondary contexts. They come from structures, pits and from the vicinity of some complexes used for reducing the iron ore, connected to the crafting area from Section I belonging to the Early Roman period (probably, 1st-7th decades of the 2nd century AD)¹¹.

The artefacts from Basilica with Crypt-“Florescu” Sector were discovered in secondary contexts, probably abandoned. They don’t have a certain date because of the former interventions related to Grigore Florescu’s excavations. There are some clues that indicate chronological data during *grosso modo* the 2nd century AD¹². From this sector two pieces have been analysed: a piece which was discovered in 2002 and another one found in 2008¹³.

2.1. Methodology. Typology

The methodology of analysis takes into account the registration and the analysis of all essential data regarding: artefacts’ identification using a code (which is made of the site’s code, the discovery year, the sector’s code and a serial number for example: HST/2001-BEM 3); the realisation of the catalogue (which lays out the dataset regarding the code of the piece, discovery context, raw material, conservation status, subtype, description), dimensions (the total length/the preserved length; width/diameter of the edges and of the middle part; the length of active part on each side; maximal/minimal width of active part on each side dimensions are given in millimetres). In this study, we used the systematic comprehensive data analysis including those issued from microscopic (optical and digital) analysis (zoom 4x-40x; zoom 25x-200x). With this occasion, we created a database and a bank of digital images which includes more than 1000 macroscopical and microscopical pictures. This is the first database for bone and antler industry from Histria and contains all parameters that are taken into account in our studies published over the years. The aim of artefacts’ analysis is to record all contextual, morphological, typological and technological data and to highlight the “manufacturing chain” or “manufacturing sequence” and use wear. In this way, we may reconstruct “the technological biography” of each artefact.

¹⁰ Beldiman 2013; Beldiman et alii 2007; Beldiman et alii 2008a; Beldiman et alii 2008b; Beldiman et alii 2009a; Beldiman et alii 2009b; Beldiman et alii 2009c; Beldiman et alii 2010a; Beldiman et alii 2010b; Beldiman et alii 2010c; Beldiman et alii 2010d; Beldiman et alii 2011a; Beldiman et alii 2011b; Beldiman et alii 2011c; Beldiman, Sztancs 2007; Beldiman, Sztancs 2009a; Beldiman, Sztancs 2009b; Beldiman, Sztancs 2009c; Beldiman, Sztancs 2010a; Beldiman, Sztancs 2010b; Beldiman, Sztancs 2011.

¹¹ Rusu-Bolindeț, Bădescu 2006; Rusu-Bolindeț et alii 2007; Rusu-Bolindeț et alii 2008; Rusu-Bolindeț et alii 2009; Rusu-Bolindeț et alii 2010; Rusu-Bolindeț et alii 2011.

¹² Achim, Beldiman, Munteanu 2009.

¹³ Beldiman et alii 2009b; Beldiman et alii 2009c; Beldiman et alii 2010a; Beldiman et alii 2010b.

Artefacts that are generically called anvils were set in a special wooden installation, on a workbench and were used at the shaping of iron sickles (striking the serrated edges using the technique of indirect percussion with a triangular section chisel/*poinçon*). This operation is applied at the initial shaping of the sickles’ blades, but also at the sickles’ repair¹⁴.

The typological classification adopts conventional criteria which reflect the usage stage at the moment that the artefacts were abandoned. Taking into consideration the number of anvils’ shaped anatomical faces/sides (which become active/smoothed parts) we may conventionally distinguish the next subtypes: simple anvils (with one active side), double anvils (with two active sides), triple anvils (with three active sides), quadruple anvils (with four active sides), undetermined subtype (fragments) and raw material. As we already mentioned, the subtypes reflect the stage of shaping and usage of the artefacts¹⁵.

The typological structure of the whole collection consists of: simple anvils, double anvils, triple anvils, quadruple anvils, undetermined subtypes (fragments) and raw materials.

Generally the raw materials used for this kind of anvils in different parts of Europe and North Africa have been various: most of them are skeletal elements from large domestic mammals (cattle horse, camel etc.): long bones (metapodials, tibia), mandibles, coxal bone. We also have some special cases when segments of red deer antler beams and tines were used¹⁶.

Finished anvils from *Basilica extra muros* Sector are made only of cattle metapodials (metacarpal and metatarsal bones). As raw materials we can notice metapodials and exceptionally a radius segment discovered in 2010 (Pls. XI-XII). There is one exception at Basilica with Crypt-“Florescu” Sector where an artefact is made of cattle metapodial and another of a red deer antler¹⁷.

2.2. Manufacture and use

Bone and antler anvils are made of cattle metapodials (*Bos taurus*) and a segment of antler beam.

Firstly, we take into consideration the analysis of different traces of manufacture and use, so that we may propose the reconstitution of the phases of the standard “manufacturing chain/sequence” of the anvils from cattle metapodials: no débitage; façonnage/shaping in two moments: intensive chopping and abrasion/intense scraping using a metallic blade (a knife?) for obtaining a flat and smooth surface. This smooth surface was made on one-two-three or four bone’s anatomical faces.

Wear traces are quite uniform as origin, morphology and dimensions; the aim of using such pieces (anvils) was to shape (sawing-toothed) the iron sickle’s active part (blade) or to reshape it. After all active parts/faces of the anvils were used and entirely

¹⁴ Aguirre et alii 2004.

¹⁵ Beldiman et alii 2008b; Beldiman et alii 2010a.

¹⁶ Briois et alii 1997; Esteban Nadal, Carbonell Roure 2004; Moreno-Garcia et alii 2007; Moreno-Garcia et alii 2005; Poplin 2007a; Poplin 2007b; Rodet-Belarbi et alii 2007 – with bibliography.

¹⁷ Beldiman et alii 2011a; Beldiman et alii 2011c; Beldiman 2013 – with bibliography.

covered by small triangular dents/hollows there are often situations when the smooth surfaces are reshaped including the fragments of pieces fractured on the middle part.

Wear traces were produced while the “sickle’s teeth” were shaped. The dents produced have a length of 2–3 mm and were obtained by indirect striking with a hammer with narrow active part the cutting edge of the sickle’s blade with using an iron chisel/poinçon, probably having a triangular section. The rows of around 5–10 dents each are parallel, divergent, convergent or even crossed.

Covering the whole anvil’s surface with rows of dents supposed: a) the preparation and the usage of another active part of anvil; there are cases when a single piece had four active parts which corresponded to the four anatomical bone’s faces; those were prepared and used successively; b) unique or double reshaping of used surface by chopping, abrasion or scraping using a metal tool, like in the first stage of shaping. All these conclusions are based on observations of microscopic traces preserved on surfaces’ anvils.

Because of the renewed shaping of the anvils, the compact tissue of metapodial got thinner and very often, the artefacts broke in the middle part. This break was due to the high pressure that was applied during the using. In this case, the artefact was abandoned or, if the preserved length was sufficient, it was reused/reshaped.

We should refer also to the unique artefact HST/2002-BFL 6, the biggest one until now (yoke? reused as anvil) which, so far, doesn’t have analogies in the archaeological literature consulted. Red deer antler artefacts were initially manufactured and used like anvils and are also (but rarely) published in Romanian literature (a piece made of a segment of an antler’s beam at Durostorum)¹⁸ and in the archaeological literature from the Republic of Moldavia (a piece made of a segment of antler tine from Saharna Nouă)¹⁹.

The “technological biographies” of the anvils are various and generally implies several stages: 1. the preparation of the active part on an anatomical face/side of the bone; 2. using and covering it entirely with dents/hollows; 3. reshaping the side; 4. reusing and covering it entirely with dents/hollows; 5. preparation of the active part on the second side; 6. using and covering it entirely with dents/hollows; 7. the preparation of the active part on the third side; 8. using and covering it entirely with dents/hollows; 9. establishing the active part on the fourth side; 10. using and covering it entirely with dents/hollows; 11. the reshaping of the side; 12. reusing; 13. discard/abandon.

There are situations when probably at least two active sides were prepared from the first stage of shaping; but this hypothesis, ethnographically supported, is difficult to argue²⁰.

2.3. Pieces discovered in 2010 and 2012

The pieces discovered in 2010 campaign at Histria (Pls. I–XXIII) are probable raw materials for manufacturing anvils. There are four cattle metapodials, two of

¹⁸ Elefterescu 2009, 54, no. 488, Pl. XXVII, 488; Beldiman et alii 2009, 118, Pl. 4 (piece DRS 4); Beldiman et alii 2010d, Pl. 4 (piece DRS 4).

¹⁹ Arnăut 2007, 302, Pls. 1, 3.

²⁰ Esteban Nadal, Carbonell Roure 2004, 640–644; Moreno-Garcia et alii 2005, 623–624; Rodet-Belarbi et alii 2007, 160.

them entire, two fragmentary and a fragmentary cattle radius. Some of them preserve traces of skinning and butchering.

Nine artefacts were discovered during the 2012 campaign (Pls. XXIV-LV). Eight of them are anvils made from cattle metapodials and a fragmentary metapodial which probably was preserved in order to be used as raw material for an anvil. Three anvils were entire and five of them, fragmentary.

From a typological point of view, there are: simple anvils (with a side which was prepared for use or used) – 3; double anvils (with two sides prepared for use or used) – 4; a triple anvil (with three sides prepared for using or used). With one exception, all the pieces were abandoned after a cycle of usage on each side. Some of them are re-shaped, but un-used. The piece HST/2012-BEM 2 (Pls. XXIX-XXXII) was manufactured as a double anvil, but un-used. It is a rare artefact which completes the date that we have had since now regarding the manufacturing sequences of the bone anvils from cattle metapodials.

2.4. Analogies

Anvils made of cattle or horse metapodials, tibias, mandibles, coxal bone etc. as well as those made of Red deer antler were also discovered in other sites from Romania: Ostrov-Durostorum, Constanța County (4 artefacts)²¹, Chitila, Ilfov County (13 artefacts)²². These discoveries represent the analogies from Romania for the artefacts retrieved at Histria which are presented on this occasion.

For other European regions and for Northern Africa, the archaeological literature mentions many such artefacts dated from the Greek, the Hellenistic and the Roman periods (5th century BC – 5th century AD) on the actual territory of Republic of Moldova and Ukraine. These artefacts were discovered in Greek cities from the Black Sea Basin (Olbia, Neapolis, Thanagoria etc.), as well as in Schythian-Greek and Getic settlements²³. Others are dated between the 7th and 18th centuries and were retrieved in settlements from the Western Mediterranean Basin (France, Spain, Portugal, Italy, Austria, Hungary, some countries from Northern Africa)²⁴.

In the context of new research interest manifested for the topic of bone anvils at the 5th and 7th WBRG some archaeologists and archeozoologists started to pay more attention to this kind of artefacts²⁵. Consequently we can observe increasing of the list of publications dealing with this topic for Central and Western Europe, including Southern Italy (a piece dated in 2nd century BC – 1st century AD) and Austria (a piece that seems to be medieval)²⁶.

Very recently were published some pieces coming from Hungarian Medieval sites (10th–13th centuries AD). So, at Felgyő – “*Kettőshalmi dűlő*” are mentioned bone anvils

²¹ Elefterescu 2008; Elefterescu 2009; Beldiman et alii 2009; Beldiman, Sztancs 2009; Beldiman, Sztancs 2009c; Beldiman et alii 2009; Beldiman et alii 2010d.

²² Boroneanț 2003; Bălășescu, Radu, Nicolae 2003; Boroneanț 2005; Beldiman et alii 2009; Beldiman, Sztancs 2009c.

²³ Semenov 1970; Peters 1986; Arnăut 2007 – with bibliography.

²⁴ Briois et alii 1997; Esteban Nadal, Carbonell Roure 2004; Moreno-Garcia et alii 2005; Moreno-Garcia et alii 2007; Poplin 2007a; Poplin 2007b; Rodet-Belarbi et alii 2007 – with bibliography.

²⁵ Moreno-Garcia et alii 2005; Poplin 2007a; Poplin 2007b.

²⁶ José Gonçalves et alii 2008; Gál 2010; Gőmőri, Szulovszky 2010; Gál, Bartosiewicz 2012.

made of cattle femur coming from Avar context²⁷. From the rural site of Cegléd – “*Fertály-földek II*”, there are mentioned 32 bone anvils made of horse and cattle long bones. Other artefacts were discovered in an assemblage of a blacksmith *Vicus* in Budapest, in an oven at the site of Hajdúnánás – “*Fürjhalom-dűlő*”²⁸ and in the manorial settlement of Baj – “*Öreg-Kovács-hegy*” (anvil made of a cattle radius)²⁹. They are also mentioned in the medieval village of Kolon, dated from Árpád period. Bone anvils made of cattle and horse long bones (radius, tibia, metapodials, humerus) were discovered in a pit where had been thrown the debris from a smithy³⁰.

Actually, we may distinguish the area of diffusion of these artefacts (which had been considered “enigmatic” for decades) around the Mediterranean Basin having its origins, probably, in East Mediterranean and Northern Black Sea regions. The presence of bone anvils in Early Medieval Central Europe is still a problem to solve.

Over the years, those artefacts were considered by specialists to be polishing tools used for finishing textiles, hides, stone or wood (for the situation of the pieces that had been discovered in the Northern part of the Black Sea or in some Western European regions)³¹. There is a special case when the dents/hollows made during the usage were interpreted as “an unknown type of Getic writing” (the case of the artefacts from Chitila)³². Recently, “the riddle was solved”: the functional role of those artefacts benefited from the observations of technological behaviour in the Iberian ethnography. In this way, by also using experimental studies, the “manufacturing chain/sequence” of anvils and the way of using them were established³³.

Wear traces that are preserved on these artefacts are identical or very similar to the ones that were observed on the pieces from Histria because of their use as anvils for shaping the sawing-toothed sickles.

2.5. Aspects of economy

The bone and antler artefacts, discovered at *Basilica extra muros* Sector and Basilica with Crypt-“Florescu” Sector are very important to complete the discoveries catalogue with sites from Central-Eastern Europe. Also, they are important to establish precise data of craft activities during the 2nd-3rd centuries AD. The “Histrian anvils” assert the existence of some bone and antler workshops in the area of the sectors mentioned in the city, but at the same time, they assert the existence of iron processing workshops where sickles (tools very used in the harvesting of cereals in many regions of the Western Pontic shore) were produced and repaired.

The bone and antler anvils’ analysis (pieces relatively rare, and for the Romanian territory unstudied systematically until recently) not only reach a unique and complex problem regarding the antique economy and technology in the region of the Lower

²⁷ Kőrösi 2010, 112, Pls. 7–8.

²⁸ Gál et alii 2010, 117.

²⁹ Bartosiewicz 2010, 338, Pl. 16; Gál et alii 2010, 117.

³⁰ Kvassay, Vörös 2010, 127.

³¹ Semenov 1970; Peters 1986; Arnăut 2007; Beldiman et alii 2011a – with bibliography.

³² Boroneanț 2005; Beldiman et alii 2011a – with bibliography.

³³ Aguirre et alii 2004; Esteban Nadal, Carbonell Roure 2004, 640–644; Moreno-Garcia et alii 2005, 623–624; Rodet-Belarbi et alii 2007, 160; Beldiman et alii 2011a – with bibliography.

Danube³⁴, but they also show the connections between different activities (in our case, iron smelting and manufacturing of agrarian tools, bone and antler industry and harvesting techniques).

The artefacts presented in this paper offer the opportunity to sum up some conclusions regarding the bone (and antler) industry at Histria. The study should be continued with further approaches regarding the pieces that were discovered in ancient archaeological excavations or in recent ones carried out in other sectors of the site.

3. Bone hair pins

Bone hair pins represent an important typological category for bone industry from Histria (3rd category: Adornments: hair pins). Now there are 45 pieces because the ones discovered in 2010 were added in the catalogue³⁵.

The bone pins (*acus/spina crinalis* sau *acus/spina comatoria*) were very frequently adornments in Roman period. These are adornments used for coiffure or for maintaining fixed some textile hair adornments (bonnets, ribbons, veils, hair nets) and were made of bone (domestic animals' bones like cattle), ivory, metal (bronze, silver, gold) or glass. In Roman Empire, when the “monumental coiffure” which involved complex curls and buns were very frequent, the use of hair pins is indispensable. This fact stimulated the production of these artefacts with a diverse typology. These are numerous in archaeological sites belonging to this period (in towns, but also in camps, rural settlements or necropolises)³⁶.

Bone hair pins are common in the Roman archaeological sites dated in the 1st–3rd centuries from Dacia and Moesia Inferior/Scythia Minor. In Roman Dacia bone pins were found in the cities (Apulum, Porolissum, Potaissa, Romula, Ulpia Traiana Sarmizegetusa)³⁷, military camps (Buciumi, Gilău, Gherla, Inlăceni, Râșnov)³⁸ and *villae rusticae* (Cetea, Mediaș, Micăsasa, Răhău, Valea Chintăului)³⁹. For Dobrogea, we may mention the discoveries from Callatis, Capidava, Fântânele, Niculițel, Ostrov-Durostorum, Telița, Tropaeum Traiani⁴⁰. The bone hair pins discoveries are also mentioned at Histria – *Thermae* Sector⁴¹.

The typology of bone hair pins and needles take into consideration the international standards. We applied the criteria proposed by J.-C. Béal, K. Biró, E. Riha,

³⁴ For general aspects regarding the antique economy in the Dobrogea region see Suceveanu 1977; Suceveanu 1998.

³⁵ Beldiman et alii 2010c; Beldiman et alii 2011b.

³⁶ Daremberg et alii 1877, 61–64; Ciugudean 1997, 17 – with bibliography; Elefterescu 2008, 221–224 – with bibliography.

³⁷ Gudea, Bajusz 1991, Pls. I–XXI; Alicu, Nemeș 1982, 345–347, Pl. I, 22; Popilian 1976, 250, Pl. 12, 10; Cociș, Alicu 1993; see Ciugudean 1997, 17; Ciugudean 1997, 17–24, 53–60, 62–75, 152–161, 165–175, Pl. II–IX, XV–XXV; Bajusz, Isac 2000.

³⁸ Gudea, Pop 1970, 59, Pl. LVIII, 1, 3; see bibliography at Ciugudean 1997, 17.

³⁹ Gudea, Bajusz 1991, 83, note 17; see bibliography at Ciugudean 1997, 17.

⁴⁰ Barnea, Barnea, Bogdan-Cătăniciu 1979, Pl. 155, 10.11, Pl. 163, 10.1; Preda 1980, Pl. LVII, 10; Baumann 1983, Pl. XLIII, 3–4; see Ciugudean 1997, 18; Suceveanu 1998, Pl. V, 7, 9–10; Beldiman, Sztancs 2007b, 110–111; Elefterescu 2008, 221–255.

⁴¹ Suceveanu 1982, 123–124, Pl. 22, 1 B-C, 3; I C; II A, 2; see Ciugudean 1997, 18.

H. Mikler and the typological considerations which were included in the catalogue published by A. Schenk⁴². The artefacts of *Basilica extra muros* Sector were typological classified according to the criteria proposed by N. Gudea, I. Bajusz (1991) and D. Ciugudean (1997)⁴³.

3.1. Pieces discovered in 2010

The bone hair pins discovered at *Basilica extra muros* Sector in 2010 (Pls. XIII–XX) belong to the following types: • with convex proximal end (N = 1); • with globular proximal end (probable, due to the fragmentary preservation, without proximal end) (N = 2); • indeterminable type pieces (due to the fragmentary preservation, without proximal part) (N = 2).

The typological aspects of the *Basilica extra muros* Sector 2010 bone hair pins do not present any special aspect. We are talking about common types with dimensions and morphology quasi-standardized which were discovered in many archaeological sites from Romania and Europe. The most suitable analogies are established between these pieces and the ones discovered at Histria *Thermae* Sector⁴⁴.

The most of the artefacts from our repertory are fragmentary or fragments. This fact could explain their abandon.

The artefacts from *Basilica extra muros* Sector including those from 2010 were made of fragments of cattle long bones (*Bos taurus*) using chopping, sawing, intense axial scrapping with a metallic tool (knife), whole shaping and finishing using polishing (probably with a piece of leather). Some clues (like frequent broken of unfinished pieces, probably during the manufacturing chain) allow us to conclude that the bone hair pins were realised in a local workshop that functions in the handicraft of *Basilica extra muros* Sector⁴⁵. This conclusion is sustained by the discoveries of raw materials, blanks and waste products discovered besides bone pins in complexes like pits from *Basilica extra muros* Sector.

4. Bone tube

The bone tube (Pls. XXI–XXIII) has a total length of 53.70. It is made from a tibia diaphysis of a small mammal; it is fragmentary piece, one of the extremities has a sector missing (cca 1/2 of the circumference); old fractures; reshaped; the edges were abraded; intense bluntness and polish of the broken edges; débitage by transversal cutting with a blade knife on the circumference and detaching by direct percussion/fracture; specific traces of cutting are preserved at the ends; blunted and polished ends; superficial traces of transversal cutting are observed at the base of the broken sector; superficial axial scraping on the diaphysis; the broken end was reshaped by abrasion; possible use: tube for needles, whistle.

⁴² Béal 1983; Béal 1984; Riha 1990; Biró 1994; Mikler 1997; Schenk 2008.

⁴³ Gudea, Bajusz 1991, 81–126; Ciugudean 1997, 17–24, 53–75; Elefterescu 2008, 221–224 – with bibliography.

⁴⁴ For analogies and discussions as well as bibliography see *above*, papers cited in notes 30–31.

⁴⁵ Beldiman et alii 2010c.

5. Conclusions

The bone and antler anvils’ analysis (pieces relatively rare, and for the Romanian territory unstudied systematically until now) not only reach a unique and complex problem regarding the antique economy and technology in the region of the Lower Danube⁴⁶, but they also show the connections between different activities (in our case, iron smelting and manufacturing of agrarian tools, bone and antler industry and harvesting techniques).

Roman bone hair pins discovered at *Basilica extra muros* Sector and analysed on this occasion represent the second assemblage from Histria that has been published in a detailed way⁴⁷. The extensive data regarding the discovery context contribute to the complete of catalogue of discoveries and data regarding the complex activities specific to the West side of Black Sea during the 2nd century AD because it reveals the existence of one or more workshops for manufacturing artefacts of skeletal materials.

In the same time, the category of bone pins fills the lot of skeletal materials artefacts from Histria, studied in a detailed manner. This approach should be continued and developed in the other sectors of the archaeological site.

The bone tube enriches the typological repertory of artefacts discovered at Histria – *Basilica extra muros*.

The artefacts presented in this paper have offered the opportunity to sum up some conclusions regarding the bone and antler industry at Histria. The study should be continued with further approaches regarding the pieces that were discovered in ancient archaeological excavations or in recent ones carried out in other sectors of the site.

6. Catalogue

Hereinafter, we insert the detailed files of bone hair pins, bone anvils, bone tube and raw materials discovered at *Basilica extra muros* Sector in 2010 and 2012. The catalogue presents the data (archaeological context, detailed description, morphometry); the codes are established taking into account the year of the discovery (HST/2010-BEM 1-10; HST/2012-BEM 1-9). The artefacts’ numbers which appear in the illustration are the same with the ones from the catalogue.

6.1. Histria-*Basilica extra muros* 2010

HST/2010-BEM 1 • Pls. I-II. Section IA. Square 3, -0.83 m. At about 0.10 m East of Western profile and 5.94 m South of Northern profile. No. 6/2010. • Whole cattle metapodial; without traces of manufacture; probably raw material used for an anvil; dimensions (mm): total length 212; proximal end 66.42/45.04; medial part 37.54/26.20; distal end 72.44/35.69.

HST/2010-BEM 2 • Pls. III-V. Section IA. Square 1, -1.14 m. G1/2010. At 0.05 m South of the Northern profile and at 0.10 m West of the Eastern profile.

⁴⁶ For general aspects regarding the antique economy in the Dobrogea region see Suceveanu 1977; Suceveanu 1998.

⁴⁷ Beldiman et alii 2010c.

• Whole cattle metapodial; on the left edge of the medial part there are short, fine, overlapped cut marks which probably were produced during the skinning; its presence in the complex suggests its possible use as raw material for an anvil; dimensions (mm): total length 232; proximal end 69.90/44.68; medial part 77.97/26.68; distal end 73.74/39.62; lenght max. cut marks 9.

HST/2010-BEM 3 • Pls. VI-VII. Section IA. Square 7, -0.80 m. At 3.70 m North of the Southern profile of the SIA and at 0.10 m West of the Eastern profile. No. 4/2010. • Whole cattle metapodial; it does not preserves traces of manufacture; probably raw material used for an anvil; dimensions (mm): total length 197; proximal end 51.48/31.20; medial part 31.41/21.84; distal end 56.54/28.82.

HST/2010-BEM 4 • Pls. VIII-X. Section IA. Square 1, -1.14 m. G1/2010. At about 0.10 m South of the Northern profile and at 0.15 m West of the Eastern profile. • Cattle fragmentary metapodial (distal); splitted for marrow extraction?; fine skinning cutmarks are preserved on the lateral sides of the epiphyseal condyles; traces of cutting and chopping with an axe are preserved on the anterior and posterior sides of the condyles; without traces of shaping the active part; its presence in the complex suggests its use as raw material for an anvil; dimensions (mm): lenght 120.35; medial part 27.42/26.23; lenght cut marks 4.50-5.90.

HST/2010-BEM 5 • Pls. XI-XII. Section IA. Square 2, -1.95 m. M6. At 1.19 m East of the Western limit of the M6 and 0.14 m South of North limit of M6. No. 3/2010. • Cattle distal radius; splitted for marrow extraction?; detached epiphysis; traces of dog chews preserved at the medial part; without traces of shaping the active part; its presence in the complex suggests its use as raw material; probably raw material used for an anvil; dimensions (mm): lenght 130.38; distal end 55.68/41.10; medial part (diaphysis) 38.99/28.42.

HST/2010-BEM 6 • Pls. XIII-XIV. Section IA. Square 3, -0.98 m. G2/2010. At 0.74 m East of the Western profile and at 4.80 m South of the Northern profile. No. 10/2010. • Bone hair pin with convex proximal end; fragmentary, the distal end has been recently fractured; broadened proximal part, asymmetric oval sections, a side of the proximal part is flat, the other convex; the sections of the medial and distal parts are circular; surfaces well preserved; shaping by abrasion and axial scraping with a knife blade; traces preserved on the inferior side of the proximal part; entirely shaped - eliminated the traces of scraping and abrasion; use-wear traces: bluntness, polish; dimensions (mm): total length 126/113; proximal end 5.70/2.89; medial part 4.36/4.04; distal part 2.72/2.32; distal end about 1.

HST/2010-BEM 7 • Pls. XV-XVI. Section IA. Square 6, -1.00 m. CXT 14. At 0.97 m West of the Eastern profile and at 0.82 m North of the Southern profile. No. 9/2010. • Bone hair pin; fragmentary, mesio-proximal segment, old fractures; the proximal end is detached; possible spherical end?; proximal part - thickened and bevelled, with unfinished traces of transversal and oblique abrasion; the medial part is bevelled, finished; circular and asymmetric polygonal sections; dimensions (mm): lenght 53.20; proximal end (actual) 3.47/3.36; proximal part max 4.70/4.55; medial part 3.58/3.55.

HST/2010-BEM 8 • Pls. XVII-XVIII. Section IA. Square 7, -0.82 m. CXT 6. At 0.10 m West of the Eastern profile and at 2.07 m North of the Southern profile.

No. 5/2010. • Bone hair pin: fragmentary, mesio-proximal segment, old fractures; the proximal end is detached; possible spherical end?; the proximal part is thickened, bevelled, with unshaped traces of abrasion; the medial part is bevelled, finished; circular and asymmetric polygonal sections; dimensions (mm): lenght 52.20; proximal end (actual) 4.37/4.04; proximal part max 4.62/4.31; medial part 4.21/3.89.

HST/2010-BEM 9 • Pls. XIX-XX. Section IA. Square 1, -1.07 m. G1/2010. At 0.84 m South of the Northern profile and at 0.10 m East of the Western profile. • Bone pin; fragmentary, distal segment, old fractures; the distal part is bevelled and finished; distal end is entirely preserved, bevelled; use-wear traces of bluntness and polish; the morphology of the distal end suggests the reshaping after fracture; circular and polygonal sections; dimensions (mm): lenght 48.14; distal part 4.30/3.96; distal end 2.42/2.31.

HST/2010-BEM 10 • Pls. XXI-XXIII. Section IA. Square 7, -0.95 m. Loose, yellowish sand layer with shells, pottery from the No. 2 room, bounded at South by the 2/2010. • Bone tube made from a tibia diaphysis of a small mammal; fragmentary piece, one of the extremities has a sector missing (cca 1/2 of the circumference), old fractures; reshaped; the edges were abraded; intense bluntness and polish of the broken edges; débitage by transversal cutting with a blade knife on the circumference and detaching by direct percussion/fracture; specific traces of cutting are preserved at the ends; blunted and polished ends; superficial traces of transversal cutting are observed and at the base of the broken sector; superficial axial scraping on the diaphysis; the broken end was reshaped by abrasion; possible use: tube for needles, whistle; dimensions (mm): total length 53.70; proximal end (entire, conventionally established) 10.63/10.09; medial part 10.31/10.14; distal end 10.41/9.79.

6.2. Histria-Basilica extra muros 2012

HST/2012-BEM 1 • Pls. XXIV-XXVIII. Section I. Squares 2-3. From the soil fallen from Northern profile, from the disused pits of the furnaces. • Double anvil made from metapodial; whole piece (entire anatomic support); the active part was shaped on the main anatomic sides (anterior and posterior); raw material: cattle metapodial (*Bos taurus*); shaping: direct percussion/chopping applied on both sides; shaping of the distal part/anterior side by chopping in order to reduce the thickness (for an optimal fit in the wooden bank?); traces of dents with intact morphology are preserved on the anterior side which indicates a single use cycle of piece; on the opposite side (the posterior one) - possible reshaping by axial scraping after the first cycle of use; use-wear traces: traces of dents of approx. 1-2 mm; these are triangular, elongated made by indirect percussion using a metallic tool and they are placed in linear, slightly curved, lines which are transversal and oblique; dimensions (mm): total length 235; proximal end 49.74/44.75; medial part 29.82/19.98; distal end 54.77/30.74; lenght shaped of the anterior side 145; width of the shaped anterior side 22.36; lenght of the shaped posterior side 155; width of the shaped posterior side 28.08; lenght area with use-wear traces anterior side 75; lenght area with use-wear traces posterior side 25 + 67.

HST/2012-BEM 2 • Pls. XXIX-XXXII. Section I. Square 5, -2.10 m. No. 9/2012. At 2.10 m West of the Eastern profile. From the 2nd level of the workshop. At the

flattening of the profile. • Double anvil made from metapodial; whole piece (entire anatomic support); the active part was shaped on the main anatomic sides (anterior and posterior); raw material: cattle metapodial (*Bos taurus*); shaping: intense axial scraping applied on both sides, more obvious on the posterior side; the distal epiphysis was entirely removed; the ends were chopped on sides and edges – specific overlapped traces; chopping applied in order to reduce the thickness (for optimal fit in the wooden bank?); both sides do not preserve any specific use-wear traces; anvil prepared for using; dimensions (mm): total length 192; proximal end 38.75/19.13; medial part 30.75/19.63; distal end 21.09/18.14; length area shaped by direct percussion/chopping max 55–60, min 25; length shaped anterior side 110; min. 25; max. width shaped on anterior side 12.69; length shaped on posterior side 120; width shaped on posterior side 27.90.

HST/2012-BEM 3 • Pls. XXXIII–XXXV. Section I. Squares 2–3. From the earth fallen from the Northern profile, from the disused pits of the furnaces. • Simple anvil made from metapodial; cattle metapodial without diaphysis; dog chews; recent fractures at the distal end/posterior side; exfoliations; active part shaped on the posterior side (anatomic); raw material: cattle metapodial (*Bos taurus*); shaping: intense axial scraping; use-wear traces: dents of approx. 1–2 mm, triangular and elongated-shaped, made by indirect percussion using a metallic tool, placed in linear and slightly curved lines transversally and oblique arranged; used as a percussion support for shaping the dents of the active part of a sickle; a single use cycle; the active part is covered on approx. 2/3 of the length with traces of dents which are oblique placed, preserving unchanged the morphology of dents – this indicates a single use cycle; dimensions (mm): total length 158; proximal end 41.90/41.87; medial part 23.50/24.33; distal end 25.82/37.80; length of the shaped part 80; max. width of the shaped part 14.88; length of the part with use-wear traces 47.

HST/2012-BEM 4 • Pls. XXXVI–XXXVIII. Section I. Squares 2–3. From the earth fallen from the Northern profile, from the disused pits of the furnaces. • Double anvil made of a metapodial; fragmentary piece; old oblique fracture at the level of medial part; approx. 1/3 of initial length (distal part) is preserved; the fracture of support was due to the attenuation of the diaphysis during the reshaping and during the use of the piece as a support for percussion; the right edge preserves traces of chopping at the level of epiphyseal condyle on a length of approx. 50 mm; the active part was shaped on the main anatomic sides (anterior and posterior); raw material: cattle metapodial (*Bos taurus*); shaping: axial/oblique abrasion; after the first use cycle, possible reshaping of the posterior side by scraping and abrasion; use-wear traces: traces of dents of approx. 1–2 mm, triangular and elongated-shaped, made by indirect percussion using a metallic tool, placed in linear, slightly curved, lines, arranged transversally and oblique; dimensions (mm): length 145; distal end 70.92/36.32; medial part 41.60/17.64; length shaped on anterior side 110; shaped width anterior side (preserved) 26.90; length shaped posterior side 111; shaped width posterior side 44.58; length area with use-wear traces anterior side 50; length area with use-wear traces posterior side 61.

HST/2012-BEM 5 • Pls. XXXIX–XL. Section I. Squares 2–3. From the earth fallen from the Northern profile, from the disused pits of the furnaces. • Raw material for shaping an anvil; cattle distal metapodial; old fractures at the proximal/medial

level (marrow extraction?); exfoliations; traces of skinning are preserved on the anterior side, as well as on the right edge (cut marks); dimensions (mm): length 140; distal end 56.40/29.69; medial part 27.45/26.17.

HST/2012-BEM 6 • Pls. XLI-XLII. Section I. Squares 2-3. From the earth fallen from the Northern profile, from the disused pits of the furnaces. • Simple anvil made from metapodial; fragmentary piece; old oblique fracture at the medial part; approx. 1/3 from the initial length (distal part) is preserved; fracture was probably produced during the use of the piece as anvil; corroded and exfoliated surfaces; the active part was shaped on the posterior side; raw material: cattle metapodial (*Bos taurus*); shaping: by intense axial scraping; it is entirely covered with lines of dent traces produced by percussion; the epiphyseal condyles were chopped on the posterior side revealing the spongy tissue; the posterior side was probably reshaped by scraping and abrasion after the first use; use-wear traces: dents of approx. 1-2 mm, triangular and elongated-shaped, made by indirect percussion using a metallic tool, placed in linear, slightly curved, lines, arranged transversally and oblique; dimensions (mm): length 112; distal end 54.62/29.41; medial part 27.44/23.84; length of the shaped area 71; width of the shaped area 30; length of the active part 60.

HST/2012-BEM 7 • Pls. XLIII-XLV. Section I. Squares 1-2. At section cleaning. Passim No. 4/2012. • Simple anvil made from metapodial; fragmentary piece; exfoliations, corroded; about 2/3 from the initial length (proximal and medial parts); old oblique fracture during the use at the level of medial part; its fracture was determined by the attenuation of the diaphysis produced during the reshaping or during its use as an anvil; the active part was shaped on the posterior side; raw material: cattle metapodial (*Bos taurus*); shaping: by intense axial scraping; reshaping of the active side after the first use cycle by scraping and abrasion then it was abandoned; lines of un-scraped dents are preserved at the medial part; their aspect might be compared with the one from the rest of the active part; use-wear traces: dents of approx. 1-2 mm, triangular and elongated-shaped, made by indirect percussion using a metallic tool, placed in linear, slightly curved, lines, arranged transversally and oblique; dimensions (mm): length 165; proximal end 57/52.63; medial part 32.72/26.94; length shaped posterior side 111; max. width shaped posterior side 29.13.

HST/2012-BEM 8 • Pls. XLVI-LI. Section I. Squares 2-3. From the earth fallen from the Northern profile, from the disused pits of the furnaces. • Triple anvil made from metapodial; fragmentary piece; exfoliations, corrosion; about 1/3 from the initial length (proximal part) is preserved; at the level of medial part - oblique fracture produced during the use of the piece; the active part was shaped on the posterior side; raw material: cattle left metapodial (*Bos taurus*); shaping: by intense axial scrapping; the anterior side was not technically modified; the slightly convex lateral sides could have been used as an anvil, without being previously prepared in this respect; at the proximal end/right edge and on the posterior side/left edge traces of impact and cutting for skinning are preserved; use-wear traces: triangular and elongated-shaped marks of 1-2 mm made by indirect percussion using a metallic tool, placed in linear, slightly curved, lines, arranged transversally and oblique; the active side (the posterior one) is almost entirely covered with lines of dents; on both lateral sides, use-wear traces are

preserved: on the medial side there are six lines of dents and on the lateral one, three lines of dents; dimensions (mm): lenght 160; proximal end 49.68/44.76; medial part 27.32/26.76; lenght shaped posterior side 62; max width shaped posterior side 20.88; lenght area with use-wear traces posterior side 53.28; lenght area with use-wear traces medial side 29; lenght area with use-wear traces lateral side 10.30.

HST/2012-BEM 9 • Pls. LII-LV. Section I. Squares 2–3. From the earth fallen from Northern profile, from the disused pits of the furnaces. • Double anvil made of a metapodial; fragment proximal; the epiphysis is not preserved; multiple axial and oblique fractures which were produced during the use of the piece as an anvil; about 1/2 of the initial width is preserved; the active part was shaped on the main sides (anterior and posterior); raw material: cattle metapodial (*Bos taurus*); shaping: by intense axial scrapping; re-shaping of the active part after the first cycle of use by axial scraping; the piece was abandoned before a new cycle of utilisation; use-wear traces: triangular and elongated-shaped marks of about 1–2 mm made by indirect percussion using a metallic tool, placed in linear, slightly curved lines, arranged transversally and oblique; dimensions (mm): lenght 123; distal end 22.46/20.73; medial part 20.40/17.17; proximal end 12.14/9; lenght shaped (preserved) posterior side 54.57; lenght shaped anterior side 123; lenght area with use-wear traces posterior side 66.

Note. All photos of the plates have been taken by Corneliu Beldiman.

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Corneliu Beldiman

“Dimitrie Cantemir” Christian University,
Faculty of History, Bucharest
cbeldiman58@yahoo.com

Viorica Rusu-Bolindeț

National History Museum of Transylvania, Cluj-Napoca
viorusu1@yahoo.com

Diana-Maria Sztancs

Central High School, Bucharest
beldiana22@yahoo.com

Alexandru Bădescu

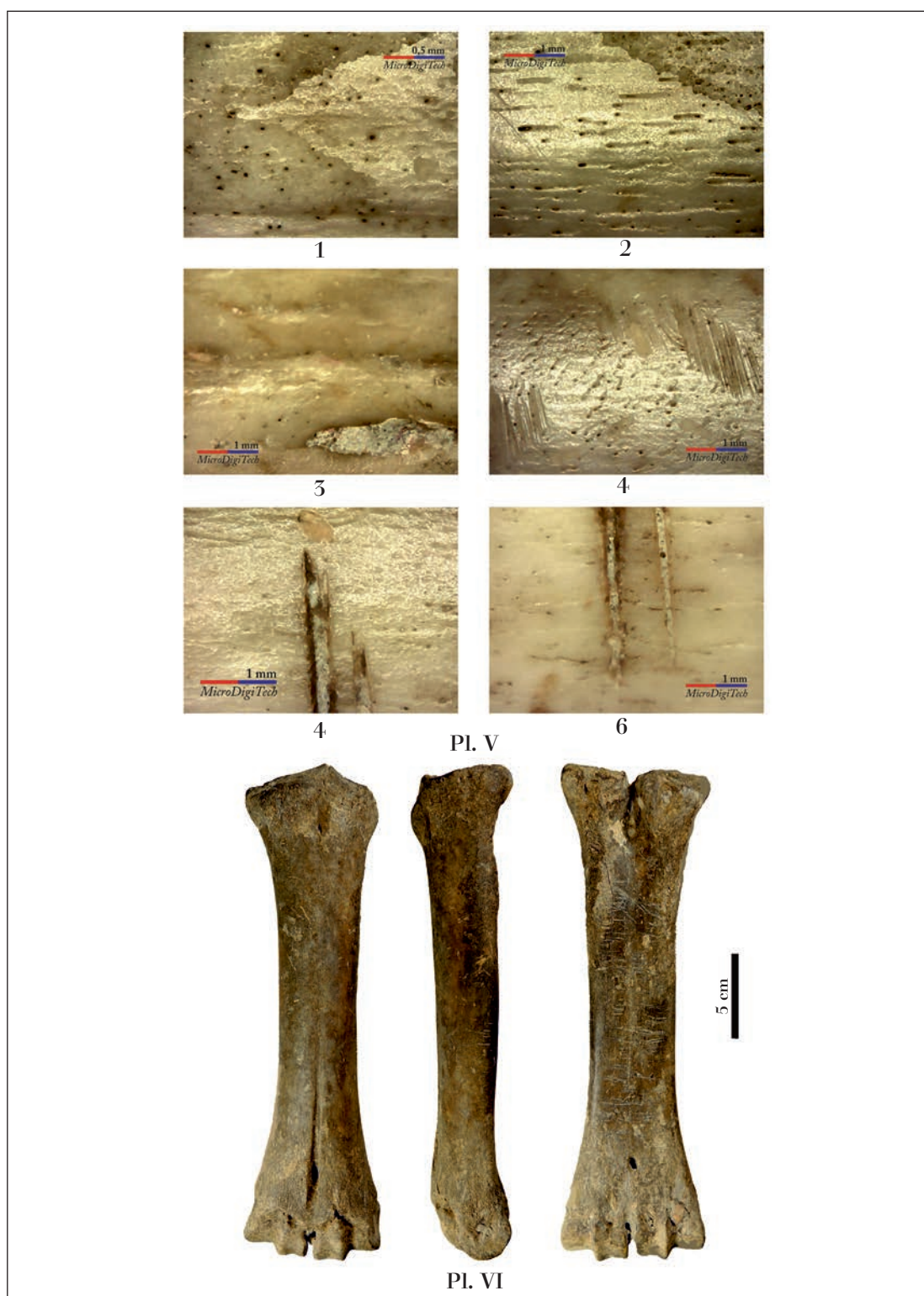
National History Museum of Romania, Bucharest
alex_bades@yahoo.com



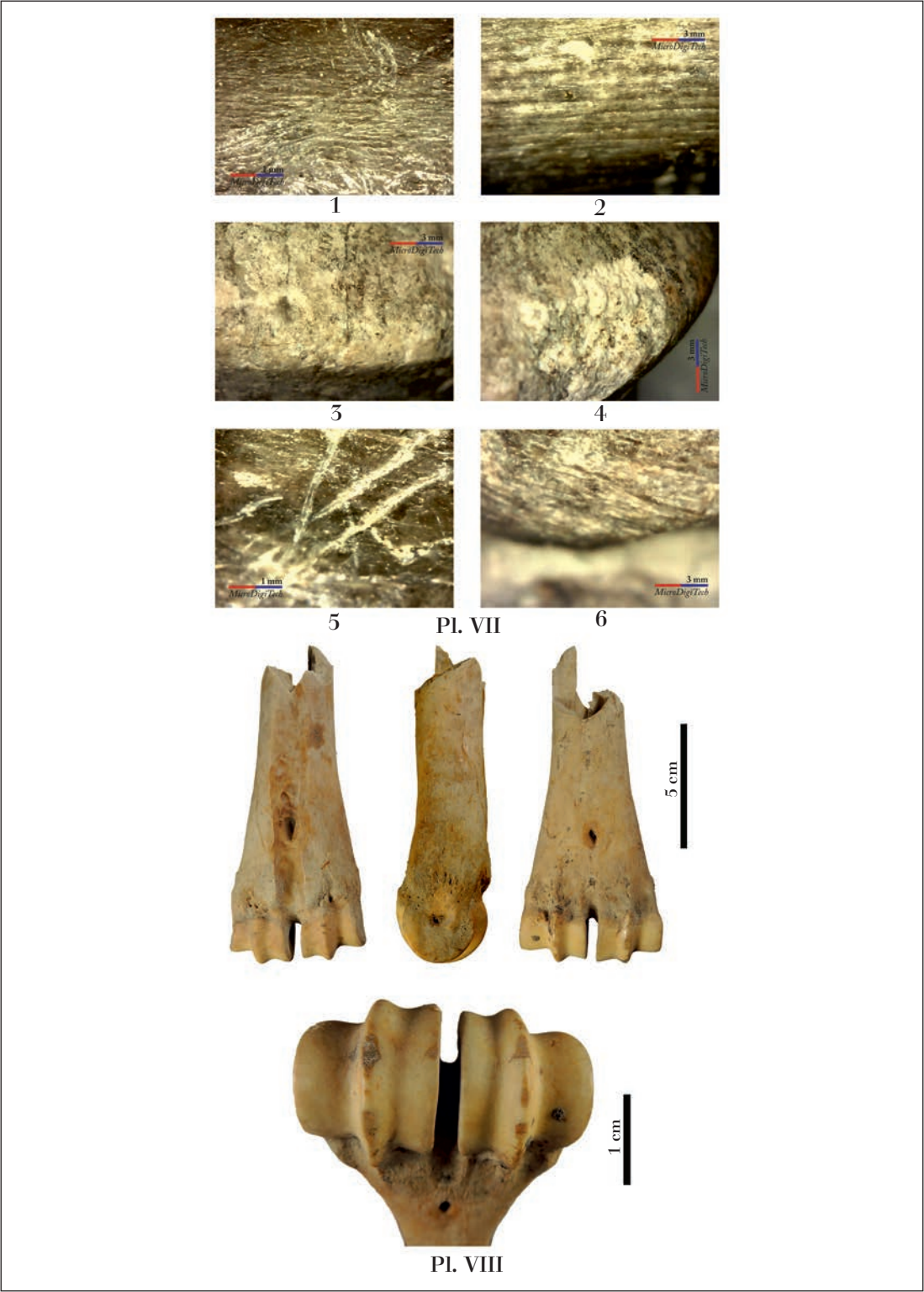
Pl. I-II. Histria, *Basilica extra muros* Sector. Raw material (cattle metapodial) for anvil: HST/2010-BEM 1; HST/2010-BEM 1 - details.



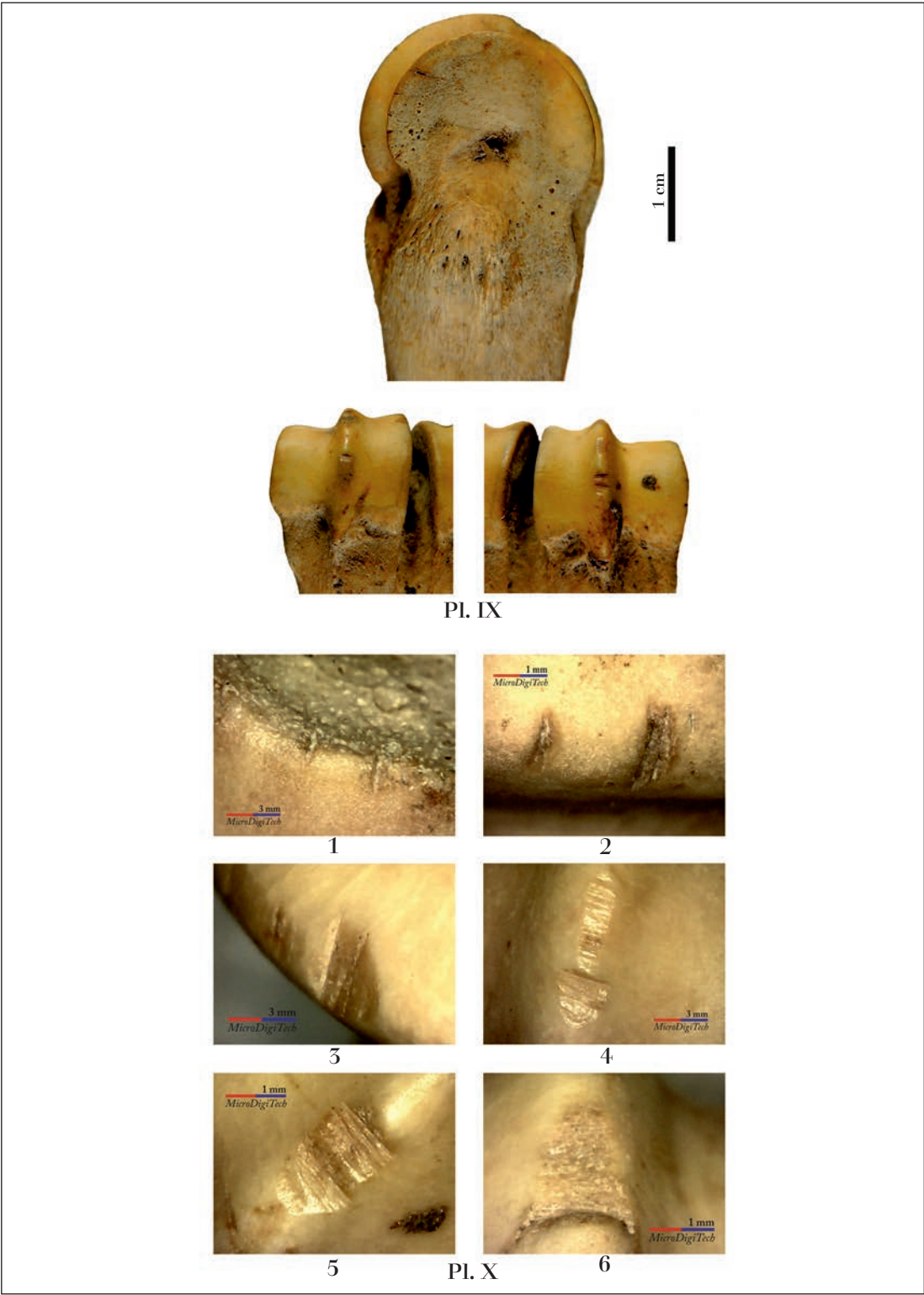
Pl. III-IV. Histria *Basilica extra muros* Sector. Raw material (cattle metapodial) for anvil: HST/2010-BEM 2; HST/2010-BEM 2 - details.



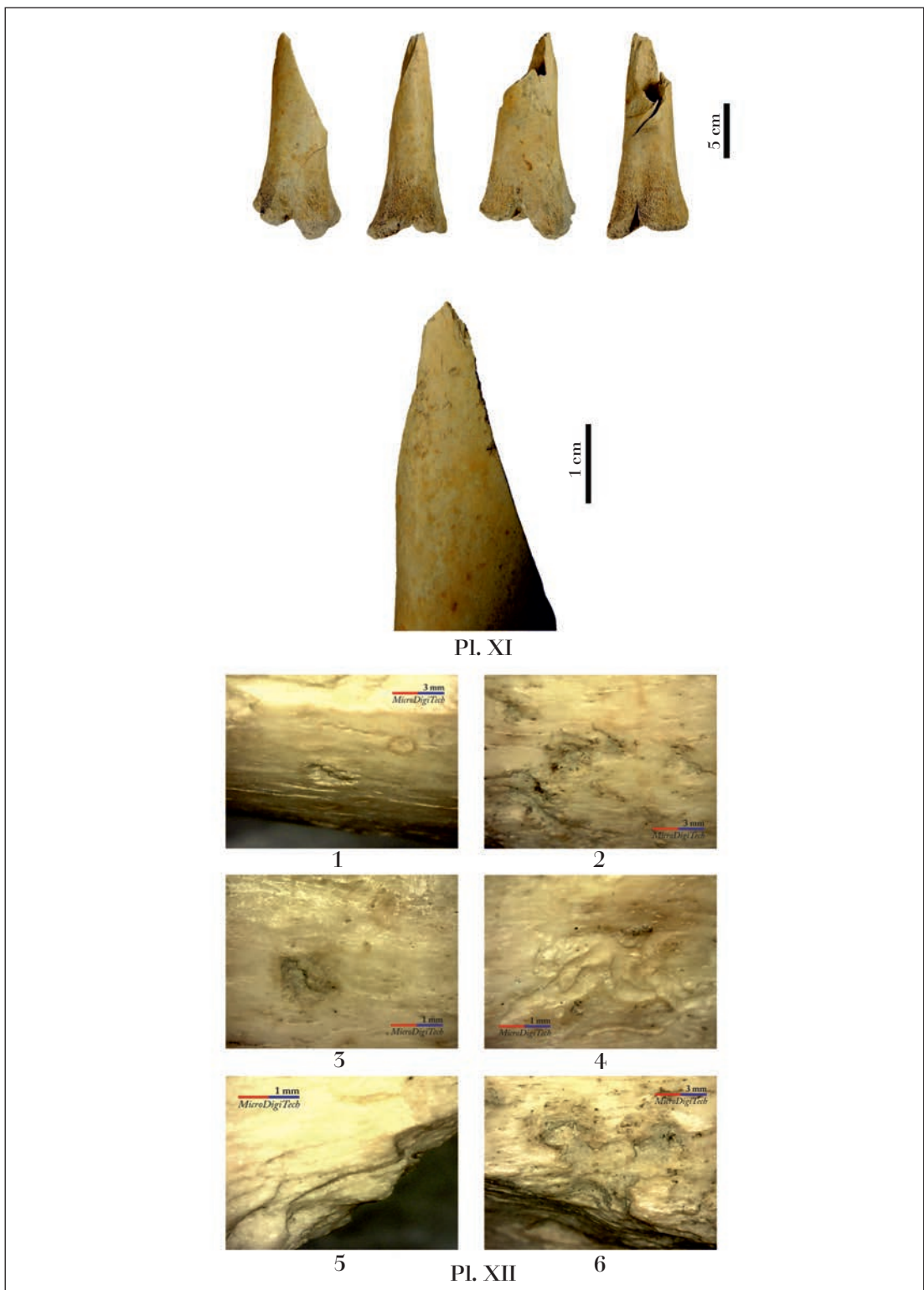
PL. V-VI. Histria *Basilica extra muros* Sector. Raw material (cattle metapodial) for anvil: HST/2010-BEM 2 - details; HST/2010-BEM 3.



PL. VII-VIII. Histria *Basilica extra muros* Sector. Raw material (cattle metapodial) for anvil: HST/2010-BEM 3 - details; HST/2010-BEM 4.



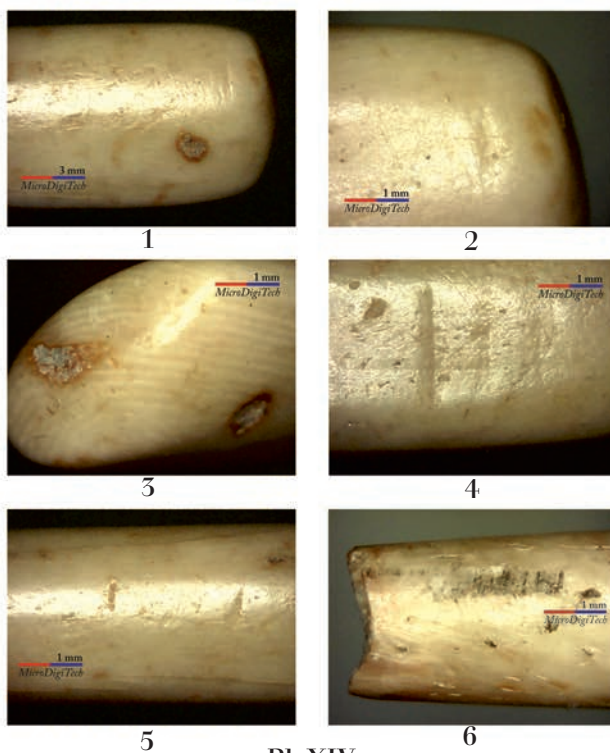
Pl. IX-X. Histria *Basilica extra muros* Sector. Raw material (cattle metapodial) for anvil: HST/2010-BEM 4; HST/2010-BEM 4 - details.



PL. XI-XII. Histria *Basilica extra muros* Sector. Raw material (radius) for anvil: HST/2010-BEM 5; HST/2010-BEM 5 - details.



Pl. XIII

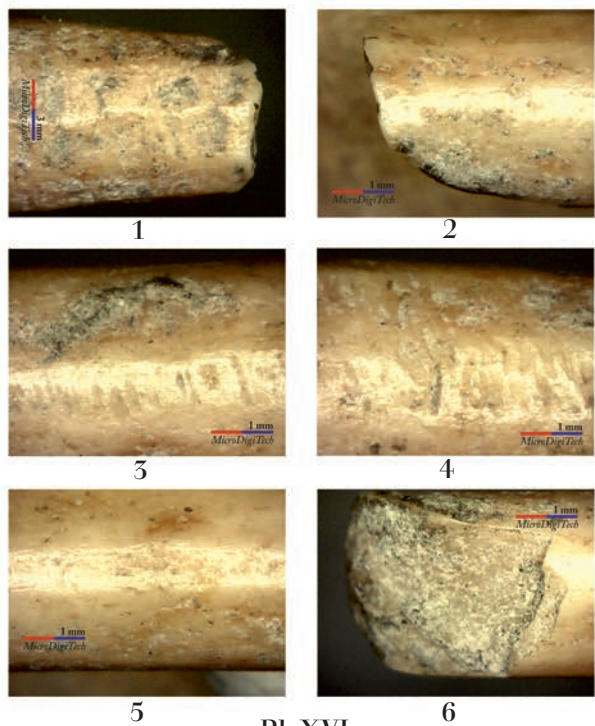


Pl. XIV

Pl. XIII-XIV. Histria *Basilica extra muros* Sector. Bone hair pin: HST/2010-BEM 6; HST/2010-BEM 6 - details.

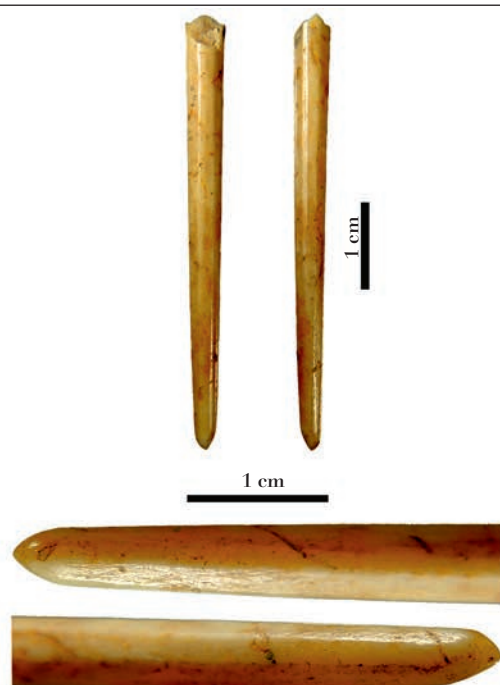


PL. XV

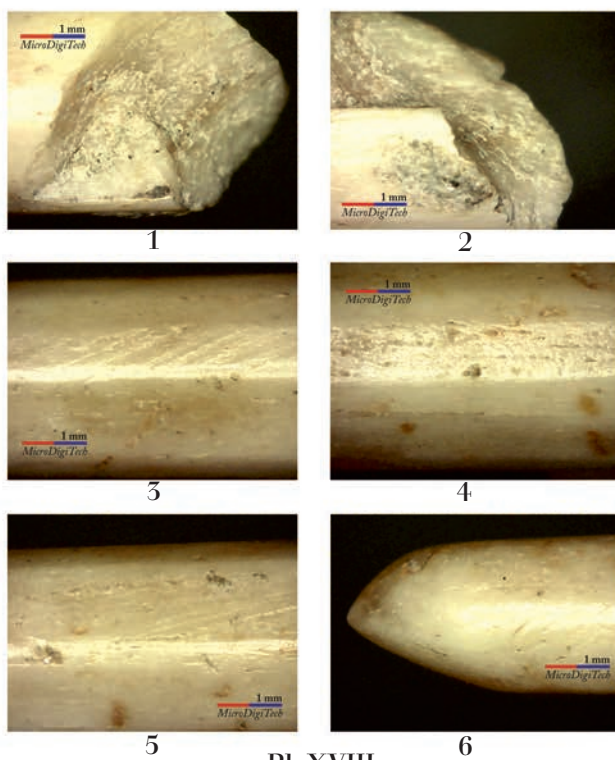


PL. XVI

PL. XV-XVI. Histria *Basilica extra muros* Sector. Bone hair pin: HST/2010-BEM 7; HST/2010-BEM 7 - details.

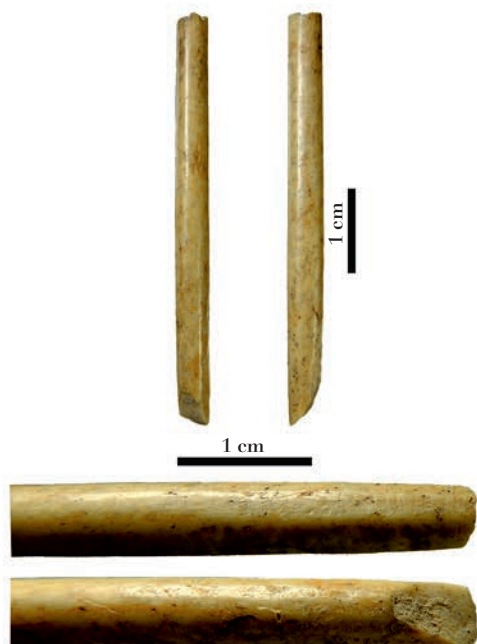


PL. XVII

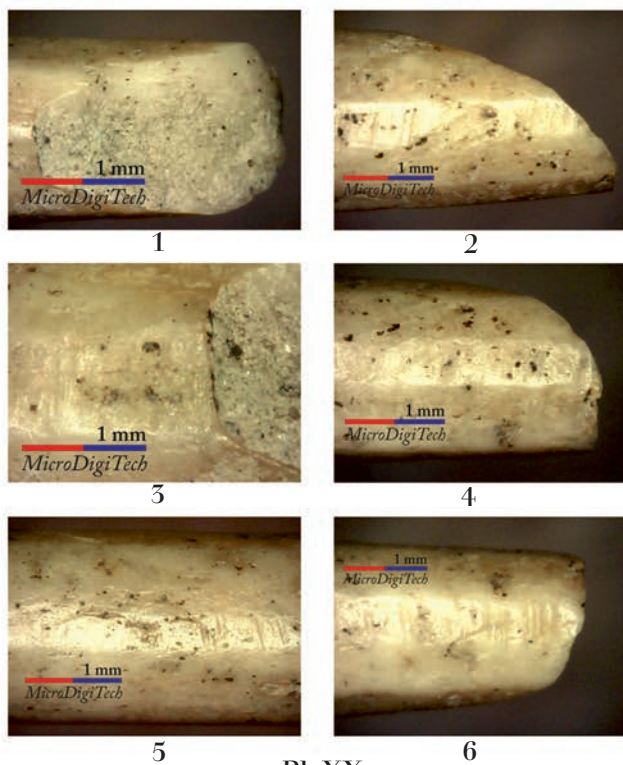


PL. XVIII

PL. XVII-XVIII. Histria *Basilica extra muros* Sector. Bone hair pin: HST/2010-BEM 8; HST/2010-BEM 8 - details.

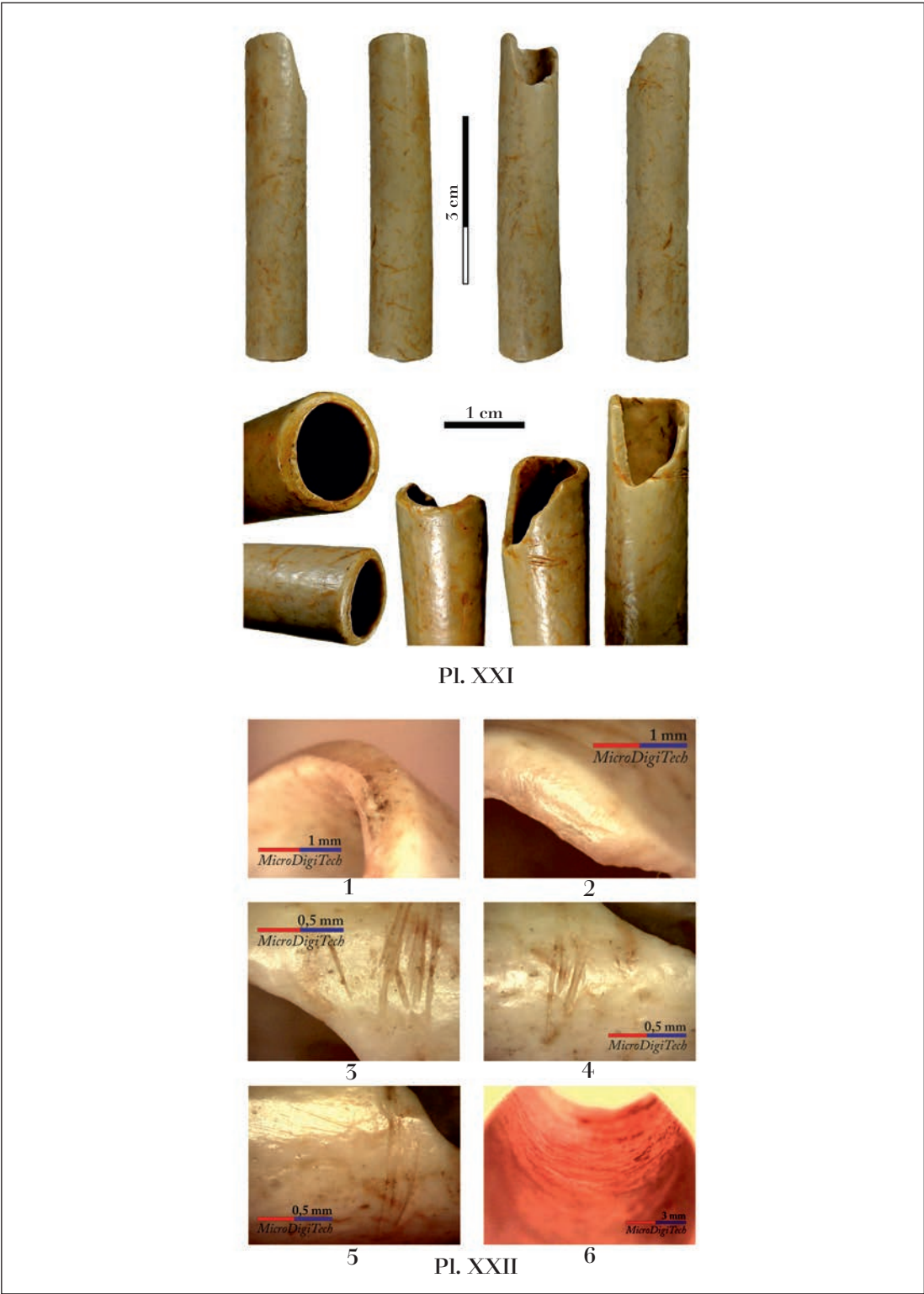


PL. XIX

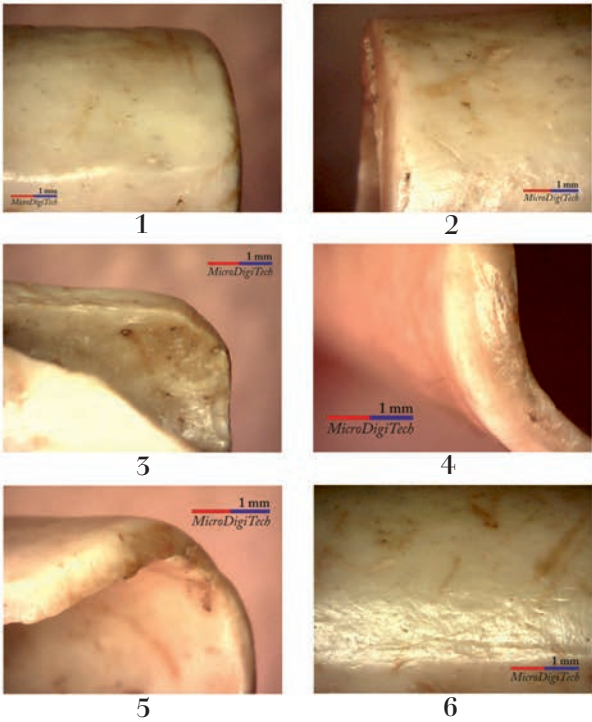


PL. XX

PL. XIX-XX. Histria *Basilica extra muros* Sector. Bone hair pin: HST/2010-BEM 9; HST/2010-BEM 9 - details.



Pl. XXI–XXII. Histria *Basilica extra muros* Sector. Bone tube: HST/2010-BEM 10; HST/2010-BEM 10 – details.

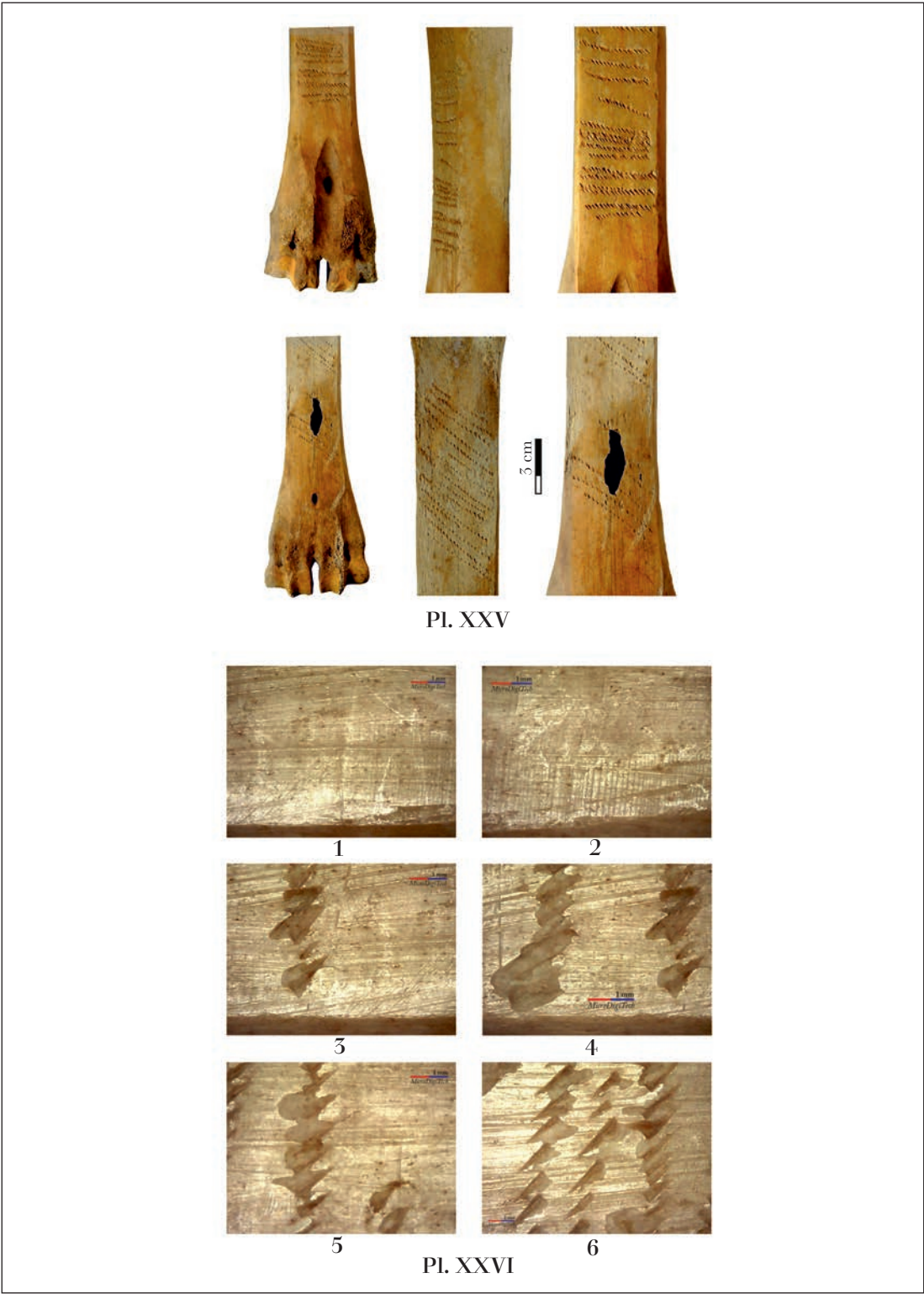


Pl. XXIII

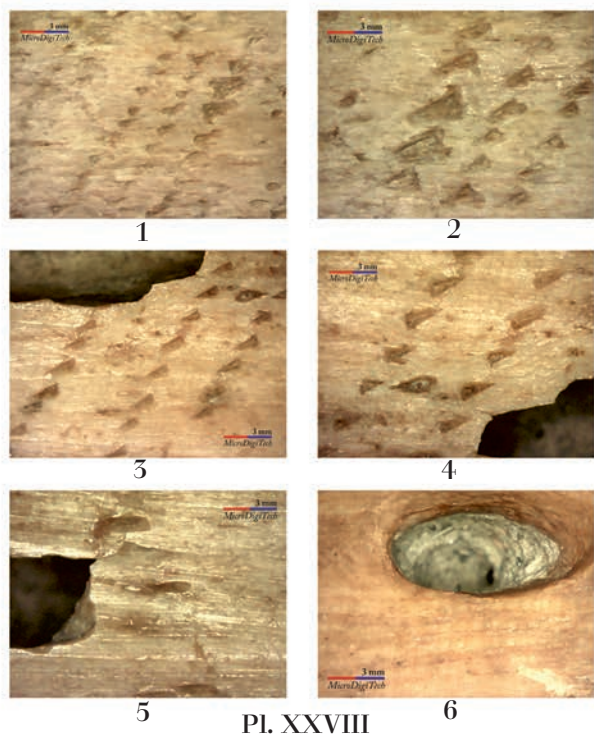
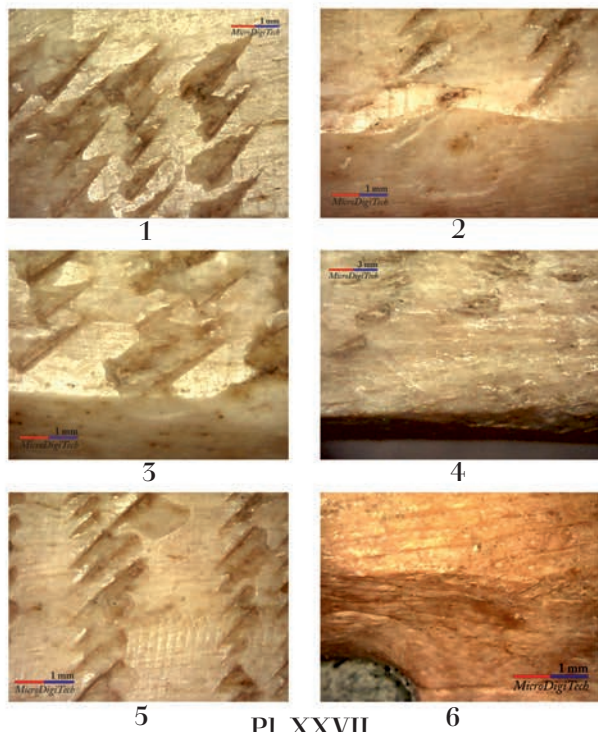


Pl. XXIV

Pl. XXIII-XXIV. Histria *Basilica extra muros* Sector. Bone tube: HST/2010-BEM 10 - details;
Bone anvil from cattle metapodial: HST/2012-BEM 1.



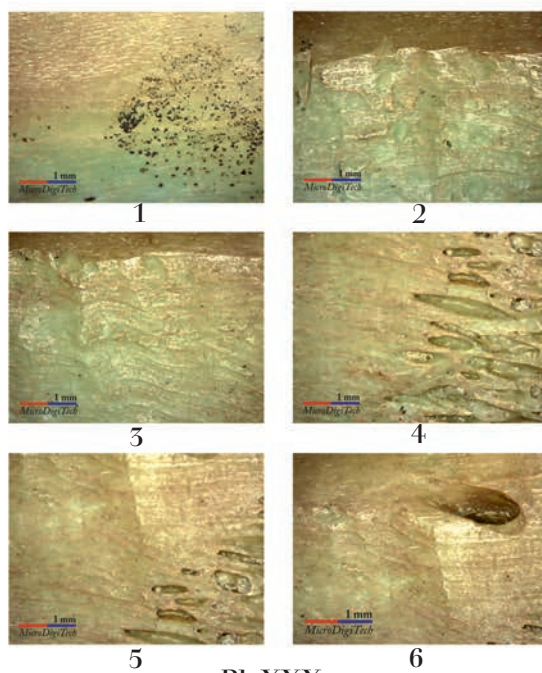
Pl. XXV-XXVI. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 1 - details; HST/2012-BEM 1 - details.



PL. XXVII-XXVIII. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 1 - details; HST/2012-BEM 1 - details.

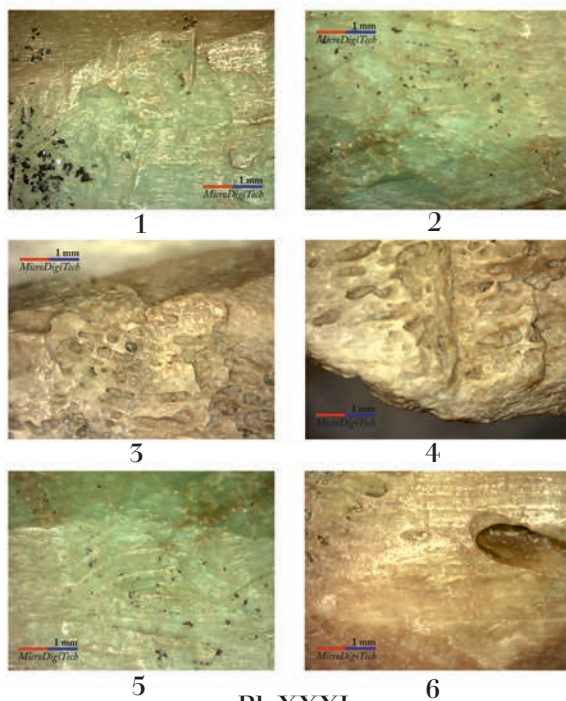


Pl. XXIX

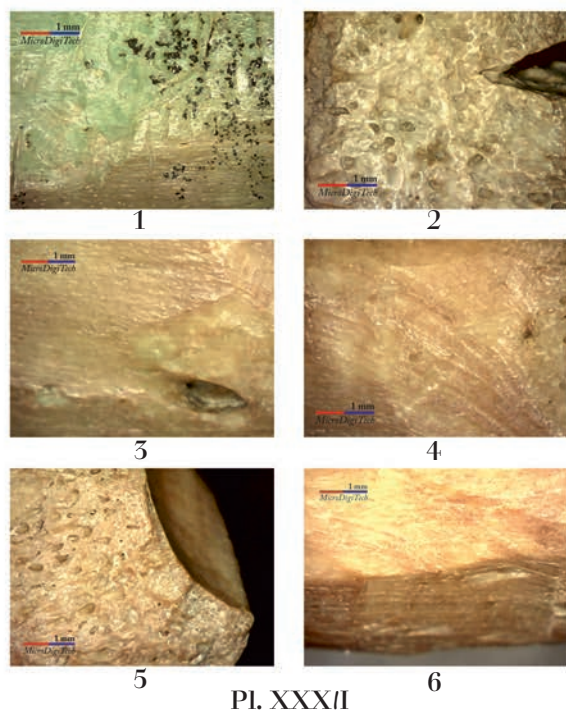


Pl. XXX

Pl. XXIX-XXX. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 2; HST/2012-BEM 2 - details.



PL. XXXI



PL. XXXII

PL. XXXI-XXXII. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 2 - details; HST/2012-BEM 2 - details.

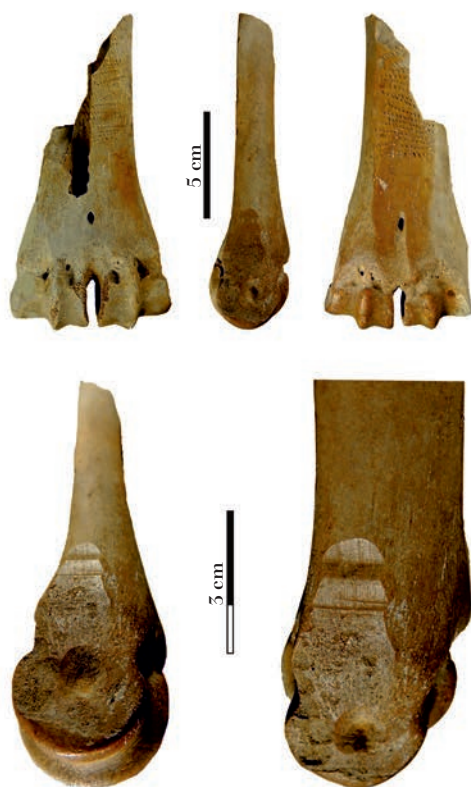
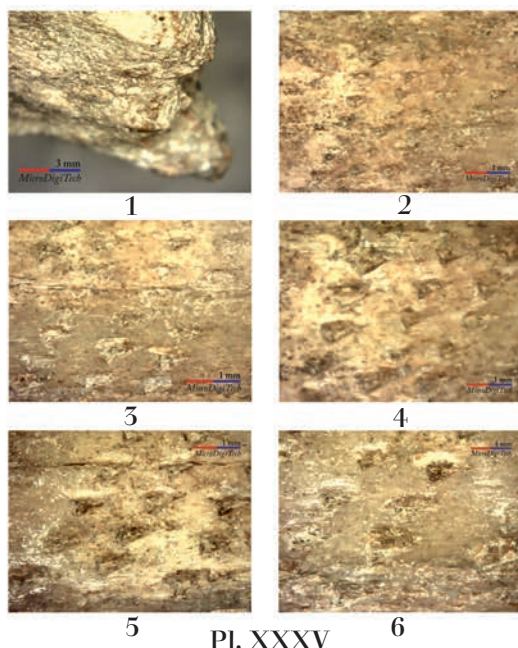


Pl. XXXIII

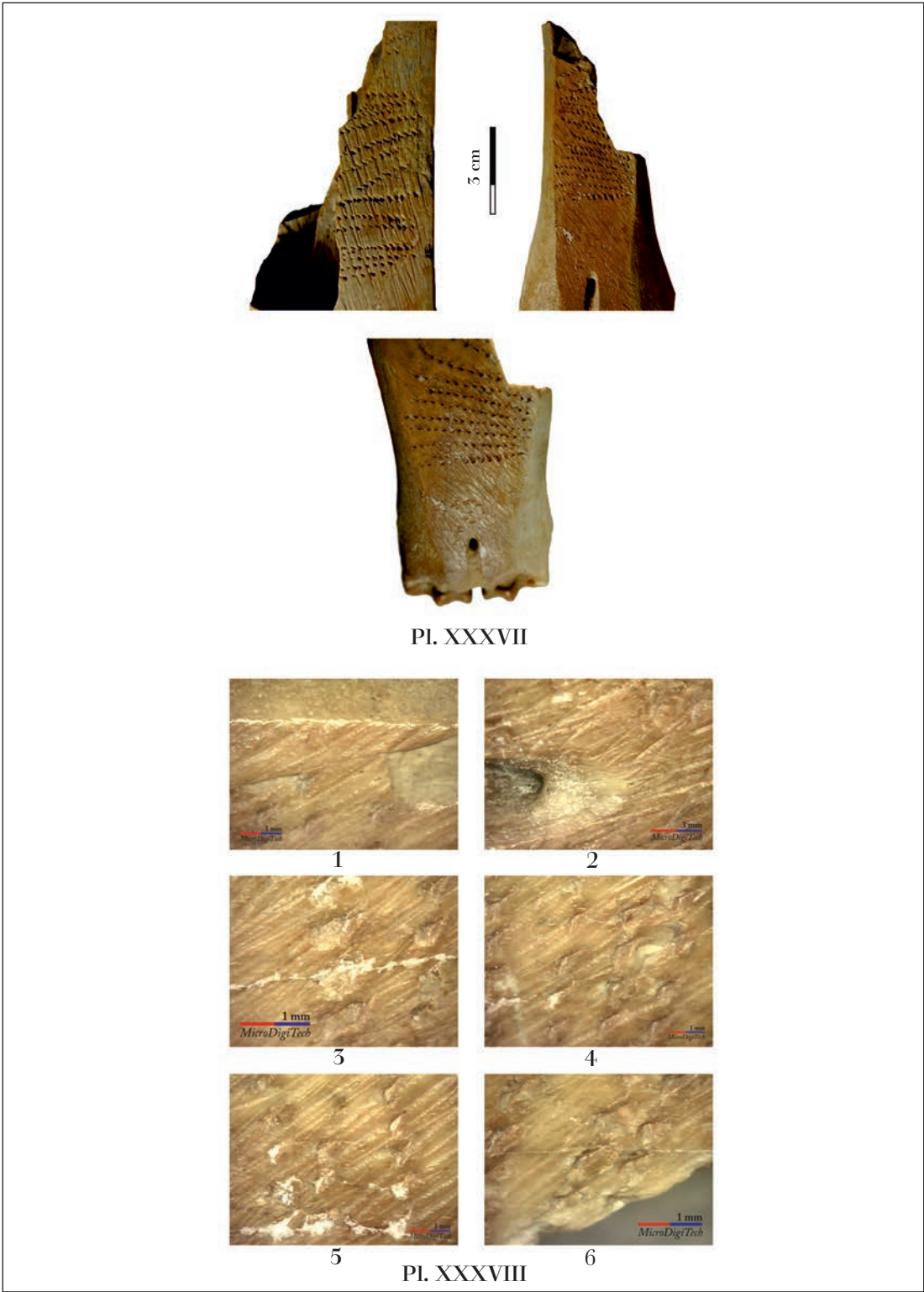


Pl. XXXIV

Pl. XXXIII-XXXIV. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 3; HST/2012-BEM 3 - details.



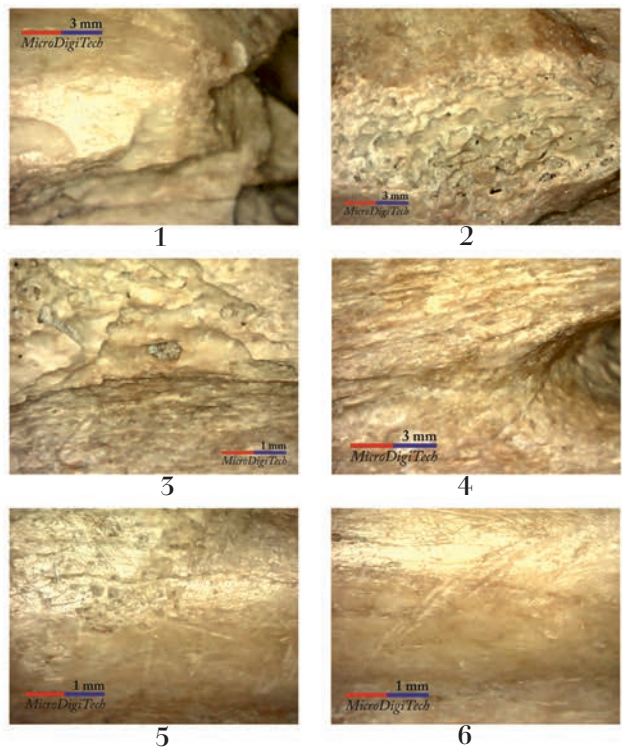
PL. XXXV-XXXVI. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 3 - details; HST/2012-BEM 4.



Pl. XXXVII-XXXVIII. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 4; HST/2012-BEM 4 - details.

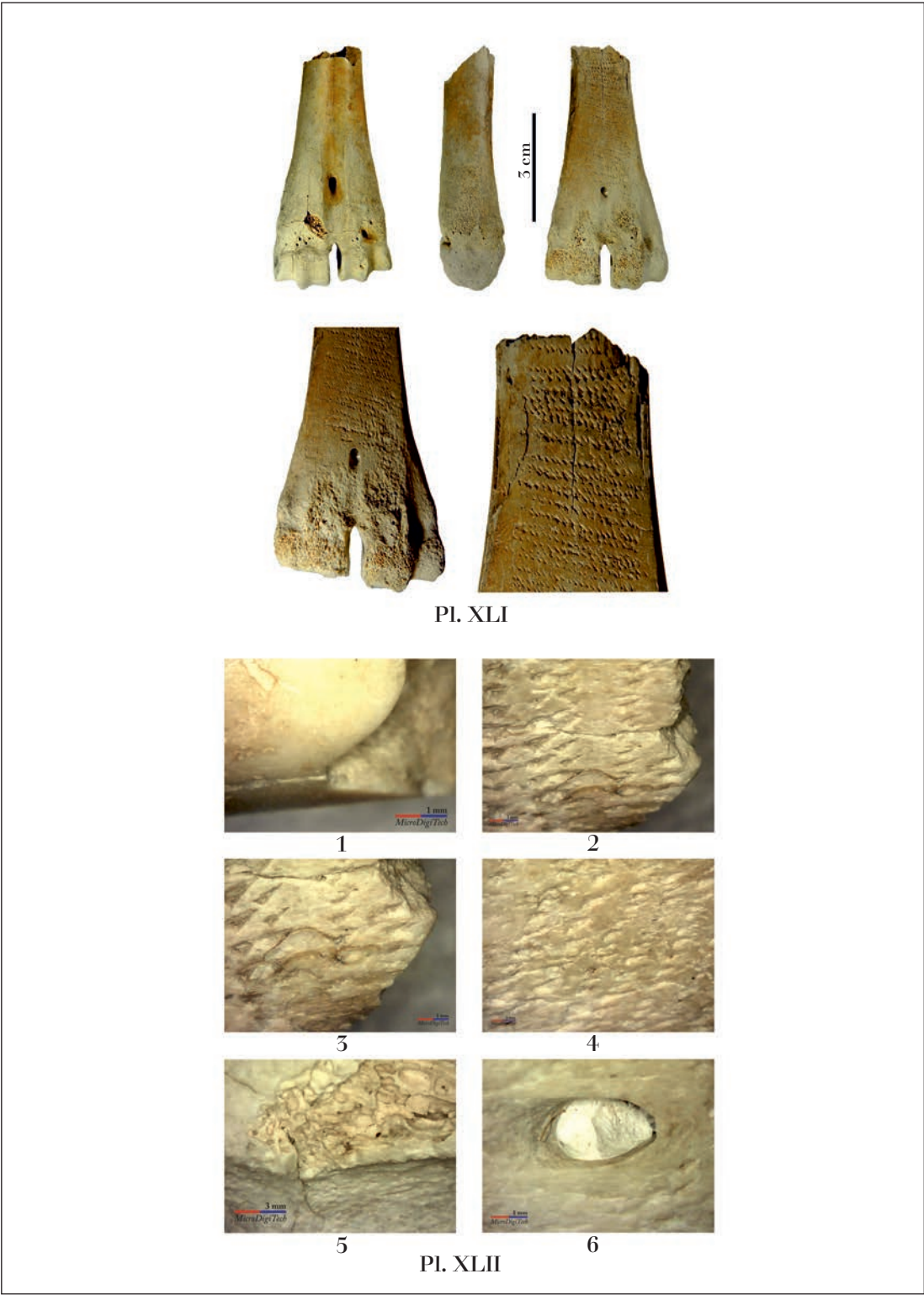


PL. XXXIX



PL. XL

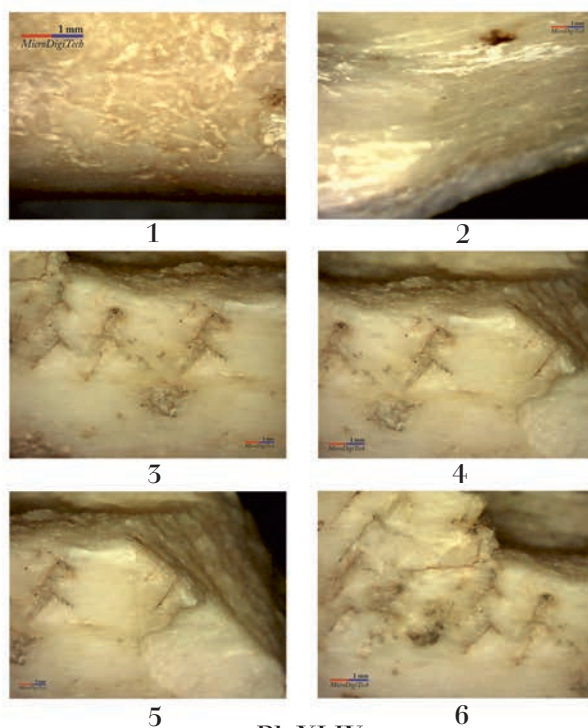
PL. XXXIX-XL. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 5; HST/2012-BEM 5 - details.



Pl. XLI-XLII. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 6; HST/2012-BEM 6 - details.

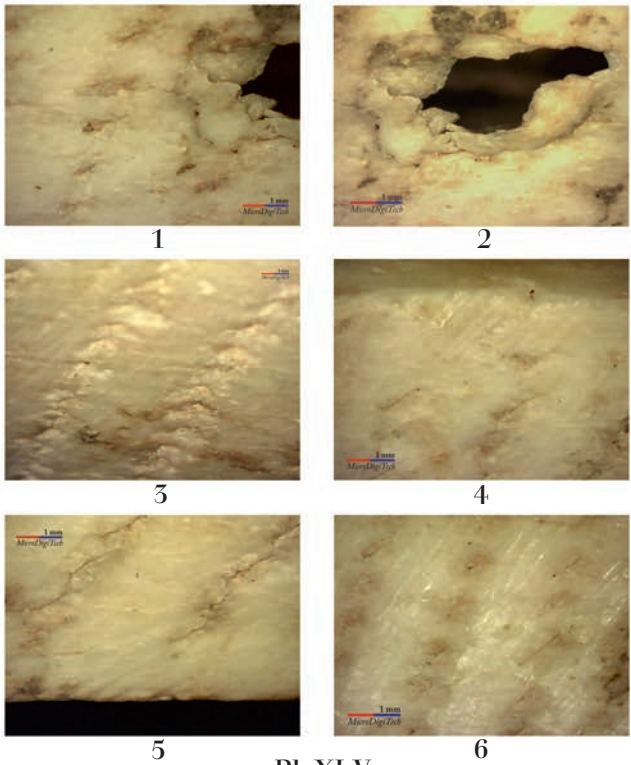


Pl. XLIII



Pl. XLIV

Pl. XLIII-XLIV. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 7; HST/2012-BEM 7 - details.

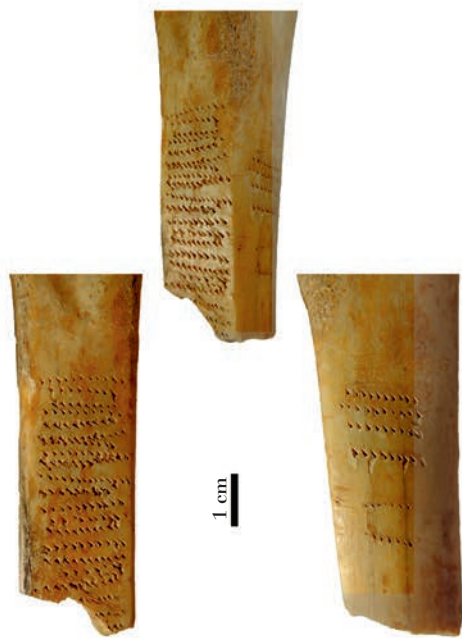


Pl. XLV

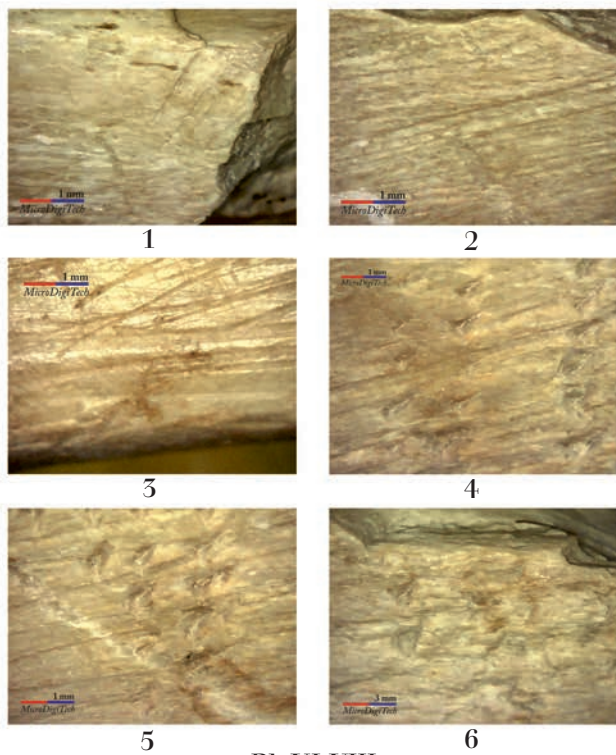


Pl. XLVI

Pl. XLV-XLVI. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 7 - details; HST/2012-BEM 8.

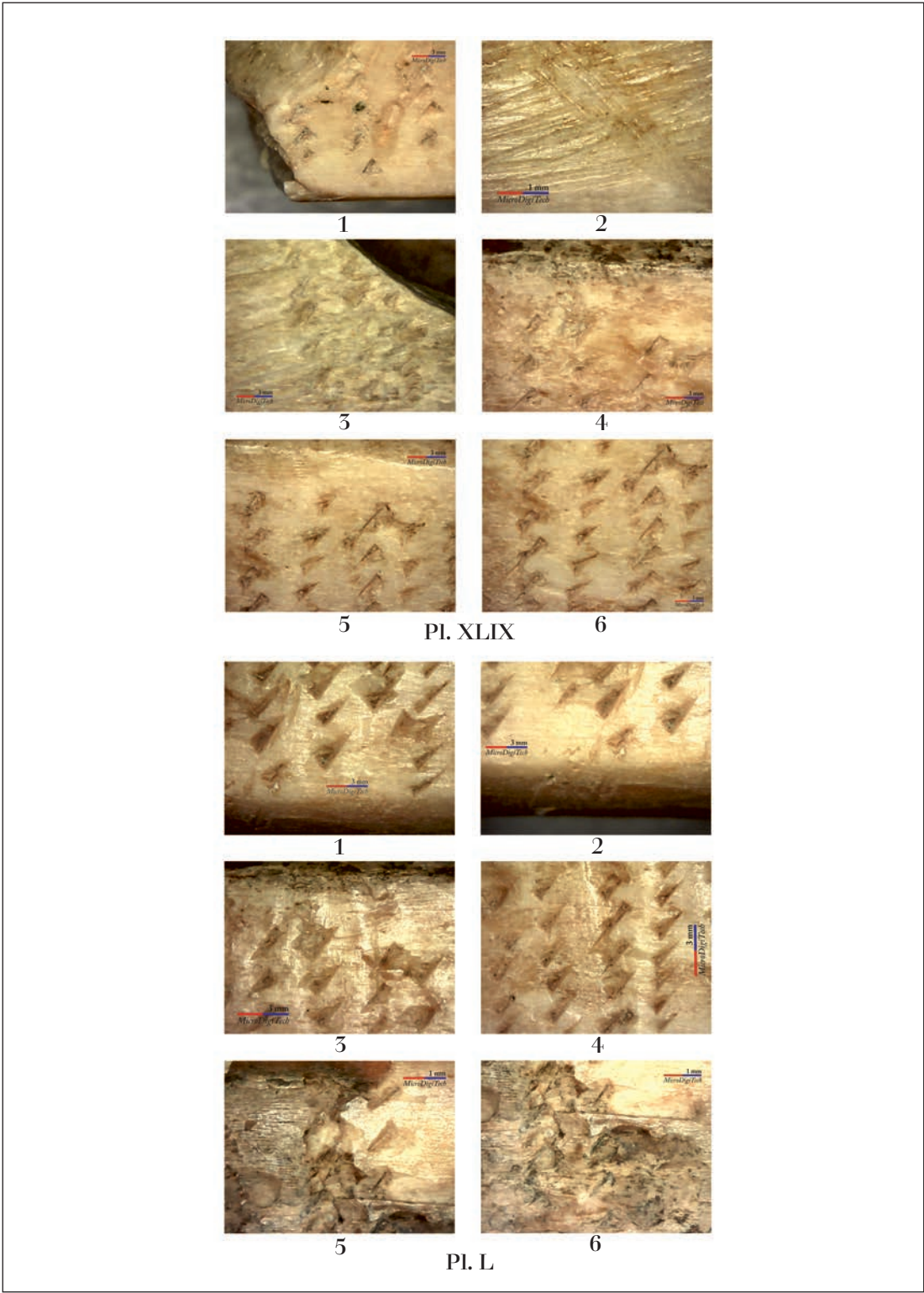


PL. XLVII

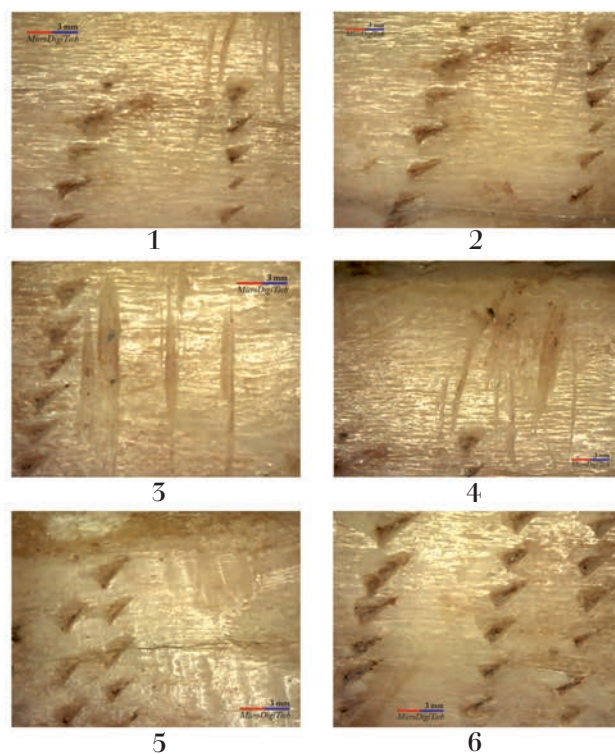


PL. XLVIII

PL. XLVII-XLVIII. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 8; HST/2012-BEM 8 - details.



PL. XLIX-L. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 8 - details; HST/2012-BEM 8 - details.

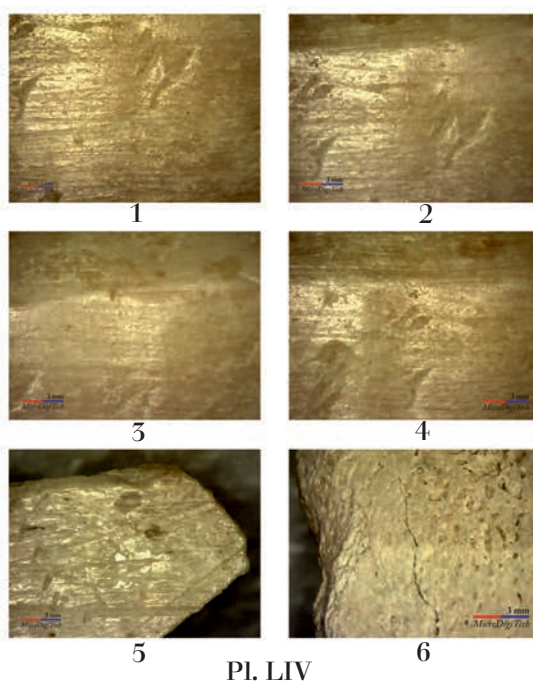


Pl. LI

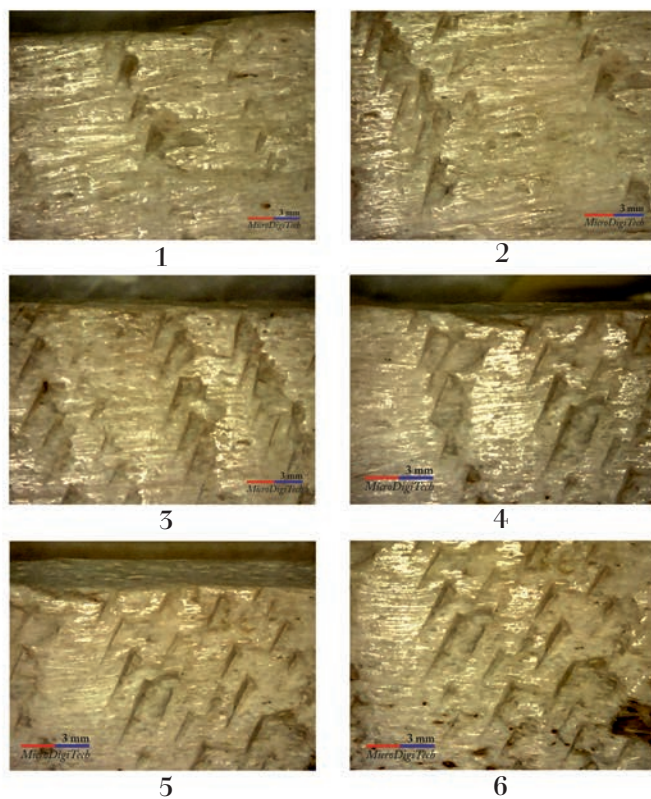


Pl. LII

Pl. LI-LII. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 8 - details; HST/2012-BEM 9.



Pl. LIII-LIV. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 9 - details; HST/2012-BEM 9 - details.



Pl. LV

Pl. LV. Histria *Basilica extra muros* Sector. Bone anvil from cattle metapodial: HST/2012-BEM 9 - details.

ENAMELLED BRONZES DISCOVERED IN THE ROMAN-BYZANTINE QUARTER (SOUTH SECTOR) OF TROPAEUM TRAIANI

GABRIEL TALMAȚCHI, CONSTANTIN ȘOVA

Abstract: Below, we shall present a number of four enamelled bronzes, of which three are appliques that belong to certain categories of belt fittings (military items?), while the other is a seal capsule lid (civil item). They were discovered in sector CI at Tropaeum Traiani, in a large *domus* type building, close to the *cardo* in the southern Roman-Byzantine quarter. All four items belong typologically to the second chronological phase of the enamelled bronzes present in Roman Dacia, specific to the last decades of the 2nd century and the entire 3rd century AD. At Tropaeum Traiani, they come from an archaeological context specific to the first half of the 4th century AD, likely its beginning. Possibly, the enamelled appliques of the belt fittings had pertained to the military environment, namely the cavalry auxiliary troops. From the standpoint of the military environment, mentions on the presence of units at Tropaeum Traiani or in the vicinity are known for the period of the 2nd–3rd centuries AD. In addition, they may, on the other hand, have also a civil function, being fashionable in the civil environment until the first quarter of the 4th century AD. These artifacts may represent a first modest phase in the record of the presence of such objects in the Roman provincial Dobrujan space in general and at Tropaeum Traiani in particular.

Keywords: enamelled bronzes; Tropaeum Traiani; Moesia Inferior; Scythia Minor; the 2nd–4th centuries AD.

Rezumat: Sunt prezentate un număr de patru exemplare de bronz emailate, dintre care trei sunt aplici aparținând unor categorii de garnituri de curea (piese militare?), iar unul este un capac de capsulă de sigiliu (piesă civilă). Ele au fost descoperite în sectorul CI de la Tropaeum Traiani, într-un mare edificiu de tip *domus*, în apropiere de *cardo* din Cartierul de sud romano-bizantin. Toate cele patru piese aparțin, tipologic, celei de a doua etape cronologice a prezenței bronzurilor emailate în Dacia romană, specifice ultimelor decenii ale secolului al II-lea și începutului secol III p. Chr. La Tropaeum Traiani ele sunt descoperite într-un context arheologic specific primei jumătăți a secolului al IV-lea p. Chr., probabil la începutul acestuia. Este posibil ca aplicile de garnituri de curea emailate să fi aparținut mediului militar, respectiv trupelor auxiliare de cavalerie. Din punct de vedere al mediului militar, mențiuni privind prezența unor unități la Tropaeum Traiani sau în împrejurimi sunt cunoscute pentru perioada secolelor II–III p. Chr. De asemenea, ele pot, pe de altă parte, avea și o utilizare civilă, fiind menținute mult în uz în mediu civil până în primul sfert al secolului al IV-lea p. Chr. Artefactele prezentate pot reprezenta o primă etapă modestă în semnalarea prezenței acestor obiecte în spațiul dobrogean provincial roman în general și la Tropaeum Traiani în particular.

Cuvinte cheie: bronzuri emailate; Tropaeum Traiani; Moesia Inferior; Scythia Minor; secolele II–IV p. Chr.

Beneficiary of a very important position on the central provincial imperial road linking Noviodunum to Markianopolis (crossing inclusively by Ulmetum and Ibida¹),

¹ Aricescu 1977, 148.

Tropaeum Traiani was famous among the political, religious and economic centres of Roman Dobruja. Over the time, via the specialty research, the site provided a rich historical-archaeological and architectural data kit, as well as information concerning the small finds like clay, bronze, iron, noble metals, bone, stone objects etc.²

The archaeological research was resumed by the Museum of Constanța in the area of the southern Roman-Byzantine quarter in the fortress at Tropaeum Traiani (sector C) by the end of the last decade of the last century, later unfolding (with a few stops) until during 2012 (inclusively)³. Their goal was to gather new information about the overall view of the late Roman habitation complex and the street system existent in the area (mainly *via forensis* or *cardo*). Insofar, within the entire investigated area, in the buildings to the east and west of *cardo* (Pl. I/1), after a vegetal thin level was recorded stratigraphically an ample debris level⁴. This level is composed of stone pieces (fragments or complete), tile, shingle and brick fragments, large or small adobe pieces (either burnt or unburned). Of the two buildings clearly individualising until present, we shall focus our attention to that westward *via forensis*, in fact a *domus*⁵ (Pl. II/1-2). In the current state of research, we may specify this is an important building, oriented north-south (yet, the northern and southern sides remain unidentified), 9.50-9.60 m wide and 18.50 m long. The eastern side is well preserved (identified on an approximate length of 15 m and 1.30 m in width) and is made in *opus mixtum*. The current southern “limit” is also well preserved on approximately 9.50 m long and 1.20 m wide. The western side is poorly preserved, being though identified on 15 m length and 1.40 m width. We specify that (given also a possible inner staircase of which a few steps stood), the respective building had also a floor, likely made of stone as well. Inside, the building had an *atrium* (7 × 5 m) and *vestibulum*, paved with stone slabs, a water drainage channel, three rooms on the eastern side, five access ways, many column shafts and capitals, metal civil and military objects (bronze and silver), bone objects, potshards, a rich monetary lot specific to the 2nd-4th centuries AD etc. The dating of this large archaeological feature was made based on the building system, the discovered materials and the general circumstances noted by the previous archaeological excavations in this quarter area, as well as those noticed for the town. The building had two phases, the first when it was built (during the first part of the 4th century AD), the second when it was repaired and re-partitioned (in the first two-three decades of the 6th century, dating ensured by a *folles* issued for Anastasius post the reform). The end of the Roman-Byzantine inhabitancy period seems to be placed towards the end of the 6th century, likely during the Avar attack of AD 586. This final destruction level, which put an end to the urban life in the fortress, includ-

² Cătănciu, Barnea 1979b, 177-226.

³ The first research was carried out in 1999 – see Papuc, Dobrinescu 2000, 8.

⁴ Papuc, Talmațchi 2004, 16, sector CI; the same situation could also be noted in occasion of other research in the south quarter, see for instance in Scorpan 1972, 349 etc.

⁵ Papuc, Talmațchi 2006, 35 (where we originally believed that several sides of several buildings were joined there); Papuc, Talmațchi 2007, 28 (where we already mention it is a single building only of large sizes); Talmațchi, Bodolică 2010, 16-18; Talmațchi, Bodolică 2011, 7; Talmațchi, Șova 2012, 18; G. Talmațchi, C. Șova, *Cercetări arheologice în sectorul “CI” de la Tropaeum Traiani. Campania 2011*, paper in the XLVI National Session of Archaeological Reports, Târgu Mureș, 23-26 May 2012; Talmațchi, Șova 2013, 17-18.

ing the southern quarter, is evidenced at the building level as a thick layer composed of earth mixed with much yellow-reddish ash coming from the adobe fallen from the upper half of the walls, by the base of which lay charcoal, iron spikes, tile and shingle fragments, much stone fragments etc. Moreover, similarly to the rest of the town, in this building too, later to this moment, appear poor inhabitancy prints in the form of walls with only a single row of small stones, uneven on the outside, bound with earth, which do not exceed, in our opinion, the end of the 6th century and possibly, the first two-three decades of the 7th century AD⁶.

The research carried out in trenches Cs13 and Cs14 (Pl. I/2), which partially evidenced the interior of the mentioned building, also resulted in the discovery, among other, of a number of three enamelled bronzes. The fourth was retrieved from the deposition area of the earth resulted from the excavation of the same area, during the 2006–2008 campaigns.

The four enamelled items are ordered typologically in the catalogue, their dating being correlated to the present archaeological data, respectively with those provided by the general analogies known within the Empire for such specimens.

CATALOGUE

The order of the presentation of the items in the catalogue is as follows: item designation; plate; material; sizes; preservation status; archaeological context; item description; dating; analogies; storage place. The presented items are in the archaeological collection of the National History and Archaeology Museum of Constanța (MINAC)⁷.

1. Seal capsule (Pl. III/1; IV/1). Bronze, enamel; L = 2.7 cm; l = 2.1 cm; h = 0,3 cm; preserving only the fragmentary head, broken hinge. Tropaeum Traiani, south sector, CI, Cs14; trench 3, -0.80 m. Seal capsule lid, heart-shaped; the delimited central field exhibits a heart-shaped motif, with the depiction inside of two opposed semicircular loops ending each with a small globule; unfortunately, the enamel can no longer be identified, with vague traces of its previous presence; likely traces of green glass. Dating: from early 4th century AD, in the archaeological context at Tropaeum Traiani; 2nd–3rd centuries based on analogies.

Analogies: Ciugudean 1997, 132, catalogue no. 3, Pl. I/3–4; Benea et alii 2006, 143–144, Pl. XXI/5–6. MINAC, inv. no. 48.963.

2. Round belt fitting, applique (Pl. III/2; IV/2). Bronze, enamel; d = 1.85 cm; fragmentary item: part of the disk is slightly bent, and the stud is entirely broken, the piece is perforated in the middle. Tropaeum Traiani, south sector, CI, Cs13, trench 5, -0.90 m. Piece of round flat shape, with dented edges; the applique field is divided into four circular panels, concentric, each decorated with monochrome glass pieces (yellow, green and red-yellow) of different sizes, rectangular or square, by fives or threes; in the central part, the piece still preserves, on the inside walls, poor traces of enamel. Dating analogies: 2nd–3rd centuries (based on the general

⁶ G. Talmațchi, C. Șova, *Events from the VI century p. Chr. illustrated by archaeological research from Tropaeum Traiani (sector C)*, paper in the session “Interethnic Relations in Transylvania, Archaeologia Antiquitatis et Medii Aevi”, Sibiu, October 20th–23rd 2011.

⁷ Within the catalogue, the following abbreviations were used for the items' sizes: L = length; l = width; d = diameter; h = height.

dating context of this category of items); early 4th century in the archaeological context at Tropaeum Traiani.

Analogies: Diaconescu, Oprean 1987, 28, Fig. 5/39-41; Protase, Gaiu, Marinescu 1994, Pl. LXXVIII/3-4; Benea et alii 2006, 92-93, Pl. XI/15-19. MINAC, inv. no. 48.964.

3. Round belt fitting, applique (Pls. III/3; IV/3). Bronze, enamel; d = 1.6 cm; attachment system is partially broken. Tropaeum Traiani, Adamclisi south sector, CI, *passim*, in the removed earth coming from the excavation of trenches Cs13 and Cs14. Piece of flat round shape, the applique field is divided into four circular panels, concentric; the one from the edge exhibits motifs in letter S shape, the decoration technique being Millefiori⁸; all registers show poor traces of enamel, likely green; the edges are perfectly flat, compared to the circumstance known for the analogies. Dating analogies: 2nd-3rd centuries; early 4th century in the archaeological context at Tropaeum Traiani.

Analogies: Benea, Regep-Vlascici, Crînguș 2004, 59, Pl. II/4; Benea et alii 2006, 95, Pl. XII/3; Gaiu 2007, 183, no. 63-98, pl. X-XIII for the Millefiori decoration of the circular knobs. MINAC, inv. no. 48.965.

4. Belt set fitting (category of those with round protuberances), appliqué (Pls. III/4; IV/4). Bronze, enamel traces; d = 2.3 cm; fragmentary piece; one of the circular protuberances is entirely broken, together with part of the central body; the pin is fragmentary. Tropaeum Traiani, south sector, CI, Cs13; trench 5, -0.80 m. The item has a circular field with three concentric panels inside; the edge decoration seems to have been made in green (being identified six trapezoid segments places radially); the second register is divided into four trapezoid segments (difficult to define colour, likely yellow with red according to the analogies), and the central register no longer preserves decoration; four circular protuberances (only three preserving) decorated with enamel (uncertain from colour point of view currently, likely green or blue, and in centre likely red, according to the situations noted with the analogies) lay axially, "on the exterior" of the registers and the piece body. Dating analogies: 3rd century AD; early 4th century in the archaeological context at Tropaeum Traiani.

Analogies: Gudea, Tamba 1992, 316, Pl. VIII/4-5; Benea et alii 2006, 96, Pl. XII/5-6. MINAC, inv. no. 48.966.

All four items belong typologically to the second chronological phase of the enamelled bronzes in Roman Dacia, specific to the last decades of the 2nd century and the entire 3rd century AD.

The first specimen in the catalogue is a seal capsule, which pertains to the common use items⁹, serving to protect the seal from wax (necessary to authenticate various documents), respectively it could have had a votive function¹⁰. Such items were standardized (in shape, representations, decoration), which suggests mass production. This specimen belongs, according to Bajusz István's typology, to type VII with heart-shaped body (type VIIIf, with elongated body, being similar to items coming from the west of the Roman Empire and Syria, at Dura Europos)¹¹. As close analogies we mention the finds made in Dacia at Apulum¹². The dating of this type belongs to the 2nd-3rd

⁸ Geometric and vegetal motifs may appear, according to Benea et alii 2006, 16.

⁹ Benea et alii 2006, 24, 142.

¹⁰ Smith 1999, 40-52.

¹¹ Benea, Regep-Vlascici, Crînguș 2004, 60-61.

¹² Ciugudean 1997, 132, catalogue no. 3-4, Pl. I/3-4.

centuries AD¹³. In the Dacian provincial space, among seal capsules predominate the heart-shaped, alike our specimen¹⁴.

The second specimen in the catalogue (an appliqué) belongs to the category of belt round fittings, the attachment system supposing the existence of a thick stud by the end¹⁵. They were appliques whose functionality was related only to the decoration of the item to which they were fastened. As analogies we mention the finds made in the forts of Dacia Porolissensis, at Gilău and Ilișua¹⁶. In dating terms, it seems to belong to the 2nd–3rd centuries AD, although there are a few exceptions as well¹⁷.

The third specimen, a belt set appliqué, was used either in horse harnesses or the Roman military equipment, just as decorative item¹⁸. As analogy we mention the find made at Porolissum, the Roman customs point¹⁹. The dating of this category of items belongs to the 3rd century AD²⁰. Finally, the last specimen is an appliqué (possibly military) which belongs to the category of belt fittings with round protuberances. As analogy we mention the finds in Dacia at Porolissum, both without clear find context²¹. These analogies date to the 3rd century AD²².

The research of sector CI has amongst its objectives also the identification of inhabitancy prior to the 4th century AD, which was partially fulfilled. Not far from the examined area, via the trenches made approximately 30 years ago, there were found archaeological evidences datable to the early 3rd century AD, prints identified as well in the area of basilica A (potshards specific to the 2nd–3rd centuries AD as well as a coin issued for Caracalla, likely from levels NIII and NII)²³. The entire fortress was built on a soil levelling, full of fillings and debris. The centre at Tropaeum Traiani suffered considerable damages during the 3rd century AD owing to the attacks of the Carp-Gothic populations²⁴. This quasi-total destruction of the fortress later imposed a total reconstruction once with the end of the 3rd century (started, yet not completed under emperors Aurelian and Diocletian) and furthered under emperors Constantine the Great and Licinius (according to the inscription of AD 316 found by the eastern gate)²⁵. This level (NIVA²⁶) corresponds chronologically to the last years of the 3rd century AD and the first two decades of the 4th century AD²⁷. After AD 316, it seems that the reconstruction civil works of the fortress would be finalized after a few decades²⁸, likely by mid century.

¹³ Bajusz 1995, 64.

¹⁴ Benea et alii 2006, 165.

¹⁵ Fèugere, Pillard 1999, 25–26.

¹⁶ Diaconescu, Oprean 1987, 28, Fig. 5/39; 29, 40–41; Protase, Gaiu, Marinescu 1994, Pl. LXXVIII/3–4.

¹⁷ Benea et alii 2006, 76.

¹⁸ Benea et alii 2006, 93–94.

¹⁹ Benea, Regep-Vlascici, Crînguş 2004, 59, Pl. II/4.

²⁰ Gudea, Tamba 1992, 316, Pl. VIII/1–2.

²¹ Gudea, Tamba 1992, 316, Pl. VIII/4–5.

²² Benea et alii 2006, 95.

²³ Panaitescu 1983, 234, 237.

²⁴ Barnea 1979, 228.

²⁵ Barnea 1979, 228.

²⁶ On the general stratigraphic situation and the levels identified at Tropaeum Traiani see Cătănicu, Barnea 1979a, 35–45.

²⁷ Panaitescu 1983, 234.

²⁸ Cătănicu 1995–1996, 201–214.

The half of the 3rd century was deemed a chronologic phase expressing the period of maximum diffusion of these enamelled products, as well as their making and diversification²⁹. Although produced in the 2nd–3rd centuries AD or the 3rd century AD, they appear in our research area in a general archaeological context that belongs to the 4th–6th centuries AD. Likely they were still used or preserved in the 4th century AD (during its first decades). Their wear, preservation and transfer during two or three successive generations (the 3rd century – first part of the 4th century) seem likely³⁰. The chronological data provided by this archaeological research of the south sector at Tropaeum Traiani point precisely to a continuation of their use including in the first part of the 4th century AD. Or maybe they (less likely), reached the area later than the circumstances noted chronologically in Dacia. Nevertheless, this seems an anomaly to the general dating of these specimens (at least from the chronological view of the archaeological context). However, one should not forget that many of the specimens known in the bibliography are ordered chronologically based on certain general dating, being found by chance, with only a few identified in clear archaeological contexts (within the rest of the Empire).

The enamelled items likely belong to the military environment, in our case possibly to the cavalry auxiliary troops, like those quartered in various forts (like for instance in Dacia). Excluding the seal capsule head, they were generally applied to the horse harness, having decorative and functional role, or were military equipment pieces applied on the belt. Enamelled accessories mainly appear in Dacia Porolissensis, yet they are also recorded in Dacia Superior and Dacia Inferior³¹. From the point of view of the military environment, there are records on the presence of units at Tropaeum or in the vicinity during the 2nd–3rd centuries AD. We mention to this effect, the presence around AD 170 of a vexillation of I Italica legion and one of V Macedonica Dacica legion³². In addition, we know that there or possibly nearby was stationed a detachment of XI Claudia³³, since respective legion controlled the southern area of Dobruja³⁴. Last but not least, it is possible that in the area, during the 2nd–3rd centuries AD, might have also been present randomly, units of *cohors I Cilicum miliaria equitata sagittariorum*, whose seat seems to have been for a period at Sacidava³⁵, respectively at Cetatea (Dobromir village, Constanța county) in a *castellum Cilicum*³⁶, south Tropaeum Traiani. Respective military unit seems to have been involved in several actions in the period between AD 134 and (at least³⁷) the end of the 3rd century AD, being considered “one of the most mobile units”³⁸. To this we add various 2nd–3rd

²⁹ Benea et alii 2006, 14, 160.

³⁰ See to this effect the view according to which “...the possibility to transfer from one generation to another this dress accessory is likely, however should be regarded with due caution” in Benea et alii 2006, 26; or the wear of the enamelled brooches with several soldier generations in Benea et alii 2006, 166.

³¹ Benea et alii 2006, 132.

³² Aricescu 1977a, 46, 95; Matei-Popescu 2010, 82, 106.

³³ Aricescu 1977a, 38; Matei-Popescu 2010, 134.

³⁴ Aricescu 1977b, 182.

³⁵ Matei-Popescu 2010, 202.

³⁶ Aricescu 1970, 305–306; Aricescu 1972, 333–334; Aricescu 1974, 120; Aricescu 1977, 58.

³⁷ Matei-Popescu 2010, 202.

³⁸ Matei-Popescu 2010, 205.

centuries AD inscriptions, which illustrate the existence in the town of several centuries, tribunes, signifers and veterans³⁹.

The same enamelled items might have also belonged also to the civil environment. We reference here the situation noted in Britannia, where 30% of the total known belong, by the nature of the finds and use, to the civil environment⁴⁰. Maybe their origin, in this variant, to the civil environment at Tropaeum Traiani (also on the background of the changes suffered by the Roman military equipment by early 4th century AD) would simplify their presence in an archaeological context specific to early 4th century AD.

The relatively small number of such finds comparative to other Roman provinces may be related, on one side, to the rarity of their discovery both in archaeological contexts as well as by chance in the Dobrujan area, or, on the other hand, on their storage with museal and private collections. Given all the above, as yet, we do not believe they were made locally. In this state of research, we may rather consider them imports. In general, the specialty bibliography, over time, it is argued that the various categories and product variants of enamelled bronzes were made either in Barbaricum⁴¹ or in *officinae* of certain provinces in the East or West (and arrived by sea or land)⁴², or produced precisely in *officinae* in Dacia (and brought via land and rivers). And we take into consideration the existence of local workshops in Dacia like possibly those at Apulum⁴³, Tibiscum, Porolissum and Buciumi (the *fabrica* in barrack no. 5)⁴⁴. The items in our catalogue might belong to this last category, although, as noted, such specimens are broadly distributed all over the Empire⁴⁵.

The discovery of these enamelled pieces in a powerful urban centre in the central-southern area of the Dobrujan provincial space suggests that direct and indirect relations with other provinces, especially with Dacia likely existed. Henceforth, small-sized military origin bronze enamelled artifacts are also present in the south-Danubian Dobrujan province. The present finds may represent a first modest phase in the record of such objects in the Dobrujan Roman provincial space. All the more that they seem, as already mentioned, rare in the province of Moesia⁴⁶.

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⁴⁰ We hereby thank the reputed specialist and friend Dr. Liviu Petculescu for his suggestions.

⁴¹ Böhme 1972, *passim*.

⁴² Benea et alii 2006, 126-127, 160.

⁴³ Moga et alii 1997, 535.

⁴⁴ Benea 1982, 337-343; Benea 2004, 76-77, 206-208; Benea et alii 2006, 101, 104, 114, 132, 153-154, 156-161, 166, 168.

⁴⁵ Henry 1933, 65-146; Bateson 1981, 53, fig. 7B.

⁴⁶ We reference the items currently published. Other specimens of the type might also exist, coming from excavations or chance finds from Dobruja, still expecting publication; we do not also exclude the possibility that same category items found still in Dobruja had already been published, yet of which we are not aware.

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Gabriel Talmațchi

gtalmatchi@yahoo.com

Constantin Șova

sova_costin@yahoo.com

National History and Archaeology Museum of Constanța



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Pl. I. 1. Location of sector CI at Tropaeum Traiani; 2. Trenches Cs13 and Cs14 in sector CI.

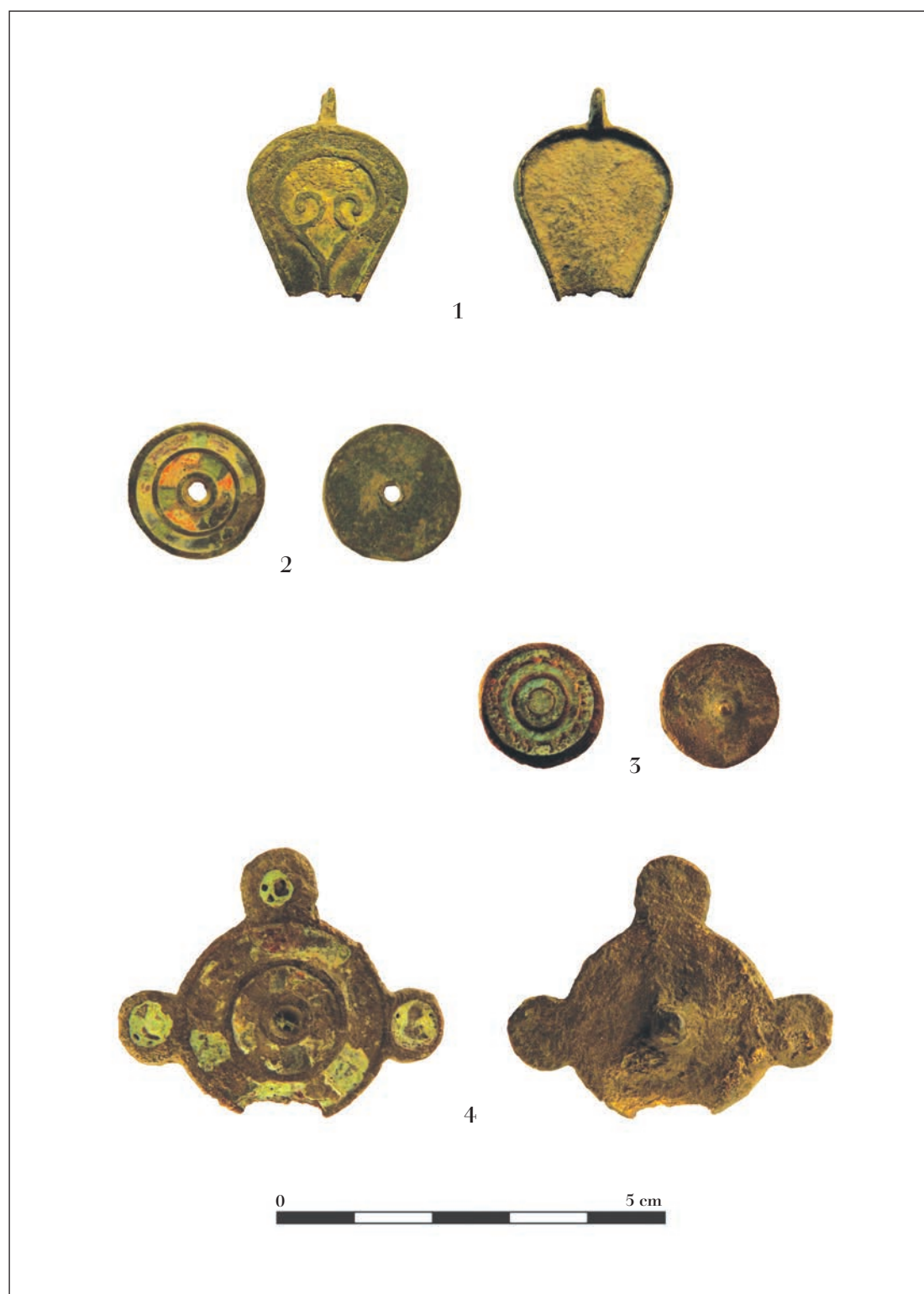


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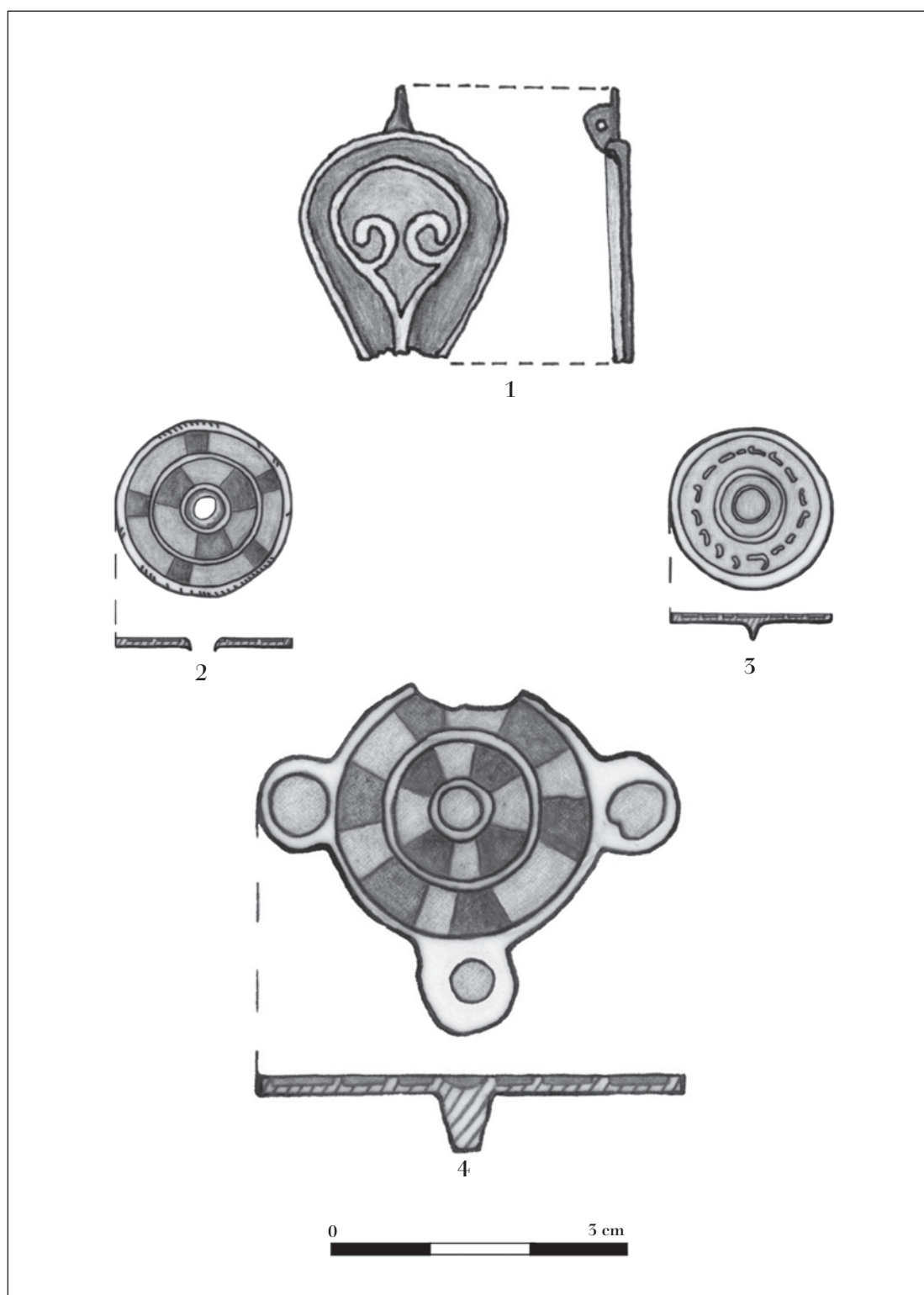


2

Pl. II. 1-2. West and north-west overall view of the *domus*-building in sector CI.



Pl. III.1-4. Enamelled bronzes discovered in sector CI at Tropaeum Traiani.

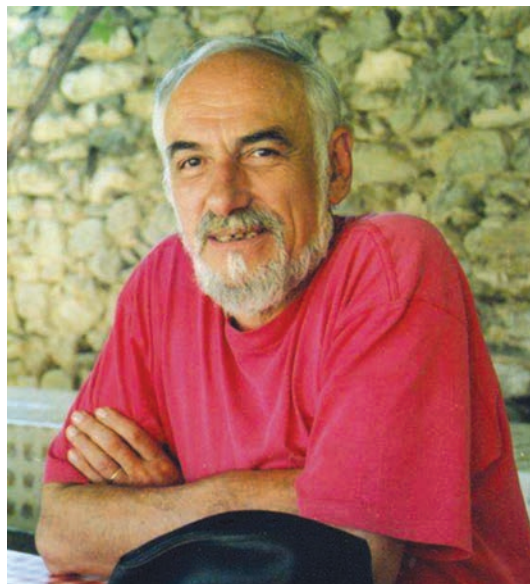


Pl. IV.1-4. Graphical representations of the enamelled bronzes discovered in sector CI at Tropaeum Traiani.

IN MEMORIAM

DR. DORIN ALICU (12.10.1948 – 27.07.2013)

Carissimo Amico, Amabili Collegae, Optimo Praesidi



Our beloved friend, kind colleague and, for those who worked under him, the best director, Dorin Alicu was above all a gifted field archaeologist: he had a deep knowledge of stratigraphy and an extraordinary intuition for discovering great monuments. He was due with a tremendous energy and great creativity.

Dorin Alicu was probably the best site director of his generation, a manager of great energy and efficiency. He devoted most of his life to the excavations of Roman Sarmizegetusa (in his native region), where he established himself in the last years of his life. In many years he spent more than a month on this site. Besides many structures, excavated in four decades of sustained work, he also left behind several monuments restored under his guidance. For 41 years he served the National History Museum of Transylvania, starting as a simple museologist and reaching the position of vice director of this prestigious unit. Dorin Alicu was also an extremely prolific author who produced not less than 14 books. He also coordinated other 7 volumes and catalogues, and above all he published almost 100 scientific articles, studies and archaeological reports. Along with his mentor and friend, the late professor Hadrian Daicoviciu, he initiated at Sarmizegetusa the first international excavations in Romania, cooperating mainly with British and Swiss scholars and students, which helped improving the excavation techniques and methods used until then. These excavations served as a school for several generations of students and young archaeologists, including myself. Dorin Alicu

also organized several summer camps for young archaeologists in Sarmizegetusa which proved over the years to have had an exceptional public impact.

Dorin Alicu was born in the village of Râu Bărbat, in the neighborhood of Roman Sarmizegetusa, from an old respected family in the region. He was educated in the town of Lupeni and, after graduating in 1972 the Faculty of History and Archaeology of the Babeș-Bolyai University from Cluj-Napoca, he was employed at the National History Museum of Transylvania from Cluj-Napoca. After four decades he retired from here a few months before dying in 2013. Between 1983 and 1989 he was appointed director of the Regional Laboratory of Restoration of the same museum, a function he fulfilled again between 1993 and 2013. In 1992 he became head of the Department of Roman Archaeology and in 1993 vice director of the same National History Museum of Transylvania. In 1997 Dorin Alicu became senior museologist, after obtaining the PhD title with a paper on Roman architecture in Dacia Superior, with special reference to the amphitheaters.

Starting with 1973 and till the end of his life he yearly performed excavations at Sarmizegetusa, first under the direction of Hadrian Daicoviciu, then of Ștefan Pascu, and after 1989, as director of the site (or part of it), sharing and alternating this responsibility with Ioan Piso. Dorin Alicu was the effective director of the excavations of the temples north of the Roman town: Liber Pater, Aesculapius and Hygeia, the temple of Silvanus and the so called "Great Temple" (where he worked with H. Daicoviciu, C. Pop, A. Rusu-Pescaru, E. Nemeș, I. Piso). He also initiated the excavations at the residence of the financial governor of Dacia Apulensis. Among other sites he conducted excavations at several private buildings in the vicinity of the amphitheater, including a glass workshop, a *thermopolium* and a water mill. His main achievement was the re-excavating of the amphitheater and the discovery of the traces of the timber phase of this imposing structure, where he cooperated with his younger colleagues from the National History Museum of Transylvania, dr. Emilian Bota and Victor Popa. He also re-investigated the nearby temple of Nemesis, with dr. Emilian Bota and dr. Carmen Ciongradi. In the last years he excavated with dr. Gică Băeștean from the local museum several houses in the *insula* west to the *forum*. All these excavations were published and the structures were consolidated and partly restored, thus making of Dorin Alicu one of the most responsible and successful archaeologists of his generation.

He also executed archaeological research in the Roman small town of Micia (Hunedoara county), in the *villa* at Chinteni (Cluj county) and coordinated the rescue excavations at Polus Centre near Cluj-Napoca.

The scientific activity of Dorin Alicu was equally prolific. His main field of expertise was Roman provincial architecture, and in this respect he produced a consistent monograph on the amphitheater of Sarmizegetusa (*Ulpia Traiana Sarmizegetusa. Amfiteatrul. I. Monografie arheologică*, Cluj-Napoca 1997), followed by a more general book on the amphitheaters of Roman Dacia (with C. Opreanu, *Les amphithéâtres de la Dacie romaine*, Cluj-Napoca 2000). He also published several archaeological reports and articles on the temples of Sarmizegetusa (some with H. Daicoviciu, in *ActaMN*, 18, 1981, 59–84 and *ActaMN*, 19, 1982, 59–74, others alone, such as on the temple of Apollo from Tibiscum, in *Tibiscus*, 10, 2000, 299–304 and on the

Mithras temple from Pojejena, in *Sargetia*, 28, 1999–2000, 219–220, or the temples from Micia, in vol. *Studia archaeologica et historica Nicolao Gudea dicata: omagiu Profesorului Nicolae Gudea la 60 de ani*, Zalău 2001, 219–224 and in *ActaMN*, 38, I, 2001, 155–159, *Apulum*, 39, 2002, 201–235 and *Banatica*, 16/I, 2003, 231–244). These studies were followed by the general book on cult buildings from Roman Dacia (together with A. Rusu-Pescaru, *Templele romane din Dacia* (I), Cluj-Napoca 2000). The guide of the site of Roman Sarmizegetusa (with H. Daicoviciu, *Colonia Ulpia Traiana Dacica Sarmizegetusa*, București 1984), the analysis of the urban and demographic development of the same place (together with A. Paki, *Town Planning and Population of Ulpia Traiana Sarmizegetusa*, Oxford BAR, internat. series 605, 1995) and the first volume of the monograph of Roman Micia (*Micia, I*, Cluj-Napoca 2004), all illustrate his broader interest for Roman urbanism.

Dorin Alicu was not only concerned with monumental structures, he also dealt with archaeological material, including the small finds. He has the merit of publishing the stone and bronze figured monuments from Sarmizegetusa (together with C. Pop and V. Wollmann, *Figured Monuments from Sarmizegetusa*, BAR, internat. series 55, Oxford 1979), the lamps from the same site (a first volume with E. Nemeș, followed by other two volumes of himself, which became a reference in the field, *Roman Lamps from Ulpia Traiana*, BAR int. ser. 18, Oxford 1977; *Opaițe romane. Ulpia Traiana Sarmizegetusa / Die römischen Lampen. Ulpia Traiana Sarmizegetusa*, București 1994; *Die römischen Lampen von Sarmizegetusa. I. Funde der Jahre 1881–1976*, Zalău 2006), and the small finds from the old excavations of the same site (with S. Cociș, A. Soroceanu, C. Ilieș, *Small Finds from Ulpia Traiana Sarmizegetusa*, Cluj-Napoca 1994). Dorin Alicu devoted himself to the education of the great public too, producing a general book on Roman medicine (together with I. H. Crișan, *Medicina la romani*, Cluj-Napoca 2003), editing exhibition guides and catalogues, and initiating publishing for young people, such as the series on archaeology for children.

The national and international prestige of Dorin Alicu as well as the appreciation of his colleagues and former pupils took shape in the volume *Studia Archaeologica et Historica in Honorem Magistri Dorin Alicu* (ed. V. Rusu-Bolindeț, T. Sălăgean, R. Varga), Cluj-Napoca 2010 (with 36 contributions).

Dorin Alicu died three days after his colleague, Dan Isac. He was just assisting us in the reopening of the excavations of the so called “Great Temple” from Sarmizegetusa. He was also supervising the rescue excavations due to the development projects around the site. We all regret his early and sudden departure from this world. We will always miss him, especially the excavators of Roman Sarmizegetusa, who would have loved to benefit more from his exceptional expertise of this site, and on archaeology in general. He is equally regretted by his many friends from the counties of Hunedoara and Cluj who will never benefit again of his warm hospitality. Without him Sarmizegetusa will never be the same.

Alexandru Diaconescu

“Babeș-Bolyai” University Cluj-Napoca
a_diaconescu@yahoo.co.uk

CONF. DR. DAN ISAC (18.07.1946 – 24.07.2013)

Carissimo Amico, Admirabili Collegae, Magistro Optimo



Our late dear friend, wonderful colleague and best teacher, Dan Isac was besides a great schoolmaster, an exquisite excavator and probably the luckiest archaeologist of his times, who made outstanding archaeological discoveries.

Dan Isac was a pioneer in the field archaeology of Roman Dacia. He was the first to identify timber structures of Trajanic and Hadrianic date, which were later covered by stone buildings. Thus he opened a new direction in Romanian archaeology which concerned the complete study of the stratigraphic sequence of Roman structures from Dacia. Dan Isac devoted almost all of his time to excavations in the auxiliary forts of Gilău (between 1973 and 1985) and Cășeiu (between 1980 and 2013), which produced, besides impressive masonry rests, many small finds of exceptional value. Here he introduced into archaeology and trained many generations of students, including myself. For 43 years he served the University of Cluj-Napoca, where from he retired in 2011. His main fields of expertise were: Roman military history, structures and artifacts, Roman pottery, Roman provincial art and religion, and theoretical archaeology. He wrote 5 books and not less than 64 studies, articles and archaeological reports.

Dan Isac was born in Cluj-Napoca (by then just Cluj) and was educated in the same town of Cluj. He belonged to one of the oldest Romanian families in the town. His grandfather, Emil Isac, was one of the most brilliant intellectuals and an inspired poet of the first half of the 20th century in Cluj. The interest for Roman history and for ancient objects was for Dan Isac a family heritage. In 1969 he graduated the Babeș-Bolyai University from Cluj-Napoca. In the same year he was appointed assistant at the Chair of Ancient History and Archaeology. In 1976 he became lecturer and in 1985 he obtained the title of doctor in history with a paper on Roman Samian ware. In 1992 he became senior lecturer at the same department, where from he retired in 2011. During his teaching activity Dan Isac was in charge with the introductory course on archaeology, and the one on modern techniques in archaeology. He also held special lectures and seminars on Roman provincial archaeology, on the history of the Danube provinces, on Roman military history and archaeology (structures and artifacts), religion and provincial art. Besides that he held courses at all levels on Roman pottery, including Samian ware, which was his top domain of expertise.

Dan Isac started directing his first excavations in 1973 in the civilian settlement of the auxiliary fort at Gilău, near Cluj. He returned in 1976 and continued to excavate till 1985 the cavalry fort of *ala Siliana* at Gilău, discovering under it the fort of *cohors I Pannoniorum*. In the first years the main results were the excavation of *porta principalis dextra* and of the *principia*, where two timber phases and at least two other stone phases were identified (see the studies published with Al. Diaconescu and C. Opreanu in ActaMN, 18, 1981 and 20, 1983). Other subsequent notable achievements were the discovery of an earlier, smaller fort, dating under Trajan, the timber *porta decumana* of this ensemble, and the excavation of barrack-blocks and stables. The main results were published in the monograph of the auxiliary fort at Gilău from 1997. Starting as early as 1980 and till the end of his life he excavated the auxiliary fort at Cășeu (which belonged successively to a *cohors II Britannorum milliaria* and to a *cohors I Britannica milliaria equitata*). The most important decision of the last years was to initiate excavations in the adjacent *vicus Samum*, thus opening new ways in the provincial archaeology of Dacia.

He also made excavations together with Adriana Isac in the auxiliary fort at Cincșor (see EN, 4, 1994) and conducted extensive rescue excavations in the center of the town of Dej.

During all these years he made several spectacular discoveries such as a beautiful bronze statuette of Venus, an exquisite bronze vessel, decorated in relief with *palestra* scenes, a perfectly preserved bronze cavalry mask and other parade armor pieces (see the studies in ActaMN, 14, 1977; 37/I, 2000 and 43-44/I, 2006-2007 (2008), together with M. Bărbulescu, and in EN, 19, 2009), all from Gilău. The list is completed by an outstanding bronze votive plate from the auxiliary fort at Gherla, found during field walking (ActaMP, 18, 1994), the military diploma of AD 151 from Cășeu (in ActaMN, 38/I, 2001), and many others.

Dan Isac honored his favorable fate by a sustained and a solid scientific activity. He published the monographs of the two forts he excavated: *Castrele de cohortă și ală de la Gilău. Die Kohorten- und Alenkastelle von Gilău*, Zalău 1997 and *Castrul roman*

de la SAMVM-Cășeu. The Roman Auxiliary Fort SAMVM-Cășeu, Cluj-Napoca 2003. He did not deal only with history and architectonic structures, but also with small finds which illustrate the day to day life (*Viață cotidiană în castrele Daciei Porolissensis*, Cluj-Napoca 2001 and *Coins from Roman sites and collections of Roman coins from Romania. The auxiliary forts from Samum (Cășeu) and Gilău*, Cluj-Napoca 2007, together with Cristian Găzdac). Dan Isac fulfilled also the duty of coordinating the publishing of the rescue excavations from Dej, despite the fact that the material belonged to other time periods than the Roman one (*Contribuții arheologice la istoria orașului Dej*, Cluj 2008).

Dan Isac did not benefit enough of his retreat. He died suddenly in the summer of 2013, while preparing for the next excavations at Cășeu. He had still so many ongoing projects. The news shocked his friends, colleagues and his many former pupils. Together with his friends from the old town and county of Cluj, and from the whole country and abroad, we will all miss his high spirit, his tonifying energy and his distinguished presence. Above all we will be from now on deprived of his deep knowledge of Roman provincial archaeology and excavation techniques.

Alexandru Diaconescu
“Babeș-Bolyai” University Cluj-Napoca
a_diaconescu@yahoo.co.uk

PROF. DR. ALEXANDRU SUCEVEANU
(11.03.1940 – 23.05.2013)*

Magistro Doctissimo, Optimo Ac Sapienti Patrono



Professor Alexandru Suceveanu was, for most of the young archaeologists just starting out, a model of professionalism and also, selflessness. Over the discussions occasioned by the presentation of the archaeological excavation results within the National Session of Archaeological Reports, Professor Suceveanu always noticed the young colleagues with scientific potential and did not hesitate to appreciate and encourage them.

The fact that he wished to train and that in fact, he has trained a series of archaeologists on the archaeological excavation sites he conducted, is illustrated by the research teams he established and headed over the time. The most conclusive example is the team he formed at Histria at a time when he was in charge of this

* The life and scientific activity of Prof. dr. Alexandru Suceveanu can be followed in the volume dedicated to his 70th years anniversary (see M. V. Angelescu, I. A. Achim, A. Băltăc, V. Rusu-Bolindeț, V. Bottez (éds.), *Antiquitas Istro-Pontica. Mélanges d'archéologie et d'histoire ancienne offerts à Alexandru Suceveanu*, Cluj-Napoca 2010, 19-26) and also on the site of the International Association Rei Cretariae Romane Fautores (<http://www.fautores.org/pages/obituaries.htm#Suceveanu>).

high order archaeological site of Romania (starting with 1989). Having thoroughly planned the sites to be investigated, Alexandru Suceveanu did not hesitate to include in the team young specialists, well trained in the field, who would ensure both high level archaeological research and the corresponding publication of the yielded results. Thereafter, he extended the team of the site at Histria by assigning important sectors of the site to several archaeologists with not only the Institute of Archaeology in Bucharest, the National History and Archaeology Museum of Constanța, but also the National Museum of Romanian History and the Faculty of History of Bucharest and others, located in farther areas of the country, like the Faculty of History of the “Alexandru Ioan Cuza” University of Iași or the National History Museum of Transylvania from Cluj-Napoca. I confess that in 2001, when Professor Alexandru Suceveanu had proposed me to conduct a sector on this prestigious archaeological site (sector *Basilica extra muros*, together with Alexandru Bădescu with MNIR and Karl von der Lohe from the “Ludwig Maximilian” University of München), I was honoured, and also terrified of the huge responsibility I was given: the excavation was highly complex and I was familiar with the archaeological site only following the few visits I took there at the Professor’s request. Gradually though, under his guidance and especially owing to his passion and love for Histria, we all succeeded to love this site, to understand it and to try to reveal its secrets below the ground, at the level of his high demands. We thus performed 11 archaeological campaigns in the mentioned sector with great results, the sector team including over time over 30 students, MA and PhD students of the Faculty of History of the “Babeș-Bolyai” University of Cluj-Napoca.

Professor Alexandru Suceveanu also had another quality: he succeeded to compose from specialists working with different institutions not only a research team, but a family! Most of us, for his fatherly way he protected and guided us, became very good friends. When the news of his untimely death reached us, we all realized that Professor Suceveanu had inspired to us all, those who had the honour to be around him, love for our profession, for a fabulous site and the life lesson of turning colleagues into most trusted friends. For all these things he built around us, for all he did for each and one of us, let his memory and everything he built last forever!

Viorica Rusu-Bolindeț

National History Museum of Transylvania, Cluj-Napoca
viorusu1@yahoo.com

ABBREVIATIONS

The following list contains abbreviations that are not included in the list at
http://www.annee-philologique.com/files/sigles_fr.pdf.

| | |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| AArchHung | <i>Acta Archaeologica Academiae Scientiarum Hungaricae</i> , Budapest. |
| AB | Analele Banatului, Timișoara. |
| ACMIT | Anuarul Comisiunii Monumentelor Istorice, Secțiunea pentru Transilvania, Cluj. |
| AE | L'Année Épigraphique, Paris. |
| AÉrt | Archeológiai Értesítő, Budapest. |
| AHB | The Ancient History Bulletin, Calgary. |
| AIIA | Anuarul Institutului de Istorie și Arheologie, Cluj-Napoca. |
| AISC | Anuarul Institutului de Studii Clasice, Cluj-Napoca. |
| AJA | American Journal of Archaeology, Boston. |
| ActaMN | <i>Acta Musei Napocensis</i> , Cluj-Napoca. |
| ActaMP | <i>Acta Musei Porolissensis</i> , Zalău. |
| Aluta | <i>Aluta</i> . Revista Muzeului Național Secuiesc, Sfântu Gheorghe. |
| Angustia | <i>Angustia</i> . Revista Muzeului Carpaților Răsăriteni, Sfântu Gheorghe. |
| Apulum | <i>Apulum</i> . Anuarul Muzeului Național al Unirii din Alba Iulia, Alba Iulia. |
| ANRW | H. Temporini, W. Haase (Hrsgg.), <i>Aufstieg und Niedergang der römischen Welt</i> , Berlin-New York. |
| Arch.Anz. | Archäologischer Anzeiger, Berlin. |
| ArhMold | Arheologia Moldovei, Iași. |
| AO | Arhivele Olteniei, Craiova. |
| Banatica | <i>Banatica</i> , Reșița. |
| BAR | British Archaeological Reports, Oxford. |
| BCMI | Buletinul Comisiei Monumentelor Istorice, București. |
| BHAUT | <i>Bibliotheca Historica et Archaeologica Universitatis Timisiensis</i> , Timișoara. |
| CA | Cercetări Arheologice. Muzeul Național de Istorie, București. |
| CAB | Cercetări Arheologice în București. Muzeul de Istorie și Artă al Municipiului București. |
| CommArchHung | <i>Communicationes Archaeologicae Hungaricae</i> , Budapest. |
| CCA | Cronica Cercetărilor Arheologice din România, București. |
| CCDJ | Cultură și civilizație la Dunărea de Jos, Călărași. |
| Chiron | Chiron. Mitteilungen der Kommission für Alte Geschichte und Epigraphik des Deutschen Archäologischen Instituts, München. |
| CIG | <i>Corpus Inscriptionum Graecarum</i> , Berlin. |
| CIL | <i>Corpus Inscriptionum Latinarum</i> , Berlin. |
| Crisia | <i>Crisia</i> . Muzeul Țării Crișurilor, Oradea. |
| Cumidava | <i>Cumidava</i> . Muzeul Județean de Istorie, Brașov. |
| Dacia (N.S.) | Dacia - Recherches et découvertes archéologiques en Roumanie; Nouvelle Série (N. S.): Dacia - Revue d'archéologie et d'histoire ancienne, București. |

| | |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DissPann | <i>Dissertationes Pannonicae</i> , Budapest. |
| Dizionario Epigrafico | E. di Ruggiero (ed.), <i>Dizionario epigrafico di antichità romane</i> , Roma, I (1895) – III (1922). |
| Dolgozatok/Travaux | Dolgozatok az Erdélyi Nemzeti Múzeum Érem és Régiségtárából, Kolozsvár (Cluj) / Travaux de la section numismatique et archéologique du Musée National de Transylvanie à Kolozsvár (Cluj). <i>Ephemeris Napocensis</i> , Cluj-Napoca. |
| EN | Epigraphische Studien, Bonn. |
| Epigraphische Studien | <i>Folia Archaeologica. Annales Musei Nationalis Hungarici</i> , Budapest. |
| FolArch | Glasnik Srpskog Arheološkog Društva, Belgrad. |
| Glasnik | Harvard Studies in Classical Philology, Cambridge. |
| HSCPh | A Hunyadmegyei Történelmi és régészeti Társulat Évkönyve, Deva, I (1880)–XXII (1913). |
| HTRTÉ | <i>Inscriptiones Daciae Romanae</i> , Bucureşti–Paris. |
| IDR | C. C. Petolescu, <i>Inscriptions externes concernant l'histoire de la Dacie</i> , I, Bucureşti 1996. |
| IDRE I | C. C. Petolescu, <i>Inscriptions externes concernant l'histoire de la Dacie</i> , II, Bucureşti 2000. |
| IDRE II | G. Mihailov, <i>Inscriptiones Graecae in Bulgaria repertae. I. Inscriptiones orae Ponti Euxini. Editio altera emendata</i> , Serdicae 1970. |
| IGB I ² | G. Mihailov, <i>Inscriptiones Graecae in Bulgaria repertae. II. Inscriptiones inter Danubium et Haemum repertae</i> , Serdicae 1968. |
| IGB II | J. Kolendo, V. Božilova, <i>Inscriptions grecques et latines de Novae (Mésie Inférieure)</i> , Bordeaux–Paris 1997. |
| IGLNovae | Em. Popescu, <i>Inscripțiile grecești și latine din secolele IV–XIII descoperite în România: culese, traduse în românește, însoțite de indici și comentate</i> , Bucureşti 1976. |
| IGLR | C. Petolescu, <i>Inscripții latine din Dacia</i> , Bucureşti 2005. |
| ILD | B. Gerov, <i>Inscriptiones Latinae in Bulgaria repertae</i> , I, Sofia 1989. |
| ILBulg | H. Dessau, <i>Inscriptiones Latinae Selectae</i> , Berlin, I (1882) – IV (1916). |
| ILS (= Dessau) | M. Mirković, <i>Inscriptions de la Mésie Supérieure. II. Viminacium et Margum</i> , Belgrade 1986. |
| IMS II | <i>Inscripțiile din Scythia Minor grecești și latine</i> , Bucureşti. |
| ISM | <i>Jahrbuch des Römisch-Germanischen Zentralmuseums zu Mainz</i> , Mainz. |
| JRGZM | Kungl. Vitterhets Historie och Antikvitets Akademien, Stockholm. |
| KVHAA | <i>Marisia. Studii și materiale. Arheologie, istorie, etnografie</i> , Muzeul Județean Mureș, Târgu Mureș. |
| Marisia | <i>Marmatia</i> , Baia Mare. |
| Marmatia | Materiale și cercetări arheologice, Bucureşti. |
| MCA | Mélanges Joseph Bidez, Bruxelles 1934 (= <i>Annuaire de l'Institut de Philologie et d'Histoire Orientales et Slaves</i> 2, Bruxelles 1933–1934). |
| Mel. Bidez | <i>Monumenta Germaniae Historica, Auctores Antiquissimi</i> , Hannover–Berlin 1826 sqq. |
| MGH. AA | V. Velkov, G. Alexandrov (eds.), <i>Епиграфски паметници от Монтана и района</i> , София 1994. |
| Montana II | B. Lőrincz, F. Redő et alii, <i>Onomasticon Provinciarum Europae Latinarum</i> , I–IV, Budapest 1994–2002 and I ² , Budapest 2005. |
| OPEL | <i>Památky Archeologické</i> , Praga. |
| PamátkyArch | <i>Prähistorische Archäologie in Südosteuropa</i> , Berlin. |
| PAS | |

| | |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| PBF | Prähistorische Bronzefunde, Berlin. |
| Peuce | <i>Peuce</i> . Institutul de Cercetări Eco-Muzeale "Gavrilă Simion", Tulcea. |
| PIR² | E. Groag, A. Stein et alii, <i>Prosopographia Imperii Romani²</i> , Berlin 1933 sqq. |
| PLRE | Prosopography of the Later Roman Empire, Cambridge University Press 1971 (vol. I), 1980 (vol. II), 1992 (vol. III). |
| Pontica | <i>Pontica</i> . Studii și materiale de istorie, arheologie și muzeografie, Constanța. |
| PZ | Prähistorische Zeitschrift, Berlin. |
| PWRE | A. Pauly, G. Wissowa, W. Kroll, K. Ziegler (eds.), <i>Pauly-Wissowa Realencyclopädie der classischen altertumswissenschaft</i> , Stuttgart 1893 sqq. |
| RE | <i>Real-Encyclopädie der classischen Altertums-wissenschaft</i> , Stuttgart 1894 sqq. |
| RepCluj | I. H. Crișan, M. Bărbulescu, E. Chirilă, V. Vasiliev, I. Winkler, <i>Repertoriul arheologic al județului Cluj</i> , Cluj-Napoca 1992. |
| RGZM | B. Pferdehirt, <i>Römische Militärdiplome und Entlassungsurkunden in der Sammlung des Römisch-Germanischen Zentralmuseums</i> , I-II, Mainz-Bonn 2004. |
| RIB | <i>The Roman Inscriptions of Britain</i> , Oxford. |
| RIU | <i>Die römischen Inschriften Ungarns I-VI</i> , Budapest-Bonn 1972-2001. |
| RMD | M. M. Roxan, P. Holder, <i>Roman Military Diplomas</i> , London. |
| RevBistriței | <i>Revista Bistriței</i> , Bistrița. |
| RMI | <i>Revista Monumentelor Istorice</i> , București. |
| RevMuz | <i>Revista Muzeelor</i> , București. |
| Sargetia | <i>Sargetia</i> . Buletinul Muzeului Județean Hunedoara, Deva. |
| SCIV(A) | Studii și cercetări de istorie veche (și arheologie - since 1975), București. |
| SCN | Studii și cercetări numismatice, București. |
| SMMIM | Studii și materiale de muzeografie și istorie militară, București. |
| StComSatuMare | Studii și comunicări, Satu Mare. |
| SympThrac | <i>Symposia Thracologica</i> . Lucrările Simpozionului Anual de Tracologie, Institutul Român de Tracologie, București. |
| TAPA | <i>Transactions of the American Philological Association</i> , Baltimore. |
| Thraco-Dacica | <i>Thraco-Dacica</i> . Institutul de Tracologie, București. |
| TIR | <i>Tabula Imperii Romani</i> . |
| Ziridava | <i>Ziridava</i> . Complexul Muzeal Arad. |

