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Any correspondence will be sent to the editor:

Museum Arad

Piata George Enescu 1, 310131 Arad, RO

e-mail: ziridava2012@gmail.com

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Contributions to the Knowledge of Parietal Art in North-Western Transylvania. the Discoveries from Ileanda (Sălaj County)*

Radu Pop, Călin Ghemiș

In the memory of our colleague and friend Paul Damm (1969–2012)

Abstract: In this brief article the authors aim to present some new discoveries regarding the prehistoric art in North Western Transylvania. Seven sites with incisions were discovered until now located on the walls of the geological unit called “The Someș Corridor”. From a chronological perspective, five of these sites can be dated to Prehistory, while two belong to the Middle Ages. Research is still in progress and the purpose of this article is to include these new discoveries in the scientific circuit.

Keywords: Prehistory, Middle Ages, art, petroglyphs, Someșului Plateau.

Introduction

The discovery of the “Drawings Gallery” in the cave of Coliboaia led to specialists rediscovering, and implicitly reopening the somewhat forgotten file on prehistoric parietal art in Transylvania¹.

Drawings², paintings³, and incisions that depict animals, human figures, geometric motifs⁴, weapons and hunting scenes, composite elements of prehistoric parietal art in Transylvania, can be perceived today as a fresco to which new elements are added every day, as new discoveries point to new research directions and new approaches of geographical areas in different chronological and cultural contexts.

The extremely fruitful collaboration between speleologists and archaeologists illustrated by the discoveries in *Coliboaia*, and not only⁵, is now expressed in the identification of one of the most interesting discoveries in Transylvania: the petroglyphs from Ileanda⁶.

The significance of the “Someșan Corridor” for the prehistory and history of the area has been repeatedly stressed⁷, since it was frequented since the Paleolithic, as proven by the discoveries in Cuculiat or those in Perii Vadului.

The decorated areas are located on both slopes of the Someșan Corridor, but for reasons related to their need of protection, mandatory in such cases, we are unwilling to make public their exact topographical location until the due protection and conservation measures are taken.

The decorated areas (that we have labeled with numbers 1, 2, 3, and 4) are located on the right geographical slope and stretch over an area of ca. 1 km. The height at which the incised panels were

* English translation: Ana M. Gruia.

¹ Radu Pop is the author of the photographs and images annexed to this paper. I thank Florin Gogâltan, Gruia Fazecaș, and Victor Sava for some of the bibliographic indications.

² The case of *Coliboaia Cave*, with a final approach by the team coordinated by Jean Clottes (Clottes *et al.* 2010–2011, 513–528).
³ Cărciumaru 2010, 39–83, with the older bibliography on the topic.

⁴ As is the case with those identified by Mărza 1996, 139–144; this discovery must be, naturally, verified on site and, implicitly, reevaluated.

⁵ The most recent discoveries – as yet unpublished – from *Meziad Cave* or the discoveries from Roșia- Vacii Cave.

⁶ The images reflecting this extremely important discovery were presented for the first time during a workshop held on 01.12.2010, at 20⁰⁰, under the coordination of Dr. Yanik le Gouillou, as part of the expedition organized by the Romanian Speleological Federation in the French Pyrenees, by Radu Pop, the author of the discovery. The expedition report was published in the periodical *Speomond* edited by the R.S.F., no. 15, 2010–2011. At Viorel Lascu’s initiative (as president of the R.S.F.), a field research was organized on 17.08.2011, in which took part the authors of the present study, Viorel Lascu, president of the F.S.R., and Dr. Ioan Bejinariu, from the History and Art County Museum in Zalău. Dr. Yanik le Gouillou and Prof. Jean Clottes have authenticated the discovery, on the basis of the images, during the expedition in France. From the beginning, the unanimous opinion was that the depictions are dated to one of the post-Paleolithic era. We subscribed to this opinion even since 2010.

⁷ Bajusz, Tamba 1988, 91–120; Bejinariu 2007.

created is located at different height. For the time being, due to the absence of a clear topography of the incisions, we shall provide approximate values for these heights. Thus, area 1 with incisions is located at an approximate height of 4 meters, measured from the present-day ground level. In this area one must note the existence of those elliptical cupulae in the lower part of the incised surface, since this is the only area in which such elements can be found. Area 2 is located at an height of 0.5 m, Area 3 at an height of 2.5 m, and Area 4 at ca. 1 m above the present-day ground level.

On the geographic left slope, Area 5 is located at 4 meters in height, while Area 6 can be found at an height of ca. 2.30 m.

Incision was the technique employed in the creation of the petroglyphs in Ileanda. The marl and compact gritstone that form Șomeșului gorge in this area have fully allowed for the use of such a technique in the creation of the panels with incisions.



Fig. 1. Area 1 – general view



Fig. 2. Area 1 – detail, the hunting scene



Fig. 3. Area 1 – detail of the hunting scene (image adapted by R. Pop)



Fig. 4. Area 1 – detail with antelopes



Fig. 5. Area 1 – antelope (image adapted by R. Pop)



Fig. 6. Area 2 – Christian marks



Fig. 7. Area 2 – Christian marks



Fig. 8. Area 2 – detail with the boat



Fig. 9. Area 3 – general view



Fig. 10. Area 3 – detail with stags



Fig. 11. Area 3 – detail with stags (image adapted by R. Pop)



Fig. 12. Area 4 – The abri with a stag, detail

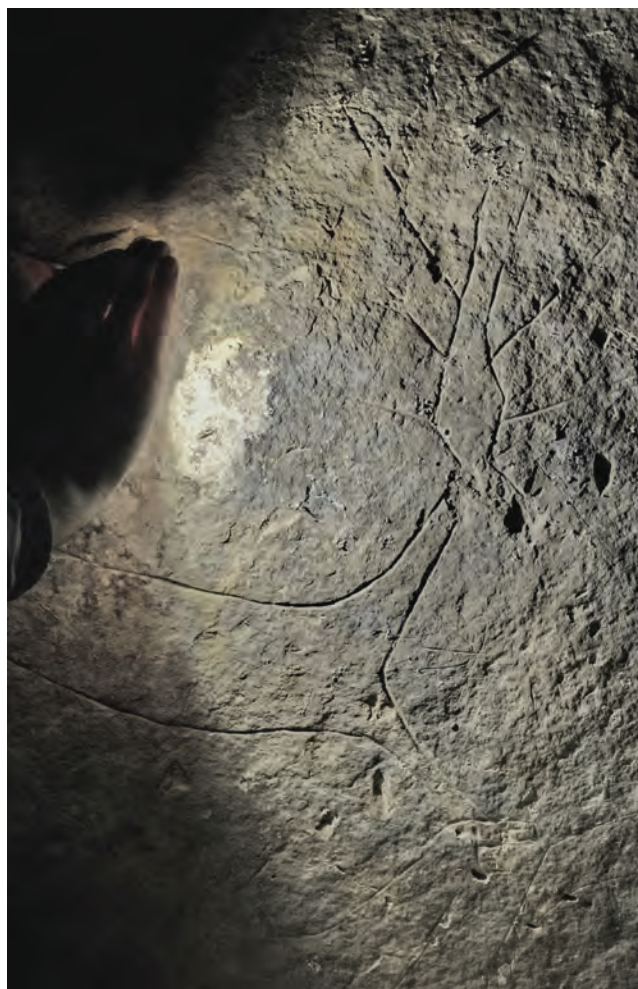


Fig. 13. Area 4 – The abri with a stag, detail



Fig. 14. Area 4 – The abri with a stag, detail



Fig. 15. Area 4 – The abri with a stag, detail



Fig. 16. Area 5 – general view



Fig. 17. Area 5 – Abri, Christian symbols

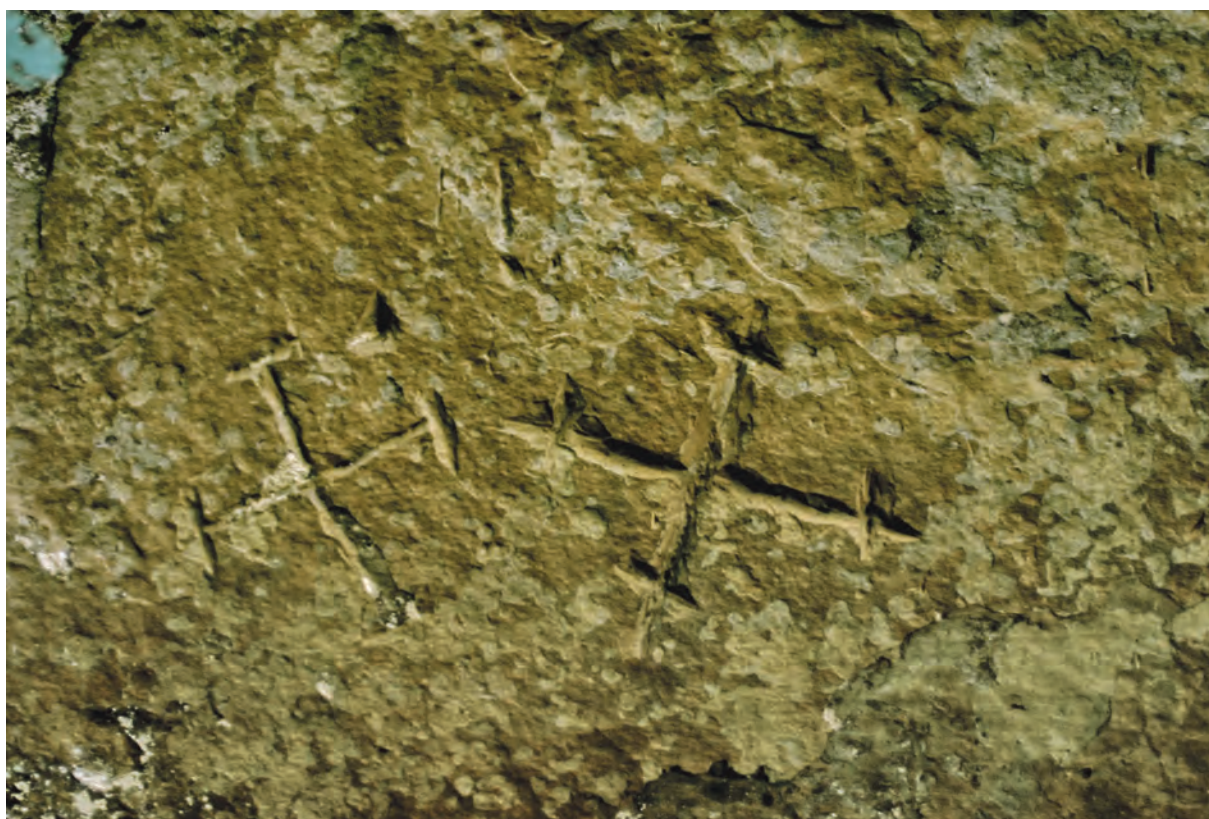


Fig. 18. Area 5 – detail

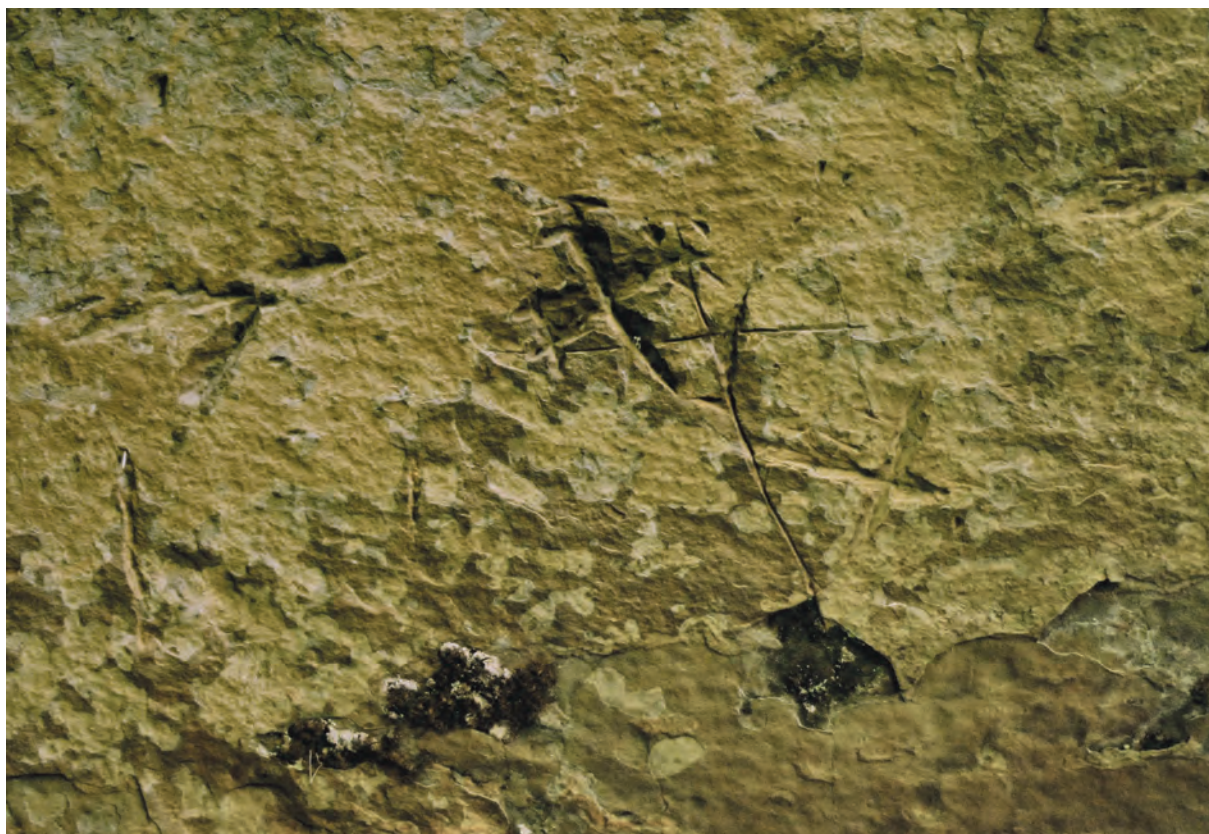


Fig. 19. Area 5 – Abri, detail



Fig. 20. Area 6 – general view



Fig. 21. Area 6 – detail

Discussions

From the very beginning we must state that the present paper aims at presenting and including in the academic circuit one of the most spectacular discoveries of parietal art in Romania.

As the analysis of the images indicates, the oldest petroglyphs can be considered those in Area 1 (Fig. 1–5). Beyond the stylistic arguments that will be analyzed in more detail in another article, another argument supporting the age of these incisions is the geomorphologic one. Their location at almost four meters in height indicates the fact that when the images were incised, the bank of River Someș in this area was much higher. Also, as mentioned above, the presence of cupulae is a strong argument in dating this decorated cliff to Prehistory.

Area 2 (Fig. 6–8) is in fact a small abri with the walls covered in fine incisions, most probably made with a metal tip. Someone has depicted a series of crosses, a boat, and other symbols that make us think of the Christian world.

Located at an height of more than two meters above the present-day ground level, Area 3 (Fig. 9–11) displays depiction of stags turned to the left. These depictions are not unique and can be easily dated to one of the prehistoric eras.

Suggestively called “The abri with a stag” or “The great stag”, Area 4 (Fig. 12–15) is a small abri where a stag with the body turned to the right, but the head in front view is incised on the vault and wall. On the outer surface of the abri one finds a series of hit marks that, at a first glance, can be interpreted as celt hit marks.

There are also depictions of lances and arrows around the stag that occupies the central part of the composition. The presence of the weapons, but also that of the hit marks on the abri’s wall allow us to hypothesize that this area was a place dedicated to hunting rituals.

Another abri, conventionally labeled Area 5 (Fig. 16–19), displays on its walls several marks, mostly crosses, simple or with a crossbar⁸, performed in the niche under the vault. Their position

⁸ Both types of crosses feature on early medieval pottery and have been interpreted as potter masters’ marks. Crosses with an extra crossbar nevertheless feature in the composition of the wall painting inside the church in Remetea (Bihor County), a composition dated to the fourteenth century A.D. (Chiriac 2010, 55.) Also, this type of cross was also included

around one cross and their association with a series of circles drawn with a compass suggest the existence of a Christian composition, maybe contemporary to the cave cells in Porolissum.

Area 6 (Fig. 20–21) is rather poor in schematic representations, but it preserves a row that includes a series of hit marks similar to those in “The abri with a stag” and a large number of vertical incisions. Until future approaches of these discoveries that will employ as argument the hit mark traces in Area 4, we believe that this discovery can also be dated to Prehistory.

An initial analysis indicates that the bestiary among the petroglyphs from Ileanda is simple. There is a single human silhouette identified so far⁹, while the other depictions belong to the animal kingdom: goats or antelopes, running or standing, stags that seem to be grazing or moving, as in the example inside “The abri with a stag”. The depicted species still inhabit the forests in this area, except for the antelopes¹⁰ or the goats¹¹.

Among the geometrical signs encountered in Ileanda, one composition from “The abri with a stag” deserves particular attention. It consists of nine circular incisions placed around a network of lines meeting in a central point. One cannot exclude the possibility that these depictions might have astronomical meaning, but such a hypothesis must be argued by future research¹².

As simple schematic contours, lacking an interest in anatomical details, the prehistoric petroglyphs in Ileanda masterfully complete the general view of prehistoric parietal art in Romania. As for the finds of a strong Christian nature, these must be discussed in another, wider context, to which we shall return.

The chronological enumeration of the petroglyphs, from Prehistory until the Middle Ages, brings the discoveries from Ileanda closer to those recently and exceptionally well published from Nucu¹³, but we must mention that research is still undergoing in this area of the “Someșan Corridor”¹⁴.

Field recognitions from this segment of the Someșului Gorge have led to a series of archaeological discoveries unprecedented in the prehistory of Sălaj. Their continuation will be certainly beneficial and, as mentioned above, there are still areas that might reveal similar finds. Nevertheless, a series of petroglyphs require urgent primary preservation measures and documentation¹⁵ according to the registration principles of parietal art¹⁶; at the same time, moulds must be cast of the most exposed petroglyphs since they might soon be destroyed.

We end here the succinct presentation of the petroglyphs from Ileanda, stressing once more the fact that this article is limited to a brief presentation of the discoveries and only aims at introducing them, as soon as possible, to the scientific circuit.

Radu Pop

Cluj-Napoca, ROU

Photo.radupop@yahoo.com

Călin Ghemiș

Țării Crișurilor Museum Oradea

Oradea, ROU

ereshu@yahoo.com

in some of the monetary emissions of the first Hungarian kings (Weszerle, 1911, 34; for example Peter I, 1038–1041, 1044–1046), but one cannot exclude the possibility that our representations are earlier.

⁹ Human silhouettes can also be found in other caves, such as those in „the cave with incisions” in Fănațe (that we believe would be better called “The abri with incisions in Fănațe”) identified by Petru Brijan and published together with Prof. Marin Cărciumaru cf. Cărciumaru, Brijan 1989, 73–81.

¹⁰ On the paleo-fauna of this area, and not only, see: Filipașcu 1969.

¹¹ It might be *Capra Ibex*, also depicted in Neolithic discoveries from the gorge of River Crișul Repede (unpublished materials, discovered in Unguru Mare Cave during the 2000 campaign).

¹² In the same category of finds one could also include the incisions Cizmei Cave, (Cărciumaru, Nedopaca 1988, 181–196)

¹³ Sîrbu, Matei 2012.

¹⁴ Another area with incisions conventionally labeled as Area 7 was discovered after the completion of this article. We are currently working on a complete and complex study of these petroglyphs that also aims at reevaluating the discoveries from Maramureș (Mârza 1996, 139–144).

¹⁵ The declared intention of the County Museum in Zalău to implement a school project entitled “Trip towards the origins of European prehistoric art” (<http://muzeuzalau.ro/proiecte/incursiune-spre-originitile-artei-europene>), designed for pupils from the art high school, is a profitable initiative from the perspective of museum education, but once the location of the incisions is revealed, even to pupils, there is a risk that these incisions should “multiply” substantially in time. On the other hand, it is specialists who should record these petroglyphs according to a certain method that includes certain observations on the nature of the incisions, their size etc. See the subsequent footnote.

¹⁶ For example: Fritz, Tosello 2007, 48–80, and, more recently, Cassen, Robin 2010, 1–14.

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Sântana “Cetatea Veche”. Metal and power¹

Florin Gogâltan, Victor Sava, Lucian Mercea

“...king of Mycenae that is rich in gold”²
To Professor Kristian Kristiansen on his 65th anniversary

Abstract: Through the eleven gold items, the 67 copper and bronze objects, and one sandstone mold preserved fragmentarily, all attributed to Late Bronze Age (Late Bronze II-III, Bronze D – Ha A), the fortification in Sântana “Cetatea Veche” has revealed among the most numerous metal items in Lower Mureş area. Some objects are part of funerary inventory, but most of them were not found in clear contexts, having ended up in the ground by chance. The metal artefacts, together with the imposing size and fortification elements, can be attributed to a statute of power and prestige that “Cetatea Veche” probably had among its contemporary communities.

Keywords: Lower Mureş valley, Late Bronze Age, gold artifacts, bronze objects, stronghold.

The already prestigious series *Studien zur Archäologie in Ostmitteleuropa/Studia nad Pradziejami Europy Środkowej* has recently published a volume dedicated to the issue of Bronze Age fortified settlements in Central Europe³. The volume is part of a series that contains publications focused on the interdisciplinary research of the fortification in Bruszczewo and its surroundings⁴. There is also another volume of studies dealing with the defensive structures of the third and second millennia B.C. that include the area between Central Europe and the Aegean world⁵. The discussions focused on the reasons that triggered the building of the fortifications, their defensive characteristics, their relation with the environment, the economic activities and social and political status of their inhabitants, the role they played in inter-regional exchange etc.

Another aspect related to pre- and proto-historical fortifications in the Eastern part of Central Europe, but from a completely different perspective, is the fall of the Iron Curtain, that had a negative impact upon the preservation of these monuments⁶. The European archaeological community is probably unaware of the effect of poaching in Romania⁷ and in the Republic of Moldavia⁸. If in these countries the authorities have prevented the academic community from saving what was left, in Hungary, for example the investigation of archaeological sites with metal detectors has become a national research program⁹. G. V. Szabó has the merit of providing a new perspective on gold and bronze items that can be discovered scientifically in Bronze Age fortified settlements of Eastern Hungary¹⁰.

We didn't choose randomly the above introduction, as the various case studies presented in can now be completed with the experience we have accumulated researching one of the most representative Late Bronze Age fortifications in the Carpathian Basin: Sântana “Cetatea Veche” (Fig. 1). At the same time, the large number of metal objects discovered until now in this settlement raises a series of

¹ This work was supported by a grant of the Ministry of National Education, CNCS – UEFISCDI, project number PN-II-ID-PCE-2012-4-0020.

² Homer, *Iliada*, VII, 173. *Mycene – rich in gold* is also the title of a well-known book by G. Mylonas (Mylonas 1982).

³ Jaeger *et al.* 2012.

⁴ Czebreszuk, Müller 2004; Müller *et al.* 2010.

⁵ Czebreszuk *et al.* 2008.

⁶ Recently, G. V. Szabó presented a suggestive image of the intensity of archaeological poaching in the Carpathian Basin and the fate of some bronze items on the illegal market of patrimony goods (V. Szabó 2012, 1–5; V. Szabó 2013, 793–815).

⁷ Lazăr *et al.* 2008.

⁸ Musteață 2010.

⁹ V. Szabó 2009, 123–138; V. Szabó 2010, 19–38. See also the systematic research with metal detectors of the site Blatnica, Central Slovakia, dated to the Late Bronze Age (Veliačik, Ožďáni 2010, 110–113, Fig. 1).

¹⁰ V. Szabó, Bíró 2010, 72–84; V. Szabó 2011, 335–356.

problems that require both a typological analysis and a contextual explanation. We intentionally chose to publish this analysis before the systematic research with metal detectors that is planned for the end of this year. We shall thus examine if the traditional image we shall provide now will be modified or not, thus providing an example of how such a site should be approached scientifically in the future.

The topic we are dealing with is also included among the subjects discussed by the personality we hereby celebrate. It is well known that Professor Kristian Kristiansen opened new horizons in research of prehistory. His older studies on the consumption of wealth during the Bronze Age in Denmark¹¹, the use of bronze swords¹², or, still referring to metal, the character of bronze depositions in Denmark¹³, are still mandatory references. The theoretical models he developed for the interpretation of Bronze Age realities from “center and periphery” and “European World System”¹⁴ to inter-contextual approaches¹⁵ together with his recent opinions on social, cultural, and economic identities¹⁶ had a strong methodological impact on contemporary archaeological discourse.

Location of the fortification

“Cetatea Veche” in Sântana is located in the high plain of Arad, an old quaternary delta of River Mureș, created in the area where the river exits Șoimuș-Lipova Gorge. Today, this geographical unit is part of the Pannonian Plain (Fig. 1). The fortification is situated ca. 20 km north-east of Arad and 5 km east of the Arad-Oradea European road. More precisely, it can be found 5.8 km south-west of Sântana city center, towards Zimandu Nou, on the left side of the road that connects the two localities.

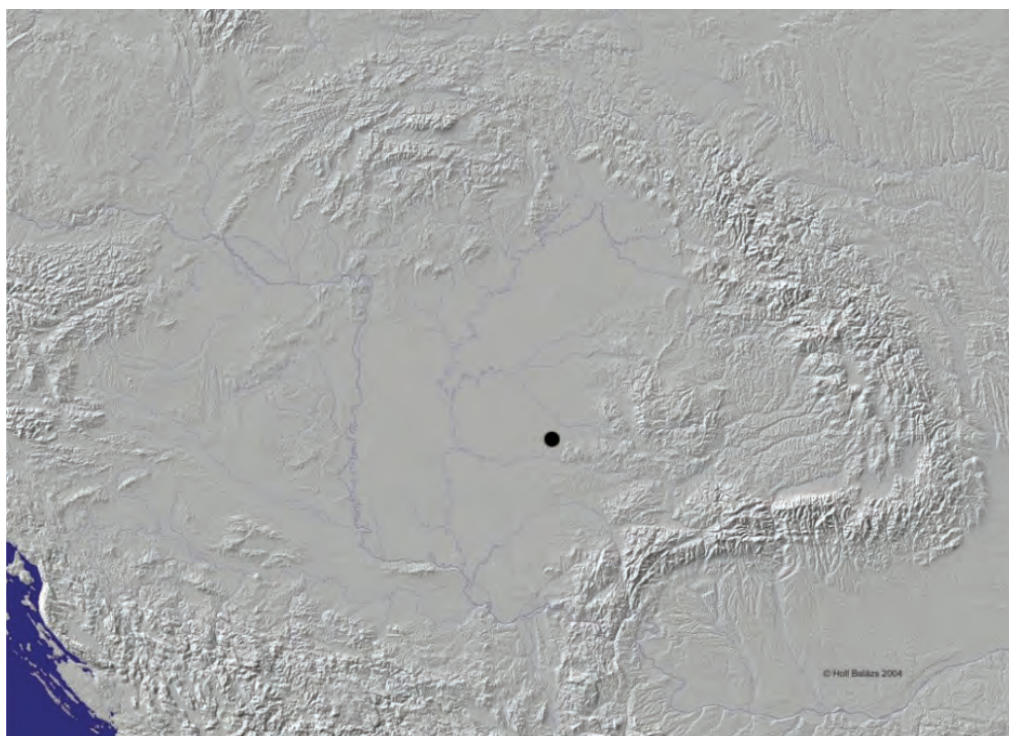


Fig. 1. Map of the Carpathian Basin with the localisation of the earthwork

The major anthropic modifications that took place starting with the eighteenth century render a difficult reconstruction of the Bronze Age fortification's environment. One can only state now that the defensive ditch of the IIIrd enclosure was intentionally filled with earth. In the area that was archaeologically investigated, the deposition layers reach up to 1.50 m¹⁷, while behind the earth rampart

¹¹ Kristiansen 1978, 158–190.

¹² Kristiansen 1984, 187–208; Kristiansen 1999, 101–107; Kristiansen 2002, 319–332.

¹³ Kristiansen 1996, 255–270.

¹⁴ Kristiansen 1987, 74–85; Kristiansen 1994, 7–30.

¹⁵ Kristiansen 2005, 179–193; Kristiansen, Larsson 2005.

¹⁶ Earle, Kristiansen 2010, 218–256; Kristiansen 2011, 201–210; Kristiansen 2012, 381–392.

¹⁷ Gogâltan, Sava 2010, fig. 33–34; Gogâltan, Sava 2012, fig. 10.

they measure 50–60 cm. The pottery fragments discovered in this layer of rapid filling suggest that sometime between the eighteenth century and the beginning of the nineteenth this watery area was drained to leave place for agriculture. The deep plowing during the Communist period, together with those of the last years, have almost completely flattened the ramparts of enclosures I and II. Also, the tumulus located in the south-eastern corner of the fortification, depicted so preeminently on the Josephine map (Fig. 3), is now of a much more modest size (Fig. 6)¹⁸.

The prehistoric inhabitants of the “Cetatea Veche” area had chosen a location at ca. 15 km west of the resources in Zărandului Mountains and ca. 1.8 km away from the former branches of River Mureș. The deepest water sources are still visible on the Austrian military maps of the nineteenth century (Fig. 2) and on satellite photographs. The Bronze Age fortification in Sântana provided control over Mureșului Gorge and the copper deposits in Șiriei Hills. The relatively small distance between the fortification and the place where River Mureș exists into the plain can be covered on foot in ca. 5–6 hours, while a round- trip could be covered during a day’s walk¹⁹.



Fig. 2. The second military surveying (1819–1869); with the location of Sântana “Cetatea Veche” (in red) and reconstruction of the floodable area (in blue)

The History of research²⁰

The first depiction of the fortification’s features has been made on the Josephine topographic maps created at the end of the eighteenth century (1782–1785) (Fig. 3). In the nineteenth century

¹⁸ It can still be noted on the aerial photograph taken by A. Ștefan in 1965 (Ștefan 1999, 264, fig.1–2).

¹⁹ Gogâltan, Sava 2010, 12.

²⁰ For a more detailed history of research see Gogâltan, Sava 2010, 14–39.

the fortification was mentioned by various scholars, among which F. Gábor²¹, doctor I. Parecz²², and J. Miletz²³. The first detailed description of this archaeological monument, together with a few historical considerations, was written by historiographer S. Márki in 1882²⁴. He attributed the fortification to the Avars²⁵, as had J. Miletz before him. The newspapers of that time, informs us that on April 21st 1888 the workers who were constructing the railway in the “Avar ring” from Sântana discovered a “crown” made of gold leaves weighing 40 ducats, attributed to the “Barbarian Era”²⁶. More data became available in a short anonymous note entitled *Szent-Annai aranylelet* printed in the *Archaeologiai Értesítő* periodical in 1888. Thus, the workers presumably discovered primitive pots and skeletal remains, and a gold treasure in a destroyed tomb. The items were donated by Boros Béni, director of the Arad-Cenad railway company to the National Museum in Budapest²⁷ (Fig. 4–5).

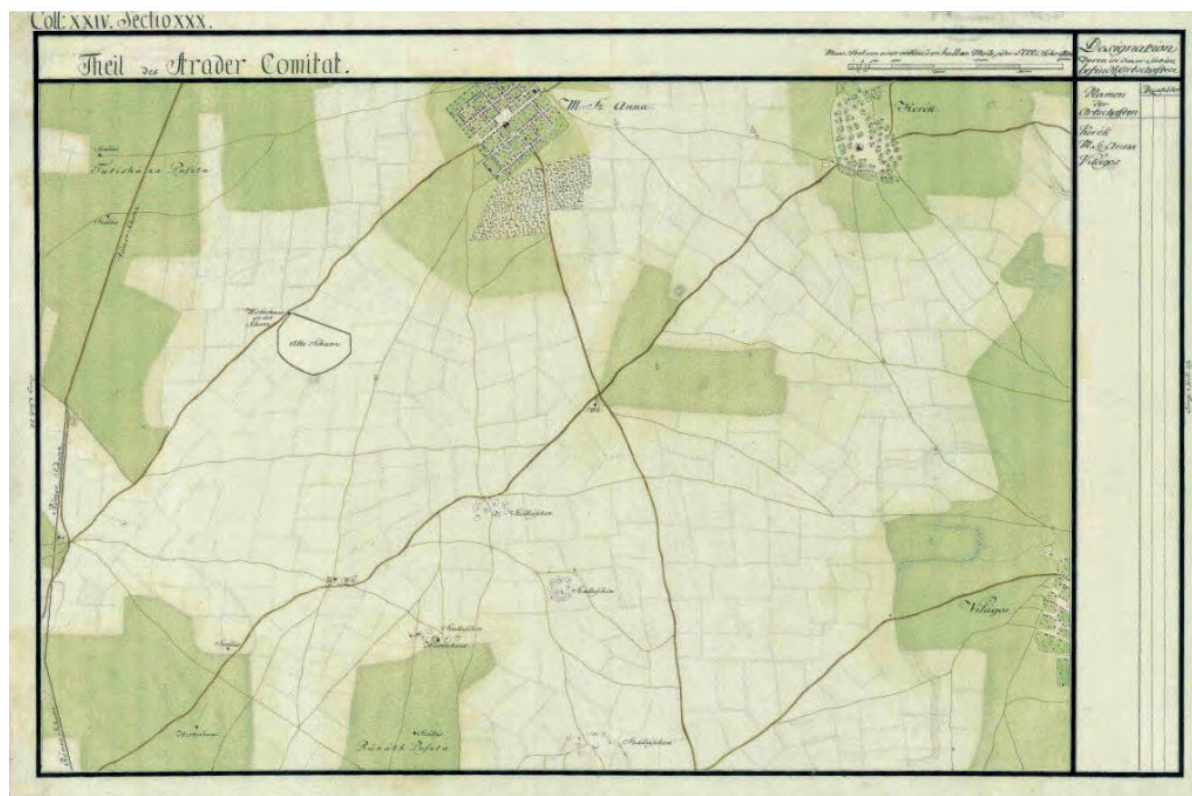


Fig. 3. First military surveying (1782–1785), with the location of Sântana “Cetatea Veche”

Rescue excavations coordinated by A. Török during the same year led to the discovery of coarse pots and the uncovering of two skeletons, one of an adult and another of a child, both without funerary inventory²⁸. In exchange for the original items, the Arad Museum received a galvanoplasty copy of the gold “crown” (*aranykoszorú*); the item is still preserved in it’s collection, together with other

²¹ Fábíán 1835, 91.

²² Parecz 1871, 8, 19.

²³ Miletz 1876, 166–167.

²⁴ Márki 1882, 112–121; Márki 1884, 185–194.

²⁵ Márki 1882, 115–118; Márki 1892, 39–40.

²⁶ Alföld, 95, 1888; Márki 1892, 39, n. 3.

²⁷ *Archaeologiai Értesítő* VII, 1888, 286; Márki 1892, 39, 34, 40–41; Dörner 1960, 472; Rusu 1972, 49, no. 58 (“the inventory of a tomb”); Rusu *et al.* 1996, 15; Rusu *et al.* 1999, 143. All these data on the conditions of discovery are absent from some of the subsequent publications: Mozsolics 1973, 208, Taf. 104–105 (“Das MNM erwarb den Goldfund durch Tausch von der Eisenbahngesellschaft”); Kemenczei 1999, 67, Kat. 52 (“Fundumstände sind unbekannt”). More so, as E. Dörner has also noted (Dörner 1960, 474), the hoard is not mentioned in the synthesis works of V. Pârvan (Pârvan 1926), I. Nestor (Nestor 1933) or D. Popescu on gold processing in Transylvania before the Roman conquest (Popescu 1956, 199). D. Popescu does not even mention the hoard after E. Dörner published the discovery (Popescu 1962; Popescu 1975, 59, 67, simple mentions). Illustrations in Dumitrescu 1974, 415, fig. 451; Burda 1979, 18, 65, n. 28.

²⁸ Arad, 99, 1888; *Archaeologiai Értesítő* VII, 1888, 286; Rusu *et al.* 1996, 15 (probably mother and child); Rusu *et al.* 1999, 143; Hügel *et al.* 2012, 9.

archaeological materials dated to different historical eras²⁹. The most important data on this discovery is also provided by S. Marki. He mentioned that the hoard consisted of 12 "laurel leaves" that were probably attached to each other in groups of four by gold wires, a bracelet made of gold wire, and another bracelet made of a gold bar. This discovery, just like the "earthen ring", was attributed to the Avar period³⁰. As we will subsequently show, in a manuscript work, E Dörner has attempted to reconstruct the entire gold treasure from Sântana³¹. No other specialist dealt, in a serious manner, with the fortification in Sântana, between the time of Márki and the middle of the twentieth century. Just general information, devoid of scientific value, was published in general works dealing with local history³².

Field research performed by E. Dörner and M. Rusu in the spring of 1952 was to radically change the entire chronological and cultural setting of the fortification in Sântana. They discovered on the surface numerous pottery fragments that they correctly attributed to the Bronze Age³³. Subsequently, other pottery fragments from the same period and several sling projectiles (balls) made of clay have been recovered³⁴.

In order to clarify the dating of the fortification, specialists have decided to perform an archaeological excavation, but this was only possible in the summer of 1963. The team included M. Rusu, E. Dörner, I. Ordentlich, and S. Dumitraşcu. The latter was to perform a test trench in Tiszápolgár tell from "Holomb", 4.5 km north-west of "Cetatea Veche"³⁵. A brief report of those excavations was published more than 30 years later³⁶. The opening of a section measuring 80 × 2 m³⁷ aimed at allowing research on the northern fortification system of "enclosure B" (in fact enclosure III, that is according to us, the largest). It has thus been noted that the fortification went through two construction phases, each including one ditch and one rampart crowned by a wooden palisade. The rampart was erected with soil brought from various locations; this explains the various soil lenses or stripes of various colors. All these elements were also encountered during our 2009 excavation. Also, a human skeleton deposited in a crouching position, with two complete vessels and a pincers placed on the chest as funerary inventory, was found behind the second earthen rampart (Cat.no. 6, Pl. 1/7a-b). The tomb was chronologically included in "H. B"³⁸. Behind the rampart we have also identified a necropolis that was earlier than the rampart's construction; several tombs have been recovered. Its dating can only be previous to the construction of enclosure III, so the skeleton does not belong to stage "H. B"³⁹.



Fig. 4. Gold artefacts discovered in 1888 (after Kemenczei 1999)

²⁹ Hampel 1889, 375; Hampel 1890, 190; Dörner 1960, 472. They are still to be found in the collection of the museum in Arad.

³⁰ Marki 1892, 39, 34, 40–41; Dörner 1960, 472.

³¹ Dörner 1960, 472–474.

³² Lejtényi 1913, 62–63; Covaciu 1944, 28.

³³ Report No. 271/1952 on the archaeological research performed in the district of Criş, written by Egon Dörner (Gogâltan, Sava 2010, 20).

³⁴ Gogâltan, Sava 2010, 21, fig. 9–10.

³⁵ Dumitraşcu 1975, 25–32.

³⁶ Rusu *et al.* 1996, 15–44; Rusu *et al.* 1999, 143–165. For other data on the 1963 research in Sântana see Gogâltan, Sava 2010, 22.

³⁷ Our 2009 excavation intersected this section. The width only measures 1.40 m.

³⁸ Rusu *et al.* 1996, 16, Pl. II/b, VI/17, 18, XIV/5; Rusu *et al.* 1999, 144, Abb. 2/2, 7/17–18, 15/5.

³⁹ The construction of the enclosure III and implicitly the destruction of this cemetery raises a series of problems. It is well known that the sacred area of the cemetery was strictly respected by the members of local community. In this case, we



Fig. 5. Gold artefacts discovered in 1888

Another section, of 150×1.20 m, was set inside the settlement, intersecting the fortification of enclosure A (or enclosure I according to us). From the published text one can hardly clarify the manner in which this fortification and its defensive elements were built. It seems that it went through three building stages and consisted of a wooden structure, as indicated by the pits of massive pillars that measured “50–80 cm in thickness.” The existence of this structure was also proven by geomagnetic measurements taken in that area by D. Micle (Fig. 6). The existence of a defensive ditch seems possible, as it is natural. As for the dating, period “H.A₁” was suggested on the basis of certain pottery fragments, a bronze saw blade (Cat. no. 11, Pl. 1/11a-b), and a “temple ring” (loop Cat.no. 4, Pl. 1/2a-b)⁴⁰. Two more surfaces were uncovered inside enclosure A (enclosure I according to us) besides the two above mentioned sections⁴¹. The first led to the identification of two large-size surface dwellings. The artefacts, especially the metal ones (a spiral-ended bracelet? – Cat.no. 13, Pl. 1/9a-b; a pin with twisted body in the upper part and contorted head – Cat.no. 12, Pl. 1/10a-b; a spearhead – Cat.no. 14, Pl. 1/14a-d; a button made of a concave bronze plate – Cat.no. 10, Pl. 1/3a-b; another button – Cat. no. 9, Pl. 1/1a-b; two loops fragments – Cat.no. 7–8, Pl. 1/5a-b, 1/8a-b; and another spearhead – Cat.no. 15, Pl. 1/13a-d), made M. Rusu date the two sections during the “H.A₁” stage⁴². K. Horedt also presumed that there were at least two stages in the development of the fortification in Sântana. Sântana I was thus dated to Bronze D like other discoveries in the area, such as those in Crucișeni II, Bobda I, Timișoara “Pădurea Verde,” and Arad “Gai”. The gold treasure, through those leaf-shaped elements, seems to support this dating. Horedt then noted that “most of the pottery in Sântana belongs to the Late Bronze Age (Ha. A.) and can be paralleled to Bobda II”⁴³.

After the 1963 excavations, other interesting artefacts were also discovered on the surface of the earth fortification in Sântana, thus completing our image of this archaeological objective. These include foremost the bronze bracelets published by A. Mureșan⁴⁴ and other objects⁴⁵. We are convinced

can only presume that it was another community who built enclosure III or that this was done at least three generations after the last burial, thus after the followers forgot about the cemetery in question.

⁴⁰ Rusu *et al.* 1996, 18–19; Rusu *et al.* 1999, 148, 151–152.

⁴¹ Rusu *et al.* 1996, Pl. I; Rusu *et al.* 1999, Abb. 1.

⁴² Rusu *et al.* 1996, 21; Rusu *et al.* 1999, 162.

⁴³ Horedt 1967, 149.

⁴⁴ Mureșan 1987, 313–317.

⁴⁵ Mureșan 2007, 119–124.

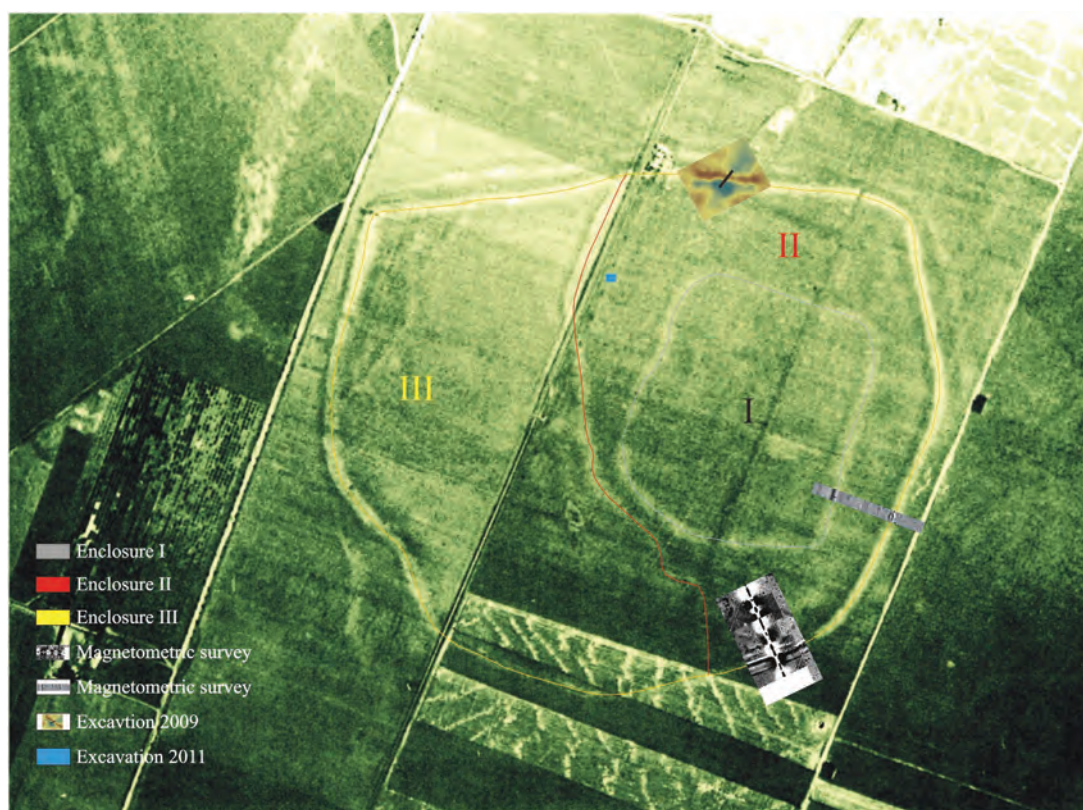


Fig. 6. Aerial photograph of the fortification (after Stefan 1999) and ground plan of the recent research areas

that after 1990 the settlement was often “visited” by antiquities lovers; the least interesting items, such as those bestowed by collector G. Ciaciş, ended up in the collections of the museum in Arad. Once the archaeological excavations in Corneşti “Iarcu”, Timiş County⁴⁶ started, we aimed at commencing new systematic field researches and performing geomagnetometric measurements in Sântana “Cetatea Veche” as well. Besides the activity of the research team there⁴⁷, one could note L. Mercea’s interest in safeguarding a series of artefacts made of bronze. Mr. Mercea is the neo-Protestant pastor in Sântana.

Works envisaging the introduction of a new gas pipe started in the spring of 2009 and they partially affected enclosure II and the rampart of enclosure III. Rescue excavations thus became mandatory, but due to administrative reasons they could only be initiated on September 17th 2009 and ended on November 30th of the same year. Our sections were located along the course of the gas pipe. Section S 01 initially measured 80 × 4 m, but was later extended to 6.50 m, in front and behind the earthen rampart. S 02 initially had the same dimensions as S 03: 10 × 1.5 m. In order to fully uncover complexes Cx 02 and Cx 03 in S 02, two smaller trenches were opened: one, measuring 2.3 × 1 m, was located by Cx 02 and the other, measuring 2 × 1 m, was located by Cx 03. The complete uncovering of the complex we labeled Cx 04, in section S 03, required the extension of the section by 1.5 m in length and 2 m in width in that area. The entire area researched in 2009 measured 453.5 m² (Fig. 6)⁴⁸. Archaeological researches performed in 2009 were presented in a synthetic manner in a bilingual (Romanian-English) report, thus we shall not insist here on the obtained results. The context in which the metal items were discovered shall be subsequently presented.

A small archaeological test trench, measuring 3 × 3 m, was opened in the summer of 2011. It was located 20 m north-west-west from the gas pipe connection (on the right side of the Arad-Sântana railway), in the north-western part of the enclosure II. The trench was aimed at clarifying the stratigraphic situation in that area and at possibly identifying a culture layer contemporary to the Late Bronze Age fortification. The stratigraphic test trench revealed that the layer corresponding to the Late

⁴⁶ Gogâltan *et al.* 2008, 114–115.

⁴⁷ Gogâltan, Sava 2010, 25, 27.

⁴⁸ Gogâltan, Sava 2010, 28, Fig. 17.

Bronze Age period had been entirely destroyed by intensive and deep plowing (0.45 m). Nevertheless, a significant layer with depositions typical to the Baden communities has been preserved. Traces of the late Baden settlement were also discovered during the 2009 campaign, when two pits were researched at ca. 200 m north-north-east of this test trench. We remind that the skeleton of an adolescent was found inside one of the pits, with the cranium shattered in dozen pieces and the other bones broken and placed around the skull⁴⁹. Though no culture layer was identified in that area, such was found in the area tested during 2011⁵⁰.

Besides archaeological excavations, a series of on-surface researches were performed in the area of the city of Sântana. Even if un-systematic, they led to the identification of twelve more sites. Thus, five sites that can be attributed to the Late Bronze Age period have been identified just along the Sântana-Pâncota main gas pipe line over a distance of 7 km. They are contemporary to the different development stages of the fortification in "Cetatea Veche"⁵¹.

Catalogue of artefacts made of gold⁵²

1. *Temple ring with leaf-shaped ends* (Lockenring mit Blättern). The item consists of four leaves. Each leaf has two side veins and one central vein decorated with small notches. Length of the leaves: 6 cm; weight: 16.71 g. One cannot establish the nature of the measurement provided by T. Kemenczei:

⁴⁹ Hügel *et al.* 2010, 302. On such special depositions see, more recently, Sachße 2010, 206–217.

⁵⁰ Gogâltan *et al.* 2012, 126–127.

⁵¹ Gogâltan, Sava 2010, 39–41, Fig. 36.

⁵² As previously indicated (see n. 27), conflicting data on the conditions of discovery and the number of gold objects in the treasure found in the spring of 1888 are still mentioned in specialized literature. The first written data remain unclear on the exact number of items (Archaeologiai Értesítő VII, 1888, 286; Hampel 1889, 375; Hampel 1890, 190). As previously mentioned, Marki described and illustrated twelve "laurel leaves" probably placed in groups of four, thus forming three temple rings, a bracelet made of gold wire, and one loop made of a gold bar (Marki 1892, 39, 34, 40–41; Dörner 1960, 472). In 1957 E. Dörner received from Amalia Mozsolics a photograph that includes some of the gold items from Sântana, preserved in the collection of the National Museum in Budapest. Besides the golden "laurel leaves," the image also includes a bracelet made of gold wire and having closed ends (Dörner 1960, 472–473, Abb. 2). Starting from a manuscript by S. Marki (Marki mss), Dörner established the fact that the number of items was much bigger. To the above mentioned objects one could add three gold wire fragments (bracelets) and four loops attached to each other in groups of two or three (Dörner 1960, 473, Abb. 3). M. Rusu, in his synthesis work on gold processing in Transylvania during Bronze D and Hallstatt A believed that the treasure in Sântana included 22 items: "12 boat-shaped plates, connected together in groups of three of four with gold wire, a bracelet made of gold wire, a gold bracelet lozenge-shaped in section, three gold wire fragments, and five loops interconnected in groups of two or three" (Rusu 1972, 49, no. 58). Inexplicably, the "12 boat-shaped plates" were described as separate items. Dörner's description was confirmed by A. Mozsolics in 1973 (Mozsolics 1973, 208, Taf. 104; 105). He thus talks of four loops, lozenge-shaped in section, one temple ring (*Lockenring*) with four "leaves", another similar item which had one "leaf" broken off and preserved separately, probably parts of a third temple ring similar to the first two, a pluri-spiral gold wire with closed ends (bracelet), two gold wires with closed ends, and another with open ends. The entire group thus consisted of eleven items. Without mentioning his source and without describing the objects, M. Rusu took over from E. Dörner and A. Mozsolics the drawings of 15 items (Rusu *et al.* 1996, Pl. XII–XIII; Rusu *et al.* 1999, Abb. 13–14). The drawings of the gold wires in Rusu *et al.* 1996, Pl. XIII/1–3; Rusu *et al.* 1999, Abb. 14/1–3 are taken from Marki mss and E. Dörner respectively, identical to the items in Rusu *et al.* 1996, Pl. XIII/5–7; Rusu *et al.* 1999, Abb. 14/5–7, re-drawn after A. Mozsolics. For T. Kemenczei, the treasure included two decorated temple rings in the shape of four metal plate leaves ("verzierte Lockenringe mit vier Blechblättern"), part of two similar rings having two metal plate leaves each, a spiral loop with the wire partially twisted, two small undecorated loops, another small loop to which another, similar loop is attached, and two rings, with closed ends, made of gold wire (Kemenczei 1999, 67, Kat. 52). As compared to E. Dörner and A. Mozsolics, Kemenczei mentions ten objects, among which four temple rings, not three as described by Dörner and Mozsolics; the first also fails to mention the bracelet made of gold wire, with open ends (Dörner 1960, Abb. 3/10; Mozsolics 1973, Taf. 105/1). Related to this discovery, the repertory of the Lower Mureş area contains the following details: "The following items were found in 1888, during terracing works for the Arad – Oradea rail way, in the first ditch in front of the rampart: one pot made of coarse fabric, human bones, and a treasure consisting of 23 gold items: 12 boat-shaped plates, in groups of three, two gold bracelets, three wire fragments and five loops, all made of gold, dated to the end of the Bronze Age and the beginning of the Iron Age" (Vasiliev, Barbu 1999, 90). Without verifying the information, we also erroneously took over these data (Gogâltan, Sava 2010, 17). Until we will be able to research the gold treasure at the National Museum in Budapest we have to accept the number of items suggested by E. Dörner and A. Mozsolics, i.e. eleven. Considering the state of the treasure at the moment of its discovery, the number of items was certainly much bigger. The objects are currently preserved at the Magyar Nemzeti Múzeum, Budapest, under inventory numbers 71/1889/1–14. The piece of information provided by T. Kemenczei, according to which the treasure entered the collection of this museum in 1899 (Kemenczei 1999, 67), on the basis of an exchange with the rail way society in Sântana, is contradicted by the fact that the items were inventoried in 1889 and by the older literature (Archaeologiai Értesítő VII, 1888, 286; Hampel 1889, 375; Hampel 1890, 190). It is probably a typing error.

"L. 7.1". Bibliography: Dörner 1960, 472, Abb. 1/1; 2/3; Mozsolics 1973, 208, Taf. 104/3; Rusu *et al.* 1996, Pl. XII/5; Rusu *et al.* 1999, Abb. 13/5; Kemenczei 1999, 67, Kat. 52; Gogâltan, Sava 2010, Fig. 5.

2. *Temple ring with leaf-shaped ends* (Lockenring mit Blättern). The item currently has three leaves, but it probably had four in the beginning, as seen on the original 1888 photograph. Weight: 14.08 g. One cannot establish the nature of the measurement provided by T. Kemenczei: "L. 6.6". Bibliography: Dörner 1960, 472, Abb. 1/4; 3/4,5; Mozsolics 1973, 208, Taf. 104/1, 5⁵³; Rusu *et al.* 1996, Pl. XII/7; Rusu *et al.* 1999, Abb. 13/7; Kemenczei 1999, 67, Kat. 52; Gogâltan, Sava 2010, Fig. 5.

3. *Temple ring with leaf-shaped ends* (Lockenring mit Blättern). Today it consists of two items, each with two leaves. According to E. Dörner and A. Mozsolics the two items were part of the same temple ring. For T. Kemenczei they were two independent items. Weight: 14.02 g. One cannot establish the nature of the measurement provided by T. Kemenczei: "L. 4.2; 2.9". Bibliography: Dörner 1960, Abb. 1/2-3, 3/6, 7; Mozsolics 1973, 208, Taf. 104/2, 4; Rusu *et al.* 1996, Pl. XII/4, 6; Rusu *et al.* 1999, Abb. 13/4, 6; Kemenczei 1999, 67, Kat. 52; Gogâltan, Sava 2010, Fig. 5.

4. *Bracelet* consisting of four spirals, made of a wire with connected ends, partially twisted. One of the ends is turned for the closing. Weight: 23.80 g. Diameter: 8.9 cm. Bibliography: Dörner 1960, 473, Abb. 2/5; 3/11; Mozsolics 1973, Taf. 104/7; Rusu *et al.* 1996, Pl. XIII/4, 6; Rusu *et al.* 1999, Abb. 14/4, 6; Kemenczei 1999, 67, Kat. 52.

5. *Loop with overlapping ends*, made of a bar lozenge-shaped in section. Initially it seems that this loop was connected to the subsequent one. Diameter: 3.1 cm; weight: 10.65 g. Bibliography: Dörner 1960, 473, Abb. 3/1; Mozsolics 1973, 208, Taf. 105/5; Rusu *et al.* 1996, Pl. XII/1; Rusu *et al.* 1999, Abb. 13/1; Kemenczei 1999, 67, Kat. 52.

6. *Loop with overlapping ends*, made of a bar lozenge-shaped in section. Initially it seems that this loop was connected to the previous one. Diameter: 3.6 cm; weight: 10.25 g. Bibliography: Dörner 1960, 473, Abb. 3/1; Mozsolics 1973, 208, Taf. 105/4; Rusu *et al.* 1996, Pl. XII/3; Rusu *et al.* 1999, Abb. 13/3; Kemenczei 1999, 67, Kat. 52.

7. *Loop with overlapping ends*, made of a bar lozenge-shaped in section. Diameter: 3.2 × 3.8 cm. In Kemenczei it features with the following measurements: Diameter: 3.5 cm; weight: 16.43 g. Bibliography: Dörner 1960, 473, Abb. 3/2; Mozsolics 1973, 208, Taf. 105/6; Rusu *et al.* 1996, Pl. XII/2; Rusu *et al.* 1999, Abb. 13/2; Kemenczei 1999, 67, Kat. 52.

8. Small size *loop* made of a bar lozenge-shaped in section, connected to the previous loop. Bibliography: Dörner 1960, 473, Abb. 3/2; Mozsolics 1973, 208, Taf. 105/6; Rusu *et al.* 1996, Pl. XII/2; Rusu *et al.* 1999, Abb. 13/2; Kemenczei 1999, 67, Kat. 52.

9. *Wire with closed ends*, probably from a bracelet like the one at Cat.no. 4. Weight: 9.47 g. Bibliography: Dörner 1960, 473, Abb. 3/9; Mozsolics 1973, Taf. 105/2; Rusu *et al.* 1996, Pl. XIII/3=XIII/7; Rusu *et al.* 1999, Abb. 14/3=14/7; Kemenczei 1999, 67.

10. *Wire with closed ends*, probably from a bracelet like the one at Cat.no. 4. Weight: 10.52 g. Bibliography: Dörner 1960, 473, Abb. 3/8; Mozsolics 1973, 208, Taf. 105/3; Rusu *et al.* 1996, Pl. XIII/2=XIII/6; Rusu *et al.* 1999, Abb. 14/2=14/6; Kemenczei 1999, 67.

11. *Wire with the ends initially open*, but currently intertwined. Weight: 5 g. Bibliography: Dörner 1960, 473, Abb. 3/10; Mozsolics 1973, 208, Taf. 105/1; Rusu *et al.* 1996, Pl. XIII/1=XIII/5; Rusu *et al.* 1999, Abb. 14/1=14/5.

Catalogue of artefacts made of bronze/copper

Stray finds, I. Mărinouiu 1954

1. *Socket axe* (Inv. No. 12642 – Museum Arad; Pl. 1/6a-c). The socket is straight and thickened on the margin. A thick notch is placed under the margin, parallel to it. The loop starts from the edge of the socket and has been displaced to one side due to the impact with another object. The blade, slightly curved, show traces of use. The item was very well finished. The dark green patina is evenly distributed. Stray find by I. Mărinouiu in 1954. Length: 8.98 cm; blade width: 3.46 cm; socket diameter: 2.74 × 2.32 cm; socket depth: 6.3 cm; weight: 151.8 g. Bibliography: Rusu *et al.* 1996, 22, n. 2, Pl. XIV/12; Rusu *et al.* 1999, 143, Anm. 4, Abb. 15/12; Gogâltan, Sava 2010, Fig. 13, Fig. 15.

⁵³ Mozsolics 1973, 208 believes that the leaf illustrated on Taf. 104/5 was part of the temple ring on Taf. 104/1.

2. *Sickle fragment* (Inv. No. 12643 – Museum Arad; Pl. 1/12). One knows from the description and drawings published by M. Rusu that the item is fragmentarily preserved (just the tip). It shows a central groove and the blade displays traces of use or deterioration. We were unable to find the item in the storage rooms of the museum in Arad. Bibliography: Rusu *et al.* 1996, 22, no. 2, Pl. XIV/12; Rusu *et al.* 1999, 143, Anm. 4, Abb. 15/12; Gogâltan, Sava 2010, 23, Fig. 15.

Stray finds from the 1950s

3. *Belt* (Inv. No. A7905 – Brukenthal National Museum; Pl. 2). It is decorated in the “au repoussé” technique. The decorative motifs are placed in six rows, consisting of several arches, hachured triangles, circles, anchors, “boeotian shields” etc. In its actual state of preservation, the belt is circular in shape, but one can note that, upon discovery, it had been “folded”. In the central area one can note the fact that a small part has been cut out. There is also a small circular perforation (0.5 × 0.6 cm), performed from the outside in, with a sharp edge measuring 0.3 cm in width. On the inside, the item displays a series of successive scratch marks. The patina is dark green, in some areas light green; a few parts are gold-like in color, probably due to restoration attempts. Length: 82 cm; width: 8.4/10.3 cm; thickness: 0.05 cm. According to M. Rusu and I. Paul the belt is partially gilded, it's eength: 87 cm, maximum width: 10 cm. Bibliography: Rusu 1963, 188, Anm. 35; Horedt 1967, 149; Rusu, Chițu 1982, 47; Paul 1994, 137, no. 36; Rusu *et al.* 1996, 22, no. 3, Pl. XIV/12; Rusu *et al.* 1999, 143, Anm. 4, Abb. 15/12; Gogâltan, Sava 2010, 23.

1963 archaeological excavations

4. *Loop* (without Inv. No. – Museum Arad; Pl. 1/2a-b). The item was intentionally bent, is rectangular in section, and has the margins and ends rounded. One of the ends was broken “during antiquity.” The loop's body is covered in dark green patina. “Surface I, on the dwelling's platform, depth: 0.35 m”⁵⁴; Rusu *et al.* 1996, 18; Rusu *et al.* 1999, 151 note that the loop (“the temple ring”) was discovered in a surface dwelling that occupied the area between meters 27 and 39 of section S II. Subsequently, this construction element was connected to the fortification system of enclosure I⁵⁵. Length: 6.8 cm; width: 0.42 cm; thickness: 0.2 cm; weight: 2 g. Bibliography: Rusu *et al.* 1996, 18, Pl. XV/3; Rusu *et al.* 1999, 151, Abb. 15/3.

5. *Ring* (without Inv. No. – Museum Arad; Pl. 1/4a-c). The bar is triangular in section and the ends are pointy and overlapped. The patina is dark green in color. “Section S II, square 58.” Inner diameter: 1.46 × 1.34 cm; outer diameter: 1.92 × 1.8 cm; length: 8 cm; width: 0.4 cm; thickness: 0.21 cm; weight: 2 g. Bibliography: Rusu *et al.* 1996, Pl. XIV/9; Rusu *et al.* 1999, 151, Abb. 15/9.

6. *Pincers* (without Inv. No. – Museum Arad; Pl. 1/7a-b). With one arm shorter than the other, the item is broken in two; in the upper part the bar is square in section and in the lower part it is rectangular-flat in section. The patina is dark green. “Section S I, square 92, tomb M1, found on the chest”; in Rusu *et al.* 1996, 16 and Rusu *et al.* 1999, 144 the author states that tomb M1 was identified between meters 31–32, at a depth of 1.30 m, and contained an inventory consisting of two entire pots and a “pendant” (pincers?). Length: 8.5 cm; maximum width: 0.39 cm; thickness: 0.16 cm; weight: 1 g. Bibliography: Rusu *et al.* 1996, Pl. XIV/5; Rusu *et al.* 1999, 144, Abb. 15/5.

7. *Loop fragment* (without Inv. No. – Museum Arad; Pl. 1/5a-b). Made of a bar that is rectangular in section, with the ends separated and made thinner. The patina is dark green in color. “Surface I, depth: 0.35 m, on the platform.” Length: 3.3 cm; width: 0.3 cm; thickness: 0.18 cm; weight: 0.5 g. Bibliography: Rusu *et al.* 1996, 20, Pl. XIV/4 (bracelet); Rusu *et al.* 1999, 158, Abb. 15/4.

8. *Loop* (without Inv. No. – Museum Arad; Pl. 1/8a-b). Made of a bar that is rectangular in section, with the ends separated and made thinner. The patina is dark green in color. “Surface I, depth: 0.35 m, on the platform.” Inner diameter: 2.48 × 2.6 cm; outer diameter: 2.78 × 2.98 cm; length: 9.1 cm; width:

⁵⁴ The data subsequently provided between quotation marks are those found on the notes that accompany the items. In most cases they are in M. Rusu's handwriting. The items were recently identified in the storage rooms of the Institute for Archaeology and Art History in Cluj and transferred to the Museum in Arad. This footnote applies to Cat.nos. 4–15.

⁵⁵ As indicated above, data on fortification I are presented in an extremely confusing manner. Even more, it has been stated that a layer of compact clay, measuring 0.60–1.00 m in thickness, was deposited over the dwelling (Rusu *et al.* 1996, 18; Rusu *et al.* 1999, 151–152). The note that accompanied this loop records very clearly the depth of 0.35 m (!) as in the case of the saw blade (Cat.no. 11).

0.32 cm; thickness: 0.18 cm; weight: 1 g. Bibliography: Rusu *et al.* 1996, Pl. XIV/4 (bracelet); Rusu *et al.* 1999, 158, Abb. 15/4.

9. *Button* (without Inv. No. – Museum Arad; Pl. 1/1a-b). Provided with two holes (performed from the inside) placed on the sides, measuring 0.1 cm in diameter. The patina is dark green. "Section S II, square 4, depth: 0.40 m". Preserved diameter: 1.6×1.6 cm, thickness: 0.08 cm; weight: 0.6 g. Bibliography: Rusu *et al.* 1996, Pl. XIV/2; Rusu *et al.* 1999, 158, Abb. 15/2.

10. *Button* (without Inv. No. – Museum Arad; Pl. 1/3a-b). Provided with two holes (performed from the inside) placed on the sides, measuring 0.3 cm in diameter. The margin is slightly bent and displays a small brakeage. The patina is dark green. "Surface S I, depth: 0.45 m, under the demolition layer of the dwelling"; in Rusu *et al.* 1996, 20 and Rusu *et al.* 1999, 158 the author states that the item was discovered in areas 3–4, in square 1–2/5–6. Preserved diameter: 1.6×1.6 cm, thickness: 0.08 cm; weight: 0.8 g. Bibliography: Rusu *et al.* 1996, 20, Pl. XIV/1; Rusu *et al.* 1999, 158, Abb. 15/1.

11. *Saw blade* (without Inv. No. – Museum Arad; Pl. 1/11a-b). The blade is rectangular in section. The upper part was intentionally broken. The patina is dark green. "Section II, depth: 0.35 m"; in Rusu *et al.* 1996, 18 and Rusu *et al.* 1999, 151 the author mentions that the item was discovered in an on-surface dwelling that occupied an area between meters 27 and 39 of section S II. Length: 16.1 cm; width: 1.88 cm; thickness: 1.9 cm; weight: 18 g. Bibliography: Rusu *et al.* 1996, 18, Pl. XIV/10; Rusu *et al.* 1999, 151, Abb. 15/10.

12. *Pin* (without Inv. No. – Museum Arad; Pl. 1/10a-b). The body is slightly deformed, the upper part twisted, and the head turned. The lower part of the item is round in section, while the upper part is lozenge-shaped in section. The patina is light green. "Section S I, square 25, depth: 1.30 m"; in Rusu *et al.* 1996, 20 and Rusu *et al.* 1999, 158 one finds the item mentioned in surfaces 3–4, square 7–8/6, at a depth of 0.50 m. Length: 20 cm; thickness: 0.28 cm; weight: 8 g. Bibliography: Rusu *et al.* 1996, 20, Pl. XIV/7; Rusu *et al.* 1999, 158, Abb. 15/7.

13. *Bracelet?* (without Inv. No. – Museum Arad; Pl. 1/9a-b). Made of a bar that is lozenge-shaped in section, the item has one end thinned and the other ending in a spiral. The item was well finished and displays light green patina. "Section I, thrown-in soil"; Rusu *et al.* 1996, 20; Rusu *et al.* 1999, 158 mention the items in areas 3–4, square 13–14/2, at a depth of 0.40 m. Length: 15.3 cm; thickness: 0.3 cm; weight: 4.5 g. Bibliography: Rusu *et al.* 1996, 20, Pl. XIV/8; Rusu *et al.* 1999, 158, Abb. 15/8.

14. *Spearhead* (without Inv. No. – Museum Arad; Pl. 1/14a-d). With the blade in the shape of a laurel leaf (*Lorbeerblattförmigen Lanzen spitzen*), well equilibrated as compared to the socket tube. The latter displays a pair of circular perforations (measuring 0.44 cm in diameter) used for fixing. Both tube and the blade's margins display hit marks, the tip is slightly cracked and bent, and a small part of the socket tube is broken. The light green patina covers the entire surface of the item. "Square 1, depth: 0.35 m." According to Rusu *et al.* 1996, 20 and Rusu *et al.* 1999, 158 the item was discovered "In square 6–7/2–3, also at a depth of 0.50 m." Length: 14.16 cm; maximum width of the blade: 3.46 cm; diameter of the socket tube (at the base): 2.28×2.3 cm; length of the socket tube: 11.5 cm; weight: 81 g. Bibliography: Rusu *et al.* 1996, 20, Pl. XIV/13; Rusu *et al.* 1999, 158, Abb. 15/13.

15. *Spearhead* (without Inv. No. – Museum Arad; Pl. 1/13). The tip of the item is missing, but the blade has the shape of a laurel leaf. The socket tube, slightly trapezoidal in shape, displays a pair of circular perforations (measuring 0.38 cm in diameter) used for fixing; on one side, the perforation has been widened and another orifice can be noted under it. Both the tube and the margins of the blade display hit marks; a small part of the socket tube has been broken, and the lower part has a crack. The item does not display patina, it is gold-like in color, and the margins are slightly oxidized. "spearhead found on the surface." Length: 9.32 cm; maximum width of the blade: 2.5 cm; diameter of the socket tube (at the base): 2.2×2.2 cm; weight: 43 g. Bibliography: Rusu *et al.* 1996, 20, Pl. XIV/11; Rusu *et al.* 1999, 158–159, Abb. 15/11.

Stray finds during the 1980s

16. *Mold* (unknown place of preservation⁵⁶). Fragment from a sandstone mold, probably employed in the casting of certain tutuli. Bibliography: Mureșan 2007, 120, no. 8.

⁵⁶ The mold valve was donated in 1980 by A. Mureșan to Florin Medeț from Banatului Museum in Timișoara. The item is currently lost. We thank A. Mureșan for the information.

17. *Bracelet*. (Inv. No. 16510 – Museum Arad; Pl. 3/8). Made of a bar that is circular in section. The ends, brought close together, are thinner towards the margins. The body of the item is decorated with incisions placed in nine rows; the rows are ordered according to oblique and vertical incisions. The bracelet displays dark green patina. Length: 16.3 cm, inner diameter: 5.2 × 4.2 cm, thickness: 0.9 cm, weight: 51.50 g. Bibliography: Mureșan 1987, Fig. 1, 1a.

18. *Bracelet*. (Inv. No. 16509 – Museum Arad; Pl. 3/7). Made of a bar that is D-shaped in section; the ends are close together and thinner towards the margins. Part of the item's decoration is worn out; the remaining part consists of oblique and horizontal incisions grouped in nine rows. The bracelet displays light green patina. Length: 16.5 cm, inner diameter: 4.6 × 4.5 cm, thickness: 1.1 cm, weight: 68.50 g. Bibliography: Mureșan 1987, Fig. 1, 1a.

Field research, G. Ciaciș, 1990s

19. *Sickle fragment* (Inv. No. 16742 – Museum Arad; Pl. 3/2a-b). The handle is missing, but it was probably of the button type. In the middle of the item one can note a rectangular part cut out from the blade; in the same area, the item was bent. By the broken part, the item displays a slight in-turned bending. The casting traces were not completely removed from the outer edge and from one part of the inner side. The blade displays slight traces of deterioration towards the tip. The patina is dark green, with traces of oxidizing towards the tip, on the inner side the patina is only preserved in some areas, while the others are copper-colored. The item was discovered during field research performed by G. Ciaciș in 1997. Length: 8.96 cm; width: 2.34 cm; weight: 39.2 g. Bibliography: Gogâltan, Sava 2010, Fig. 13⁵⁷.

Cat. No.	Cu	Sn	Pb*	Zn	As*	Ni	Ag	Fe	Sb
	%	%	%	%	%	%	%	%	%
P4	90.3	6	1.9	0.3	0.4	0.4		0.5	traces

20. *Sickle fragment* (Inv. No. 16743 – Museum Arad; Pl. 3/4a-b). Only the part towards the tip has been preserved. In the braking area the item is slightly bent towards the inside. The casting traces were not completely removed from the edges. The blade is slightly chipped. The patina is dark green and traces of oxidizing can be noted towards the tip. Discovered during field research performed by G. Ciaciș in 1997. Length: 7.7 cm; width: 2.34; weight: 16.9 g. Bibliography: Gogâltan, Sava 2010, Fig. 13.

Cat. No.	Cu	Sn	Pb*	Zn	As*	Ni	Ag	Fe	Sb
	%	%	%	%	%	%	%	%	%
P5	93.7	4.8	0.1		0.4	0.4		0.5	

21. *Sickle fragment* (Inv. No. 16748; 16751 – Museum Arad; Pl. 3/5a-b). The tip (Inv. No. 16751) was intentionally broken from the rest of the item. The blade (Inv. No. 16748) was cut out in the bending area. The braking from the tip is outwardly bent and that from the base is inwardly bent. The blade is well sharpened, but it displays slight deteriorations. The patina preserved over the entire surface is light green in color, with some exceptions, i.e. in areas where it has been removed. Traces of scratching can be noted on the surface of the sickle. Discovered during field research performed by G. Ciaciș in 1997. Inv. No. 16748: Length: 8.78 cm; width: 2.96 cm; weight: 42.8 g. Inv. No. 16751: Length: 4.88 cm; width: 2.18 cm; weight: 9.1 g. Bibliography: Gogâltan, Sava 2010, Fig. 14.

22. *Fragment from a sickle with button on the handle* (Inv. No. 16749 – Museum Arad; Pl. 3/1a-b). Only the part by the handle has been preserved, where the button is prominent. The item displays a slight bending of the blade, half in-turned, half out-turned. The patina is even and is dark green in color. Discovered during field research performed by G. Ciaciș in 1997. Length: 5.88 cm; width: 2.5 cm; weight: 28.8 g. Bibliography: Gogâltan, Sava 2010, Fig. 13.

⁵⁷ Monica Macovei, PhD, from the University of Bucharest, Faculty of Geology and Geophysics performed the metallographic analyses; we hereby thank her.

23. *Sickle fragment* (Inv. No. 16750 – Museum Arad; Pl. 3/3a-b). Only the part by the tip has been preserved. The tip and the blade are well sharpened. By the breaking area, the blade displays an in-turned bending. The blade is slightly chipped by modern "manipulations". The patina is dark green and evenly distributed. Discovered during field research performed by G. Ciaciș in 1997. Length: 6.1 cm; width: 1.8 cm; weight: 13.8 g. Bibliography: Gogâltan, Sava 2010, Fig. 13.

24. *Ingot fragment* (Inv. No. 16752 – Museum Arad; Pl. 3/6a-b). The patina is even, dark green in color, with slight traces of oxidizing. Discovered during field research performed by G. Ciaciș in 1997. Length: 4.64 cm; width: 5.29 cm; thickness: 2.91; weight: 279 g. Bibliography: Gogâltan, Sava 2010, Fig. 13.

Field research by L. Mercea

25. *Dagger fragment* (Inv. No. 17425 – Museum Arad; Pl. 5/8a-b). Only the lower part of the blade has been preserved. The cutting edge is sharp and displays strong traces of deterioration. The hilt is triangular and displays three rivets that allowed for the handle to be fixed. The area around the middle rivet is slightly cracked on the inside. The patina is light green in color, with numerous traces of oxidizing. Discovered during field research performed by L. Mercea in 2008 in the southern part of the fortification, in enclosure III. Total length: 6.7 cm, blade width: 3.58 cm, thickness: 0.2 cm, weight: 30 g. Bibliography: Gogâltan, Sava 2010, Fig. 14.

26. *Belt fragment* (Inv. No. 17421a-c – Museum Arad; Pl. 4/4a-b). It is decorated in the "au repoussé" technique, with the decoration placed in three rows. Each row is framed by a stripe consisting of two parallel lines divided by a series of small incisions. The rows consist of arches, created through the association of three lines. The first row contains a single series of arches, the second – two series of arches, while the third – a single series. The item has been repeatedly bent and the entire body is undulated (after its discovery, the item has been "straightened", thus one can no longer establish its initial shape). A strong brakeage is visible on one side; the item was probably bent there with the intention of braking. On the same side with the breaking one can note two deteriorations of the plate due to strong oxidizing. The light green patina is preserved in some parts; a large area is copper-colored and the upper part is strongly oxidized. Discovered during field research performed by L. Mercea in 2008 on the rampart of enclosure I, close to the north-eastern corner. Length: 14.32 cm; maximum width 6.4 cm; thickness: 0.04 cm; weight: 33 g. Bibliography: Gogâltan, Sava 2010, Fig. 14.

27. *Belt fragment* (L. Mercea collection no. 10 – Museum Arad; Pl. 4/2). Decorated identical to fragments recorded at Inv. No. 17421 (they were most probably part of the same girdle). The edges show repeated bending. The dark green patina is not evenly distributed; in some areas the item is copper-colored. Discovered during field research performed by L. Mercea in 2011 on the rampart of enclosure I, close to the north-eastern corner. Length: 5.5 cm; width: 6.4 cm; thickness: 0.04 cm; weight: 20 g. Bibliography: previously unpublished.

28. *Belt fragment* (L. Mercea collection no. 7 – Museum Arad; Pl. 4/3a-b). Item decorated identical to those recorded at Cat.nos. 26 and 27. The plate is nevertheless narrower. Ca. half of the item's body is inwardly bent. Cracks can be observed on one of the girdle's edges. The patina is dark green in the central part of the item and light green on the sides. Discovered during field research performed by L. Mercea in 2010 on the rampart of enclosure I, close to the north-eastern corner. Length: 7 cm; width: 5.48 cm; thickness: 0.06 cm; weight: 22 g. Bibliography: previously unpublished.

29. *Belt fragment?* (Inv. No. 17423 – Museum Arad; Pl. 4/1a-b). It is decorated in the "au repoussé" technique. The decoration, hardly visible, consists of six approximately parallel lines, placed in the center of the item. On one side the item it is inwardly bent, as a consequence of having been broken, and on the other it displays one breaking. On the surface of the item the patina is even and reddish in color, in some areas of the back side it is green, while the rest of the body is copper-colored. Discovered during field research performed by L. Mercea in 2008 on the rampart of enclosure I, close to the north-eastern corner. Length: 4.2 cm; width: 2.42 cm; thickness: 0.06 cm; weight: 3 g. Bibliography: Gogâltan, Sava 2010, Fig. 14.

Cat. No.	Cu	Sn	Pb*	Zn	As*	Ni	Ag	Fe	Sb
	%	%	%	%	%	%	%	%	%
P16	88.3	9.6	0.3		0.3	0.2		1.4	traces

30. *Belt fragment* (L. Mercea collection no. 1; Pl. 4/5a-b). It is decorated in the middle with five prominences, hardly visible, surrounded by a circle. One of the margins is decorated with an incised line performed in the “au repoussé” technique. Only the end of the girdle has been preserved and it was discovered “folded.” Cracks can be noted on one of the margins. The patina is light green in color. Discovered during field research performed by L. Mercea in 2010 on the rampart of enclosure I, close to the north-eastern corner. Length: 18.1 cm; width: 6.1 cm; thickness: 0.06 cm; weight: 28 g. Bibliography: previously unpublished.

31. *Bracelet* (L. Mercea collection no. 6; Pl. 5/12a-b). Made of a bar that is D-shaped in section. The ends, brought close together, are thinner towards the margins. The outer side is decorated with small rows of vertical incisions. The entire decoration cannot be observed due to the strong oxidizing. The item is well finished. The patina is unevenly distributed on the entire surface and is light green in color. Over a large part of its body, the bracelet is strongly oxidized. In those areas that are not covered with patina, the item is copper-colored. Discovered during field research performed by L. Mercea in 2010 on the rampart of enclosure I, close to the north-eastern corner. Length: 17.3 cm, inner diameter: 5.2×4.4 cm, outer diameter: 6.58×5.34 cm, thickness: 0.88 cm, weight: 45.6 g. Bibliography: previously unpublished.

32. *Bracelet* (L. Mercea collection no. 8; Pl. 5/11). Made of a bar that is D-shaped in section. The ends, brought close together, are thinner towards the margins. The upper side is decorated with rows of vertical incisions placed in groups. Due to the item's deterioration, the decoration is barely visible. Traces of light green oxidizing can be seen on the entire body. A white calcareous deposition can be observed on one side. Discovered during field research performed by L. Mercea in 2010 on the rampart of enclosure I, close to the north-eastern corner. Length: 17.5 cm, inner diameter: 5.78×4.4 cm, outer diameter: 7.36×5.4 cm, thickness: 0.98 cm, weight: 45.6 g. Bibliography: previously unpublished.

33. *Pendant* (L. Mercea collection no. 2; Pl. 5/2a-c). The body has the shape of a crescent moon, consisting of two parallel veins. The upper part of the rod displays a hollow part, formed during casting. The item is covered in an uneven dark green patina, with traces of oxidizing; in those areas of the pendant's body uncovered by patina, it is silver-like colored. The pendant was discovered together with the loop described at Cat.no. 38; the loop was hanging from the pendant's rod. Discovered during field research performed by L. Mercea in 2010 on the rampart of enclosure I, near the north-eastern corner. Height: 3.4 cm; width: 2.38 cm; thickness: 0.6 cm; weight: 6 g. Bibliography: previously unpublished.

34. *Saltaleon* (L. Mercea collection no. 4; Pl. 5/9a-b). It displays dark green patina; the item is oxidized in some areas. Discovered during field research performed by L. Mercea in 2010 on the rampart of enclosure I, near the north-eastern corner. Height: 2.42 cm; thickness: 0.06 cm; weight: 1 g. Bibliography: previously unpublished.

35. *Button* (L. Mercea collection no. 5; Pl. 5/3a-b). Provided with two perforations (performed from the inside), placed sideways, measuring 0.2 cm in diameter. The item is broken in the middle. The patina is light green in color. Discovered during field research performed by L. Mercea in 2010 on the rampart of enclosure III, on the southern side. Preserved diameter: 2.3×1.7 cm, thickness: 0.02 cm; weight: 0.8 g. Bibliography: previously unpublished.

36. *Tutulus* (L. Mercea collection no. 11; Pl. 5/1a-b). The item is worn out and its irregular edges are the result of repeated deteriorations. The middle grooves are also strongly worn, mainly on the sides. The patina is dark green in color, though in some areas it is light green. Discovered during field research performed by L. Mercea in 2011 on the rampart of enclosure I, near the north-eastern corner. Height: 1.24 cm; diameter: 2.16×2.2 cm; weight: 6 g. Bibliography: previously unpublished.

37. *Loop* (Inv. No. 17424 – Museum Arad; Pl. 5/10a-b). Made of round-section wire, its ends are close together and made thinner. The patina is dark green and in some areas the item is copper-colored. Discovered during field research performed by L. Mercea in 2008 in the southern part of the fortification, in enclosure III. Inner diameter: 2.1×1.96 cm; outer diameter: 2.6×2.4 cm; length: 7.6 cm; thickness: 0.3 cm; weight: 3 g. Bibliography: Gogâltan, Sava 2010, Fig. 14.

38. *Loop* (L. Mercea collection no. 3; Pl. 5/6a-b). Made of triangular-section wire. The item does not display patina, is partially oxidized and the oxide is dark green; the rest of the loop is silver-like in color. The loop was hung from the rod of the crescent moon pendant (Cat.no. 33) discovered during field research performed by L. Mercea in 2010. Inner diameter: 0.9×0.9 cm; outer diameter: 1.98×1.9 cm; length: 4.5 cm; thickness: 0.26 cm; weight: 3 g. Bibliography: previously unpublished.

39. *Plate fragment* (Inv. No. 17427 – Museum Arad; Pl. 5/5a-b). One of the sides is well finished. The patina is light green. Discovered during field research performed by L. Mercea in 2009. Length: 2.68 cm; width: 2.1 cm; thickness: 0.21 cm; weight: 3 g. Bibliography: previously unpublished.

40. *Band fragment* (Inv. No. 17422 – Museum Arad; Pl. 5/4a-b). One end has been preserved. The band becomes narrower towards the end. On the surface of the body one can note traces from casting. The entire surface of the item is strongly oxidized. Discovered during field research performed by L. Mercea in 2008 on the rampart of enclosure III, on the northern side. Length: 4.28 cm; width: 1.68 cm; thickness: 0.28 cm; weight: 5 g. Bibliography: Gogâltan, Sava 2010, Fig. 14.

Cat. No.	Cu	Sn	Pb*	Zn	As*	Ni	Ag	Fe	Sb
	%	%	%	%	%	%	%	%	%
P13	93.8	4.2	0.5		0.1		slight traces	1.4	traces

41. *Ingot* (L. Mercea collection no. 9; Pl. 5/7). Small-size ingot; the patina is light green in color. Discovered during field research performed by L. Mercea in 2010 ca. 100 m south-east from the south-eastern corner of enclosure III. Length: 3.56 cm; width: 3.02 cm; thickness: 1.12 cm; weight: 33 g. Bibliography: previously unpublished.

42. *Plate fragment?* (Inv. No. 17426 – Museum Arad; Pl. 5/13a-b). The item is rectangular, slightly concave in shape, and has a small circular orifice on one side. The patina is dark green, in some areas light green. Discovered during field research performed by L. Mercea in 2008 in the southern side of the fortification in enclosure III. Length: 2.3 cm; width: 2.2 cm; thickness: 0.21 cm; weight: 5 g. Bibliography: previously unpublished.

Field research performed by the team organizing the archaeological investigation in Sântana "Cetatea Veche"

43. *Pendant* (Inv. No. 17418 – Museum Arad; Pl. 6/2a-c). Only the item's body has been preserved; the rod is broken from the base. The body is shaped as a crescent moon, consisting of three grooves on each side. The first groove is cracked and that part is slightly inwardly bent. The item was most probably destroyed intentionally and it cracked during bending. Slight deteriorations can be observed on the surface, probably caused by plowing. One of the "grooves" has been notched, in preparation for the item to be sectioned (?) or showing traces of some marking. The patina is dark green in color, with traces of oxidizing in those areas where it was deteriorated. Discovered during field research performed by the team organizing the archaeological investigation in Sântana "Cetatea Veche" in 2008 in the southern end of enclosure II. Height: 2.58 cm; width: 3.21 cm; thickness: 0.52 cm; weight: 6.9 g. Bibliography: Gogâltan, Sava 2010, Fig. 14.

44. *Fragment from a tongue handle knife?* (Inv. No. 17419 – Museum Arad; Pl. 6/4a-b). Only the part by the socket tongue has been preserved, and part of the blade. The cutting edge is straight and the edge is curved. A circular orifice can be noted above the tongue, for the fixing of the handle. Around the circular orifice one can observe two vertical cracks caused by bending. Near the braking area the blade displays traces of having been inwardly bent, and by the breaking it was outwardly bent. The blade displays two fissures and traces of slight use. The patina is light green in color, with traces of oxidizing by the breaking and on the body. Discovered during field research performed by the team organizing the archaeological investigation in Sântana "Cetatea Veche" in 2008 in the southern end of enclosure II. Length: 5.28 cm; width: 2.1 cm; thickness: 0.12 cm; weight: 5.7 g. Bibliography: Gogâltan, Sava 2010, Fig. 14.

45. *Belt fragment* (Inv. No. 17420 – Museum Arad; Pl. 6/6a-b). Made of a thin plate. It is decorated in the "au repoussé" technique and the decoration is placed in two rows. The first is delimited from the margin through two parallel straight lines; underneath, there are three parallel lines in the shape of a triangle. The second row consists of a straight line that separates the rows and arches with the lower part twice underlined. The item was repeatedly bent, as the entire body is undulated. One can note a cut mark on the lower side of the item. The patina is dark green in color and the front side is entirely covered in oxides. Discovered during field research performed by the team organizing the archaeological investigation in Sântana "Cetatea Veche" in 2008 in the southern end of enclosure II. Length: 3.72 cm; width: 2.41 cm; thickness: 0.04 cm; weight: 2.5 g. Bibliography: Gogâltan, Sava 2010, Fig. 14.

46. *Loop* (Inv. No. 17428 – Museum Arad; Pl. 6/1a-b). Made of wire that is round in section. The ends are overlapping. The patina is light green in color. Discovered during field research performed by the team organizing the archaeological investigation in Sântana “Cetatea Veche” in the north-eastern area of enclosure II or III in 2009. Inner diameter: 1.7×1.58 cm; outer diameter: 2.02×2.1 cm; length: 10.2 cm; thickness: 0.14 cm; weight: 1 g. Bibliography: Gogâltan, Sava 2010, Fig. 14.

47. *Socket* (Inv. No. 17407 – Museum Arad; Pl. 6/9a-b). It has the shape of a small cylinder, with the ends enforced by grooves. Such a groove is also placed on the middle of the item. On one side one can note traces of deterioration, in the form of four orifices produced during casting. The inner diameter is circular, while on the outside the three grooves are rectangular in shape, with rounded corners. Discovered during field research performed by the team organizing the archaeological investigation in Sântana “Cetatea Veche” in the north-eastern area of enclosure II or III in 2009. Height: 1.94 cm; inner diameter: 0.9×0.92 cm; outer diameter: 1.52×1.64 cm; maximum thickness: 0.4 cm; weight: 13 g. Bibliography: previously unpublished.

48. *Ingot* (Inv. No. 17411 – Museum Arad; Pl. 6/10a-b). The outer surface shows traces of slight oxidizing and is in some parts covered with a lime film. On one side it has a relatively smooth surface, while on the other it displays irregularities. Discovered during field research performed by the team organizing the archaeological investigation in Sântana “Cetatea Veche” in the north-eastern area of enclosure II or III in 2009. Length: 6.9 cm; width: 5.31 cm; maximum thickness: 1.9 cm; weight: 231 g. Bibliography: previously unpublished.

Cat. No.	Cu	Sn	Pb*	Zn	As*	Ni	Ag	Fe	Sb
	%	%	%	%	%	%	%	%	%
P9	98		0.1	0.1	traces			1.5	traces

49. *Ingot* (Inv. No. 17412 – Museum Arad; Pl. 6/8a-b). The outer surface is covered with a lime film. Discovered during field research performed by the team organizing the archaeological investigation in Sântana “Cetatea Veche” in the north-eastern area of enclosure II or III in 2009. Length: 2.5 cm; width: 1.48 cm; maximum thickness: 0.84 cm; weight: 12 g. Bibliography: previously unpublished.

50. *Plate* (Inv. No. 17413 – Museum Arad; Pl. 6/5a-b). The item is almost rectangular in shape, folded in two, and the margins seem to have been cut out. The patina is even and is light green, in some areas dark green in color. Length: 6.8 cm; width: 1.88 cm; thickness: 0.06 cm; weight: 5 g. The plate connected three small-size bronze objects (Cat.nos. 51–53, Pl. 6/5c). Discovered during field research performed by the team organizing the archaeological investigation in Sântana “Cetatea Veche” in the north-eastern area of enclosure II or III in 2009. Bibliography: previously unpublished.

51. *Saltaleon* (Inv. No. 17413 – Museum Arad; Pl. 6/5d). Fragmentary and bent in two. Light green patina. Length: 3 cm (stretched, and 1.2 cm bent); width: 0.9 cm; diameter: 0.38 cm; thickness: 0.04 cm; weight: 0.5 g. Discovered during field research performed by the team organizing the archaeological investigation in Sântana “Cetatea Veche” in the north-eastern area of enclosure II or III in 2009. Bibliography: previously unpublished.

52. *Loop* (Inv. No. 17413 – Museum Arad; Pl. 6/5f). Made of wire that is circular in section. Light green patina. Length: 4.1 cm; thickness: 0.18 cm; weight: 1 g. Discovered during field research performed by the team organizing the archaeological investigation in Sântana “Cetatea Veche” in the north-eastern area of enclosure II or III in 2009. Bibliography: previously unpublished.

53. *Loop?* (Inv. No. 17413 – Museum Arad; Pl. 6/5e). Made of wire that is round in section. One of the ends is flat in section and ends in a spiral. Light green patina. Length: 6.7 cm; thickness: 0.58 cm; weight: 1.5 g. Discovered during field research performed by the team organizing the archaeological investigation in Sântana “Cetatea Veche” in the north-eastern area of enclosure II or III in 2009. Bibliography: previously unpublished.

54. *Wire fragment, circular in section* (Inv. No. 17429 – Museum Arad; Pl. 6/3a-b). The body is bent. The patina is light green. Discovered during field research performed by the team organizing the archaeological investigation in Sântana “Cetatea Veche” between sections S2 and S3, thus in enclosure II or III, in 2009. Length: 7 cm; thickness: 0.2 cm; weight: 1 g. Bibliography: previously unpublished.

55. *Bracelet* (without Inv. No. – Museum Arad; Pl. 6/7a-b). Made of a bar that is D-shaped in section; the ends are close together and thinner towards the margins. It is well finished. On the inside, the item was struck and this caused a slight deterioration. The patina is light green, in some areas dark green. Discovered during field research performed by the team organizing the archaeological investigation in Sântana "Cetatea Veche" in 2012 at the northern base of the tumulus. Length: 18.3 cm; inner diameter: 5.22×4.6 cm; outer diameter: 6.8×5.78 cm; thickness: 0.82 cm; weight: 76 g. Bibliography: previously unpublished.

56. *Transylvanian-type socket axe* (Inv. No. 17405 – Museum Arad; Pl. 7/1a-e). The socket is straight and thicker on the margin. A thick groove is placed parallel to and under the margin. The loop starts from the edge of the socket and is oval in section. The body is almost straight, massive, and becomes wider towards the slightly arched cutting edge. On one side it is decorated with a V-shaped groove placed under the rim (Pl. 7/1c). On the opposite side, the item displays, even since it was cast, an almost oval perforation. The cutting edge shows one trace of use, under the shape of an oblique hit mark. The dark green patina shows traces of oxidizing and lime depositions. Discovered during field research performed by the team organizing the archaeological investigation in Sântana "Cetatea Veche" in 2009 in the north-eastern area of enclosure II or III. Length: 11.9 cm; width of the cutting edge: 4.56 cm; socket diameter: 3.12×2.56 cm; socket depth: 7.6 cm; weight: 320 g. Bibliography: Gogâltan, Sava 2010, Fig. 42; Gogâltan, Sava 2012, Fig. 6/3.

Cat. No.	Cu	Sn	Pb*	Zn	As*	Ni	Ag	Fe	Sb
	%	%	%	%	%	%	%	%	%
P14	93.6	4.4	0.2		0.5	0.3		1	traces

57. *Spiral bracelet with a knob in the middle of the spiral* (Inv. No. 17406 – Museum Arad; Pl. 7/2a-c). The bracelet is made of a bar that is round in section; the spiral consists of nine concentric circles with a cone-shaped knob in the middle. The last two spirals are covered by the knob and are thin and rectangular in section. The outer surface of the item is decorated with rows of oblique or angular notches, sometime intercalated by simple or double X-shapes. The even patina is dark green in color; slight traces of oxidizing can be noted. The item was discovered 350 m north of the fortification ($46^{\circ}18'50.27''\text{N}$; $21^{\circ}27'14.76''\text{E}$), during field researches performed by the team organizing the archaeological investigation in Sântana "Cetatea Veche" in 2009. Length: 21 cm; width: 12.5 cm; maximum diameter of the spiral: 7.22×6.72 cm; knob diameter: 1.6×1.56 cm; maximum thickness of the bar: 0.58 cm; weight: 194 g. Bibliography: Gogâltan, Sava 2010, Fig. 41.

Cat. No.	Cu	Sn	Pb*	Zn	As*	Ni	Ag	Fe	Sb
	%	%	%	%	%	%	%	%	%
P15	89	7.3	0.6		0.3	0.2		2.6	traces

2009 archaeological excavations

58. *Bracelet* (Inv. No. 17403 – Museum Arad; Pl. 8/1a-b). Made of a bar that is lozenge-shaped in section. The ends are slightly thinned. The item is undecorated but it is well finished on the outside. The body displays certain deteriorations. One of the ends is outwardly bent, while the middle is slightly bent. The patina is even and light green in color. Section S1, square 36 A, depth: 107.70 m. The item was identified between the soil lenses of the rampart. Length: 15.6 cm, inner diameter: 6.54×4.5 cm, outer diameter: 7.4×4.7 cm, thickness: 0.44 cm, weight: 15 g. Bibliography: previously unpublished.

Cat. No.	Cu	Sn	Pb*	Zn	As*	Ni	Ag	Fe	Sb
	%	%	%	%	%	%	%	%	%
P8	95.3	2.2	0.1		0.4	0.5		1.4	

59. *Ring* (Inv. No. 17410 – Museum Arad; Pl. 8/5a-b). Made of a bar that is almost triangular in section. The ends are overlapping. The item is strongly corroded, but one can note the light blue

patina. Section S1, Cx_05 (incineration tomb, Pl. 8/6). Length: 6.3 cm; width: 0.46 cm; inner diameter: 1.3 × 1.1 cm; outer diameter: 1.7 × 1.7 cm; thickness: 0.12 cm; weight: 2 g. Bibliography: previously unpublished.

60. *Saltaleon* (Inv. No. 17414 – Museum Arad; Pl. 8/7a-b). Dark green patina, in some areas dark green, and red oxides. Section S1, square 50 A, depth 107.70 m. The item was identified between the soil lenses of the rampart (Pl. 8/8). Length: 1.46 cm; diameter: 0.38 × 0.41 cm; thickness: 0.18 cm; weight: 0.8 g. Bibliography: previously unpublished.

61. *Bronze piece* (without Inv. No. – Museum Arad; Pl. 8/4a-b). The section is almost circular. The body of the item is strongly corroded. Section S1, square 38. The item was identified between the soil lenses of the rampart. Length: 2.18 cm; diameter: 0.38 × 0.34 cm; weight: 0.8 g. Bibliography: previously unpublished.

62. *Saltaleon* (Inv. No. 17415 – Museum Arad; Pl. 8/2a-b). Dark green patina, in some areas dark green, and red oxides. Section S1, square 6 B, depth 104.50 m. The item was identified between the soil lenses of the rampart. Length: 2.31 cm; diameter: 0.49 × 0.46 cm; thickness: 0.12 cm; weight: 1 g. Bibliography: previously unpublished.

63. *Casting scrap* (Inv. No. 17416 – Museum Arad; Pl. 8/3a-b). Dark green patina, in some areas light green. Section S1, square 6, depth: 107.50 m. The item was identified between the soil lenses of the rampart. Length: 2.88 cm; width: 1.06 cm; thickness: 0.3 cm; weight: 1 g. Bibliography: previously unpublished.

64. *Needle with “eye”* (Inv. No. 17408 – Museum Arad; Pl. 9/1a-b). The “eye” is of small size and oval in shape. The needle’s body is slightly arched and the tip well sharpened. The needle displays an even patina over the lower half, light green in color, while the upper half is covered with a lime film. Section S1, square 5B, depth: 104.48 m (Pl. 9/2). Length: 8.6 cm; maximum thickness: 0.21 cm; weight: 1 g. Bibliography: Gogâltan, Sava 2010, Fig. 39.

65. *Arrow head* (Inv. No. 17409 – Museum Arad; Pl. 9/3a-b). Arrow head with two wings, central groove, and tube for the shaft. The light green patina displays traces of ferrous oxidizing. Section S1, square 2B, depth: 104.50 m (Pl. 9/4). Length: 4.19 cm; width: 1.9 cm; maximum preserved diameter of the tube: 0.7 cm; weight: 3 g. Bibliography: Gogâltan, Sava 2010, Fig. 40.

66. *Tutulus* (without Inv. No. – Museum Arad; Pl. 10/3a-b). The irregular margins were caused by breaking. The patina is bluish-green; the entire surface is strongly corroded. Section S1, Cx_40 (incineration tomb). Length: 1 cm; diameter: 2.6 × 2.68 cm; weight: 8 g. Bibliography: previously unpublished.

67. *Pendant* (Inv. No. 17404 – Museum Arad; Pl. 11/2a-b). The loop and a “thorn” are broken since antiquity. Decorated with one groove in the middle; the back side is flat; the body is well finished. The dark green patina was largely covered by light green corrosion. Section S2, depth: 0.50 m; the item was identified in the upper level of pit Cx_02 (Pl. 11/4–5). Height: 6 cm; width: 2.9 cm; thickness: 0.2 cm; weight: 3 g. Bibliography: previously unpublished.

68. *Casting scrap?* (Inv. No. 17417 – Museum Arad; Pl. 11/1a-b). Light green patina. Section S2, Cx_02 (Pl. 11/4–5). Length: 2.2 cm; width: 1.3 cm; thickness: 0.68 cm; weight: 3 g. Bibliography: previously unpublished.

Context of discoveries

The context and number of gold items discovered in the spring of 1888 have been discussed above. As inventory of an incineration tomb, eleven items were handed down to us

(Cat.nos. 1–11). It is possible that there were more objects in the lot, some of a different type, as in the case of other contemporary discoveries.

The first bronze objects found on this site that we are aware of are a sickle (Cat.no. 2, Pl. 1/12) and a celt (Cat.no. 1, Pl. 1/6) discovered by I. Mărinouiu in 1954. A beautiful bronze girdle (Cat.no. 3, Pl. 2) was also recovered during the 1950s⁵⁸. Unfortunately, these artifacts were stray finds, discovered in the plowing layer, and we have no data on their context or exact place of discovery.

⁵⁸ As previously indicated, according to M. Rusu and I. Paul the girdle was partially gilded. In its current state, it was simply cleaned of the patina.

The excavation performed in 1963 led to the identification of certain bronze artefacts; their place of discovery is sometimes mentioned, though at time debated. Thus, a skeleton placed in a crouching position, having as funerary inventory two entire pots and a bronze pincers placed on the chest (Cat. no. 6, Pl. 1/7a-b) was researched in section S I (that sectioned the rampart of enclosure III), meter 31–32, depth 1.30 m, or, as one reads on the note that accompanies the item, in "Section S I, square 92." The tomb was chronologically dated to period "H. B"⁵⁹. As we have previously mentioned and as we will subsequently show, we have identified more tombs behind the rampart of enclosure III. They can be dated to the late period of the Bronze Age and we believe that the tomb under discussion can be dated to the same period. The blade of a bronze saw (Cat.no. 11, Pl. 1/11a-b)⁶⁰ and a loop (Cat.no. 4, Pl. 1/2a-b)⁶¹ were found in section S II, the one that cut through the fortification system of enclosure I; M. Rusu dated these items, together with the pottery fragments, to "Ha A₁."

The two surfaces, S3 and S4, opened in the central-north-eastern part of enclosure I, led to the discovery of certain artefact concentrations that the research team in Sântana believed to have been dwellings. Inside these dwellings, at depths that vary between 0.40 and 0.50 m (measured from the 1963 ground level) archaeologists have also found several bronze artefacts associated to the numerous pottery fragments. These were a bracelet? with spiral-like head (Cat.no. 13, Pl. 1/9a-b), a pin with twisted body in the upper part and turned head (Cat.no. 12, Pl. 1/10a-b), a spearhead (Cat. no. 14, Pl. 1/14a-d), and a button made of a concave bronze plate (Cat.no. 10, Pl. 1/3a-b). Another button (Cat.no. 9, Pl. 1/1a-b), two loops fragments (Cat.nos. 7–8, Pl. 1/5a-b, 1/8a-b), and another spearhead (Cat.no. 15, Pl. 1/13a-d) "were found in the ground, but they could not be associated to the pottery"⁶².

Two bronze bracelets were found in 1982 during plowing (Cat.nos. 17–18, Pl. 3/7–8). No data is available on the exact area where they were found inside the fortification⁶³. According to A. Mureşan's presentation during the Thracology symposium organized in 1986 in Oradea and through information he kindly provided, it seems that the items were caught in the tractor's plow. It is possible that they are part of a deposition disturbed by agricultural works, but this is naturally just a supposition.

Several years later, in 1997, collector G. Ciaciş from Arad donated to the Museum Complex in Arad five sickle fragments (Cat.nos. 19–23, Pl. 3/1–5) and a fragmentarily preserved bronze ingot (Cat.no. 24, Pl. 3/6a-b). The items were identified inside the fortification during field research, but one cannot state in which enclosure.

Starting with 2008 L. Mercea performed numerous field researches that led to the identification of eighteen bronze artifacts (Fig. 7). Most of them were recovered from the rampart of enclosure I, near the north-eastern corner. The following object were recovered from the surface, during repeated field walks: girdle fragments (Cat.nos. 26–30, Pl. 4/1–5), two bracelets (Cat.no. 31–32, Pl. 5/11–12a-b), one tutulus (Cat.no. 36, Pl. 5/1a-b), one saltaleon (Cat.no. 34, Pl. 5/9a-b), and one pendant (Cat.no. 33, Pl. 5/2a-c) with a small loop attached to its rod (Cat.no. Pl. 5/6a-b). Such a concentration of items, discovered during successive years, makes us think of a possible bronze deposition scattered by the annual plowing works. Naturally, this observation too remains a simple supposition. In the southern side of the fortification, in enclosure III, L. Mercea found one loop (Cat.no. 37, Pl. 5/10a-b), one dagger fragment (Cat.no. 25, Pl. 5/8a-b), and a bronze fragment of unidentified function (plate fragment?, Cat.no. 42, Pl. 5/13a-b). A fragment from a bronze band (Cat.no. 40 – Pl. 5/4a-b) was discovered on the rampart of enclosure III, on the northern side, and a button (Cat.no. 35, Pl. 5/3a-b) was found on the southern side. A small bronze ingot (Cat.no. 41, Pl. 5/7) was identified on the surface, ca. 100 m south-east of the south-eastern corner of enclosure III.

The first systematic researches inside the fortification in Sântana were organized in 2008 when specialists performed a series of magnetometric measurements. Several objects were found on the surface during one such campaign (Fig. 7), at the southern end of enclosure II: one fragment from a crescent-moon-shaped pendant with perforated rod (Cat.no. 43, Pl. 6/2a-c), one fragment from a

⁵⁹ Rusu *et al.* 1996, 16, Pl. II/b, VI/17, 18, XIV/5; Rusu *et al.* 1999, 144, Abb. 2/2, 7/17–18, 15/5.

⁶⁰ "Section II, depth: 0.35 m". In Rusu *et al.* 1996, 18 and Rusu *et al.* 1999, 151 one can read that the saw blade and loop were discovered in an on-surface dwelling that developed between meters 27 and 39 of section S II.

⁶¹ "Surface I, on the dwelling's platform, depth: 0.35 m."

⁶² Rusu *et al.* 1996, 20 and Rusu *et al.* 1999, 158–159.

⁶³ Mureşan 1987, 313, note 2.

possible knife blade (Cat.no. 44, Pl. 6/4a-b), and one fragment that was probably once part of a bronze girdle (Cat.no. 45 Pl. 6/6a-b).

Artefacts made of bronze were discovered in 2009 during field research. Thus, in the north-eastern area of enclosure II or III⁶⁴, several items were found in the freshly plowed field: one loop (Cat.no. 46, Pl. 6/1a-b), one celt (Cat.no. 56, Pl. 7/1a-e), one socket (Cat.no. 47, Pl. 6/9a-b), one copper ingot (Cat. no. 48, Pl. 6/10a-b), a fragment from another such ingot (Cat.no. 49, Pl. 6/8a-b), and a small plate (Cat.no. 50, Pl. 6/5a-b) that contained in its folds (Pl. 6/5c) a fragmentarily preserved saltaleon (Cat. no. 51, Pl. 6/5d) and two small loops (Cat.no. 52–53, Pl. 6/5e-f). A small bronze wire fragment was discovered in the plowing layer between sections S2 and S3, therefore in enclosure II or III (Cat.no. 54, Pl. 6/3a-b). Two other artifacts were found during on-surface research outside the fortified enclosures: an spiral bracelet (Cat.no. 57, Pl. 7/2a-c), identified 350 m north of the fortification⁶⁵, and a bracelet (Cat.no. 55, Pl. 6/7a-b) discovered at the northern base of the tumulus.

We identified several metal objects through out rescue excavation performed in the autumn of 2009. Thus, in section S1 that partially uncovered the fortification system of enclosure III, among the clay lenses that form the rampart, we found the following artefacts: one bracelet (Cat.no. 58, Pl. 8/1a-b), one saltaleon (Cat.no. 50, Pl. 8/7a-b, 8/8), one bronze piece with unknown function (Cat. no. 61, Pl. 8/4a-b), and a ring (Cat.no. 59, Pl. 8/5a-b). A small concentration of human bones (with a diameter of 0.15 × 0.12 m) was revealed ca. 3.70 m from the southern profile at a depth of 0.80 m. One must mention that no trace of a possible pit could be identified. The bones were not deposited in anatomical position and most of them were part of a skullcap (Pl. 8/6). The bronze ring (Cat.no. 59, Pl. 8/5a-b) that still contained part of the phalanx was found close to this concentration. Based on the three discovered canine teeth, specialists could estimate that the remains belonged to a child who died at less than two years of age⁶⁶. As for the context, one can state with certainty that these were the remains of an inhumation tomb that ended up in the soil lenses of the rampart part of enclosure III. Another bronze item, a tutulus (Cat.no. 66, Pl. 10/3a-b), was discovered in square 34 A and is an item of funerary inventory (Cx_40). A bowl (Pl. 10/5) and a small cup (Pl. 10/4a-b) were deposited in a small alveolus, probably the bottom of the pit (Pl. 10/1), a little over the yellow soil (archeological sterile). Numerous incinerated bone remains were identified under these artifacts and around the deposition one could note pieces of coal, small-size adobe fragments, and incinerated human bone parts (Pl. 10/2). To these two funerary contexts one could add another inhumation tomb that was identified in the western profile of the section. Several phalanges and a calcaneus were actually identified, as the rest of the skeleton entered the profile. Near these remains we have identified a small cup, fragmentarily preserved, typical to the late period of the Bronze Age. The tomb was not researched. To all these tombs discovered behind the earthen rampart of enclosure III we must add the one discovered during the 1963 excavation. It becomes apparent that a necropolis was disturbed by the erection of the earthen rampart. This probably also explains the presence of the bronze artefacts⁶⁷ and of larger or smaller pottery fragments among the earthen rampart's lenses. On the basis of funerary discoveries we can state that this was a bi-ritual necropolis, used for a longer period (from Bronze D until HA₁, late bronze II-III). The construction of the fortification's rampart required, besides the extraction of soil from the defensive ditch, the transportation of a large volume of soil from inside the fortification. The extraction of the soil from inside the fortification led to the creation of a ditch with a maximum depth of 2.06 m, identified in our section between meters 0 and 33. Between meters 0 and 12 the bottom

⁶⁴ As one can see on the 1965 aerial photograph (Fig. 6) or a satellite photograph (Fig. 7), the largest fortification in Sântana (according to us, enclosure III), includes two smaller fortifications (enclosure I and II) (Gogâltan, Sava 2010, 36, 38–39). The rampart of enclosure III overlaps the northern area of fortification II. As the 1963 excavations (Rusu *et al.* 1996, Pl. III; Rusu *et al.* 1999, Abb. 4.) and partially our 2009 section (Gogâltan, Sava 2012, Fig. 10) have attested, two stages of fortification existed in this area. We cannot avoid the thought that the oldest rampart and ditch could be in fact fortification elements of enclosure II. Once the fortification was extended, the rampart of enclosure III was built on top of this system. It is thus hard to establish if the discoveries behind this rampart belong to enclosure II or III.

⁶⁵ As previously mentioned, field research performed north of enclosure III led to the identification of several small sites contemporary to the fortification. One must mention that no on-surface traces of habitation have been identified in the area where the spiral bracelet was discovered.

⁶⁶ Luminița Andreica (Museum Arad) performed the anthropological analyses and we hereby thank her again.

⁶⁷ We initially thought that some small items could have been lost by those who have built the rampart (Gogâltan, Sava 2010, 43).

of the ditch stopped by a compact level of calcareous concretions. We believe that it might have been the bottom of a former water course. Here, besides a few pottery fragments, we discovered a bronze needle (Cat.no. 64, Pl. 9/1a-b, 2), an arrow head (Cat.no. 65, Pl. 9/3a-b, 4), and a saltaleon (Cat.no. 62 – Pl. 8/2a-b). A casting trace was also discovered in this area (Cat.no. 63, Pl. 8/3a-b).

An almost circular pit was identified in section S2, half in the south-eastern profile, labeled Cx_02 (Pl. 11/5). The filling consisted of dark grey soil, with nuances of yellow, in which we discovered pottery fragments (Pl. 11/3), a bronze pendant (Cat.no. 64, Pl. 11/2a-b), a casting trace (Cat.no. 68, Pl. 11/1a-b), coal, animal bone fragments, and an adobe fragment that has been fired to vitrification.



Fig. 7. Satellite photograph of the fortification with the location of the bronze items (after Google Earth)

Dating of metal artefacts

In order to provide a relative dating and to establish typological analogies for the metal objects discovered in Sântana we will mainly focus on the Lower Mureş area. If no analogies can be found there, we will attempt to establish the closest analogies in Late Bronze Age II-III (Bronze D-Ha A) contexts from the Carpathian Basin.

Temple rings with leaf-shaped ends (*Lockenring mit Blättern*), bracelets made of wire, with connected or open ends and partially twisted, and loops that are lozenge-shaped in section and pointy ends, part of the gold treasure in Sântana, are considered typical items for the period Bronze D – Ha A (Late Bronze II-III). The best analogies for the temple rings can be identified further north-east in Transylvania, in the hoard in Sărmășag, Sălaj County. Though not accompanied by further details, three rings were illustrated in 1901, each consisting of four leaves connected through gold wire⁶⁸ The discovery drew V. Pârvan's attention; he believed that this find, besides other gold hoards, can probably be dated to "the still pure Bronze [Age]"⁶⁹. Later on, without providing further information, M. Roska mentioned that eleven gold leaves and five ornaments made of gold wire are preserved in the collection of the Museum in Cluj⁷⁰. D. Popescu mentioned fifteen items from Sărmășag, though nothing was known on their context of discovery⁷¹. E. Dörner was the first to establish a connection between

⁶⁸ Archaeologiai Értesítő 1901, 250.

⁶⁹ Pârvan 1926, 681.

⁷⁰ Roska 1942, 241, no. 12.

⁷¹ Popescu 1956, 231, Fig. 138/9–11.

the twelve gold leaves from Sărmășag and the items from Sântana. He noted the identical production method of the temple rings, i.e. connecting four decorated leaves with gold wire⁷². These data were taken over by M. Rusu⁷³ and A. Mozsolics⁷⁴. G. Lazarovici wrote the note on the hoard from Sărmășag for the 1994 exhibition in Frankfurt entitled *Goldhelm, Schwert und Silberschätze: Reichtümer aus 6000 Jahren rumänischer Vergangenheit*⁷⁵. Almost one century later, this important find was finally published. The hoard was presumably found near the settlement in little known conditions, as the above mentioned author of the note mentioned; we believe that in fact these conditions remain unknown. The find was bought in 1900 by the Museum in Cluj. The inventory numbers are different from those initially published by Roska⁷⁶. According to Lazarovici, the discovery included four “diadems” consisting of four gold plates in the shape of willow leaves, that display veins decorated with dots, one twisted earring with pointy ends, and two wires (one round and another lozenge-shaped in section). Seven items in total. The bracelets consisting of spirals, made of wire with connected or open ends, partially twisted, are well-known items from gold hoards in the Lower Mureș⁷⁷ and the rest of the Carpathian Basin⁷⁸. Gold loops with lozenge-shaped section, sometimes improperly called bracelets⁷⁹ or spirals⁸⁰ due to their shape, are also items often encountered among gold hoards found in the area. One should foremost mention the items in Sacoșu Mare, Timiș County⁸¹. On the basis of quoted analogies, E. Dörner believed that the hoard in Sântana can be dated “in die Übergangsperiode zwischen dem Ende der Bronzezeit und dem Beginn der früheren Eisenzeit”⁸². K. Horedt placed it, on the basis of the leaf-shaped gold jewels, during Bronze D⁸³. For M. Rusu the bracelets in Sântana or Carani “can be dated, with enough accuracy, to Hallstatt A₁”⁸⁴ while the temple rings, according his classification type B, made of thin plate and boat-shaped, can be dated to “Bronze D and Hallstatt A₁”⁸⁵. Subsequently, he insisted on the fact that “it is certain that the bracelets (? n.n.) made of gold, consisting of four willow leaves, of the Sărmășag type, are a product typical to goldsmith masters active during H.A₁”⁸⁶. A. Mozsolics placed both the hoard in Sântana and the one in Sărmășag to (what he considered to be) stage B IVb (the Ópályi horizon)⁸⁷. He believed the bracelets in Békésszentandrás, Kosd, and Ófehértó to have been a bit younger (“Vielleicht jünger als Stufe B IVb”)⁸⁸. The bracelets in the hoard from Hinova were also dated during “Late Bronze and Early Hallstatt”⁸⁹. On this latter discovery, M. Gumă noted that on the basis of the pot in which the hoard was deposited the latter could be dated to “the interval Ha A1 – Ha A2”.⁹⁰ H. Cigudean and I. A. Aldea adopted similar opinions when dating the deposition from Cugir to Ha A⁹¹. Placing the hoard in Sărmășag to the Middle Bronze Age, more precisely to the sixteenth century B.C., has no support and must be completely ignored⁹².

Today it is clear that one cannot suggest a more precise dating for the gold hoard found in Sântana. It cannot be related with certainty to the necropolis in use behind the rampart of precinct III, as that would have dated it before the rampart. Two temple rings in shape of willow leaves, made of bronze,

⁷² Dörner 1960, 474, Abb. 4.

⁷³ Rusu 1972, 48, no. 53.

⁷⁴ Mozsolics 1973, 205.

⁷⁵ Lazarovici 1994, 126–127.

⁷⁶ In Roska 1942, 241, no. 12 features as “I. 453.—61” while in Lazarovici 1994 one finds inventory numbers I 453–456, 461, 466/6a.

⁷⁷ Carani (Popescu 1956, 229–230, Fig. 142/2–3; Mozsolics 1973, 95, 205, Taf. 106/1–6).

⁷⁸ Ófehértó (Mozsolics 1973, Taf. 97/4–6, 98/1–14), Pétervására (Mozsolics 1973, Taf. 103/1–11), Kosd (Mozsolics 1973, Taf. 107/1), Békésszentandrás (Mozsolics 1973, Taf. 107/2), Hinova (Davidescu 1981, 10/3–6).

⁷⁹ See also Popescu 1956, 212; Popescu 1975, 41.

⁸⁰ Leahu 1994, 134.

⁸¹ Popescu 1975, 41, Pl.III/1–7; Leahu 1994, 134, 33.8.

⁸² Dörner 1960, 479.

⁸³ Horedt 1967, 149.

⁸⁴ Rusu 1972, 38.

⁸⁵ Rusu 1972, 41.

⁸⁶ Rusu *et al.* 1996, 22; Rusu *et al.* 1999, 162.

⁸⁷ Mozsolics 1973, 205, 208.

⁸⁸ Mozsolics 1973, 190–191, 197.

⁸⁹ Davidescu 1981, 19–21.

⁹⁰ Gumă 1993, 248.

⁹¹ Ciugudean, Aldea 2005, 106.

⁹² Lazarovici 1994, 126.

discovered in the cave in Igrița nevertheless drew our attention⁹³. As I. Emödi previously noted, they bear a striking resemblance to our gold rings⁹⁴. Unfortunately, this discovery also lacks a clear context and thus cannot be dated to a more restricted interval. Another bronze analogy for our items consists of objects found in the Cruceni-Belegiș necropolis in Vojlovica "Rafinerja" (necropolis 2) near Pančevo, dated to Bronze D – Ha A⁹⁵. The three items under discussion were found in tomb 116, but they consist of three leaves with central vein instead of four. We are thus forced to support a wider dating of the gold hoard from Sântana to Late Bronze II-III (Bronze D – Ha A).

Both celts belong to the same type, with the one discovered in 1954 being ca. 3 cm smaller (Cat. no. 1, Pl. 1/6) than the one found in 2009 (Cat.no. 56, Pl. 7/1a-e). According to shape, they can be included in variant B3 according to M. Rusu's typology of Transylvanian-type celts⁹⁶. We must clarify the fact that this variant includes items that had a vein under the socketing mouth, such as the items in Sântana, but also items that do not display this vein. B3-type celts were discovered in the area of the Lower Mureș in the depositions in Pecica IV⁹⁷ or Zimandu Nou⁹⁸, all dated to stage Ha A₁. Celts such as the two discovered in Sântana can also be found near Beliu, Arad County⁹⁹, or much further, part of the hoards in Galoșpetreu¹⁰⁰, Dipșa¹⁰¹, and Bükkaranyos I¹⁰². The local production of B3-variant celts of the Transylvanian type is proven by the molds that have been recently discovered in the settlement of Șagu, Arad County¹⁰³. From a chronological perspective, the above mentioned celts belong to stages Bronze D and Ha A₁, but as C. Kacsó recently mentioned while completing M. Rusu's older list, the widest geographical distribution of Transylvanian-type celts took place during "Late Bronze 3 (approximately Reinecke Hallstatt A.)"¹⁰⁴.

As compared to other areas¹⁰⁵, the bronze pincers (Cat.no. 6, Pl. 1/7a-b) discovered on the chest of one of the deceased, is a rather rare item. Such objects feature in the Lower Mureș area ever since stage Bronze B₂-C. Four such artifacts were found in the cemetery from Tápé, in tombs 462, 604, and 680¹⁰⁶. We were unable to identify other analogies in the area surrounding the earthen fortification in Sântana.

Saw blades are a category of artefacts mainly discovered in bronze depositions. In our area of interest we are aware of no less than 27 items in the deposition in Pecica II¹⁰⁷ and 15 items in Pecica IV¹⁰⁸. Three more items were part of the deposition in Sânpetru German¹⁰⁹. They are also present in neighboring settlements, such as proven by the items in Șagu "Site A1_1"¹¹⁰ and Hódmezővásárhely "IV. Téglagvár"¹¹¹. From a chronological perspective, both the depositions and the items discovered in settlements belong to stage Late Bronze II-III (Bronze D – Ha A).

An interesting artefact, so far unique in the area of the Lower Mureș, is a shaft insert in the shape of a cylinder (Cat.no. 47, Pl. 6/9a-b). The closest geographic analogies can be found in the small bronze deposition in the area of Suceava¹¹² or the deposition in Velemszentvid II, in western Hungary¹¹³.

⁹³ Emödi 1980, 255, nos. 95–96, 265, Fig. 13/95–96.

⁹⁴ Emödi 1980, 265.

⁹⁵ Bukvić 2000, 151, Tabla 32/4–6.

⁹⁶ Rusu 1966, 25–26, Fig. 2.

⁹⁷ Petrescu-Dîmbovița 1977, Pl. 176/29–30.

⁹⁸ Petrescu-Dîmbovița 1977, Pl. 277/14.

⁹⁹ Boroffka, Luca 1995, Abb. 1/15.

¹⁰⁰ Chidioșan, Soroceanu 2005, Abb. 2/9.

¹⁰¹ Ciugudean *et al.* 2006, Pl. XXII/6.

¹⁰² Mozsolics 1985, Taf. I/20.

¹⁰³ Sava *et al.* 2011, 52, Fig. 92–95.

¹⁰⁴ Kacsó 2010, 32. See also Annex 1 with the completions to M. Rusu's list of 1966.

¹⁰⁵ Gedel 1988, 15–63.

¹⁰⁶ Trogmayer 1975, Taf. 41; 52; 56. Tombs 462 and 680 belong to adult men and a young individual, whose gender could not be established, was found in tomb 604.

¹⁰⁷ Petrescu-Dîmbovița 1977, 101; Kemenczei 1991, Abb. 7.

¹⁰⁸ Petrescu-Dîmbovița 1977, 102. The bronze depositions labeled Pecica II, III, and IV were discovered by chance inside the perimeter of the settlement in Pecica "În Vii". Numerous field researches performed between 2008 and 2013 led to the identification of numerous pottery fragments decorated with grooves that can be dated to stage BD/HA1; besides the pottery fragments, a saw blade made of bronze was also discovered on the surface.

¹⁰⁹ Petrescu-Dîmbovița 1977, 107.

¹¹⁰ Sava *et al.* 2011, Fig. 90; Sava *et al.* 2012, Pl. 3/5, 8.

¹¹¹ V. Szabó 1996, Kép. 22/16.

¹¹² Hänsel 2000, 113, 116, Abb. 3/6, 9; Hänsel 2005, 289, 292, Fig. 3/6; 9.

¹¹³ Kemenczei 1996, 459, Abb. 6/6–9.

Some similar discoveries from the environment of the urn fields culture in Central Europe (Hart an der Alz, Saalfelden-Magnesitfeld) have determined A. Hänsel to accept for the item from Suceava the interpretation suggested by H. Müller-Karpe. Such objects probably allowed for the attachment of the two side bars of cart boxes¹¹⁴. Even if it has the shape of a cart wheel hub¹¹⁵, it is too large to have been used on a miniature bronze wagon¹¹⁶. The best analogy, also according to the small size, is nevertheless a cylindrical shaft insert from the gold hoard in Hinova¹¹⁷. In this case, it must have been used as a jewelry item. The dating of the shaft insert to Ha A (Late Bronze III) is ensured by the above mentioned contexts.

A large number of bronze girdles was found in Sântana (Cat.no. 3, Pl. 2, Cat.no. 26–30, Pl. 4/1–5, Cat.no. 45, Pl. 6/6a-b). The first items of this type feature in the Carpathian Basin in the beginning of the Late Bronze Age and can be connected to manifestation of the *Hügelgräberkultur* type¹¹⁸. Such girdles feature in the Lower Mureş area in tombs 73 and 132 in Tápé, dated to stage Bronze B₂-C (Late Bronze I)¹¹⁹. They were used until the beginning of the first Iron Age (Ha B₁)¹²⁰. In most cases they are nicely decorated with various types of rows. One cannot expect perfect analogies for such decorations. In case of the so-called gilded girdle from Sântana (Cat.no. 3, Pl. 2), the decoration resembles that on one of the girdles part of the deposition in Pecica II¹²¹, dated to stage Ha A₁¹²². Unfortunately, our items were found during on-surface researches, thus lacking a context of discovery. We must thus accept their wider dating to the period Late Bronze II-III (Bronze D – Ha A)¹²³.

We were unable to find analogies in the same area for the pin with twisted upper body and turned head (Cat.no. 12, Pl. 1/10a-b). C. Kacsó describes thus an item discovered in 1870 in the deposition from Vânători (municipality of Mişca, Arad County), ca. 50 km north-east of Sântana: “Fragment from a bracelet made of partly twisted wire, with turned head”¹²⁴. The drawing of the item, unfortunately not accompanied by profile representations, is slightly different from the one published by S. Marki¹²⁵. Taking into consideration its fragmentary state, it is difficult for us to decide if it is a bracelet or a pin. Without quoting analogies, just simple bibliographical references, Kacsó believed that “this type of bracelet is typical to period Hallstatt A”¹²⁶. The best and closest analogies for this type of pin have been found in the Serbian Banat. One *Rollenkopfnadeln mit tordiertem Schaft* was found in a (presumably Gáva) settlement in Banatski Karlovac¹²⁷. Another item was part of the inventory of tomb 18 in Vojlovica “Rafinerija” (necropolis 2)¹²⁸. Just like other necropolises and settlements, L. Bukvić erroneously attributed them to the Gáva Culture. In our opinion, these reflect the realities of the local Late Bronze Age of Cruceni-Belegiş origin (Late Bronze II-III/Bronze D – Ha A).

Field researches performed by L. Mercea led to the discovery of a tutulus (Cat.no. 36, Pl. 5/1a-b). Another tutulus (Cat.no. 66, Pl. 10/3a-b) of the same type has been deposited in the incineration tomb that we labeled Cx_40. Near it we found a fragment from a bowl with in-turned rim and tubular handle (Pl. 10/5) and a small bi-trunk-shaped vessel (Pl. 10/4a-b). From a chronological perspective, this type of tutus was very much spread during stage Late Bronze II-III (Bronze D – Ha A)¹²⁹. In the area they can also be found in a discovery from the northern part of the city of Arad¹³⁰.

¹¹⁴ Hänsel 2000, 116; Hänsel 2005, 292.

¹¹⁵ For the items from Romania see Rusu 1997, 529–544.

¹¹⁶ Hänsel 2000, 116; Hänsel 2005, 292; Soroceanu 2008, 217–223.

¹¹⁷ Davidescu 1981, 17, Fig. 6/4, 12/9.

¹¹⁸ Mozsolics 1973, 49; Kilian-Dirlmeier 1975, 100–104.

¹¹⁹ Trogmayer 1975, 25, 36.

¹²⁰ During stage Ha B₁ such artifacts enjoy a limited distribution; the geographically closest discoveries in the Lower Mureş are those in Brăglez (Bejinariu 2007, Pl. XVI/80, 81; XVIII).

¹²¹ Kemenczei 1991, Ábr. 3/1.

¹²² The same dating of the girdle from Sântana also in M. Rusu (Rusu 1963, 188) and K. Horedt (Horedt 1967, 149).

¹²³ Rusu *et al.* 1996, 21.

¹²⁴ Kacsó 1993, 172, no. 8, fig. 2/3.

¹²⁵ Marki 1892, 14, Ábr. 11.

¹²⁶ Kacsó 1993, 176.

¹²⁷ Vasić 2003, 24, Taf. 9/113.

¹²⁸ Bukvić 2000, 151, Tabla 17/2.

¹²⁹ A selective list of this type of items in Kacsó 1995, 116–117, Liste 6 (*Bronzeknöpfe mit abgetreppter Mitte*).

¹³⁰ There are five items (Dömötör 1897, 261. As analogy, the author mentions one item from the deposition in Poşaga de Sus taken from Hampel 1892, Táb. CLXV/12). Kacsó 1995, 116, Liste 6, No. 1.

and in depositions from the area surrounding the fortification in Sântana: Lipova¹³¹, Pecica II¹³², and Pecica IV¹³³. The association of the bronze tutulus with the pottery in tomb Cx_40 can contribute to establishing the chronology of the complex. A possible analogy for the bi-trunk-shaped vessel (Pl. 10/4a-b) is a pot of the same type found in the contemporary settlement from Battonya "Georgievics-tanya"¹³⁴. The decoration is nevertheless different, as the neck is ornamented with horizontal grooves. The thin grooves forming a garland placed on the neck and the oblique groove on the pot's belly are decorative elements with wide distribution in the area, typical to stage Late Bronze II-III (Bronze D – Ha A)¹³⁵. The bowl with in-turned rim and tubular handle (Pl. 10/5) also has analogies in south-eastern Hungary and not very far from Sântana, in a contemporary funerary context in Jánoszállás¹³⁶.

The two crescent moon perforated pendants with the rod pierced vertically (*Durchbrochene halbmond förmige Anhänger mit vertikal durchlochtem Stiel*) discovered in Sântana (Cat.no. 33, Pl. 5/2a-c; Cat.no. 43, Pl. 6/2a-c) have the closest and best analogies in the deposition in Pecica II¹³⁷ and a discovery made in the northern part of the city of Arad¹³⁸. Pendants of this type feature even since stage Bronze D and are widely spread during the subsequent period, when they reach beyond their area of origin (Ha A)¹³⁹. They are ornaments typical to jewelry depositions of the Arpășel type, but they also feature in some Igrîța discoveries in the caves of the Apuseni Mountains¹⁴⁰.

The pendant discovered in the upper part of pit Cx_02 (Pl. 11/4–5) certainly belongs to the Late Bronze (Cat.no. 64, Pl. 11/2a-b), as indicated by the pottery fragments (Pl. 11/3)¹⁴¹. Through the dimensions of the loop, the two thorn-shaped endings, the central vein, and the concave shape of the lower part, it differs from the category of hourglass-shaped pendants (*die sanduhr förmigen Anhänger*) that are so common among Arpășel type depositions in western Romania and beyond¹⁴². We found a similar item rather far away, in Ocna Mureș in central Transylvania¹⁴³. This latter deposition also includes a crescent moon pendant with perforated rod, similar to the two jewelry items in Sântana¹⁴⁴. Probably the best analogy is also to be found in Transylvania, in the fortified settlement in Teleac, Alba County, dated to the first Iron Age. It is a sandstone mold in which several types of items have been cast. According to V. Vasiliev, the author of the corresponding chapter in the monograph work focusing on the above mentioned settlement, the mold displays the wide cutting edge of a small-size celt, "a type of pin (?) with three-lobed head, another pin,

¹³¹ Small bronze deposition consisting of three tutuli, six conical phalerae with central spine and loop, and a small phalera with loop. The items are preserved in the collection of the City Museum Lipova, Inv. No. 2617–2626.

¹³² Kemenczei 1991, Ábr. 6/34.

¹³³ Petrescu-Dîmbovița 1977, Pl. 177/6–8.

¹³⁴ Bondár *et al.* 1998, 21, Kép. 18/1.

¹³⁵ See for example Kemenczei 1991, Ábr. 8/51 (Pecica), Stratan, Vulpe 1977, Taf. 6/9, 94 (Susani "Grămurada lui Ticu"); Pădureanu 1985, Pl. VII/2 (Vladimirescu); Gumă 1993, Pl. IX/7 (Cruceni); Gumă 1993, Pl. XVII/3 (Moldova Nouă "Cariera de banatite"); Gumă 1993, Pl. XVI/3 (Timișoara "Fratelia"); Gumă 1997, Pl. LXXXIII (Cruceni); V.Szabo 2004, Kép 10/5 (Igrici), etc.

¹³⁶ V. Szabó 1996, 24, Kép. 46/3.

¹³⁷ Kemenczei 1991, Abb. 6/3–8.

¹³⁸ Dömötör 1897, 261; Kacsó 1995, 115, Liste 4, No. 1.

¹³⁹ Dumitrașcu, Crișan 1989, 39–41; Kemenczei 1991, 40, 42; Kacsó 1995, 101; Kacsó 2009, 168–170.

¹⁴⁰ Kacsó 1995, 100–101, Liste 4; Kacsó 2009, 169.

¹⁴¹ The complex did not include black pottery fragments polished on the outside and red on the inside. Besides, such fragments have not been found in the entire area researched in 2009 and 2011. They were also not found during repeated filed walks performed during recent years in Sântana "Cetatea Veche". Such a situation was also noted in the case of settlements in Șagu (Sava *et al.* 2011, 90–96, Fig. 100–102, 170–183), Pecica "În vii", Pecica "site 15" (excavations by L. Marta 2011), Pișchia (excavations by D. Țeicu 2010–2011) or the fortified settlements in Cenad (inf. V. Szeverényi), Munar, and Cornești. None of these elements that are typical to the First Iron Age the pots have been found in the deposition from Pecica II (Kemenczei 1991, Ábr. 8/51) and Arad "Gai" (Rusu *et al.* 1996, Pl. IX/2; Rusu *et al.* 1999, Abb 10/2 – Inv. no. 642 is mentioned to have been found during 1902 excavations, but there is no mention of its place of discovery. Inside the pot we could find a note written in the 1950s–1960s that records the finding place in Arad "Gai". From what is currently known, black pottery polished on the outside and red on the inside has been found in the Lower Mureș area in the settlements of Arad (see Dörner 1970, 449–450, Fig. 8/1; Sava, Pădurean 2009, 36–39), in an Iron I horizon (Ha B₁). Chidioșan 1977, 59–67; Kacsó 1995, 97–99, Liste 3.

¹⁴³ Measuring 4.4 cm in length, the item is slightly smaller than our pendant (Franz 1922, 69, Abb. 1/9). This deposition is not mentioned in Petrescu-Dîmbovița 1977 or Petrescu-Dîmbovița 1978.

¹⁴⁴ Franz 1922, 69, Abb. 1/8. This item must be also added to the list of perforated crescent moon pendants with the rod pierced vertically.

with circular head, and two other items, probably from a horse's tack"¹⁴⁵. The quoted analogies are far from acceptable. Several years later, H. Ciugudean completed the item¹⁴⁶. On that occasion he discussed the mold of the small celt that "is very similar to the items in the Singeorgiu de Pădure – Fizeșu Gherlii series"¹⁴⁷, being thus dated to the Ha B₂ stage. To these, one can add the "almost identical" analogy of the anchor-shaped pendant from the reverse of this mold in the deposition from Sângiorgiu de Pădure¹⁴⁸. Though hard to understand, the discussion of the other items impressed in this mold is yet again avoided. The mold was used for casting three loops, one object consisting of three inter-connected loops, and a pendant similar to those in the shape of an hourglass but having a wider loop. As mentioned above, on the reverse of the mold one can note an anchor-shaped pendant with a large loop. A good analogy for the object consisting of three small loops can be found in the deposition from Lengyeltóti III¹⁴⁹. Among other items, the deposition included one perforated crescent moon pendant with pierced rod; the deposition is attributed to the Kurd Horizon (Ha A₁). Another mold from level I in Teleac was attributed to the category of hourglass-shaped pendants with analogies among the Arpășel and Cincu-Suseni depositions in Transylvania¹⁵⁰. Items with large loops, from the deposition in Hajdusámson III¹⁵¹ or farther in western Hungary, in Badacsony¹⁵², suggest a possible later dating of this type of pendant, during the first Iron Age (Ha B₁ or even Ha B₃). Through the absence of the central vein and the shape in general, they are nevertheless different from the item that could have been cast in the mold from Teleac. In recent years, the beginning of the settlement in Teleac (Teleac I) has been dated to a Ha A₂ horizon¹⁵³. The chronological position of the molds from Teleac seems settled. The pendant discovered in pit Cx_02 in Sântana is thus much earlier. We have noted that there are no arguments to support its dating to the first Iron Age and it remains for future discoveries to clarify if there is any connection between them.

For the dagger fragment with triangular hilt and three rivets for attaching the handle (Cat. no. 25, Pl. 5/8a-b) one can find analogies in the area in Hajducovo, in the environment of the tumular horizon¹⁵⁴. For a later stage we were unable to find acceptable analogies, as both swords and daggers in the Lower Mureș display a tongue by the handle¹⁵⁵.

The arrow head discovered behind the rampart of precinct III (Cat.no. 65, Pl. 9/3a-b, 4) is among the items more rarely encountered in settlements. A similar object has been recently found in the Late Bronze Age fortification in Csanádpalota. From a chronological perspective, the precinct was attributed to a "pre/proto-Gáva" horizon dated sometime between 1300–1100 B.C.¹⁵⁶ To the same period one can date the arrow head with a relatively triangular body and short shaft insert from Ungurului cave in Șuncuius¹⁵⁷. Nevertheless, its context of this discovery is funerary or ritual.

Undecorated buttons made of concave bronze plates (Cat.no. 9, Pl. 1/1a-b; Cat.no. 10, Pl. 1/3a-b; Cat.no. 35, Pl. 5/3a-b) are a category of artifacts very common during the Bronze Age, but they lack chronological value¹⁵⁸. Six items of this type were found in the deposition in Pecica II¹⁵⁹. The same is

¹⁴⁵ It was found in a secondary position in the soil employed in the reconstruction of the rampart (stage III) and might "belong to habitation stages I or II" Vasiliev *et al.* 1991, 48, Fig. 23/9; Ciugudean *et al.* 2008, 44. It has been subsequently stated that it was found in square 2 in section 3 at a depth of ca. 1.20 m in the second layer of the wall's erection (Ciugudean 2009, 70).

¹⁴⁶ Ciugudean *et al.* 2008, Pl. XXIII/4.

¹⁴⁷ Ciugudean *et al.* 2008, 44. See also Ciugudean 2009, 70, Taf. X/2–2a.

¹⁴⁸ Ciugudean *et al.* 2008, 44; Ciugudean 2009, 70, Taf. X/2a. See Petrescu-Dîmbovița 1977, Pl. 352/11.

¹⁴⁹ Mozsolics 1985, Taf 108/23.

¹⁵⁰ In Vasiliev *et al.* 1991, 48, Fig. 23/5 one can find no comment on this item. A recent opinion in Ciugudean 2009, 67. C. Kacsó did not include it in the category of those "Sanduhrförmige Anhänger" (Kacsó 1995, Liste 3).

¹⁵¹ Kacsó 1995, Liste 3, no. 17; Mozsolics 2000, 48 Taf. 37/5 (Hajdúböszörmény horizon, B VIa).

¹⁵² Darnay-Dornay 1958, 52, Táb. XX/9; Kacsó 1995, 99, Liste 3, no. 2; Mozsolics 2000, 34, Taf 2/3 (Badacsonytomay, Bükkszentlászló horizon, B VIc).

¹⁵³ Ciugudean 2009, 68.

¹⁵⁴ Trogmayer, Szekeres 1968, Tab. II/15 (the hilt is rather trapezoid-like in shape).

¹⁵⁵ One cannot be certain that the fragmentarily preserved dagger in the deposition in Pecica II did not display a tongue by the handle (Kemenczei 1991, Ábr. 6/32).

¹⁵⁶ Czukor *et al.* 2013, 13–14. On this horizon from south-eastern Hungary see V. Szabó 1996, 31–46; V. Szabó 1999, 66–70.

¹⁵⁷ Emődi 1997, 487, 502, no. 77.

¹⁵⁸ Gogâltan 1999, 173–174.

¹⁵⁹ Kemenczei 1991, Ábr. 6/12–17.

true for the four saltaleons (Cat.no. 34, Pl. 5/9a-b; Cat.no. 50, Pl. 8/7a-b, 8/8; Cat.no. 51, Pl. 6/5d; Cat. no. 62 – Pl. 8/2a-b)¹⁶⁰.

Field researches have led to the discovery of a sickle with knob (*Knopfsicheln*) (Cat.no. 22, Pl. 3/1a-b). It probably belongs to the Pecica type, according to M. Petrescu-Dîmbovița¹⁶¹, and was also found in the deposition in Pecica II¹⁶². We believe that other fragmentary items can also be attributed to the same type (Cat.no. 2, Pl. 1/12; Cat.no. 19–21, Pl. 3/2a-b, 4a-b, 5a-b). One fragment from the tip of another sickle was probably part of the Șpălnaca II type of sickles with knob¹⁶³. Near Sântana, item of the Pecica type have been identified, besides Pecica II, in the northern part of the city of Arad¹⁶⁴ or in the depositions in Igrîș¹⁶⁵, Pecica IV¹⁶⁶, and Sânpetru German¹⁶⁷. All belong to stage HA₁. Sickles with knob spread during stages Bronze D – Ha B₁, but were more frequent during stage Ha A₁¹⁶⁸.

Simple spearheads with the blade in shape of a laurel leaf (*Lorbeerblattförmigen Lanzenspitzen*) are common items in the Carpathian Basin and beyond¹⁶⁹. They started to feature in the Lower Mureș area during the Middle Bronze Age¹⁷⁰, and enjoyed the widest distribution in depositions of the Late Bronze¹⁷¹. The fragmentarily preserved spearhead from the deposition in Pecica II probably belongs to the same simple type as the items from Sântana¹⁷². They cannot be dated to a shorter interval than the Late Bronze period II-III (Bronze D-Ha A).

The bracelet with lozenge-shaped section bar (Cat.no. 50 – Pl. 8/1a-b) is of a type that can also be found in depositions starting with stage Bronze D¹⁷³; such pieces of jewelry were used during an extensive period, until stage Ha B₁¹⁷⁴. The four bracelets made of a bar that is D-shaped section, decorated and undecorated, (Cat.no. 17, Pl. 3/8; Cat.no. 32, Pl. 5/11; Cat.no. 31, Pl. 5/12a-b; Cat.no. 55, Pl. 6/7a-b) feature in tombs from stage Bronze D and in the deposition of stage Ha A₁¹⁷⁵. Such items can also be found in the area of Sântana in the deposition from Pecica II.¹⁷⁶ To the same Late Bronze II-III (Bronze D-Ha A) chronological horizon one can also attribute the bracelets made of a bar that is round in section¹⁷⁷ and the item illustrated on Pl. 3/8 (Cat.no. 18).

The spiral bracelet decorated with a knob in the middle of the spiral and made of a bar that is round in section, of the so-called Salgótarján type (Cat.no. 57, Pl. 7/2a-c), appeared during stage Bronze D¹⁷⁸ and was also spread during stage Ha A₁¹⁷⁹. The item from Sântana does not have the rolled end featured by most bracelets in the Carpathian Basin¹⁸⁰. Such objects are nevertheless found in the center of Transylvania, in the deposition from Aiud dated to Ha A₁¹⁸¹.

For the sewing needle from Sântana (Cat.no. 64, Pl. 9/1a-b) we were unable to find acceptable analogies in the area. Another variant was used in the contemporary environment of Igrîța, with the

¹⁶⁰ Gogâltan 1999, 176–177. Several such items were also part of the Pecica II deposition (Kemenczei 1991, Ábr. 6/18, 37.

¹⁶¹ Petrescu-Dîmbovița 1978, 17–18, Taf. 1/B125.

¹⁶² Kemenczei 1991, Ábr. 4/4–11.

¹⁶³ Petrescu-Dîmbovița 1978, 18, Taf. 1/B162.

¹⁶⁴ Dömötör 1897, 261–262. As analogy, the author cites after Hampel 1896, Táb. CCXXX/25, an item from the deposition in Kemecei.

¹⁶⁵ Petrescu-Dîmbovița 1977, 98, Pl. 162/8.

¹⁶⁶ Petrescu-Dîmbovița 1977, Pl. 176/32.

¹⁶⁷ Petrescu-Dîmbovița 1977, Pl. 187/5–6, 13–14, 16.

¹⁶⁸ Petrescu-Dîmbovița 1978, 24–25.

¹⁶⁹ Jacob-Friesen 1967; Avila 1983; Říhový 1996; Kobal' 2000, 33–35; Dergačev 2002, 132–133; Kytlicová 2007, 106–107; Gedl 2009.

¹⁷⁰ Gogâltan 1999, 152–154.

¹⁷¹ For the Carpathian Basin see Kemenczei 1984, 22, 32, 54, 74, 83; Mozsolics 1985, 20; Dumitrașcu, Crișan 1989, 28.

¹⁷² Kemenczei 1991, Ábr. 6/33.

¹⁷³ Mozsolics 1973, 60–61.

¹⁷⁴ Petrescu-Dîmbovița 1998, 118; Bejinariu 2008, 88.

¹⁷⁵ Petrescu-Dîmbovița 1998, 137.

¹⁷⁶ Kemenczei 1991, Ábr. 5/6–10, 6/1.

¹⁷⁷ Petrescu-Dîmbovița 1998, 54–55. See an item with a similar decorative motif in the deposition from Pecica II (Kemenczei 1991, Ábr. 5/11).

¹⁷⁸ Kemenczei 1965, 111–113; Bader 1972, 89; Mozsolics 1973, 63; Petrescu-Dîmbovița 1998, 30–31, 35–37.

¹⁷⁹ Mozsolics 1985, 29; Petrescu-Dîmbovița 1998, 35–37; Kobal' 2000, 29.

¹⁸⁰ Tóth Farkas 2010, 63–65.

¹⁸¹ Petrescu-Dîmbovița 1998, Taf. 17/135–136.

bar split in the upper part of the head¹⁸². Nevertheless, we found an item resembling that from Sântana in Mișidului cave in Șuncuiuș¹⁸³.

Other items, such as the small loops and rings (Cat.no. 4, Pl. 1/2a-b; Cat.no. 5, Pl. 1/4a-c; Cat. no. 7, Pl. 1/5a-b; Cat.no. 8, Pl. 1/8a-b; Cat.no. 38, Pl. 5/6a-b; Cat.no. 37, Pl. 5/10a-b; Cat.no. 46, Pl. 6/1a-b; Cat.no. 52–53, Pl. 6/5e-f; Cat.no. 59, Pl. 8/5a-b) or bronze wires (Cat.no. 54, Pl. 6/3a-b) have no chronological value, but reflect the diversity of worn jewels. One ring (Cat.no. 59, Pl. 8/5a-b) was found on a fragment of human phalanx.

Discussion

At this point of the paper we believe some statistical interpretations can be drawn upon the metal items discovered so far at Sântana “Cetatea Veche”. It is a common thing to find inside a settlement fewer gold artefacts than copper or bronze ones (Fig. 8). In the majority of cases they were found as hoards, which means the deposition of several objects together¹⁸⁴. Eleven items have been preserved from the gold hoard discovered in 1888 that seems to have been a funerary inventory.

Even if no systematic field researches have been yet performed, most objects were found during on-site surveys or as stray finds by non-specialists (Fig. 9)¹⁸⁵. Nevertheless, among the 23 items revealed during the 1963 and 2009 excavations, “Cetatea Veche” is one of the most important Late Bronze Age sites in Lower Mureș area, as we will subsequently show.

Among all metal objects presented here, jewelry items are clearly the largest group, including 50 items (Fig. 10). This happens because jewelry items are most used as part of funerary inventories or were lost accidentally in a settlement. Other artefacts that can be found, but in a smaller number, are tools and weapons¹⁸⁶. Both older and newer excavations were unable to identify clear traces of metal processing. Besides the numerous metal objects, the existence of metallurgical activity in this fortified settlement is attested by the copper lump fragments (Cat.no. 48, Pl. 6/10a-b), bronze (Cat.no. 24, Pl. 3/6a-b; Cat.no. 41, Pl. 5/7; Cat.no. 49, Pl. 6/8a-b) and scraps from bronze casting (Cat.no. 63, Pl. 8/3a-b; Cat.no. 68, Pl. 11/1a-b). The hypothesis is also supported by the discovery of the mold valve made of sandstone found by A. Mureșan in 1980 and that was presumably used for casting the tutuli (Cat.no. 16)¹⁸⁷.

As for the proportion between fragmentary and fully preserved artefacts, the situation in settlements is different than what can be observed on objects collected in gold hoards or bronze depositions¹⁸⁸. Many jewels and tools are deteriorated through use and wear¹⁸⁹ (Fig. 11). The large number of fully preserved items is due to the fact that they were elements of funerary inventory or they are weapons, tools, and jewelry items treasured or lost. The jewels are by far the objects that were found in the greatest proportion¹⁹⁰. In this sense, one must foremost note the bracelets and the different types of loops (Fig. 12–13).

¹⁸² Chidioșan, Emödi 1982, 80–81, Fig. 8/6–7; Igrîța (Emödi 1980, 256, Fig. 26/228), Izbândiș (Chidioșan, Emödi 1983, 19, Fig. 9/1–2), Peștera Ungurului (Emödi 1997, 487, 502, no. 19, 73)

¹⁸³ Chidioșan, Emödi 1981, 163, no. 4, Fig. 5/1.

¹⁸⁴ It is also the case of recent discoveries performed with metal detectors in eastern Hungary: Bukkzsérc “Hódostető” (V. Szabó, Bíró 2010, 78–79, Kép. 13), Baks “Temetőpart” (V. Szabó 2011, Kép. 5), Abasár “Hajnácskő” (V. Szabó 2012, 342, Taf 6/3–4).

¹⁸⁵ The sandstone mold was not included in this statistic.

¹⁸⁶ In the statistic, the celts were included among the weapons and the pincers among the tools. The sandstone mold was not included.

¹⁸⁷ Mureșan 2007, 120, no. 8. This item was not included in the graph in fig. 8.

¹⁸⁸ On the fragmentation of bronze items in the depositions from Transylvania see more recently Rezi 2011, 303–334 with the bibliography of the issue.

¹⁸⁹ A case also noted on contemporary sites in eastern Hungary that have been researched with metal detectors (V. Szabó 2010, 20, no. 8).

¹⁹⁰ In the statistic, the saltaleons (Cat.no. 34, Pl. 5/9a-b; Cat.no. 50, Pl. 8/7a-b, 8/8; Cat.no. 51, Pl. 6/5d; Cat.no. 62 – Pl. 8/2a-b) and the wire fragment probably made of bronze (Cat.no. 54, Pl. 6/3a-b) were included among fragmentarily preserved jewelry items.

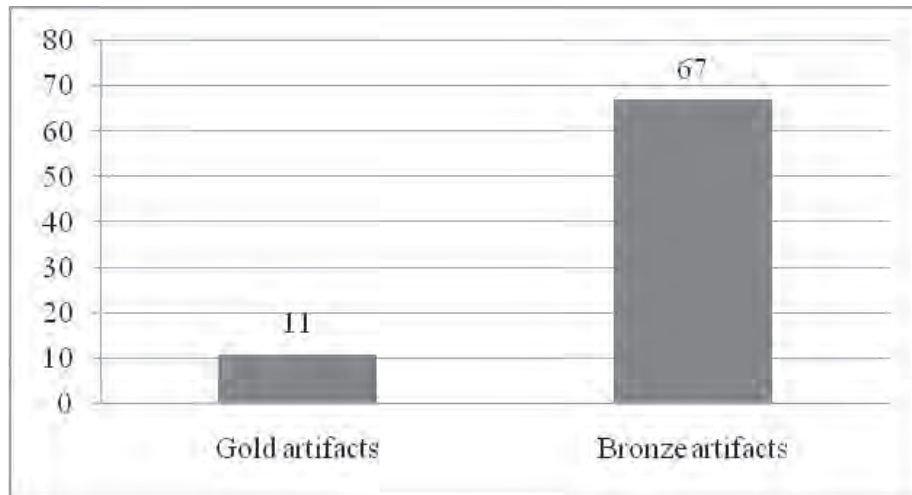


Fig. 8. Distribution of the items according to the metal employed

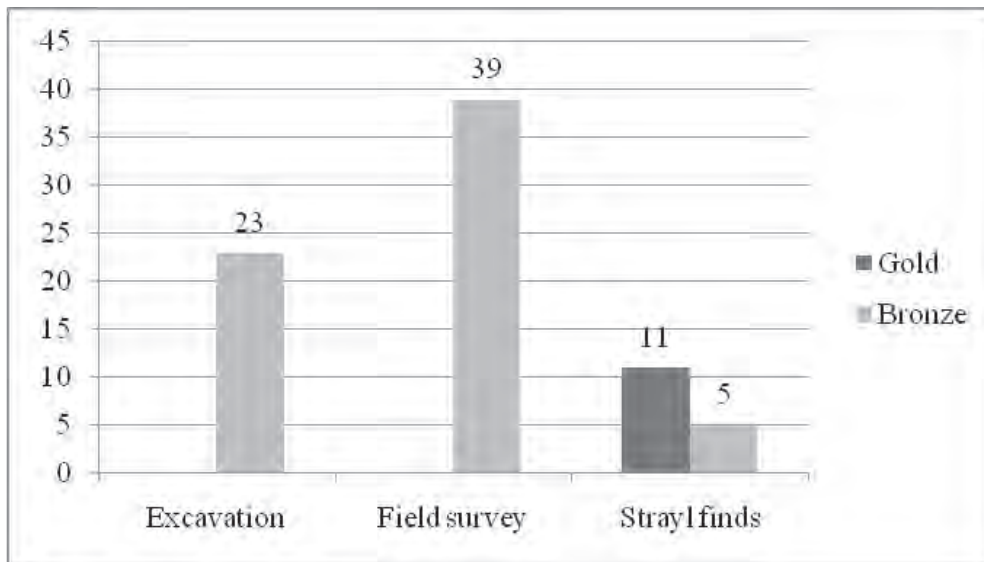


Fig. 9. Distribution of the items according to the conditions of their discovery

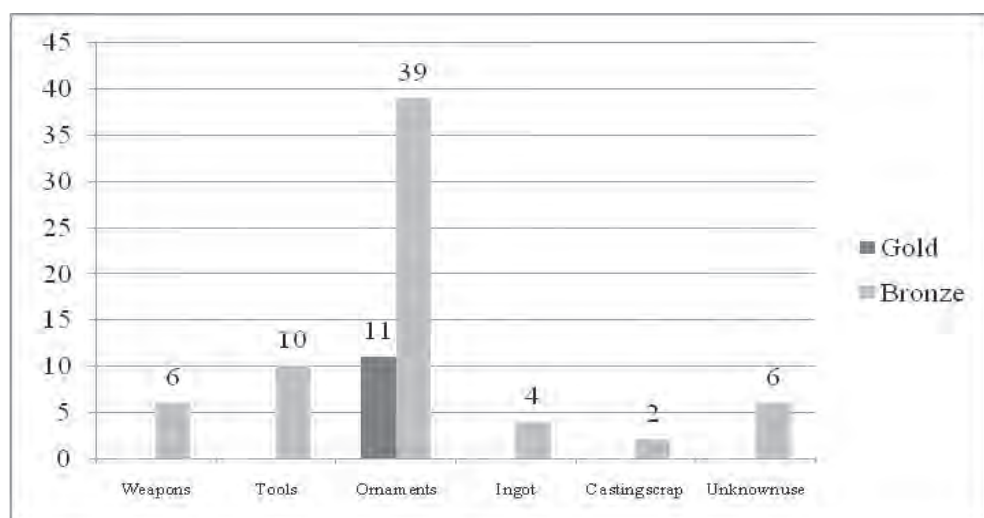


Fig. 10. Distribution of the items according to categories

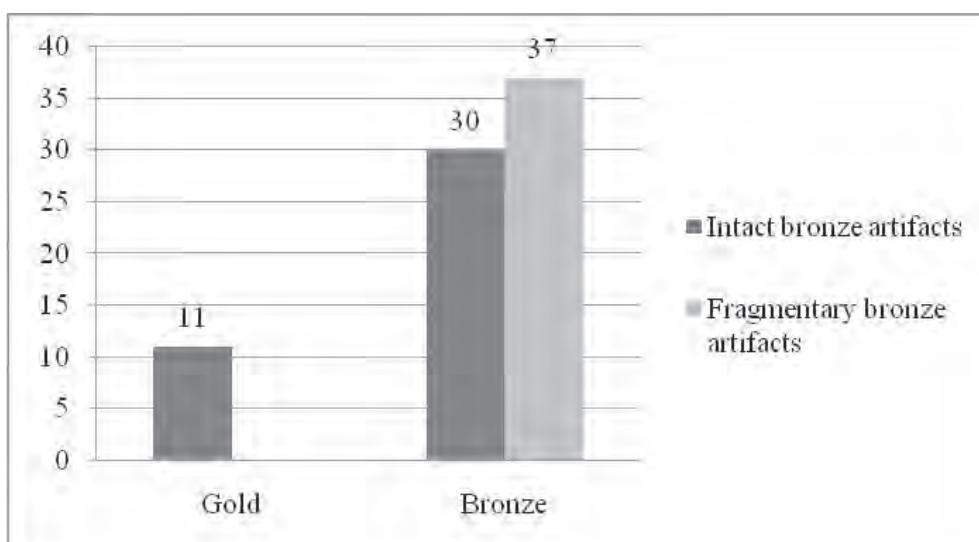


Fig. 11. The ratio of intact and fragmentary objects

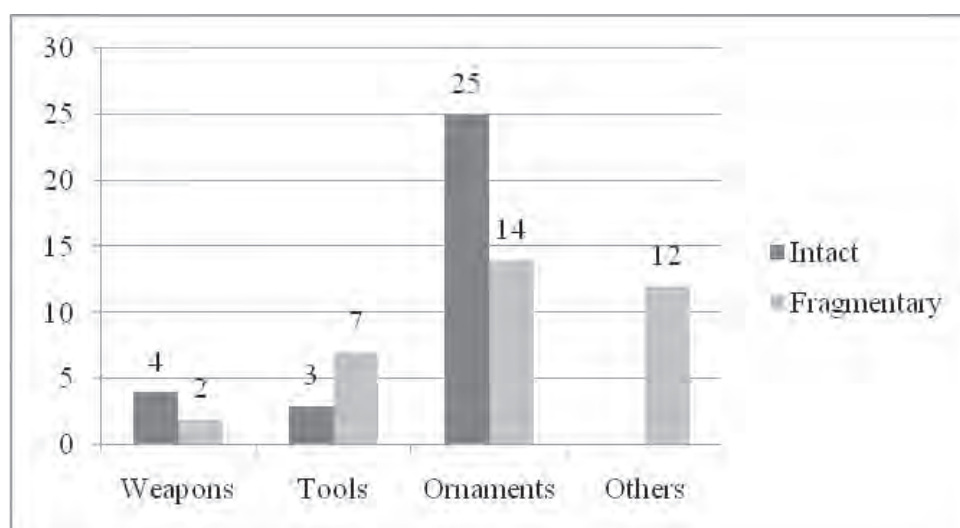


Fig. 12. Fragmentation of bronze object categories

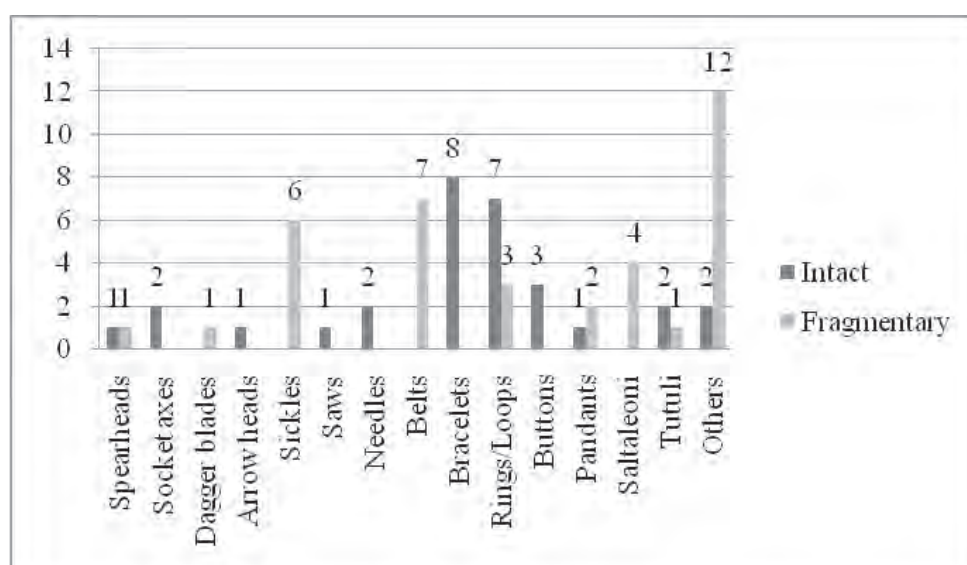


Fig. 13. Fragmentation of bronze object types

For a better understanding of the great number of metal items found in Sântana fortification, one must compare this situation to the others from contemporary settlements in the same area. Older and newer researches have led to the identification in the Lower Mureş area of several large earthen fortifications and a few open settlements. One of the most impressive earthen fortifications of the Bronze Age in Europe is the one in Corneşti "Iarcuri", Timiş County¹⁹¹ (Fig. 14). I. Miloia's and M. Moga's older investigations do not provide data on the discovery of metal artefacts there¹⁹². Recent excavations aimed at studying the defensive elements and at completing systematic on-surface researches¹⁹³. During the 2008 excavations no metal item has been mentioned, though one small bronze loop was found in the rampart of precinct I. As we have already mentioned, field researches in the first fortification from Corneşti did not lead to the discovery of any metal object¹⁹⁴.

B. Milleker mentioned about the fortification in Munar "Wolfsberg/Dealul Lupului"¹⁹⁵ (Fig. 14) that "Numerous archeological traces can be seen from Munar. Thus, on Jost Ivan's land plot, located towards Sânpetru German, a financial inspector discovered numerous clay pots in 1904. These were black urns with prominences, one containing bronze objects"¹⁹⁶. Unfortunately, no further details are provided on the number and type of items discovered on that occasion.

Another large earthen fortification that stands out in the Late Bronze Age landscape in this area is the one in Orosháza "Nagyatársánc"¹⁹⁷ (Fig. 14). The only archaeological excavations performed in "Nagyatársánc" are those coordinated by J. Banner in the summer of 1939. As for the discovery of metal artefacts, Banner's investigations have only identified a seal-headed pin from the inner ditch, at a depth of 50 cm¹⁹⁸.

Another fortification was researched in 2011: it was oval in shape, measured ca. 250x350 m, and was attributed to the Late Bronze Age. It is located several hundred meters from the Hungarian-Romanian border, south of the settlement of Csanádpalota and ca. 6–7 km north of River Mureş (Fig. 14). Several pits are contemporary with the Late Bronze Age ditches excavated in the area that was about to be affected by the future highway sector. One of these pits contained eight bronze artifacts, among which there were three needles, a chisel, a knife, an arrow head, and two plate fragments¹⁹⁹.

Other fortifications dated to the late Bronze Age were also identified through surveys in the county of Csongrád: Makó "Rákos-Császárvár" and Szentes "Várhát"²⁰⁰. One can add several other similar sites discovered in the county of Békés, in south-eastern Hungary²⁰¹. No data is available on the discovery of metal artefacts there.

Bronze artefacts and traces of bronze processing were also identified in some of the large settlements in the area of the Lower Mureş that were not fortified or that do not display visible fortifications. In this category one can mention the settlement in Pecica "În vii=Între vii=Vii" where three bronze deposits were discovered by chance and labeled Pecica II, III and IV²⁰². Recent field researches have led to the identification of a saw blade made of bronze and also of numerous pottery fragments collected over a surface of ca. 20 ha.

¹⁹¹ See the older bibliography in Gogâltan, Sava 2010, 62–69.

¹⁹² Medeleţ 1993, 124–133.

¹⁹³ Szentmiklosi *et al.* 2011, 823–834. Unfortunately, no reports have been published on the 2010–2012 campaigns.

¹⁹⁴ Gogâltan, Sava 2012, 66–67.

¹⁹⁵ For more details on this fortification see Gogâltan, Sava 2010, 57–61.

¹⁹⁶ Milleker 1906, 98.

¹⁹⁷ Gogâltan, Sava 2010, 52–57 with the older bibliography.

¹⁹⁸ Banner 1939, 105.

¹⁹⁹ Czukor *et al.* 2013, 14.

²⁰⁰ Czukor *et al.* 2013, 15.

²⁰¹ Lichtenstein, Rózsa 2008, 43–65.

²⁰² We are aware of 143 items and one pottery vessel from Pecica II deposition bought by the National Museum in Budapest in 1901 and 1986 (Petrescu-Dîmboviţa 1977, 101–102, Pl. pl. 169/5–18; 170–177; 178/1; Kemenczei 1991). The deposit labeled Pecica III was bought to the Museum in Arad by 1966 from the villagers, as it was discovered in the same settlement, in the spot called "Între vii". The deposit consisted of four items (Dörner 1970, 460, Fig. 14/4) to which M. Petrescu-Dîmboviţa added another celt and a sickle fragment (Petrescu-Dîmboviţa 1977, 102, Pl. 176/24–28). The deposit Pecica IV was found on the same spot, during ploughing works performed in 1969. M. Petrescu-Dîmboviţa mentioned 97 artifacts and illustrated 40 (Petrescu-Dîmboviţa 1977, 102, Pl. 176/29–33, 177, 178/1). As the inventory numbers indicate, the lot counted in fact 99 artifacts.

The excavations performed by F. Móra between 1928 and 1931 have revealed a significant settlement from the end of the bronze Age in Szőreg C. In a pit, maybe a dwelling, at a depth of 1.1m there were found 17 mold fragments²⁰³. A dagger and a sword were discovered as stray finds on the surface of the site in Szőreg C²⁰⁴.

The settlement from Şagu “Site A1_1” was a real surprise, also through the discovery of bronze processing traces. To the 19 small bronze items (weighing together ca. 45 g.) one can add other proof that attest to the existence of a metallurgical activity. Thus, 30 entire and fragmentarily preserved molds made of clay and sandstone were found in features Cx_25, Cx_182, Cx_194 and Cx_198 and can be associated to stage Late Bronze II-III (Bronze D – Ha A). The identified molds were mostly used in the casting of socketed axes and chisels. Most of the molds were found in features Cx_194 and Cx_198. Besides a series of bronze items and molds, archaeologists have also uncovered pottery fragments with traces of bronze smelting inside (thus employed as crucibles) in pit Cx_198, but also bronze casting traces in pits Cx_66, Cx_182, and Cx_193²⁰⁵.

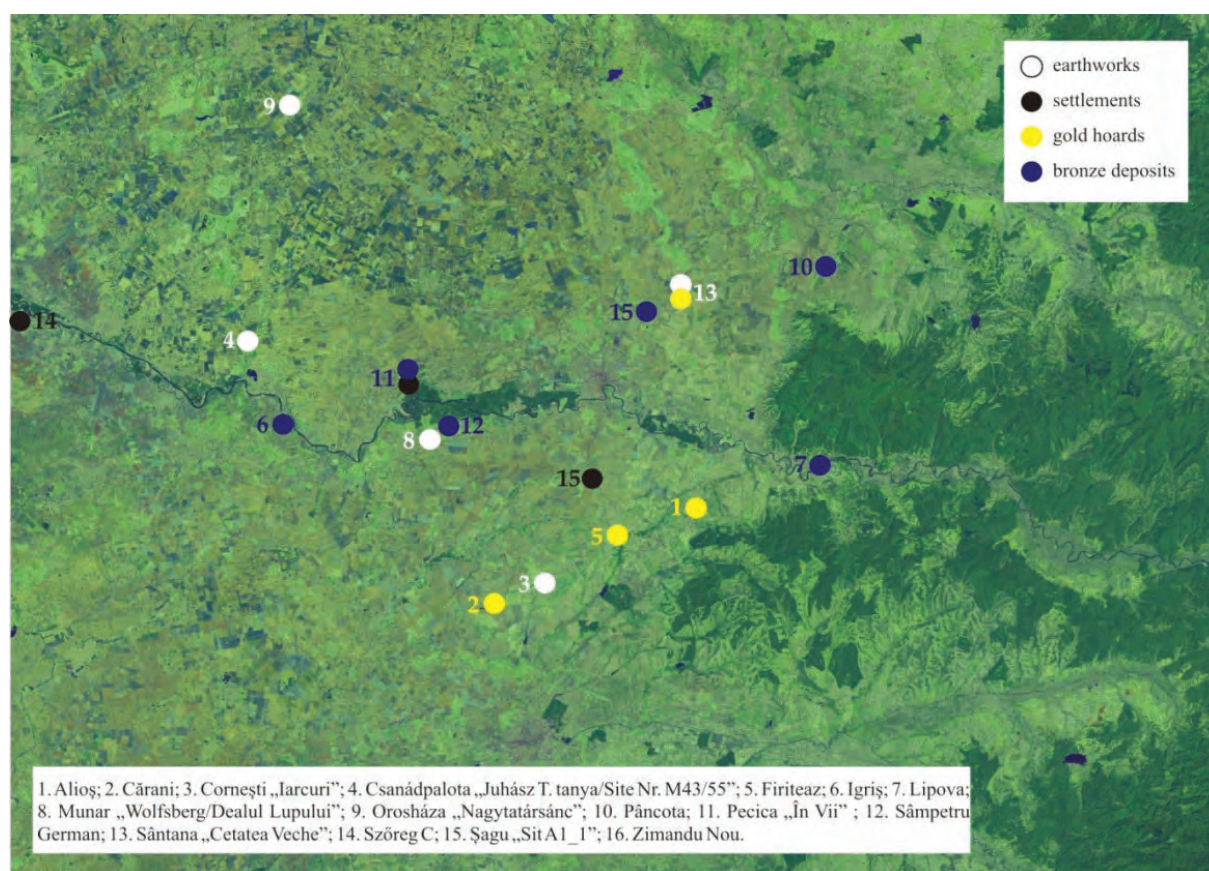


Fig. 14. Satellite photograph of the lower valley of River Mureş with sites that contained metal artifacts and traces of bronze processing dated to Late Bronze II-III (Bronze D-Ha A)

In this context, it is worth mentioning the gold objects found in the surrounding area (Fig. 14). The most significant hoard in the Lower Mureş area was found by chance in 1905 near the fortification at Firiteaz, Arad County. It consisted of 16 bracelets that weigh together 1.29 kg of gold²⁰⁶. There can also be mentioned another hoard consisting of bracelets (0.224 kg of gold), in Carani, Timiş County, near the Corneşti fortification, also consisting of bracelets (0.224 kg of gold)²⁰⁷, and the hoard in Alioş, Timiş County, that had four gold rings²⁰⁸. To these gold hoards one can add eight bronze deposits,

²⁰³ Mozsolics 1985, 196–197, Taf. 273–274; Fischl 2000, Abb. 20–21.

²⁰⁴ V. Szabó 2002, 20, Kép 90/ 4–5.

²⁰⁵ For a more detailed discussion see Sava *et al.* 2011, 50–55, Sava *et al.* 2012, 83–107.

²⁰⁶ Mozsolics 1973, 194; Taf. 78–79; 80/1–5.

²⁰⁷ Mozsolics 1973, 199–200; Taf. 106.

²⁰⁸ Mozsolics 1973, 207.

discovered in Lipova²⁰⁹, Igrış²¹⁰, Pecica II²¹¹, Pecica III²¹², Pecica IV²¹³, Sânpetru German²¹⁴, Zimandu Nou²¹⁵ and probably Pâncota²¹⁶.

From what is currently known, except the deposits discovered in the settlement from Pecica „În vii”, the most numerous metal items in the Lower Mureș area were found in the fortification of Sântana "Cetatea Veche". The striking difference in the number of metal objects or traces of metal processing in settlements has also been noted in eastern Hungary. There are thus settlements such as Baks "Temetőpart", with more than 1700 objects, Szilvásvár "Kelemen széke" with over 300, and Bükkszérc "Hódos-tető" with 81 metal objects. On the other hand, there are sites such as those in Abasár "Rónya-bérc", Abasár "Hajnácskő", and Mátraszentimre "Óvár" with less than five discovered metal items²¹⁷. A similar situation has been attested through classical archaeological researches in northern Hungary²¹⁸.

As for their interpretation, as previously indicated, some artefacts were part of funerary inventories, but most were found out of context. In eastern Hungary, researches with metal detectors in contemporary open or fortified settlements have revealed several bronze depositions, gold hoards, or isolated items made of gold or bronze. According to G. V. Szabó, it is hard to tell if all these finds had been intentionally hidden or ended up in the soil by chance. Szabó nevertheless concludes that: "Our experiences suggest that most of these objects were accidentally buried due to some profane reasons"²¹⁹. We believe this hypothesis as probable also for most of the metal items found in Sântana.

We have started this study with a quote from Homer on the riches of the fortification in Mycena. The association between metal and power/prestige, either divine or lay, is much older than the information in Homer's *Odyssey*. In order to remain in the field of literary sources, the archives from the palaces in Ebla, Ugarit, Akkad, and Ur provide, starting with the third millennium B.C., interesting data on the inter-regional commerce in which copper and the noble metals played a very important role²²⁰. The same pieces of information on the role of metal and prestige military equipment (chariots, helmets) in Bronze Age society can also be found in Linear B writings²²¹.

Does the large number of gold, copper, and bronze items reflect the position that the settlement in Sântana "Cetatea Veche" had in the area of the Lower Mureș? We have seen that some sites have revealed numerous objects made of metal, while other almost none²²². There may be different explanations, ranging from the state of research to the attitude of different communities on the issue of depositing metal items and the manner in which the settlements were abandoned. The settlement in Șagu, with discoveries that reflect a significant metallurgical activity, was probably part of the *hinterland* of the large fortification in Cornești²²³. A settlement's size and impressive fortified elements best define its status²²⁴. As mentioned above, it is possible that the prosperity enjoyed by the inhabitants of "Cetatea Veche" in Sântana was also based on the control they had on the copper and gold resources in the area²²⁵. The presence of stone at the base of the enclosure III and the immense quantity of timber

²⁰⁹ See no. 131.

²¹⁰ Petrescu-Dîmbovița 1977, 98, Pl. 162; 163/1.

²¹¹ Petrescu-Dîmbovița 1977, 101–102, pl. 169/5–18; 170–175; 176/1–23; Kemenczei 1991.

²¹² Dörner 1970, fig. 14/4; 460; Petrescu-Dîmbovița 1977, 102, pl. 176/24–28.

²¹³ Petrescu-Dîmbovița 1977, 102, pl. 176/29–33; 177; 178/1.

²¹⁴ Petrescu-Dîmbovița 1977, 107; pl. 186/17–18; 187.

²¹⁵ Petrescu-Dîmbovița 1977, 119; pl. 277/14–16.

²¹⁶ Petrescu-Dîmbovița 1977, 157, pl. 374/8–10. M. Petrescu-Dîmbovița believes that this deposition is uncertain.

²¹⁷ V. Szabó 2010, 21. Eight more items were found during the 2009 research campaign in Mátraszentimre "Óvár" (V. Szabó 2010, 23). On the other hand, the research of more than 40 ha, i.e. the area covered by the fortified settlement in Abasár "Rónya-bérc", has only led to the discovery of two new items (V. Szabó 2010, 24).

²¹⁸ Thirteen items were found during archaeological excavations in the settlement of Bükkszentlászló "Nagysánc" alone (Matuz, Nováki 2002, 33, Abb. 110/1–13).

²¹⁹ V. Szabó 2010, 21.

²²⁰ Klengel 1995, 39–48.

²²¹ Ventris, Chadwick 1973, 352–381.

²²² It is also the case of other contemporary settlements that have been recently researched. In Vlaha "Pad", Cluj County, despite the fact that the settlement was almost entirely excavated (more than 16.000 m²) and hundreds of complexes were identified, hardly a few bronze objects were discovered (Gogâltan *et al.* 2011, 164–167). A similar situation was also noted in Petea "Csengersima" (Marta 2009, 44–45) and Nyíregyháza-Oros "Úr Csere" (Bejinariu 2010, 47–53).

²²³ Gogâltan, Sava 2012, 64.

²²⁴ On "Constructing Power" see the studies in Maran *et al.* 2006.

²²⁵ Gogâltan, Sava 2012, 67.

required in the erection of the defensive rampart indicate that the territory of the settlement extended at least as far as to include the surrounding hills (Fig. 2). As it is natural, a series of smaller settlements were found around the fortification²²⁶. These were most probably “dependent settlements”, part of the tributary economic system developed around the central settlement²²⁷. The copper lump fragment (Cat.no. 48, Pl. 6/10a-b) is yet another discovery that suggests these people processed metal locally and had access to the copper ores in Zărand Mountains²²⁸. It is hard to establish the nature of this type of access, and the various hypotheses that can be formulated remain purely speculative. What is certain is that the metal objects described above can be connected to the power and prestige that Sântana “Cetatea Veche” seems to have enjoyed among its contemporaries.

Florin Gogâltan

Archaeology and Art History Institute Cluj-Napoca
Cluj-Napoca, ROU
floringogaltan@gmail.com

Victor Sava

Museum Arad
Arad, ROU
sava_vic@yahoo.com

Lucian Mercea

“Universitatea de Vest” Timișoara
Timișoara, ROU
lucianmercea@yahoo.com

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²²⁶ Gogâltan, Sava 2010, 39–41.

²²⁷ Model presented for example in Bernbeck 1997, 163–174.

²²⁸ Duma 1998.

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Plate 1. 1-5, 7-11, 14. Artifacts discovered in 1963's excavation; 6. Socket axe discovered by I. Mărinouiu in 1954; 12. Sickle discovered by I. Mărinouiu in 1954 (after Rusu *et al.* 1996); 13. Spearhead discovered in 1963.

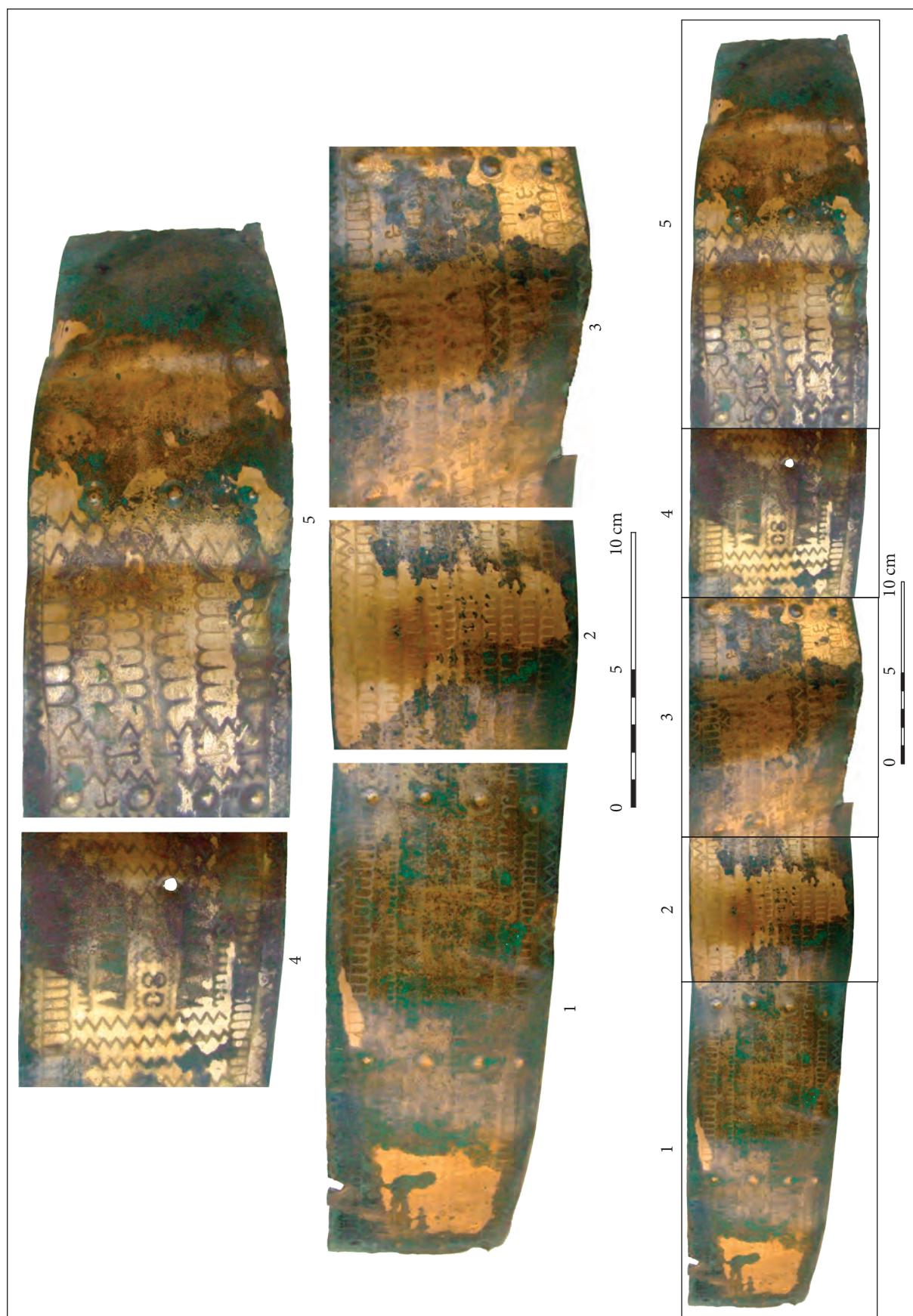


Plate 2. Belt discovered in the 1950's.

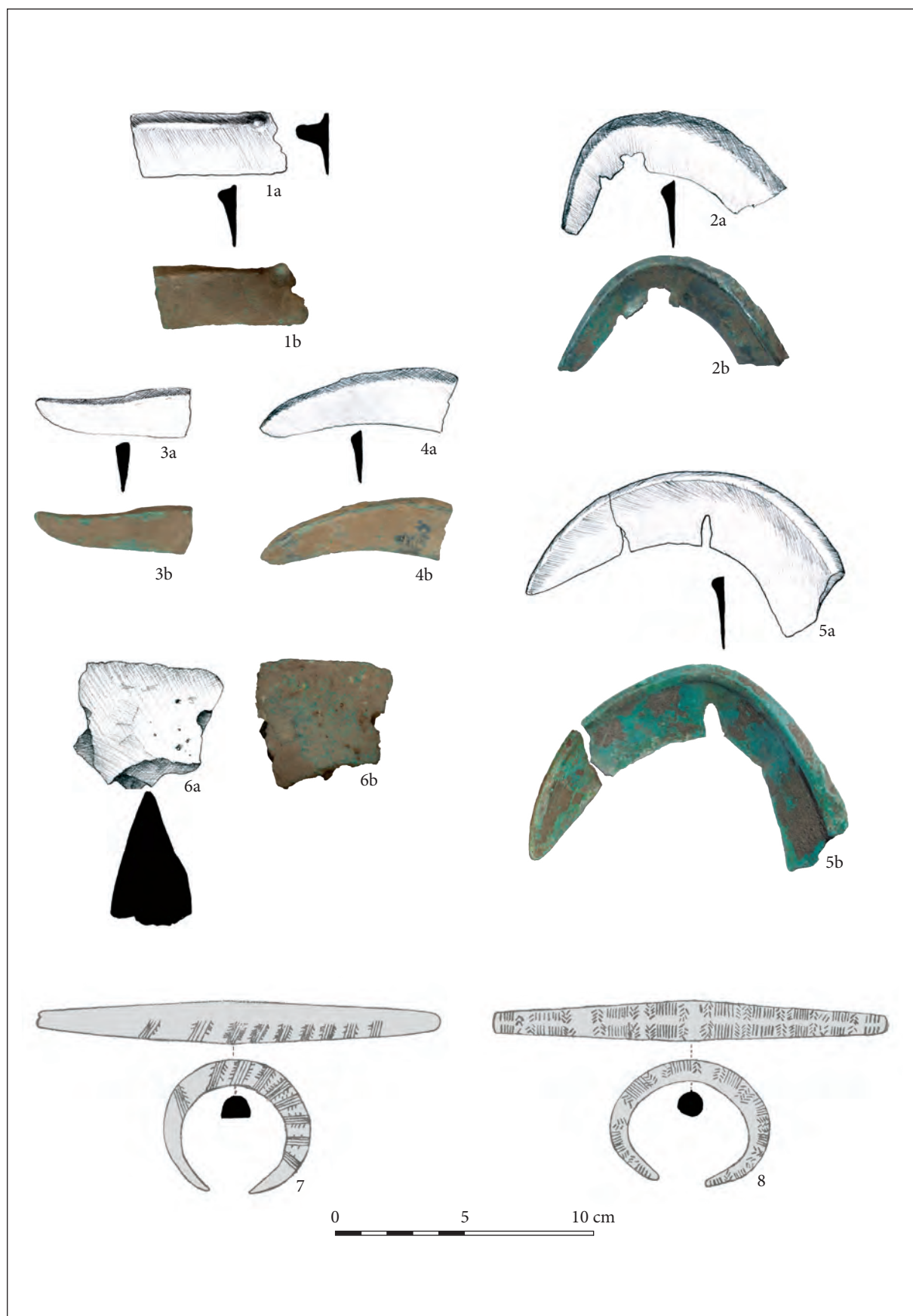


Plate 3. 1-6. Artifacts discovered by G. Ciaciș in 1997; 7-8. Artifacts discovered by A. Bulza in 1982 (after Mureșan 1987).

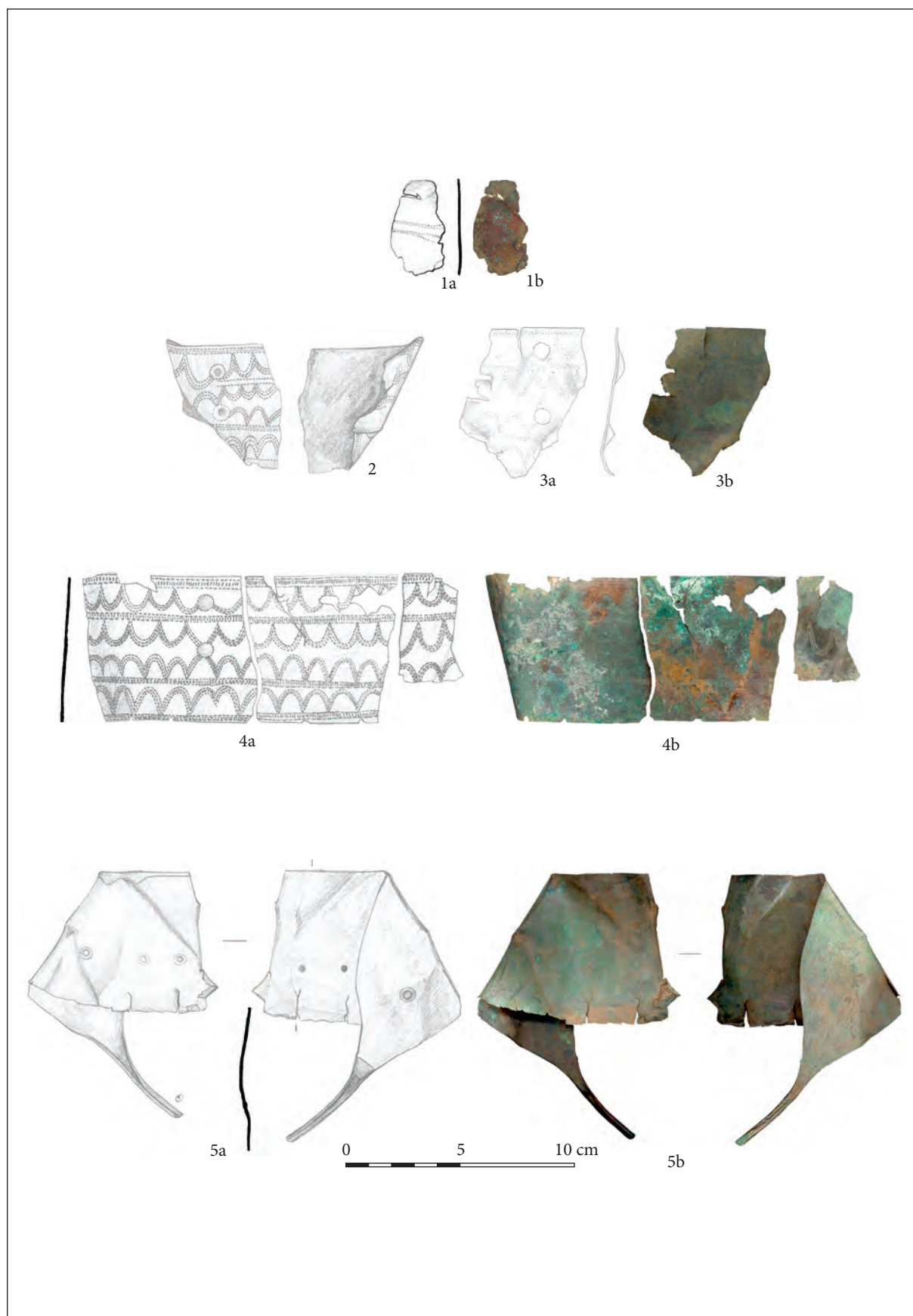


Plate 4. Artifacts discovered by L. Mercea, between 2008-2011.

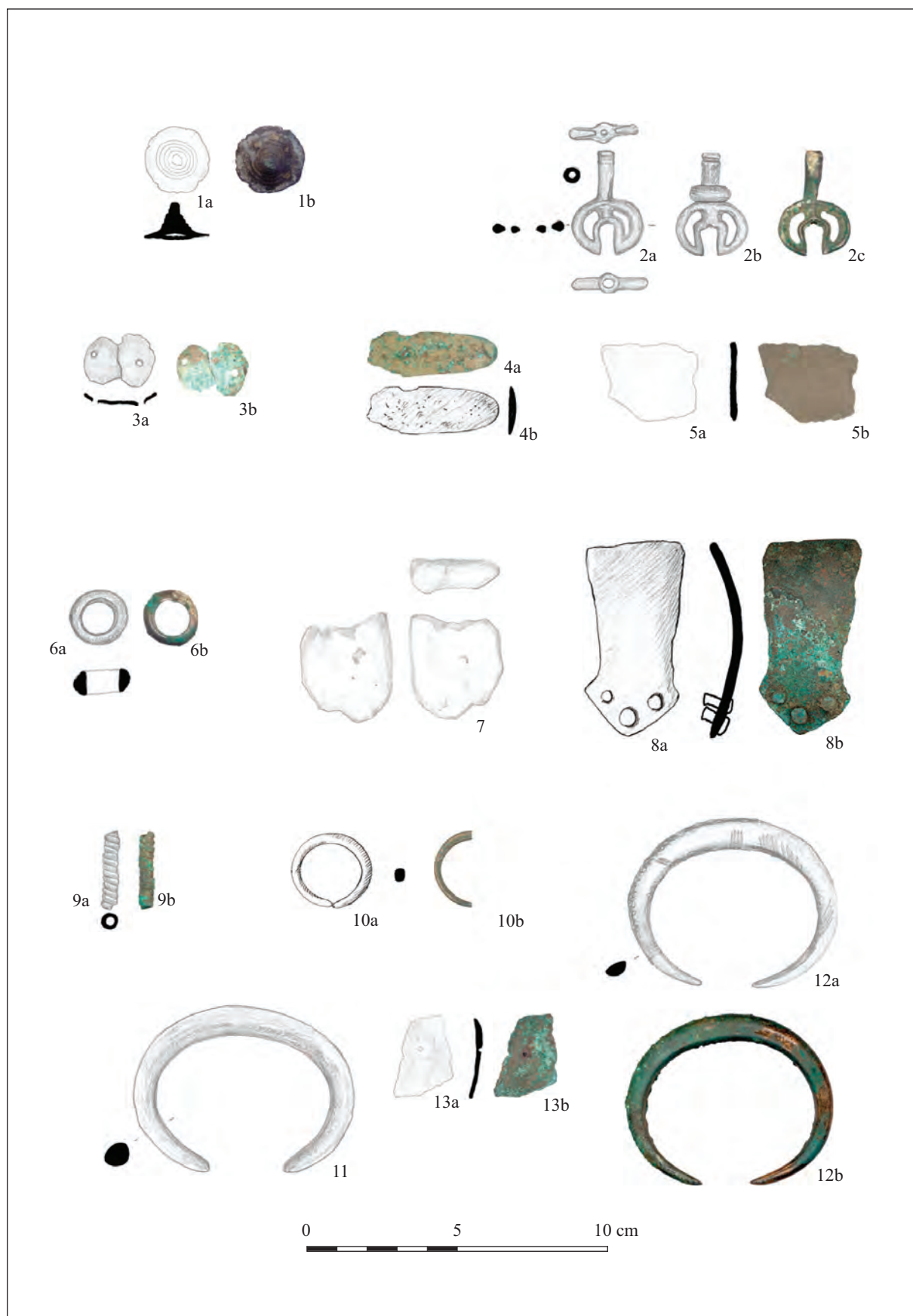


Plate 5. 1-5. Artifacts discovered by L. Mercea, between 2008-2011.



Plate 6. Artifacts discovered by archaeological research team, between 2008-2012.



Plate 7. Artifacts discovered by archaeological research team, between 2008-2012.



Plate 8. Artifacts discovered in 2009's excavation.

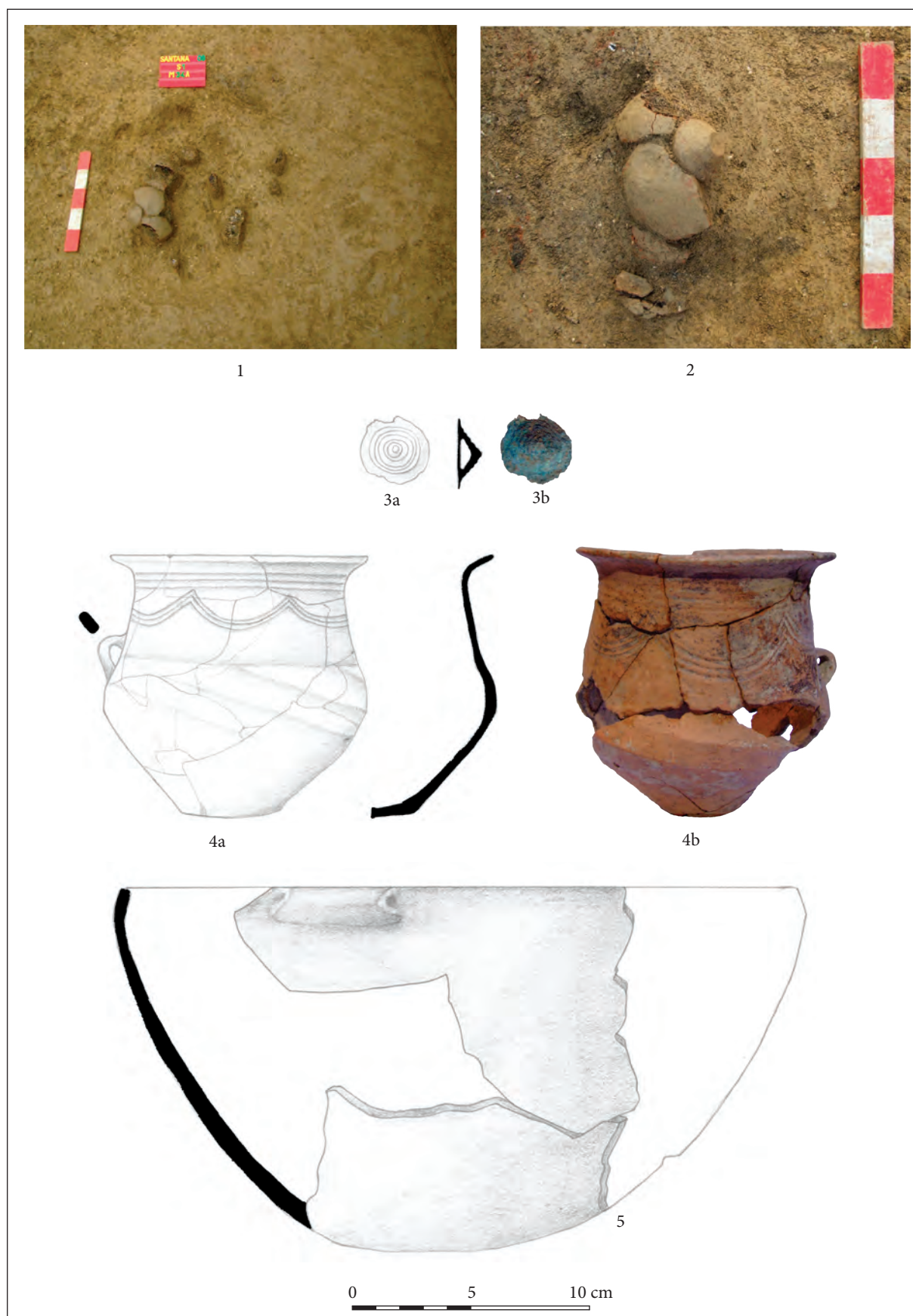


Plate 9. Artifacts discovered in 2009's excavation.



Plate 10. Artifacts discovered in 2009's excavation, feature Cx_40.



Plate 11. Artifacts discovered in 2009's excavation, feature Cx_02.

Anzeichen der Metallbearbeitung bei einer Fundstelle in der Gemarkung von Sopron

Péter Polgár

Abstract: In this paper the archaeological evidence of Late Bronze Age metalworking activity from the excavation campaign during 2007 and 2008 in the archaeological site of Sopron-Potzmann dűlő will be represented with a special focus on a find assemblage consisting of bronze slags, clay ladles and a two-piece mould of stone for producing bronze socketed hammers. This settlement was certainly inhabited during the whole earlier period of the Urnfield Culture (HaA), but its further existence during its middle period could not be excluded either. Although this extensive settlement of the Urnfield Culture proved to be poor in metal finds and despite of the disturbance caused by intensive agricultural use of these plots during the successive later periods, the working area of metal moulding could be archaeologically localised to the western part of the settlement.

Keywords: Sopron, Urnfield culture, settlement, metalworking, mould.

Der Fundort, genannt Potzmann – Flur befindet sich in der östlichen Gemarkung von Sopron, am beiden nördlich leicht ansteigenden Ufer der Ikva-Baches (Abb. 1). Das Gebiet war bis in die 90-er Jahre agrarisch intensiv genutzt. Die ersten archäologischen Forschungen wurden 1991 – 1994 bei den Bauarbeiten der Umleitungsstrasse östlich des Baches Ikva durchgeführt, wobei Siedlungsbefunde der spätbronzezeitlichen Urnenfelderkultur, der Keltenperiode und der frühen Arpadenzeit, sowie Baureste einer römischen Villenwirtschaft und 8 Urnengräber der Urnenfelderkultur freigelegt wurden¹. Eine weitere, grossflächige (etwa 55.000 m²) Ausgrabung konnte 2007 – 2008 durch Anlegen eines Einkaufszentrums und drei Fachmärkte westlich des Baches Ikva ermöglicht werden, da wies die urnenfelderzeitliche Besiedlung neben kupferzeitlichen, späteisenzeitlichen und römerzeitlichen Befunden die grösste Intensität auf². Unser Aufsatz zielt an, die auf metallbearbeitende Tätigkeiten hindeutenden urnenfelderzeitlichen Befunde dieser letzteren Forschungen kurz darzustellen.



Abb. 1. Lage des Fundortes Potzmann – Flur mit den Ausgrabungskampagnen

Beschreibung der Gussform (Abb. 2)

Inv.Nr.: SOM-RT 2010.1.344.

¹ Gabrieli, Gömöri 1996, 42–43; Gömöri 1997, 25.

² Polgár 2009, 271–272.

Zweiteilig, aus geschliffenem Stein. Viereckig, beschädigt und der eine Teil ist fragmentiert. Zum Giessen von Tüllenhammern mit einem eingekerbten Dreieck an der Tülle. L.: 14,35 cm, Br.: 12,6 cm, H.: 9,55 cm.

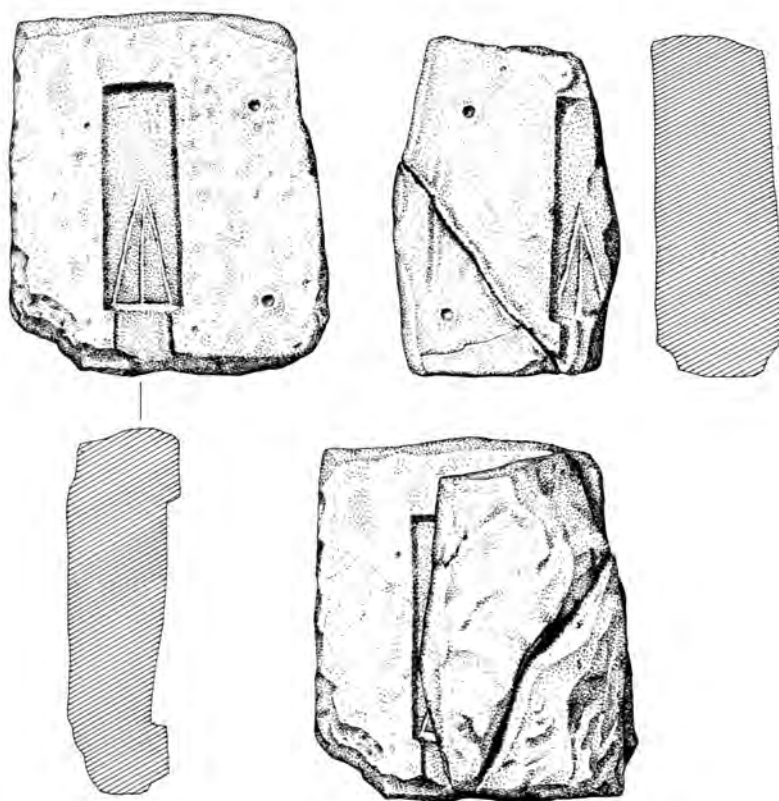


Abb. 2. Foto und Zeichnung der Gussform

Fundstelle: Obj.Nr. 35./AP³ (Abb. 3)

Form: Ziemlich seichte, abgerundet viereckige Eintiefung mit einem Pfostenloch mitten an der Südseite. Verfüllung: gemischt dunkelbrauner Boden, gemischt gelber Lehm. Begleitfunde: Keramik, Tongewicht, Verputzfragmente, Tierknochen (Hauspferd). Lage: im Westteil der Ansiedlung. Funktion: unklar, Gebäude mit einfacher Konstruktion.

³ Bei den Beschreibungen der Fundstellen sind die Freilegungsflächen mit 'AP' und 'B' unterschieden.

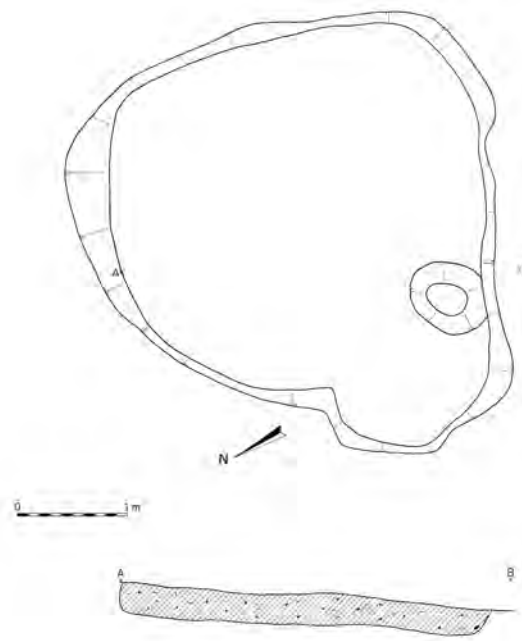


Abb. 3. Abzeichnung des Befundes Nr. 35./AP

Giesslöffel kamen während der Kampagnen 2007 – 2008 nur am nördlichen (Obj.Nr. 14./AP) und westlichen Rand (Obj.Nr. 52./B) der Urnenfeldersiedlung ans Tageslicht. Alle drei Stücke sind fragmentiert, so konnten sie als Abfall betrachtet werden.

Inv.Nr.: SOM-RT 2009.2.538. (Abb. 4a)

Beschreibung: Bruchstück, braun gebrannt. Grösste Länge: 7,4 cm.

Fundstelle: Obj.Nr. 14./AP. Abgerundete, tiefere Grube.

Inv.Nr.: SOM-RT 2013.1.1359. (Abb. 4b)

Beschreibung: Bruchstück, abgenutzt schwärzlich – rot gebrannt. Grösster Durchmesser: 6,85 cm.



Abb. 4. Foto der Giesslöffel

Fundstelle: Obj.Nr.: 52./B

Grossflächig – amorphe, vielleicht viereckige, ziemlich seichte Eintiefung. An der Ostseite steht ein schräg eingetieftes Pfostenloch und im Nordteil war eine grössere Anhäufung von Verputzfragmenten zu beobachten. Verfüllung: gemischt dunkelbrauner Boden, dunkelbrauner Boden gemischt mit Verputzfragmenten. Hier kann eine Baukonstruktion auch nicht ausgeschlossen werden. Da es unter den Begleitfunden keltische und sogar einige römische Scherben auch vorkamen, ist die Datierung da leider nicht eindeutig.

Inv.Nr.: SOM-RT 2013.1.1590. (Abb. 4c)

Beschreibung: Bruchstück, abgenutzt schwarz gebrannt. Dm.: 5,75 cm.

Fundstelle: Obj.Nr.: 52./B (Abb. 5)

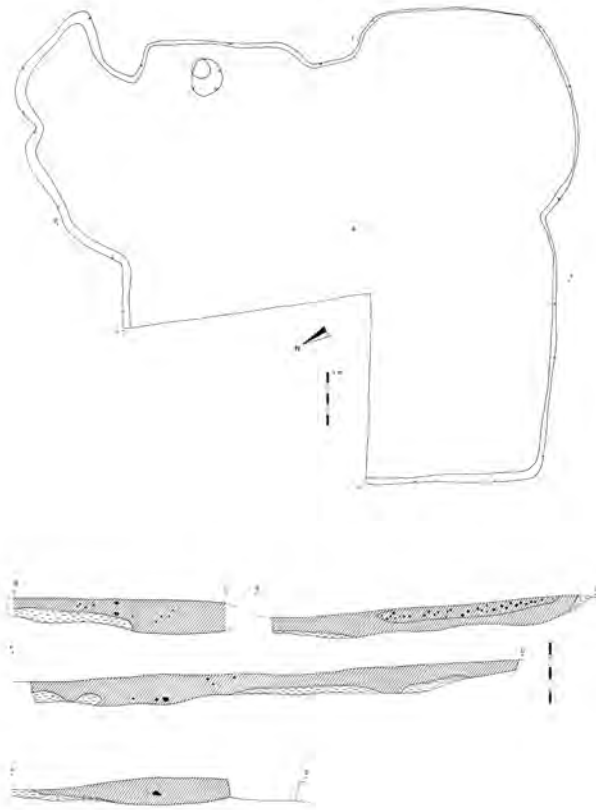


Abb. 6. Abzeichnung des Ofens Nr. 2./AP

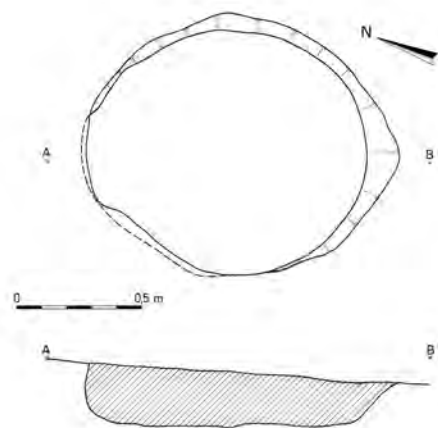


Abb. 5. Abzeichnung des Befundes Nr. 52./B

Im Westteil der Urnenfeldersiedlung lag der von Pflügen stark gestörte Ofen (Obj.Nr. 2./AP), in dessen mit Schutt stark gemischten Verfüllung Bronzeschlacken in grösserer Anzahl (18 St.) gefunden wurden.

Beschreibung des Ofens (Abb. 6)

Abgerundet, die Ostseite gewölbt, die Nordseite leicht muldenförmig eingetieft. Völlig zerstört, die Wandung blieb nur bei der NO-Seite teils in situ erhalten. In der Verfüllung gab es eine grosse Menge von Bruchstücken der Lehmwandung. Verfüllung: gemischt dunkelbrauner Boden. Begleitfunde: Eine Keramikscherbe aus der Wandung.

Wir können also aufgrund der vorgestellten, zur Verfügung stehenden Befunde die Tätigkeitszone der Metallbearbeitung mit Berücksichtigung deren, dass der Fundort früher starken Störungen ausgesetzt gewesen war, und beide archäologischen Forschungen als Rettungsgrabungen ausgeführt wurden, wobei die spätere sogar gleichzeitig mit den Bauarbeiten stattfand, wahrscheinlich auf den westlichen Teil der Urnenfeldersiedlung setzen. Ohne eine Folgerung ziehen zu wollen, stellen wir doch fest, dass die vorgefundenen geringzähligen Bronzen bezeichnenderweise auch ebenda eine Konzentration aufweisen. (Abb. 7)

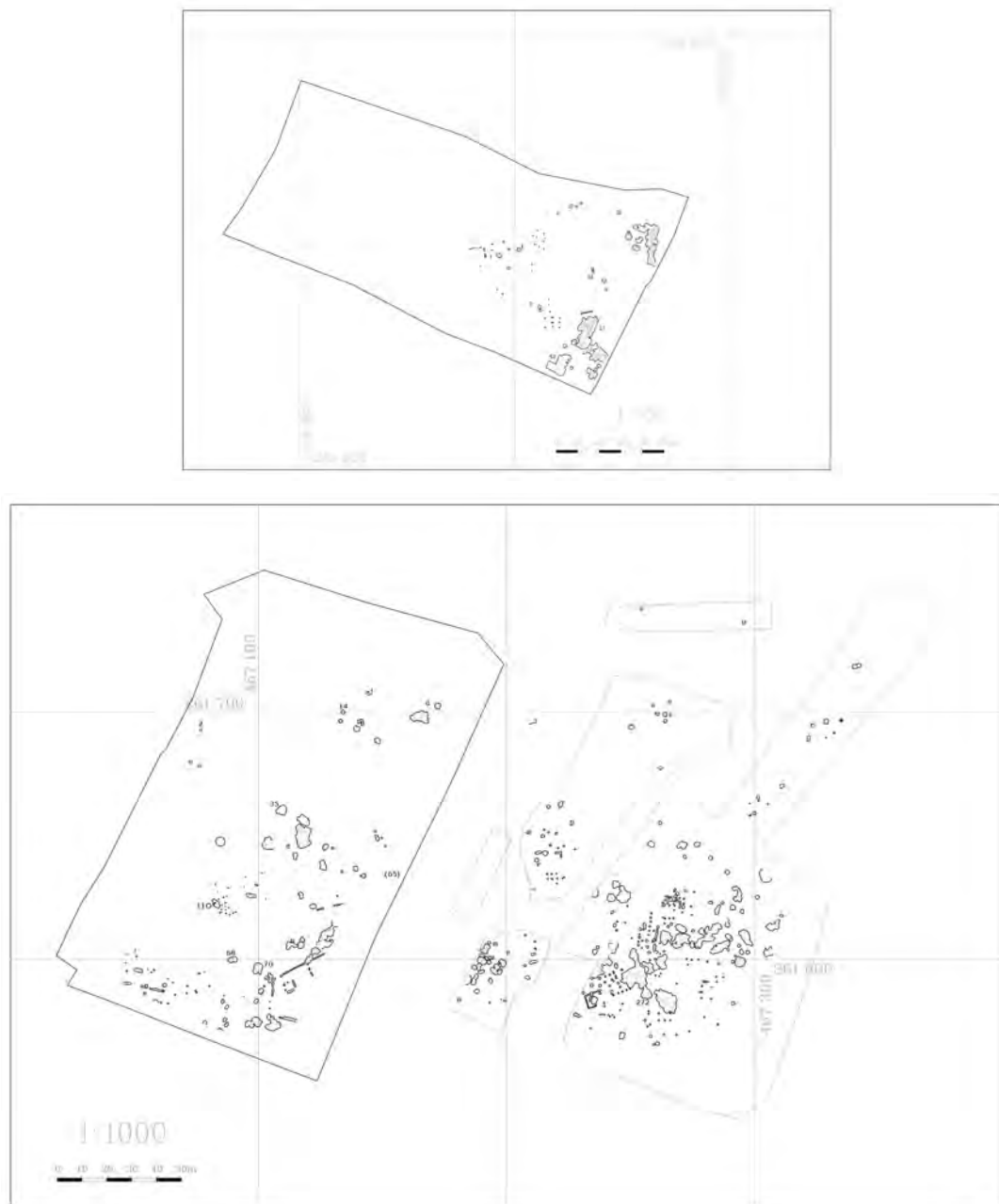


Abb. 7. Gesamtpläne der freigelegten Urnenfeldersiedlung, Kampagnen 2007 – 2008 (8a: 'B', 8b: 'AP')

Die Bronzefunde (Abb. 8)

1. Inv.Nr. SOM-RT 2009.2.443.

Spindelpkopfnadel⁴. L.: 4,5 – 7,3 cm.

Fundstelle: Obj.Nr. 11./AP. Abgerundete muldenförmige Grube.

2. Inv.Nr. SOM-RT 2010.1.961.

Zweischneidiges Rasiermesser (Typ Radzovce)⁵. Dm: 9,3 cm.

Fundstelle: Obj.Nr. 65./AP. In der Verfüllung eines römerzeitlichen Brunnens.

3. Inv.Nr. SOM-RT 2010.1.1112.

Bronzene Ahle. L.: 6,7 cm.

Fundstelle: Obj.Nr. 68./AP. Grössere Grube mit zwei Eingrabungen.

4. Inv.Nr. SOM-RT 2012.2.1472.

Bronzene Ahle. L.: 7,3 cm.

⁴ Říhový 1979. T. 53–55; Vasić 2003. 80.

⁵ Jockenhövel 1971, 86–87, Taf. 9. 98.

Fundstelle: Obj.Nr. 272./AP. Grössere Grube mit mehreren Eingrabungen.

5. Inv.Nr. SOM-RT 2013.1.867.

Bronzene Brillenfibel (Typ Gyermely)⁶. B.: 3,95 cm.

Fundstelle: Obj.Nr. 27./B. Grossflächiger Grubenkomplex.

6. Inv.Nr. SOM-RT 2013.1.1164.

Bronzener Knopf. Der Dornteil ist abgebrochen. Grösster Dm.: 1,35 cm.

Fundstelle: Obj.Nr. 48./B. Abgerundete, leicht muldenförmige Grube.

7. Inv.Nr. SOM-RT 2013.1.1624.

Lanzettenförmiger Anhänger aus Bronze⁷. L.: 6,25 cm.

Fundstelle: Streufund/B

8. Inv.Nr. SOM-RT 2010.1.1239.

Bronzeplättchenfragment

Fundstelle: Obj.Nr. 70./AP. Vermutlich zur Wassergewinnung benutzte grössere Grube.

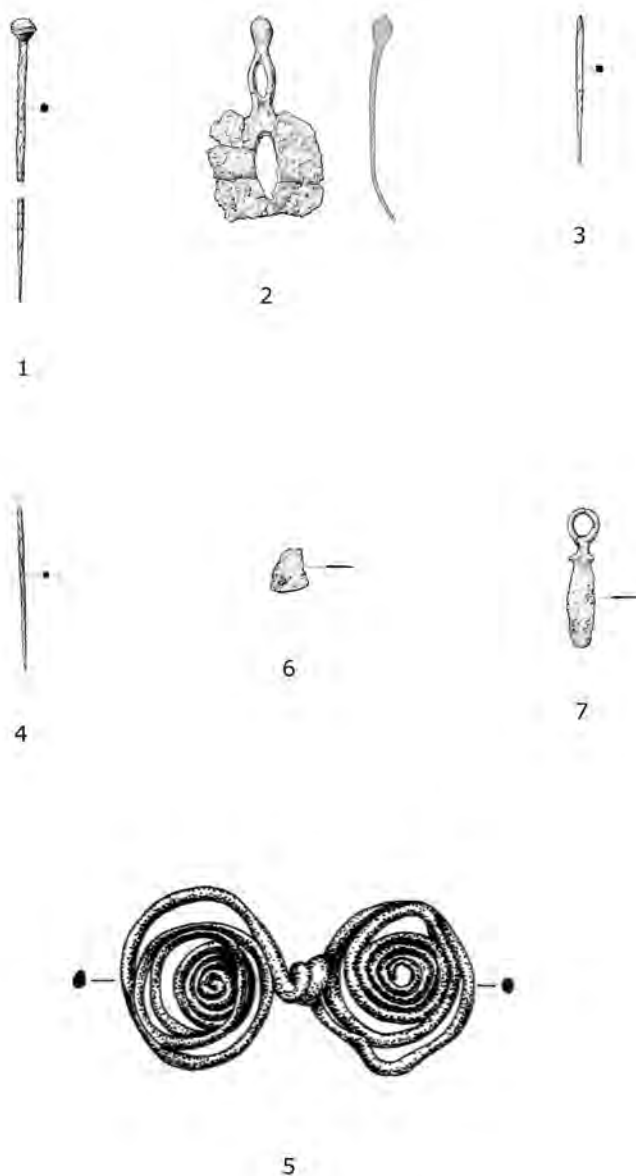


Abb. 8. Abzeichnung der Bronzefunde (1 – 4, 6 – 7: M=1:2; 5: M=2:1)

⁶ Mozsolics 1985, 121, 122, 478–480, Taf. 240–242.; Pabst 2011, 204 –205, Abb. 3.

⁷ Hansen 1994, 248–251, Abb. 158.

Datierung

Die beschriebenen Bronzen datieren die spätbronzezeitliche Ansiedlung bei Potzmann – Flur grundsätzlich auf die ältere Phase der Urnenfelderkultur (HA), allerdings belegt die Brillenfibel vom Typ Gyermely eine spätere, bis in die mittlere (HaA2/HaB1) Phase hineinreichende Entwicklung. Wenn man nun hinzunimmt, dass die charakteristischen Keramikformen (Tassen, Schalen und Schüsseln) eine späte Datierung auch zulassen, die Bronzen recht fragmentiert und abgenutzt zu sein scheinen, sowie die angesprochene Ansiedlung ziemlich weit ausgedehnt war, kann man eine längere Datierung akzeptieren.

Konklusion

Die Bronzeschlackenstücke und die Giesslöffel sprechen zwar für eine lokale Metallbearbeitung im Westteil der spätbronzezeitlichen Ansiedlung bei Potzmann – Flur, deren Mass und technologisches Niveau aber eigentlich unbekannt blieben. Die gefundenen geringzähligen Bronzen sind einfache Produkte, deren Mehrheit aus Trachtelementen besteht, die zwei Ahlen als Geräte noch ergänzen. Die Publikation der vermutlichen urnenfelderzeitlichen Bronzewerkstatt beim Fundort Krautäcker⁸ in der nordwestlichen Gemarkung von Sopron kann uns eventuell zur Beantwortung dieser Frage künftig näher bringen.

Péter Polgár

Soproni Múzeum

Soproni, HU

polgarp75@gmail.com

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⁸ Jerem 1981, SOM-RA 612.

A Bronze-Age Hoard Discovered in Ampoița (Alba County)*

Cristian Ioan Popa

Abstract: The article presents a previously unpublished bronze hoard discovered by chance in 2007 in Ampoița-Piatra Boului. The finding context of the items is unknown, as they were found on the margin of a pit, at the feet of a rock massif. The deposition consists of a bronze arrowhead and two fragmentarily preserved copper lumps. Their reduced chronological value only allows for their dating to the end of the Bronze Age (Br. D-Ha. A). In the context of the discovery the author also discusses the issue of the so-called “Zlatna II” hoard, found in 1907 and attributed to the Jupalnic-Turia series (Ha. A2) that, in the author’s opinion, was discovered in Gura Ampoiței (Ampoița). Therefore, the author suggests that the “Zlatna II” hoard should be called “Ampoița I” and thus the items found in *Piatra Boului* should be henceforth called “Ampoița II”.

Keywords: hoard, bronze, Ampoița, Zlatna, Bronze Age.

The settlement of Ampoița (Hung: Ompolycza, Kisompoly) is located in the middle basin of River Ampoi, along the valley of its right side effluent, *Valea Ampoiței*. The area is rich in archaeological discoveries; the best known are those found on the site of *La Pietre/Pietrele Gomnușei/Stogurile Popii*¹.

Three bronze objects, that are the focus of the present archaeological note, were found in 2007, inside the borders of the village, at the feet of the calcareous height called *Piatra Boului* (Fig. 1), ca. 30 north of the rock massif (Fig. 2). The calcareous height (510 m in altitude) at the feet of which the items were found is located at the meeting point of the valleys of Ampoița and Ampoi, being part of the southern continental embankment of Trascăului Mountains. Through its location it dominates *Dealul Fecioarei*, from which it separates by 45 meters, and the entire surrounding area. A single archaeological test trench was performed on the site, in 1944, by Ion Berciu; there were also a few on-site inspections that led to the identification of a Coțofeni habitation and to the recovery of pottery fragments, one copper knife blade, and tools made of stone and bone².

The three metal items were discovered by chance, at the feet of the rock massif, on the northern side on the margins of a pit, probably made by poachers. The depth of the pit suggests that the objects were buried at a small depth, of max. 0.25 m.

Description of the items:

1. *Lance head*, of which only a small part of the tip has been preserved. The middle groove can be noted in the center. Covered with dark green patina, well preserved. Dimensions: length = 1.9 cm; maximum width = 0.9 cm; maximum thickness = 0.4 cm (Fig. 3/1).

2. Fragment of a *copper lump*, convex in plane section. Several fragments have broken off. Covered in well preserved dark green patina. Dimensions: 7.2 × 6.2 cm; maximum thickness = 2.4 cm; weight = 406.848 g; inv. no. 9067 – “1 Decembrie 1918” University Alba Iulia (Fig. 3/3 = 4/2).

3. Fragment of a *copper lump*, convex in plane section. Several fragments have broken off. Covered in well preserved dark green patina. Dimensions: 5.1 × 4.1 cm; maximum thickness = 1.8 cm; weight = 126.799 g; inv. no. 9068 – “1 Decembrie 1918” University Alba Iulia (Fig. 3/2 = 4/1).

* English translation: Ana M. Gruia.

¹ RepArhAlba 1995, 48–50, no. 10.

² Ciugudean 1991, 82, Abb. 1, no. 5; RepArhAlba 1995, 48, no. 10/3; Ciugudean 1996, 37, 119; Ciugudean 2000, 36, 63, no. 24, pl. 134/1; Ciugudean 2001, 72–73; Ciugudean 2002, 98, pl. 2/1. In my opinion there are slim chances that the site is identical to the one mentioned in the older specialized literature under the toponym of *La Colț* (today lost) (RepArhAlba 1995, 48, no. 2), from where Coțofeni discoveries are known (Schroller 1933, 75, no. 26; Roska 1941, 61, no. 136; Roska 1942, 128, no. 185), since *Piatra Boului* features on Josephine Maps as *Piatra Bouluj* since the eighteenth century.



Fig. 1. Ampoița-Piatra Boului – view from the west



Fig. 2. Ampoița-Piatra Boului – the arrow indicates the spot where the hoard was found

Unfortunately, one cannot establish if the three artefacts were the only objects buried during prehistory, which is a less likely possibility, or if they are just the remains of a deposition selected by the person who initially discovered it. What is certain is that they were part of a hoard whose structure one can no longer determine. If they are the only bronze items, then the discovery indicates a small hoard. Nevertheless, since no Bronze Age habitation has been yet identified on *Piatra Boului*, one can estimate that the items were buried by the feet of the rock slope intentionally and are not the traces of habitational activities.

Due to its extremely fragmentary state of preservation, the type of the lance head cannot be identified. Also, the two fragmentarily preserved lumps, due to their common shape, cannot be the object of further discussions. These drawbacks prevent an adequate dating of the discovery. Nevertheless, the type of association between objects (lance head and metal lumps) reminds one of the series of depositions typical for Transylvania during the Late Bronze Age (Br. D-Ha. A). The settlement of Ampoița and its surroundings are known through discoveries dating to the Bronze Age (Wietenberg Culture)³, but none of them can be dated to the Late Bronze Age.

One needs to mention the primary material of which the two lumps are made of, weighing in total 533.647 g of metal. Even in the absence of metallographic analyses, one can estimate, based on the metal's weight and color, that the metal in question includes a high proportion of copper. This makes me return to the terminological issue of naming, correctly, the depositions that include large quantities of copper lumps⁴ – like the hoard under discussion – as *bronze and copper hoards*⁵.

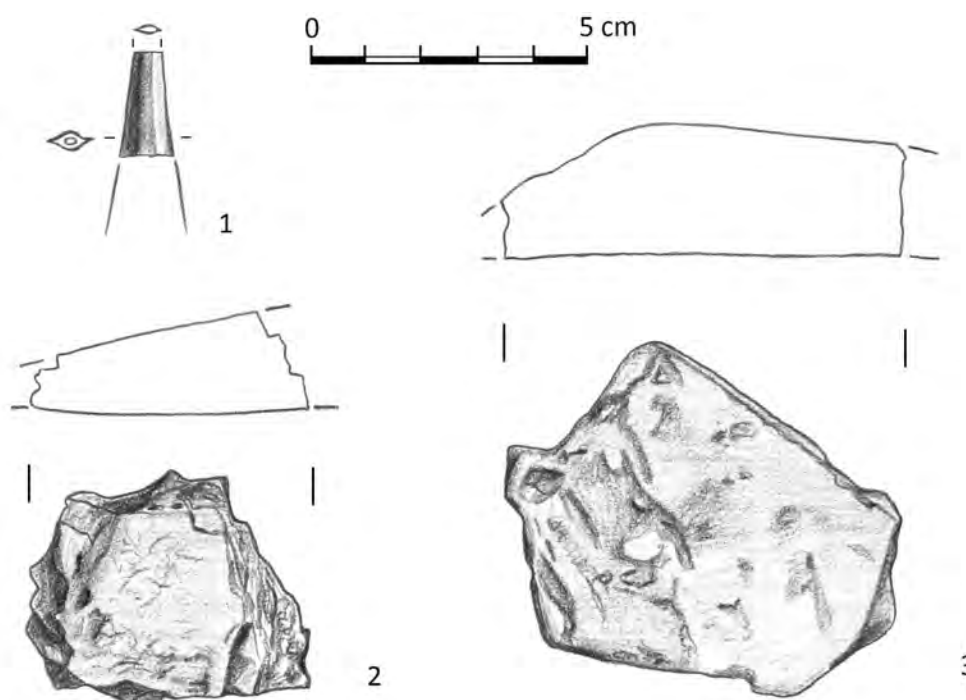


Fig. 3. The hoard in Ampoița-Piatra Boului (drawing)

³ Several spots with Wietenberg discoveries are known inside the borders of the municipality of Meteș: in Ampoița-*La Pietre* (Horedt 1960, 110; Ciugudean 1991, 82; Andrițoiu 1992, 119, no. 3; Boroffka 1994, 15; RepArhAlba 1995, 48, no. 10/1; Ciugudean *et al.* 1999; Sobaru, Andrei 2005, 36, pl. VII/3–10), Ampoița-Colțul Caprei (Ciugudean 1991, 82; RepArhAlba 1995, 49, no. 10/6), Ampoița-Colții Romanesei (Ciugudean 1991, 82), Ampoița-Dealul Doștiorului (Andrițoiu 1992, 14, 32–33, 119, no. 3; RepArhAlba 1995, 49, no. 10/5), Meteș-La Peșteră (RepArhAlba 1995, 126, no. 117/1), Meteș-Vârful Băii (Muntean 2008, 7–9, pl. 1), Presaca Ampoiului-Șura de Piatră (RepArhAlba 1995, 149, no. 145/2), and Galați-Bulbuce (Lipovan 1982, 82, pl. 2/27 – who wrongly attributes the discovery to the Coțofeni Culture; Muntean 2008, 8–9). Other Wietenberg discoveries are known from Ampoiului Basin, before its exiting into Mureșului Gorge, on the right side, in Tăuți (RepArhAlba 1995, 187, no. 189/1) and Șard-Căsăluică (RepArhAlba 1995, 179, no. 177/2). A higher concentration of Wietenberg discoveries can only be identified in the periphery of Ampoiului Basin, to the north, inside the settlement of Țelna, known in the spots of *Gugu*, *Rupturi*, *Pe Coastă*, *La Copaci*, *Gruicul Morii*, *Pe Râpe*, *Litău*, but also others in the same village (RepArhAlba 1995, 193–195).

⁴ M. Rusu drew attention, several decades ago, on the fact that the great majority of lumps from Transylvanian hoards are made of copper and very few of bronze, with 2–13 % antimony. The observation is strengthened by the older analyses performed on similar items from Hungary and Transylvania (Rusu 1972, 91).

⁵ Popa 2010, 329 and *passim*, with clear examples from Late Bronze Age hoards.



Fig. 4. Lumps from the hoard in Ampoița-Piatra Boului (photo)

There are rather few discoveries of bronze items dated to the end of the Bronze Age known in Ampoiului Valley (that extends over ca. 50 km). Two certain bronze hoards were found upstream, in Zlatna; one was discovered in 1869 (Zlatna I)⁶, and can only be dated with difficulty, while the second was unearthed in 1958 in *Făguleț* (Zlatna III), dated to Ha A1⁷. One can also add two isolated celts, among which one is of the Transylvanian type⁸. Several bronzes were found in the area where the river exists into Mureșului Gorge, as isolated finds from Șard⁹.

A separate issue in the present discussion refers to the so-called “Zlatna II” hoard that was discovered in 1907. It consists of three celts, two with decoration and one with concave socket, two axes with winged upper parts, and two lance heads (Fig. 5/1–7), dated to the Hallstatt A2 period and attributed to the Jupalnic-Turia series. In the same year, the same person sold another decorated celt, a lance head, a spade head, a sword tip, and an axe with shaft for an extended handle (Fig. 5/8–11); it is possible that the items belong to the same discovery¹⁰. The entire hoard has been published in the corpus of prehistoric bronzes from Romania signed by M. Petrescu-Dîmbovița¹¹; the different items were also the focus of special analyses, both before and after the publication of the above mentioned corpus¹².

M. Roska, who first mentioned its existence, states that the finding place was Zlatna, *Gura ampelizni*¹³. Mircea Rusu draw attention to a possible confusion between a toponym that did not

⁶ Könyöki 1890, 95–96; Hampel 1892, 172; Roska 1942, 309; Petrescu-Dîmbovița 1977, 152.

⁷ Rusu 1963, 208, no. 70; Berciu, Popa 1965; Alexandrescu 1966, 134–135, 175–176, Taf. XXIII/2; Berciu, Popa 1967, 73–81, fig. 1/1–9; 2/11–15; Petrescu-Dîmbovița 1977, 119, pl. 278; Petrescu-Dîmbovița 1978, 135–136, no. 188, Taf. 211/A; Bader 1983, 23–25, Taf. 2/10; Bader 1991, 86, 98, Taf. 24/242.

⁸ Rusu 1966, 38, no. 154; RepArhAlba 1995, 211, no. 215/1.

⁹ Roska 1942, 241, no. 20, fig. 294; RepArhAlba 1995, 179, no. 177/3.

¹⁰ The inclusion among these artifacts of an axe that Al. Vulpe included among those of Pătulele type, attributed in Transylvania to the early stages of the Wietenberg Culture, before 2000 B.C. (Vulpe 1970, 38–39, Taf. 7/97; Ailincăi 2009, 52–54, fig. 2/33) raises doubts on the homogeneity of origin of the lot that were recovered later (see also *infra*). I nevertheless believe that the attribution of the axe to the Pătulele type is problematic.

¹¹ Petrescu-Dîmbovița 1977, 125, pl. 293/11–12; 294/1–9; Petrescu-Dîmbovița 1978, 139, no. 207, Taf. 222/A.

¹² The axes in the hoard, of the Uriu, Aleșd, and Pătulele types, are illustrated and discussed by Al. Vulpe (Vulpe 1970, 38–39, Taf. 7/97; Vulpe 1975, 73, 75, Taf. 42/411, 413), while a sword fragment is analyzed by T. Bader (Bader 1991, 166–167, Taf. 56/404).

¹³ Roska 1942, 309, no. 6.

exist in Zlatna and another in Gura Ampoiței (Ampoița), the latter located much farther upstream from Zlatna¹⁴. Despite the fact that the error was identified, the hoard continued to be repertoried as having been found in Zlatna, under the name of “Zlatna II”. Since the toponym of *Gura ampeliznii* is unknown in Zlatna, I believe that Gura Ampoiței must be considered the place of discovery of this hoard, inside the borders of the present-day settlement of Ampoița, more exactly somewhere in the area where river Ampoița flows into the Ampoi. Therefore, I believe we should naturally abandon the erroneous name of “Zlatna II”. Since we can currently mention two hoards from Ampoița, I propose the names of “Ampoița I” for the deposition discovered in 1907 and “Ampoița II” for the one found in 2007.



Fig. 5. The deposition of bronze items Ampoița I (so-called “Zlatna II”), discovered in 1907 (1–7) and items that were probably part of the same lot (8–11) (photo National Museum Budapest)

The two hoards, discovered a century apart, are located at a distance of ca. 2.5 km in a straight line (Fig. 6). Though no traces of habitation during the Late Bronze Age (Br. D-Ha A) are known in the middle and upper basin of river Ampoi¹⁵, the accumulation of metal included in the above mentioned hoards from Ampoița and Zlatna proves either the actual presence of people during the Late Bronze Age period, in connection to metallurgical activities, or the occasional transit of people caused by the hiding or deposition of bronzes. The presence of rough metal pieces (lumps) in both hoards (Ampoița II (Pl. 2) and Zlatna III)¹⁶ rather supports the first hypothesis above¹⁷. The new data provided by this small hoard in Ampoița (Ampoița II) allows us to note that, at the present state of research, the distribution of hoards is much more balanced throughout Ampoiului Valley, from the river’s upper until its lower course. Besides, the area is already known through its rich copper resources, most probably

¹⁴ Petrescu-Dîmbovița 1977, 125.

¹⁵ During 2003 I was able to see in the museum collection of the Culture House in Zlatna several pottery fragments typical to the Late Bronze Age; the items have been donated by Eng. Ion T. Lipovan. Despite the fact that most of the collection consists of objects from the area of Ampoiului Valley, one cannot exclude the possibility that the items under discussion were found somewhere else.

¹⁶ Berciu, Popa 1967, 77, 80; Petrescu-Dîmbovița 1977, 119, pl. 278/25.

¹⁷ I. Berciu and Al. Popa supported the existence of a bronze processing workshop in Zlatna (Berciu, Popa 1967, 77, 80).

exploited since prehistory. Moreover, there is also the so-called “Golden Corridor”¹⁸. Unfortunately, there are few discoveries of metals in this area, far from the attested celebrity provided by the existence of non-ferrous ores.



Fig. 6. Location of the two hoards of bronze objects in Ampoita

Cristian Ioan Popa

“1 Decembrie 1918” University Alba Iulia

Alba Iulia, ROU

cristi72popa@yahoo.com

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¹⁸ Ciugudean 2012, 223.

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Prehistoric and Second-fourth-century Discoveries on the Present-day Territory of Aradu Nou District, in the City of Arad*

Victor Sava, Dan Matei

Abstract: Over the recent years, specialists have started to pay academic attention and to publish the archaeological collection of the Museum Arad. The present initiative is part of the effort to introduce a series of unpublished artefacts into the academic circuit. Gornea-Kalakača-type pottery and vessels dated to the second-fourth centuries discovered during the restricted excavation performed by E. Dörner and E. Ivanoff are the main focus of the present article. Since on-site documentation does not include data on domestic discoveries, the structure of the settlement, or daily life there, we have attempted to supplement such deficiencies through a coherent geographical and chronological presentation of the micro-area. We have thus collected all prehistoric discoveries and all finds dated to the second-fourth centuries in the area around the site that coincides with the present-day territory of the Aradu Nou District, in the administrative area of the city of Arad.

Keywords: unpublished pottery, prehistory, 2nd–4th centuries, Aradu Nou District (Arad City), Lower Mureş.

Introduction

Since knowledge on the two chronological sequences mentioned in the title above in the county of Arad remains imperfect, all new contributions to the enrichment and valorization of archaeological remains or complexes can only be helpful in the as accurate as possible reconstruction of archaeological landscape or past living in the Lower Valley of River Mureş.

The rich archaeological depository of the Museum Arad includes numerous archaeological traces that plentifully attest to the good archaeological reflection of the two above mentioned time intervals. Among these archaeological discoveries we will focus on those made in the area of Aradul Nou District, city of Arad, Arad County. Our direct contact with previously unpublished archaeological remains in the institution's storage rooms discovered in the area of this district was the starting point of the present initiative, also supported by our modest archaeological knowledge on the territory of this district.

A large part of the artefacts under discussion was brought to light during archaeological excavations performed by E. Dörner and E. Ivanoff in 1976. Research was then performed inside the Orthodox and Catholic cemetery located in the south-western part of the district. In order that these discoveries do not appear out of context, we chose to deal with all similar artefacts uncovered within the borders of this district.

Geographical context

The city of Arad is located in the middle of the Western Plain, *i.e.* its subdivision, The Plain of Arad. The latter, bordered by rivers Mureş and Crişul Alb, is genetically a quaternary delta of river Mureş, formed at its exiting the Şoimoş – Lipova Gore. The plain becomes lower in altitude towards the north. Its central part, inside the perimeter marked by the settlements of Socodor, Sântana, Sâmbăteni, Arad, and Curtici is relatively high and horizontal, to the west, while an area of high plain, with a tabular outlook, follows after a low area with marsh-formation tendency¹. The density of the hydrographic network in the area of Arad is around the quota of 0.41 km/km². As for the quantity of the coefficient, this represents an average between the abundance of the hydrographic network and its absence. The

* English translation: Ana M. Gruia.

¹ Posea 1997, 375.

presence of water courses on the surface is also compensated by the rich flow of subterranean waters, located on two thirds of the surface of The Plain of Arad, at a depth of less than 3 meters².

An area's geographical context is under constant transformation: "thus, through the transformation of the natural plain area in agricultural lands, the primary biocenoses and silvosteppe and forest habitats were profoundly transformed. Industrialization and the development of settlements and of the transportation network led to the almost complete destruction of certain natural conditions"³. In this sense, the association of present-day geographical factors to those during Prehistory and Antiquity would be a grave error. The process of anthropization started in 1744 in the areas north of River Mureș, with the channeling and drying of the numerous marshes from the low plain. The operation was only completed during the Communist Period, in 1960–1970⁴. István Ferenczi presents a possible image of the area: "for months on end, a large pond used to stretch from the present-day city of Mukacevo (in Subcarpathian Ukraine) until the current capital of Yugoslavia, not only along the Tisza, but also on the lower course of all its Carpathian effluents. The waters only returned to the riverbeds by the middle of the dry summers, leaving behind, for the rest of the year, extensive marshes"⁵.

As geographical location, the site "Aradu Nou – Cimitirul Ortodox și Catolic" (Orthodox and Catholic Cemetery) is placed on the bank of a former branch of River Mureș. The terrace starts outside the city of Arad, from the south-eastern side, and continues towards the north-west until the intersection of the former branch with the present-day river bed of the Mureș. This former river bed is still depicted on the 1751 and 1860 maps of Arad. The site selection was inspired since the spot is one of the highest in the area and thus had the advantage of providing good visibility and shelter from less violent floods. The site was identified during field research performed by E. D. Pădureanu and D. Matei, and later on by V. Sava, but one cannot establish to what degree it was destroyed by the modern cemetery.

History of research

An archaeological test trench was performed inside the present-day "Orthodox and Catholic Cemetery" by archaeologist from Arad E. Dörner and E. Ivanoff, between September 22nd and November 11th 1976. One must state from the very beginning that if field documentation existed, it has been lost, and the only data, extremely lacunary, that we could access was that in the Inventory Register of the Ancient History and Archaeology Depository of the Museum Complex in Arad and some notes that were placed together with the archaeological material. Through the consultation of these sources we were able to establish that five test trenches were performed, but no data is available on their size, horizontal and vertical stratigraphy, and the possible identification of archaeological complexes.

Test trench A was performed on the land of the Orthodox cemetery, outside the concrete fence, by E. Dörner together with pupils from High School No. 3.

Test trench B, excavated by the same E. Dörner and the same pupils, was performed on the land of the Orthodox cemetery, outside the concrete fence and probably near test trench A.

Test trench C was also located inside the perimeter of the Orthodox cemetery, towards the former northern river bed towards Constituției Street, by E. Ivanoff with the help of pupils from High School No. 4.

The fourth test trench, labeled I, was traced in the area of the Catholic cemetery, 30 m towards the Orthodox cemetery.

Test trench II was also traced inside the perimeter of the Catholic cemetery; E. Dörner mentioned the fact that it was located on a so-called "rampart", which is in fact the first terrace of the former river bed of the Mureș. These latter trenches, I and II, were excavated by E. Dörner together with the pupils of one of the high schools mentioned above.

Besides this excavation, we also have data on a series on researches performed by the same E. Dörner in the garden of the former C.A.P. (Cooperativa Agricolă de Producție – Agricultural Production

² Ardelean 1978, 22.

³ Berindei, Măhăra 1971, 33.

⁴ Posea 1997, 79.

⁵ Ferenczi 1993, 44.

Cooperative) in the district of Aradu Nou during 1970. He discovered pottery fragments from the end of the Copper Age⁶.

In 1992, by researching the site of “Bufniț”, P. Hügel has identified artefacts dated to various periods⁷.

A. Mătiuț brought to our attention other discoveries made between 2007 and 2009. Mătiuț, collaborator of the Museum Complex in Arad, has donated several pottery fragments that he found in the river bed of the Mureș, in the area of “Bufniț.”

Vinča C-type discoveries (Pl. 3/2)

In 2007 A. Mătiuț donated to the Museum Complex in Arad pottery fragments dated to various periods; the donated artefacts were recovered from Mureșului Valley, near the spot called “Bufniț”. Among these fragments, one is of the Vinča C-type (Pl. 3/2), fired in a reduced atmosphere, black in color, polished, with inclusions of sand grains in the fabric. Taking into consideration the fact that a single fragment that belongs to this chronological horizon was donated, one cannot formulate hypotheses on the type of site or on other characteristics of this discovery, so we will only mention some analogies.

According to F. Drașovean’s typology, the fragment discovered in “Bufniț” belongs to type A III b⁸ and was once part of a trunk-shaped deep bowl, with curved walls and perforated handles placed under the rim⁹. According to the discoveries in Hodoni, Sântandrei, Parța I, Parța II, and Zorlețu Mare III, this type of bowl is typical to Northern Banat¹⁰. In this sense, bowls similar in shape and decoration to the one in Aradu Nou “Bufniț” were discovered in Hodoni, pit 21¹¹ (Vinča C layer), dwelling 4¹² and dwelling 5¹³ (Tisa layer) and in Sântandrei¹⁴.

Discoveries from the Final Neolithic made in the Lower Mureș Valley and in Crișul Alb Valley can be attributed to several types of finds. The northern area of Banat, until Vingăi Plain, is typical to Vinča-type pottery, despite the fact that, over time, pottery in this region was attributed to the Tisa type¹⁵. Fl. Drașovean has proven that these Tisa pottery elements were borrowed by Vinča C pottery from the Tisa fund; besides, it has been also noted that elements typical to pottery from Banat and Szakálhát were also taken over¹⁶. In a recent study on the pottery from Uivar, B. Dammers called this type of pottery “Tisoid Vinča”¹⁷. Tisa-type pottery can be found in the area delimited by the Vinga Plain, Crișul Alb Valley, Zărand Mountains, and Tisa Valley. Turdaș and Foeni-type pottery can be found in this chronological level in the western area of the present study (Mureș Valley between Săvârșin and Deva).

Starting from the repertory of discoveries, one can note that the Lower Mureș Valley belongs, from the perspective of pottery style, to the Tisa Plain, even if before the spread of the Tisa-type pottery, phenomena in the two areas are identical. Even since 1979, G. Lazarovici mentioned the existence of Szakálhát-type pottery north of the Mureș, on the basis of discoveries made in Vârșand¹⁸; furthermore, the influence of Vinča pottery on the linear elements created the Bucovăț-type pottery in Banat, a regional denomination for the Szakálhát-type pottery¹⁹.

Among the most important Szakálhát sites in Mureș Valley one can include the one in Arad “Grădiște”. G. Lazarovici also integrated the site in Dud “Valea Lugoșului” in this chronological horizon,

⁶ Roman 1976a, 31, Pl. 3/1–2; Roman, Némethi 1978, 12, Pl. 4/9–10; Luca 2006, 25, Pt. 7/2a; Luca 2010, 22, Pt. 7/2a.

⁷ Barbu *et al.* 1999, 37, s.v.: Pt. 9 (f) [I.H. Crișan, P. Hügel].

⁸ Drașovean 1996, Fig. 2.

⁹ Drașovean 1996, 47.

¹⁰ Drașovean 1996, 49; Drașovean *et al.* 1996, 17.

¹¹ Drașovean 1996, Pl. LX/6; Drașovean *et al.* 1996, Pl. XXXIX/6.

¹² Drașovean *et al.* 1996, Pl. XLIX/1.

¹³ Drașovean *et al.* 1996, Pl. LII/1.

¹⁴ Drașovean 1996, Pl. LXXVII/7.

¹⁵ Lazarovici 1979, 150–152; Goldman 1984, 31, 32.

¹⁶ Drașovean 1996, 75–76.

¹⁷ Dammers 2009, 238–239.

¹⁸ Lazarovici 1979, 156.

¹⁹ Lazarovici 1979, 152–155.

while the site in Bodrogu Nou “Către Vale”²⁰ seems to date back to the same Szakálhát horizon. In the Crișul Alb Valley, a significant *tell* is the one in Vârșand “Viezuriște,” where a Szakálhát deposition was found besides a Tisa deposition²¹.

The subsequent horizon, i.e. corresponding to Tisa-type pottery, considered parallel to Vinča B2-C (Lazarovici)/Vinča C1 (Schier), consists in discoveries from Chesinț “Ocob”²², Čoka “Kremenyák”²³, Hódmezővásárhely “Gorzsa”²⁴, Lipova “Hodaie”²⁵, Macea “Topila”²⁶, Seleuș²⁷, Szeged “Lebő Halom”²⁸, and Șiria “Gropile Nemțești”²⁹. In the Crișul Alb Valley this horizon was found in Dud “Valea Lugojuului”³⁰, Seleuș³¹ and Vârșand “Viezuriște”³².

As previously indicated, in the Lower Mureș area, one finds not only Tisa-type pottery, but also Vinča C pottery, naturally in lesser numbers. Among such sites, two are located north of the Mureș (Arad, “Aradul Nou-Trei Insule-Bufniț,” and Comlăuș), but such pottery fragments were not discovered during archaeological researches, therefore one can not formulate hypotheses on the site’s character and clear chronology; the other sites containing Vinča C pottery are those in Cornești “Ferma Reiter,” Cornești “Iugosloveni,” and Hodoni “Picioaroane”. All three sites are located on the southern border of the area with Tisa discoveries, implicitly on the northern border of the area with Vinča discoveries.

Tiszapolgár-type discoveries (Pl. 3/3–4)

Tiszapolgár discoveries in the area called “Bufniț” have been mentioned in time in the specialized literature³³. Thus, among the artefacts recovered by P. Hügel³⁴ during field researches performed in 1992 one can also find two “beak-like” handles (Pl. 3/3–4), typical to Tiszapolgár pottery. The items are fired in an oxidizing atmosphere, are brick-red and reddish-brick in color, made of a fabric with inclusions of silt and sand.

In the area of the city of Arad, besides this Tiszapolgár site, one finds mentions of a series of other discoveries part of this chronological horizon. In Horia “Satini”, besides pottery dated to the Middle Bronze Age, the second-fourth centuries A.D. and the eleventh-thirteenth centuries A.D., specialists have uncovered in 1970 several Tiszapolgár pottery fragments³⁵. One year later, in 1971, M. Rusu mentioned the site in Arad “Gai”³⁶, and the piece of information was taken over by other authors³⁷. Such data was confirmed when the Miloi Collection was donated to the Museum Complex in Arad. The lot included discoveries of various types: Mureș, BD, HA1, Basarabi, Dacian, second-fourth centuries A.D., and eleventh-thirteenth centuries A.D. In Cicir “Hotar” E. D. Pădureanu discovered in 1972 several pottery fragments decorated with “beak-like prominences”, flint flakes and cores³⁸, while in Șofronea “Hotarul Satului” N. Kugelman discovered in 1973 several Tiszapolgár pottery fragments³⁹. In the same year, E. D. Pădureanu identified Tiszapolgár “archaeological materials” in Arad “Uzina de apă”⁴⁰. In

²⁰ Luca 1985, 286.

²¹ Popescu 1956.

²² Lazarovici 1979, 190, Pt. 21.

²³ Banner 1960.

²⁴ Gazdapusztai 1963; Horváth 1982; Horváth 1986; Horváth 1987.

²⁵ Boroneanț, Demșa 1974; Lazarovici 1971, 29–30, Pl. XI–XIII; Lazarovici 1974, 61–62; Lazarovici 1975, Pl. 16/8–10; Moga, Radu 1977, 238, Pl. VII; Lazarovici 1979, 200, Pt. 48; Luca 1986; Luca 1987; Luca 2008, 26.

²⁶ Comșa 1971, 17–18, Fig. 1, Pt. 21; Roman 1976a, 31, Pl. 2/1–4; Roman, Némethi 1978, 12, Pl. 7/9–13.

²⁷ Dumitrașcu, Ignat 1987.

²⁸ Korek 1958.

²⁹ Luca 1985, 458–459.

³⁰ Pădureanu 1973, 400–401, Fig. 4; Pădureanu 1985, 33, Pt. 33.

³¹ Dumitrașcu, Ignat 1987.

³² Popescu 1956, 51–65.

³³ Pădureanu 1985, 28–29; Barbu *et al.* 1999, 37, s.v.: Pt. 9 (f) [I.H. Crișan, P. Hügel]; Iercoșan 2002, 101.

³⁴ We would like to express our gratitude to Dr. Peter Hügel for his kindness in offering for research these archaeological discoveries.

³⁵ Pădureanu 1985, 34–35, Pt. XVII/A/a; Barbu *et al.* 1999, 76, s.v.: Pt. 1 [E. Chirilă, P. Hügel]; Iercoșan 2002, 104, Pt. 13.

³⁶ Rusu 1971, 80.

³⁷ Lazarovici 1983, 13, Pt. 3; Barbu *et al.* 1999, 35, s.v.: Pt. 6 (a) [I.H. Crișan, P. Hügel]; Iercoșan 2002, 26, Pt. 3.

³⁸ Pădureanu 1973, 400; Barbu *et al.* 1999, 53, s.v.: Pt. 3 [I.H. Crișan, E. D. Pădureanu, P. Hügel]; Iercoșan 2002, 103–104, Pt. 10.

³⁹ Iercoșan 2002, 89, Pt. 65, Pl. 120/12–15; 121/1–8.

⁴⁰ Pădureanu 1985, 29, Pt. I/4/a; Barbu *et al.* 1999, 37, s.v.: Pt. 8(g) [I.H. Crișan, P. Hügel]; Iercoșan 2002, 101, Pt. 1/b.

Arad “Grădiște”, in the yard of the former “Company for Municipal Roads and Bridges in Arad”, E. D. Pădureanu discovered Tiszapolgár pottery fragments in 1978⁴¹. Another Tiszapolgár site near Arad is located in Bodrogul Nou “La Hodaie-Către vale”, identified by S. A. Luca and E. D. Pădureanu in 1983⁴².

Baden-type discoveries (Pl. 4/1–8)

The pottery fragments under discussion were discovered in 1970 by E. Dörner in the yard of the C.A.P. in the district of Aradu Nou. Just two of these fragments have been published in the monograph work dedicated to the Baden Culture in Romania⁴³, and the site was mentioned in several works⁴⁴. The pottery discovered there seems to have been part of a single pot; the fragments were fired in a reducing atmosphere, the firing is of mediocre quality, the color varies from brown to brick-red, and the fabric contains inclusions of sand grains.

Baden-type discoveries in the Western Plain of Romania are part of a very poorly researched chronological stage, mainly due to the fact that the archaeological material has not been published⁴⁵. The representative sites are those in the northern part of the above mentioned plain, such as those in Pișcolt “Nisipărie” (Satu Mare County)⁴⁶, the sites in Ciumești (Satu Mare County)⁴⁷, Girișul de Criș “Râturi” (Bihor County)⁴⁸, and Unimăt “Dâlboci” (Satu Mare County)⁴⁹.

The settlement in Arad “Aradu Nou – Grădina C.A.P.” is located on the northern border of Banat, an area that includes a series of discoveries made over time. Several Baden-Culture artefacts were revealed in 1991 during the excavation of a septic tank in the garden of house no. 5, in Tiberiu St. The presence of certain shapes such as the bowl with two partitions, but also the lack of handles with notched ends and of handles with disk-shaped heads typical to the Nevidzan stage support the fact that the site in Arad “Strada Tiberiu, nr. 5” (Tiberiu St., no. 5) is part of the Červený Hrádok stage⁵⁰. Still inside the perimeter of the city of Arad, E. Dörner discovered during on-surface researches a bowl fragment typical to the Cernavodă III-Boleráz horizon⁵¹. Despite the fact that the exact place of discovery was not mentioned (the only mention made is “the district of Gai”), one can presume that the site in question was “Gai I/Nisipărie.” In 2008, E. D. Pădureanu donated to the Museum Complex in Arad several Baden-type pottery fragments discovered on the same spot (“Gai I/Nisipărie”)⁵² that belong to the Červený Hrádok stage. The pottery material in Sânpetru German “Malul Înalt”⁵³ belongs to an early chronological horizon, probably Cernavodă III-Boleráz or “another, even more ancient typological unit (maybe the Herculană-Cheile Turzii horizon)”⁵⁴. The site in Bodrogul Nou “Pădure”⁵⁵, also located at a close distance from the city of Arad, was discovered in 1966 by M. Gyula. This is prob-

⁴¹ Pădureanu 1985, 28, Pt. I/1/B/b; Barbu *et al.* 1999, 36, s.v.: Pt. 7(c) [I.H. Crișan, P. Hügel]; Iercoșan 2002, 101, Pt. 1/a.

⁴² Pădureanu 1985, 30, Pt. VI/c; Luca 1985, Fig. 3/1, 3, 5, 7, 13; 4/9–10, 17; Barbu *et al.* 1999, 45, s.v.: Pt. 4 [M. Bărbulescu, P. Hügel]; Iercoșan 2002, 30–31, Pt. 9.

⁴³ Roman, Némethi 1978, pl. 4/9–10.

⁴⁴ Roman 1976a, 31; Roman, Némethi 1978, 12; Luca 2006, 25, Pt. 7/2a; Sava, Pădureanu 2009, 34; Luca 2010, 22, Pt. 7/2a.

⁴⁵ For the county of Arad this is an obvious state of the facts: two of the most important and well-researched sites, those in Sâmpetru German – “Fântâna Vacilor” and Cladova – “Dealul Carierei”, have remained unpublished.

⁴⁶ Roman 1976, 84; Roman, Némethi 1978, 14–15, 22, Pl. 21/13, 14; 23/6–11; 24–42; Némethi 1979, 527, 529, 534; Némethi 1996, 89.

⁴⁷ For “Bostănărie” see: Zirra 1968, footnote 2; Roman, Némethi 1978, 15, Pl. 11/4–6; for “Grajdurile C.A.P.” see: Zirra 1968, 1, 3, footnotes 2, 4; Kacsó 1969, 54; Roman, Némethi 1978, 15–17, Pl. 11/7–16; 12–14; 15/1; 16/1a–b; Némethi 1999, 50; for “Pășunea Fântânii” see: Roman, Némethi 1978, 17, Pl. 10; 11/1–3; 19/4.

⁴⁸ Dumitrașcu 1967, 73–74; Dumitrașcu 1968, 257–264; Dumitrașcu, Tăutu 1968, 12; Dumitrașcu 1974, 36–37; Roman 1976, 51, 82; Roman, Némethi 1978, 13–14, 22, 23, Pl. 57/7–13; 58–59; 69/4–12; 70–71; 72/1–3, 5; Dumitrașcu 1986, 693; Crișan I. 1988, 341; Ciugudean 2000, 10, 72.

⁴⁹ Dumitrașcu 1969, 41–45; Roman 1976, 86; Roman, Némethi 1978, 18, 22, Pl. 60; 61; 64–68; 69/1–3; Kalmar 1983, 62; Némethi 1999, 17; Ciugudean 2000, 53, 84.

⁵⁰ Sava, Pădureanu 2009, 36.

⁵¹ Roman 1976a, 31, Pl. 1/6; Roman, Némethi 1978, 12, Pl. 3/1; Némethi 2001, 299.

⁵² The pottery fragments were part of the collection owned by lawyer Gh. Miloi, and after his death, a part of the collection ended up in the possession of E. D. Pădureanu.

⁵³ Roman, Némethi 1978, 12, Pl. 9/2–7; Kalmar, Oprinescu 1986, 200, 203; Barbu *et al.* 1999, 111, s.v.: Pt. 1 [E. Chirilă, P. Hügel]; Luca 2006, 230, Pt. 532/3a; Luca 2010, 231, Pt. 532/3a.

⁵⁴ Roman, Némethi 1978, 36.

⁵⁵ Roman 1976, 51, 80; Roman 1976a, 32, Pl. 4/5–9; Roman, Némethi 1978, 12, Pl. 4/1–5; Kalmar, Oprinescu 1986, 201; Barbu *et al.* 1999, 45, s.v.: Pt. 1(b) [M. Bărbulescu, P. Hügel]; Luca 2006, 44, Pt. 58/1b; Luca 2010, 43–44, Pt. 58/1b.

ably the closest chronological find to the one in Arad “Strada Tiberiu, nr. 5” thus to the end of the Červený Hrádok stage⁵⁶, despite the fact that one of the pottery fragments displays extremely archaic traits⁵⁷. Exact dating details of the site in Cicir “Balastieră”⁵⁸ are not available, while the site in Zădăreni “La Vii”⁵⁹ is only illustrated by two pottery fragments, thus all attempts to approach the chronology of these discoveries are doomed to fail. Over the years, the multi-strata settlement in Arad “Bufniț”⁶⁰ has been researched during several field research campaigns⁶¹. Besides the numerous Bronze Age and second-fourth-centuries A.D. discoveries, several Baden-pottery fragments were found; unfortunately, no further statements can be expressed on this pottery lot since we were unable to identify it in the storage areas of the Museum Complex in Arad. The final development stage of the Baden-type pottery is expressed by the abundant pottery material found in Sânpetru German “Fântâna Vacilor”⁶², Cladova “Dealul Carierei”⁶³, and Sântana “Cetatea Veche”⁶⁴.

Among all the above mentioned discoveries, just the settlements in Sânpetru German “Fântâna Vacilor,” Sântana “Cetatea Veche,” and Cladova “Dealul Carierei” have been researched through systematic archaeological excavations; the others were identified during on-surface research or were discoveries made by amateurs. The overview analysis of the entire Baden-type pottery on the present-day territory of Romania suffers from the lack of systematic research of the sites and the lack of publications presenting the sites researched so far⁶⁵.

Returning to the pottery discovered in the area of Aradu Nou District, P. Roman has attributed it to the Baden-type⁶⁶, and the piece of information was taken over in time by other authors⁶⁷. We must mention the fact that all pottery fragments belong to the type of common pottery, but their decoration does not display elements useful to their inclusions in any typology⁶⁸. Thus, in the absence of other clear elements, one cannot state with all certainty the characteristics of these discoveries.

Cornești-Crvenka-type discoveries (Pl. 4/9–11 – 8/1–12)

This type of pottery was discovered by P. Hügel during field researches in the area of “Bufniț.” Specialized literature mentions that several types of artefacts were recovered from the surface of this site, i.e. typical to Starčevo-Criș⁶⁹, Tiszapolgár, Cornești-Crvenka, and the second-fourth centuries A.D.⁷⁰ The type of firing of Cornești-Crvenka pottery fragments varies between oxidizing and reduction, the predominant colors are reddish brick-red and grey, while in most cases the fabric included sand grains. As for the finishing of the surfaces, most pottery fragments are smoothed, while a small part of them are polished.

One of the most frequent decorations consists of arches placed in rows (Pl. 5/6; 8/2–7, 12), in combination with other elements that “represent an almost Baroque style”⁷¹. Such examples can be found in Ciuta “Cornu Dealului”⁷², Cornești “Cornet”⁷³, Gornea “Pod Păzăriște”⁷⁴, Macea “Topila”⁷⁵,

⁵⁶ Roman, Némethi 1978, 41.

⁵⁷ Roman, Némethi 1978, Pl. 4/5.

⁵⁸ Pădurean 1973, 399; Pădurean 1985, 31; Barbu *et al.* 1999, 53, s.v.: Pt. 2 [I. H. Crișan, E. D. Pădureanu, P. Hügel].

⁵⁹ Roman 1976, 86; Roman 1976a, 32; Roman, Némethi 1978, 12, Pl. 4/11–12; Kalmar, Oprinescu 1986, 201; Luca 2006, 276, Pt. 663/1a; Luca 2010, 274, Pt. 663/1a.

⁶⁰ Barbu *et al.* 1999, 37, s.v.: Pt. 9 (f) [I. H. Crișan, P. Hügel]; Luca 2006, 25, Pt. 7/2c; Luca 2010, 23, Pt. 7/2c.

⁶¹ Roman, Némethi 1978, 12; field researches performed by E. D. Pădureanu (1970); P. Hurezan, P. Hügel (1992, 1998).

⁶² Dörner 1970, 455, Fig. 10/5; Roman 1976a, 32, Pl. 5/5–7; Roman, Némethi 1978, 12, Pl. 2/1–10, 3/6–20; Kalmar, Oprinescu 1986, 201, 203; Barbu *et al.* 1999, 111, s.v.: Pt. 2 [E. Chirilă, P. Hügel]; Luca 2006, 230, Pt. 532/3b; Luca 2010, 231, Pt. 532/3b.

⁶³ Boroneanț 1978, 141, Pl. 6/2; Boroneanț *et al.* 1983, 20; Barbu *et al.* 1999, 55, s.v.: Pt. 1 (b) [P. Hügel, G. P. Hurezan]; Ciugudean 2000, 68; Hügel *et al.* 2004, 97, 99.

⁶⁴ Gogăltan, Sava 2010, 28–29; Hügel *et al.* 2010; Gogăltan *et al.* 2012.

⁶⁵ Sava 2008, 60, Fig. I.

⁶⁶ Roman, Némethi 1978, 12.

⁶⁷ Sava 2008, 55, Pt. 3.

⁶⁸ Némethi 1987, 104; Crișan 1998, 6.

⁶⁹ To the present day we were unable to prove the existence of Starčevo-Criș Culture discoveries on this spot.

⁷⁰ Pădurean 1985, 28–29; Barbu *et al.* 1999, 37, s.v.: Pt. 9 (f) [I. H. Crișan, P. Hügel].

⁷¹ Gogăltan 1999, 55.

⁷² Gumă 1997, Pl. XXXIII/8, 10; XXXVI/6–7, 16, 19, 29, 31.

⁷³ Gumă 1997, Pl. XLII/8, 10, 12; XLIII.

⁷⁴ Gumă 1997, Pl. XXXIX/5, 8; XL/2.

⁷⁵ Sava 2009, Pl. XI/6.

Moldova Veche “Ostrov”⁷⁶, Socodor “Căvăjdia”⁷⁷ and Satu Mare⁷⁸, and all these sites belong to the Cornești-Crvenka Group⁷⁹. Hachured triangles (Pl. 5/4) can be found in the Cornești-Crvenka environment, in Socodor “Căvăjdia”⁸⁰, Ciuta “Cornu Dealului”⁸¹ and Moldova Veche “Ostrov”⁸². Pottery fragments with brush decoration (Pl. 7/2–13) can be found in a series of settlements part of the Cornești-Crvenka Group, such as those in Cicir “Spinul lui Stanca”⁸³, Socodor⁸⁴ and Sântana⁸⁵, those part of the Mureș Culture in Klárafalva “Hajdova”⁸⁶ and Pecica “Șanțul Mare”⁸⁷, those of the Vátya Culture in Baks – “Homokbánya”⁸⁸, and of the Otomani Culture in Vărșand “Movila dintre vii”⁸⁹. One of the frequent decorations consist of wide alveoli girdles placed under the rim (Pl. 4/10–11; 6/2–3, 5–6), widely employed in Ciuta “Cornu Dealului”⁹⁰ and Socodor “Căvăjdia”⁹¹. Thin girdles (Pl. 5/1, 2, 3, 6; 6/4; 8/10) can be found in Ciuta “Cornu – Dealului”⁹², Gornea “Pod Păzăriște”⁹³ and Socodor “Căvăjdia”⁹⁴.

Through the quoted analogies, one can state with all certainty that this type of pottery represented by the material from Arad “Bufniț” belongs chronologically to the Middle Bronze Age, type Cornești-Crvenka. Over time, a series of researchers have attempted to establish a certain cultural specificity for the Lower Mureș. Thus, I. Ordentlich⁹⁵, C. Kacsó⁹⁶ and T. Bader⁹⁷ believed that River Mureș was the southern border of Otomani-type pottery, while I. Bóna believed that it was the border of Gyulavarsánd pottery⁹⁸. T. Soroceanu states that the Mureș Valley, upstream from Aluniș, was the development area of the Mureș pottery⁹⁹. In 1999, Fl. Gogâltan believed that the Crișul Alb Valley was the border between Otomani and Cornești-Crvenka-type pottery groups¹⁰⁰, while northern Banat and the elevated plain of River Mureș was the distribution area of the Cornești-Crvenka pottery¹⁰¹.

Polemics in specialized literature on the so-called borders between cultures/types of pottery are, in our view, a distorted view of historic reality. We would thus like to mention that in the expression area of Cornești-Crvenka manifestations in the Mureș Valley one notes the development of sites in which Mureș-type pottery prevails, such as, among the most representative ones, Pecica “Șanțul Mare”¹⁰² and Arad “Sub Complexul Muzeal Arad”¹⁰³. In the Timiș Valley but also southwards, Cornești-Crvenka sites alternate with Balta Sărată sites¹⁰⁴.

⁷⁶ Gumă 1997, pl. XLIV/10.

⁷⁷ Popescu 1956, fig. 7/8; 8/7–8, 11; 11/9, 11, 13; 12/2–3, 10–11; 15/7; 16/8, 12–13; 22/9; 25/11; 26/1, 4, 11; 27/5; Gogâltan 1999, Fig. 2/2, 6; 7/2; 14/2.

⁷⁸ Gogâltan 2004, Pl. XI, 2.

⁷⁹ See the discussion of the entire issue in Gogâltan 2004.

⁸⁰ Popescu 1956, Fig. 9/8; 13/13; 11/7, 10; 16/7; 22/8; 34/6; Gogâltan 1999, Fig. 1/2, 4.

⁸¹ Gumă 1997, Pl. XXXVI/8; 18.

⁸² Gumă 1997, Pl. XLIV/16.

⁸³ Pădurean 1973, Fig. 3/48, 50–51, 54, 58–59, 62–63, 67–68, 70, 74–75.

⁸⁴ Popescu 1956, Fig. 7/3–4, 9–10, 15; 8/1–2, 12, 14; 12/12, 15, 18; 21/10, 13–14; 23/5–5, 8–9, 11; 35/12; Gogâltan 1999, Fig. 9.

⁸⁵ The material is unpublished and was found during field researches performed by V. Sava, F. Mărginean, and M. Mercea during 2007 or were stray finds identified by M. Mercea. The tell is located on the northern border (500 m outside the city) of the city of Sântana and the material is preserved in the collection of the Museum Complex in Arad.

⁸⁶ Fischl 1998, Pl. 21/10; 22/12, 15; 32/7; 33/1, 5; 43/3, 6; 45/8.

⁸⁷ Soroceanu 1991, Fig. 3/8.

⁸⁸ Fischl *et al.* 1999, Pl. 42/2, 4.

⁸⁹ Popescu 1956, Fig. 73/7, 9.

⁹⁰ Gumă 1997, Pl. XXXIII/1, 3, 5–6, 12, 16–17; XXXIV/8.

⁹¹ Popescu 1956, Fig. 7/2, 11, 13–14; 8/1–4; 11/5; 13/3–4, 8; 16/1, 3–4; 21/1; 24/1; 27/9–10; 29/1–2, 6; 31/3–5, 7; 35/12.

⁹² Gumă 1997, Pl. XXXIV/2–3; 3–4, 13/15.

⁹³ Gumă 1997, Pl. XXXVIII/1; XXXIX/4; XL/8–9.

⁹⁴ Popescu 1956, Fig. 7/12; 11/6; 13/5, 9; 21/2–3, 16; 24/2, 6.

⁹⁵ Ordentlich 1971, 32, Fig. 1.

⁹⁶ Kacsó 1972, 39.

⁹⁷ Bader 1978, 32.

⁹⁸ Bóna 1975, 123.

⁹⁹ Soroceanu 1991, Fig. 2.

¹⁰⁰ Gogâltan 1999, 56.

¹⁰¹ Gogâltan 1999, Fig. 15.

¹⁰² Soroceanu 1991, 20–95, Fig. 1–40.

¹⁰³ E. D. Pădureanu's donation. The artefacts were part of the Gh. Miloi Collection and are currently preserved in the storage rooms of the Archaeology and Ancient History Department of the Museum Complex in Arad.

¹⁰⁴ Gumă 1997, Fig. 5.

HA1-type discoveries (Pl. 8/13– 9/1–2)

Decorated pottery fragments were discovered in the bank of River Mureș, in the area of “Bufniț”, and donated by A. Mătiuț to the Museum Complex in Arad in 2007. They were thoroughly fired in an oxidizing atmosphere, are brick-red in color, and the fabric has inclusions of sand grains; as for the outer finish of the surface, the pottery is flattened (Pl. 8/13, 9/1) or polished (Pl. 9/2).

Among these pottery fragments, the most representative from the perspective of chronological framing is the one decorated with horizontal grooves and in the lower part with grooves forming a garland (Pl. 9/1). This fragment was most probably part of a bi-trunk-shaped pot, type IV.F according to G. Szabó's typology¹⁰⁵.

The shape of these bi-trunk pots originates in urns typical to period BD/HA1, that already display characteristic traits such as the bi-trunk-shaped body and decoration on the maximum extremity of the body¹⁰⁶. The earliest items are those in Biharkeresztes¹⁰⁷, Doboz¹⁰⁸, Hódmezővásárhely¹⁰⁹, Karaburma¹¹⁰ and Nagyhalász¹¹¹. Among the most recent, one can mention one item from Kalakača¹¹² (dated sometime during stage HB2-HB3), two items from Teleac, level III¹¹³ (associated by the authors who published the site to stage HB3-HC¹¹⁴), and Dej¹¹⁵, contemporary to level III in Teleac. The grooves forming garlands that decorate the bi-trunk-shaped pots, and not only, are widely encountered on pottery produced towards the end of the so-called Pre-Gáva Horizon (BD-HA1), in Cornuțel¹¹⁶, Jánosszállás¹¹⁷, Moldova Nouă “Cariera de banatite”¹¹⁸, Polgár¹¹⁹, Susani “Grămurada lui Ticu”¹²⁰, Timișoara “Fratelia”¹²¹ and Vladimirescu¹²².

As for the dating of these discoveries, one can state that the pottery fragments found in Arad “Bufniț” belong to stage HA1.

Gornea-Kalakača-type discoveries (Pl. 9/3–8; 10)

All artefacts to be described in the subsequent paragraphs were revealed during the 1976 test excavation performed by E. Dörner and E. Ivanoff, when the site in Arad “Aradu Nou – Cimitirul Ortodox și Catolic” was discovered.

The quality of the firing is in most cases good, though in few cases it is mediocre or poor. As for the type of firing, oxidizing firing predominates, but numerous fragments are fired in a reducing atmosphere. The first type has rendered the fragments orange, red, or brick-red in color, while the latter produced grey and black fragments. In most cases the fabric has inclusions of sand grains and is of the semi-fine category; sand was employed in the case of fine pottery, while sand grains for used in the making of coarse-pottery fragments. As for the pottery categories, semi-fine fabric was employed in the large majority of cases. As for the outer finish, one notes that certain fine and semi-fine fragments were polished, while flattening, in most cases of good quality, was employed for the other fragments.

Bowls are the most often encountered pottery shape in Romanian Banat during this chronological horizon¹²³. From this perspective, the site under discussion is similar to the rest of discoveries. Thus,

¹⁰⁵ Szabó 2002, Fig. 2, IV.F.

¹⁰⁶ Szabó 2002, 45, Fig. 2, IV.B.1.

¹⁰⁷ Szabó 2002, Pl. 134/1.

¹⁰⁸ Szabó 2002, Pl. 146/6.

¹⁰⁹ Szabó 2002, Fig. 26, IV.B.2.

¹¹⁰ Todorović 1977, grob 2, grob 3, grob 49, grob 109, grob 185, grob 226.

¹¹¹ Kemenczei 1984, Pl. CXXIX/9; Szabó 2002, Fig. 26, IV.B.2.

¹¹² Medović 1988, Fig. 295/10.

¹¹³ Vasiliev *et al.* 1991, Fig. 32/5, 7.

¹¹⁴ Vasiliev *et al.* 1991, 100.

¹¹⁵ Horedt 1964.

¹¹⁶ Gumă 1993, Pl. XIII/12.

¹¹⁷ Szabó 2002, Pl. 35/1–2.

¹¹⁸ Gumă 1993, Pl. XVII/3.

¹¹⁹ Szabó 2002, Pl. 70/2.

¹²⁰ Stratan, Vulpe 1977, Pl. 6/9, 94.

¹²¹ Gumă 1993, Pl. XVI/3.

¹²² Pădureanu 1985, Pl. VII/2.

¹²³ Gumă 1993, 200.

a large part of the fragments that could be determined were part of bowls with in-turned rim (Pl. 9/5, 8; 10/1, 3–4). Besides this type, one also finds an example of trunk-shaped bowl (Pl. 10/2). Another element typical to this horizon is the pot with straight neck and globular belly (Pl. 10/5–6).

As for the decoration, oblique grooves that start under the bowl's rim are predominant (Pl. 9/8; 10/1, 3–4). Bowls with in-turned rims can be easily combined with other decorative types, such as incisions places in a simple wave (Pl. 10/4), intersected by vertical, short incisions (Pl. 10/2), or parallel incisions combined with angular ones (Pl. 9/8). One also encounters knobs (Pl. 9/8; 10/11) and prominences (Pl. 10/5). Single fragments display the decoration consisting of alveoli girdles (Pl. 10/9), wide incisions (Pl. 10/10), parallel incisions (Pl. 10/6), and notched girdles (Pl. 10/5).

The type of pottery described above belongs to Gornea-Kalakača-type discoveries, typical to the Romanian Banat. Despite the fact that M. Gumă¹²⁴ briefly clarified the issues related to this type of pottery, there are insufficient articles dealing with the topic. Nevertheless, despite such drawbacks, one can identify pertinent analogies in a number of publications¹²⁵.

Bowls with in-turned rim and oblique grooves that start under the rim are among the most often encountered elements, with a significant role in dating¹²⁶. Another typical shape is that of pots with straight neck and globular belly decorated with parallel incisions¹²⁷. Pottery decorated with alveoli girdles can be found in the settlements of Kalakača¹²⁸, Satchinez¹²⁹, Gornea “Căunița de Sus”¹³⁰, Gornea “Țărmuri-Pod Păzăriște level I”¹³¹ usually placed under the rim. Bowls decorated with knobs placed under the rim are a common element for the sites in Satchinez¹³² and Kalakača, where they are found in large numbers¹³³. The bowl fragment illustrated on Pl. IV/10 has the closest analogies in the sites of Gornea “Căunița de Sus”¹³⁴ and Kalakača¹³⁵. The decoration with narrow grooves, placed horizontally, can be found in Giroc “Mescal”¹³⁶ and Kalakača¹³⁷. Incisions placed in a simple wave represent the characteristic trait of this cultural group. Such elements usually decorate bowls; items similar to the ones in Arad “Aradu Nou – Cimitirul Ortodox și Catolic” can also be found in Kalakača¹³⁸, Giroc¹³⁹, Satchinez¹⁴⁰ and Giroc “Mescal”¹⁴¹.

As previously indicated, the chronological identification of the discoveries analyzed here does not raise many questions. Taking into consideration available analogies, we can state with certainty that the pottery fragments discovered in Arad “Aradu Nou – Cimitirul Ortodox și Catolic” belong to the Gornea-Kalakača-type pottery.

Despite the fact that a small quantity of artefacts was available, we did not identify late elements such as small S-shapes, decorative elements made of spots or small circles¹⁴². The chronological interval attributed to this pottery category in the present-day territory of Banat is restricted to HB2 and it develops until the first part of HB3, maybe even towards its middle¹⁴³. Due to the fact that the pottery material discovered in Aradu Nou does not contain late elements, indicating a Basarabi influence, or elements typical to the Gáva horizon, it can be dated to the end of stage HB2-first part of stage HB3.

Despite the fact that the pottery in Arad “Aradu Nou – Cimitirul Ortodox și Catolic” was discovered in 1976, five years before M. Gumă brought into discussion for the first time the Bosut IIIa-type

¹²⁴ Gumă 1993, 194–203.

¹²⁵ Gumă 1993, 196, with the bibliography.

¹²⁶ Gumă 1993, 200.

¹²⁷ Medović 1988, Pl. 29/4; 66/6; 108/5.

¹²⁸ Medović 1988, Pl. 10/10; 13/8; 131/8;

Gumă 1993, Pl. XLIV/4.

¹³⁰ Gumă 1979, Pl. IV/1; Gumă 1993, Pl. LIII/6.

¹³¹ Gumă 1979, Pl. XV/1–2.

¹³² Gumă 1993, Pl. XL/4.

¹³³ Medović 1988, Pl. 8/1; 10/3–4; 11/9; 14/3; 28/4; 40/3–4; 58/1.

¹³⁴ Gumă 1979, Pl. X/1–3; Gumă 1993, Pl. LI/1, 5–6.

¹³⁵ Medović 1988, Pl. 80/3; 119/3; 165/1; 229/3.

¹³⁶ Gogâltan 1996, Pl. 11/9.

¹³⁷ Medović 1988, Pl. 119/9; 244/5; 264/7

¹³⁸ Medović 1988, Pl. 83/1.

¹³⁹ Gumă 1993, Pl. XLII/6.

¹⁴⁰ Gumă 1993, Pl. XLVII/4.

¹⁴¹ Gogâltan 1996, Pl. 7/4.

¹⁴² Gumă 1993, 200; Gogâltan 1996, 35.

¹⁴³ Gumă 1993, Fig. 10.

discoveries from Romanian Banat¹⁴⁴, it was placed in the storage rooms of the Museum Complex in Arad and nobody knew of its existence. Without going into details, one must mention that some of the discoveries made during the 1970s and 1980s are also part of this chronological horizon. Among other sites in the county of Arad that belong to the same type of pottery, we should mention the one in Felnac “Complexul Zootehnic”¹⁴⁵.

Finds dated to the second-fourth centuries¹⁴⁶

Though numerous and of expressed historical value, archaeological traces of the second-fourth centuries A.D. from the current territory of the city of Arad and the surrounding areas still await an in-depth, but also honest analysis. Until then, these traces¹⁴⁷ can only provide a very partial reconstruction of life during these three centuries, with the acknowledgement of enough speculations. The history of the macro-area of which the territory of the city of Arad is part of is also insufficiently known for these centuries¹⁴⁸, so that one must make reference to data available for the macro-area, but such an approach is not necessarily very useful.

For this reason, the few available data that we hereby include in the academic circuit must be perceived as such and, at some point in the future, as soon as possible we can hope, they must be absorbed in the above mentioned analysis and, if needed, reinterpreted.

None of the ceramic pots included in the catalogue has been preserved entirely; in most cases it is just the rim, neck (maybe part of the shoulder), and more or less of the lower part with the base that have been preserved. In this case, we believe that the mention of formal analogies in order to refine their chronology would be superfluous. Nevertheless, there are a few cases in which a larger part of the pots' profile has been preserved and those pots could be employed in the search of such analogies. Still, they were found in distinct topographic areas and thus can no longer be used as chronological indicators; significant samples are required for a settlement to be dated according to the typology of its pottery.

The small number of fragments recovered from each topographic spot with more than a single discovery excludes any type of statistics.

From a global perspective, the majority of pottery items in the repertory here is wheel-thrown, from a fabric that is usually fine (but sometimes with inclusions of large sand grains and even pebbles), fired in a reduction atmosphere, and thus displaying nuances of grey. Such fragments were recovered from all topographic spots. In some of them it was the only type of pottery discovered, but this is certainly just a hazard of recovery (such is the case of discoveries made in spots I, II, III, IV, and VI in the catalogue). Besides, all spots in which this type of pottery was the only one found, it is represented by a single pottery fragment or just a few, and this is suggestive for the above mentioned hazard element.

The range of wheel-thrown pottery shapes in the repertory can be encountered among Roman pottery. The other characteristics of this pottery, such as the type of fabric, the type of firing, and thus implicitly color, place it closer to Sarmatian pottery. It is thus an example of locally produced pottery according to Roman technology. This technology was not assimilated as for the quality and level of firing, as several of the fragments in our catalogue display anomalies produced during the process. Those anomalies were caused by the lack of constant temperature during the entire period of firing. As a consequence, the core of the fragments is darker than their surface; more rarely, it is of a lighter grey color. There are also frequent cases in which dark-brick-red spots are visible on the grey surface of the pots, and the core is also grey.

One of the fragments (spot VIII in the catalogue), belongs to a rejected pot that was fired excessively and thus had a vitrified aspect inside the braking section.

¹⁴⁴ Gumă 1981.

¹⁴⁵ Pădureanu 1993, 22, Pl. IV/4, 6; Sava 2011.

¹⁴⁶ We thank our colleague L. Grumeza, for discussions and literature references.

¹⁴⁷ Barbu *et al.* 1999, 33–42, s.v.: Pt. 1 (e, f), 2 (b, g, i, l, m, n), 4 (d), 5 (a), 6 (e), 7 (b, d, e, g, h), 8 (e, g), 9 (c, e, f), 11 (b, c, e, f), 14 [I. H. Crișan, P. Hügel].

¹⁴⁸ To this end Hügel, Barbu 1997, 566–568.

There are also pottery fragments made of a fabric similar to the ones described above but fired in an oxidizing atmosphere – that also display firing failures since some parts of the fragments are grey (VII.5 Inv. No. 16061; VIII.12).

The *terra sigillata* fragment (IV) was part of an imported pot, but one cannot identify the producer. For the time being, it must be considered a singular find¹⁴⁹.

As for the coarse wheel-thrown pottery, some of it was fired in an oxidizing atmosphere (VII.1.1; VII.4.4; VII.4.6; VII.4.8; VII.4 Inv. No. 16056; VII.5 Inv. No. 16061), another in a reducing atmosphere but still with some oxygen present (VII.1 Inv. No. 16003; VII.2; VII.4 Inv. No. 16044; VII.5 Inv. No. 16078; VII.5 Inv. No. 16079). In some cases the firing might have been in a reducing atmosphere, but with an oxidizing post-firing¹⁵⁰. The pottery fragments with inclusions of pebbles mainly belong to large size pots.

Catalogue of discoveries

I. Found during on-surface researches performed by museum employees on the bank of River Mureşului, island I (recording date in the Inventory Register) – 1956).

Jug neck fragment, wheel-thrown from a fabric with inclusions of fine sand; covered in black-grey engobe; unoxidizing firing; grey color, but one part of the fragment's surface turns to dark-brick-red; polished look; Ø max. neck = ca. 6 cm, H = 4.8 cm. Inv. No. 13067 (Pl. 11/4).

II. Found during on-surface researches performed by museum employees on the bank of River Mureşului, island III (recording date in the I. R. – 1956).

Fragmentarily preserved high bowl, a large part of the base broken, lacking most of the body and the entire upper part; rather visibly rolled; wheel-thrown from a fine fabric with inclusions of fine sand but also rather numerous large sand grains and even pebbles; unoxidizing firing; grey color; Ø base = ca. 9 cm, preserved H = ca. 15.5 cm. Inv. No. 13072 (Pl. 11/5).

III. Found during on-surface researches performed by museum employees on the bank of River Mureşului, island III and the surrounding area (recording date in the I. R. – 1956).

1. Fragment from a pot's rim and shoulder; wheel-thrown, made of fine fabric with inclusions of fine sand but also larger sand grains; grey-blackish engobe; unoxidizing firing; grey color of the outer surface, dark-brick-red color of the inner surface, grey-blackish core; decorated on the shoulder with one groove and one furrow; Ø mouth = 16 cm, rim thickness = 2.3 cm, H = 7.9 cm, L = 15 cm. Inv. No. 13079 (Pl. 11/22).

2. Fragment from a tureen, rolled, wheel-thrown from a fabric with inclusions of fine sand but also larger sand grains; grey-black engobe, poorly preserved; unoxidizing firing; grey color; Ø base = ca. 11 cm, H = 4.8 cm, L = 8.1 cm. Inv. No. 13081 (Pl. 11/7).

3. Fragment from the base and lower part of a tureen, rolled; wheel-thrown from a fine fabric with inclusions of fine sand but also larger sand grains; unoxidizing firing; grey color; Ø base = ca. 10 cm, H = 5 cm, L = 9.7 cm. Inv. No. 13082 (Pl. 11/6).

4. Fragment from a pot's rim and shoulder, nicked rim, rolled; wheel-thrown from fine fabric with inclusions of fine sand but also a few larger sand grains; unoxidizing firing; grey color; upper part of the shoulder decorated with a furrow; Ø rim = ca. 9 cm, H = 7.6 cm, L = 9.1 cm. Inv. No. 13084 (Pl. 11/1).

5. Fragment from the shoulder and upper body part of a jug; wheel-thrown from fine fabric with inclusions of fine sand but also larger sand grains; grey color; decorated through polishing; H = 8.6 cm, L = 7.4 cm. Inv. No. 13087 (Pl. 11/3).

To these one can add three large-size, atypical fragments (Inv. No. 13073, 13074, and 13078) from wheel-thrown vessels made of fabric with inclusions of fine sand, coarse sand, and even pebbles; unoxidizing firing, grey color; one of the fragments (Inv. No. 13073) has a darker grey core and another (Inv. No. 13074) shows traces of secondary firing.

IV. Through a chance find made by two pupils of the General School No. 4 near the bridge in Aradul Nou (Traian Bridge), in the sand (recording date in the I. R. – 1973).

¹⁴⁹ About another fragment reproduced in Barbu, Ivanof 1970, 74, reportedly found in Aradul Nou, the Inventory Register records that it was part of an exchange with the Hungarian National Museum, Budapest (Inv. No. 1672).

¹⁵⁰ See for this, Rusu-Bolindeţ 2007, 60.

The lower part of tureen, with a strongly damaged base, rolled; wheel-thrown from a fine fabric with inclusions of fine sand and numerous pebbles; unoxidizing firing; grey color; inside, on the tureen's surface, one finds residues of the fabric that were fired together with the pot; Ø base = ca. 12.5 cm, H = 10.5 cm. Inv. No. 15331 (Pl. 15/9).

V. Discovered by E. Dörner in the area of "Bufniț", close to the Mureș, towards Zădăreni (recording date in the I. R. – 1976).

Fragment from a *terra sigillata* pot, rolled; brick-red engobe with metallic shine; L = 7 cm, H = 2.6 cm. Inv. No. 15741 (Pl. 13/7).

VI. From the donation of High School No. 4 (Aradu-Nou "Fostul Liceu Nr. 4"), from a discovery made behind the Woodworking Professional High School (Nopcea castle) (recording date in the R. I. – 1976).

Small jug with part of the rim, neck, and shoulder, but missing parts from the area where the upper part of the handle was attached; handle missing completely; wheel-thrown from a fine fabric with inclusions of numerous large sand grains; unoxidizing firing; grey color; Ø mouth = 4.2 cm, Ø max. = 7.8 cm, Ø base = 4.3 cm, H = 9.4 cm, rim thickness = 0.4 cm, base thickness = 1.4 cm. Inv. No. 15751 (Pl. 15/8).

VII.1. Excavations by E. Dörner, test trench A (recording date in the I. R. – 1976); "Cimitirul Ortodox și Catolic".

1. Fragment from the rim, shoulder, and belly of a bowl; wheel-thrown from a fabric with inclusions of fine sand but also larger sand grains; oxidizing firing; brown-brick-red color; Ø pot = 16 cm, rim thickness = 0.9 cm, L = 5.2 cm, H = 5.1 cm. Inv. No. 16000 (Pl. 14/5).

An atypical fragment was found in the same location. It was part of a pot made by hand from a coarse fabric with inclusions of pebbles; unoxidizing firing, blackish core and brick-red outer surface. Inv. No. 16003.

VII.2. Excavations by E. Ivanof, test trench C (recording date in the I. R. – 1976); "Cimitirul Ortodox și Catolic".

An atypical fragment was recovered from this test trench. It was part of a pot made by hand from a coarse fabric with inclusions of large sand grains and numerous pebbles; unoxidizing firing; core and surface inside the pot were blackish, the surface outside the pot is brick-red. Inv. No. 16032.

VII.3. Excavations by E. Dörner, test trench B (recording date in the I. R. – 1976); "Cimitirul Ortodox și Catolic".

1. Fragment from a bowl's rim; wheel-thrown from a fabric with inclusions of fine sand but also larger sand grains; unoxidizing firing; brick-red-brown color with blackish core; covered in grey-blackish engobe; Ø pot = ca. 29 cm, rim thickness = 1.1 cm, L = 7.5 cm, W = 4.2 cm. Inv. No. 16018 (Pl. 14/9).

2. Loom weight fragment, obtained from the reuse of a pot base that was perforated; strongly deteriorated; wheel-thrown from a fabric with inclusions of fine sand but also larger sand grains; unoxidizing firing; grey color; Ø = ca 9 cm, min. thickness = 1.4 cm, max. thickness cannot be estimated. Inv. No. 16021 (Pl. 15/4). For analogies, see for example Sóskuti 2010, 182; 4. kép 18, 19.

One more atypical fragment was recovered from this test trench. It was part of a wheel-thrown pot made of a fabric with inclusions of fine sand but also larger sand grains; unoxidizing firing; grey color. Inv. No. 16019.

VII.4. Excavations by E. Dörner, test trench I (recording date in the I. R. – 1976); "Cimitirul Ortodox și Catolic".

1. Fragment from a bowl's rim; wheel-thrown from a fabric with inclusions of fine sand but also larger sand grains; unoxidizing firing; grey color; Ø rim = ca. 17 cm, rim thickness = 1.8 cm, L = 6.2 cm, H = 3.7 cm. Inv. No. 16035 (Pl. 14/6).

2. Fragment from a bowl's rim; wheel-thrown from a fabric with inclusions of fine sand but also larger sand grains; unoxidizing firing; grey color; Ø rim = ca. 29 cm, rim thickness = 1.6 cm, L = 3.9 cm, H = 2.5 cm. Inv. No. 16036 (Pl. 14/8).

3. Fragment from a bowl's rim; wheel-thrown from a fabric with inclusions of fine sand but also larger sand grains; unoxidizing firing; brick-red-brown color with blackish core; covered in dark-grey engobe; Ø mouth = ca. 20 cm, rim thickness = 1.4 cm, L = 3.6 cm, H = 3.7 cm. Inv. No. 16037 (Pl. 14/4).

4. Fragment from a pot's rim; wheel-thrown from a fabric with inclusions of large sand grains and pebbles; oxidizing firing; brick-red color; Ø rim = ca. 9 cm, rim thickness = 1.5 cm, L = 2.9 cm, H = 2.1 cm. Inv. No. 16038 (Pl. 15/2).

5. Fragment from the base of a bowl? tureen?; wheel-thrown from a fabric with inclusions of fine sand but also a few larger sand grains; unoxidizing firing; grey color but there are also parts on the surface inside the pot that are brick-red; Ø base = ca. 15 cm, L = 6.8 cm, W = 2.4 cm, H = 2.4 cm. Inv. No. 16039 (Pl. 15/7).

6. Fragment from a tureen's base; wheel-thrown from a fabric with inclusions of coarse sand and numerous pebbles; oxidizing firing; brick-red color, in some areas turning grey; Ø base = ca. 9 cm, L = 5.8 cm, W = 4.6 cm, H fragment = 1.4 cm. Inv. No. 16043 (Pl. 15/6).
7. Fragment from a pot's handle; wheel-thrown from a fabric with inclusions of fine sand but also larger sand grains; unoxidizing firing; the core is of a lighter grey than the outer surface of the fragment, and brick-red areas can be seen of that surface; H = 5.6 cm., Ø = 1.8 (2.3) cm. Inv. No. 16045 (Pl. 15/1).
8. Fragment from a pot's rim; wheel-thrown from a fabric with inclusions of coarse sand and pebbles; oxidizing firing; brick-red color; Ø mouth = ca. 16 cm, rim thickness = 1.2 cm, L = 3.2 cm, H = 2.4 cm. Inv. No. 16051 (Pl. 15/3).
9. Fragment from a pot's base; wheel-thrown from a fabric with inclusions of fine sand; unoxidizing firing; grey color; grey-blackish engobe; Ø base = ca. 11 cm, L = 4.2 cm, H = 1.9 cm. Inv. No. 16057 (Pl. 15/5).

Several fragments from atypical pots were also found in this test trench. They are inventoried under Inv. No. 16042 (belonging to a wheel-thrown pot, made of a fabric with inclusions of fine sand but also larger sand grains; unoxidizing firing; grey color but with the outer surface inside the pot turning to dark brick-red); 16044 (from a wheel-thrown pot made of a fabric with inclusions of large-grain sand and numerous pebbles; unoxidizing firing; blackish core, dark brick-red outer surface that turns to dark blackish-grey inside and in some areas outside the pot); 16047 (from a wheel-thrown pot made of a fabric with inclusions of fine sand but also larger sand grains; unoxidizing firing; grey color); 16048 (from a large pot; wheel-thrown from a fabric with inclusions of fine sand but also larger sand grains; unoxidizing firing; grey color); 16056 (once part of a wheel-thrown pot made of a fabric with inclusions of fine sand but also larger sand grains and even pebbles; oxidizing firing but a thin part of the core is grey and the surface inside the pot is also blackish-grey in color).

VII.5. Excavations by E. Dörner, test trench II (recording date in the I. R. – 1976); “Cimitirul Ortodox și Catholic”.

This test trench has only revealed atypical fragments, inventoried under Inv. No. 16061 (from a wheel-thrown pot made of a fabric with inclusions of fine sand but also larger sand grains; oxidizing firing; brick-red color, but also grey areas); 16064 (from a wheel-thrown pot made of a fabric with inclusions of fine sand; unoxidizing firing; grey color); 16078 (from a wheel-thrown pot made of coarse fabric with inclusions of large-grain sand and numerous pebbles; unoxidizing firing; grey core, outer surface inside the pot turning to dark-brick-red, the outer surface outside the pot brick-red); 16079 (from a wheel-thrown pot made of coarse fabric with inclusions of large-grain sand and numerous pebbles; unoxidizing firing; blackish color but one brick-red area on the surface outside the pot).

VII.6. On-surface discoveries by E. Dörner, on the plot of the Orthodox Cemetery, outside the concrete fence. Fragment from a bowl's rim; wheel-thrown from a fabric with inclusions of fine sand but also larger sand grains; unoxidizing firing; grey color; Ø mouth = ca. 29 cm, rim thickness = 2.5 cm, L = 4.8 cm, H = 2 cm. Inv. No. 15998 (Pl. 14/7).

VIII. Un-inventoried. According to the two notes written by E. Dörner that were kept with the items, the pot fragments repertoried below are the result of two on-surface researches performed on 10.05.1967 and 18.09?.1972 in the area of “Bufniț”.

1. Fragment from a pot's handle and body; made of a fabric with inclusions of fine sand; polished; unoxidizing firing; grey color; H = 10.3 cm, thickness = 1.8 (2.2) cm; (Pl. 13/6).
2. Fragment from a pot's handle, deteriorated; made of a fabric with inclusions of fine sand, larger sand grains, and even pebbles; polished; unoxidizing firing; grey color; H = 12.5 cm, thickness = 1.8 (2.2) cm; (Pl. 13/9).
3. Fragment from a tureen's base; wheel-thrown from a fabric with inclusions of fine sand; unoxidizing firing; grey color but lighter grey core; Ø base = ca. 9 cm, H = 3.2 cm; (Pl. 14/1).
4. Fragment from a pot's handle; wheel-thrown from a fabric with inclusions of fine sand but also larger sand grains; unoxidizing firing; grey color; H = 6.1 cm, thickness = 1.8 (1.9) cm; (Pl. 13/10).
5. Fragment from a pot's rim; wheel-thrown from a fabric with inclusions of fine sand; unoxidizing firing; grey color; Ø rim = ca. 14 cm, rim thickness = 1.9 cm, L = 5.8 cm, H = 2.4 cm (Pl. 12/2).
6. Fragment from a jug's rim and handle; wheel-thrown from a fabric with inclusions of fine sand and larger sand grains; unoxidizing firing; grey color; Ø rim = ca. 9 cm, rim thickness = 1 cm, L = 4.8 cm, H = 4.4 cm, handle thickness = 1.9 (2.8) cm; (Pl. 13/1).

7. Fragment from a pot's handle; wheel-thrown from a fabric with inclusions of fine sand and larger sand grains; unoxidizing firing; grey color; H = 5.8 cm, thickness = 1.8 (2.5) cm; (Pl. 13/8).
8. Bowl fragment, missing the base; wheel-thrown from a fabric with inclusions of fine sand; unoxidizing firing; grey color; Ø mouth = ca. 18 cm, rim thickness = 1 cm, L fragment = 8.4 cm, H fragment = 7.3 cm; (Pl. 13/2).
9. Fragment from a pot's rim; wheel-thrown from a fabric with inclusions of fine sand and larger sand grains; unoxidizing firing; grey color; Ø mouth = ca. 16 cm, rim thickness = 2.2 cm, L = 7.1 cm, H = 4.1 cm; (Pl. 12/6).
10. Fragment from a pot's rim; wheel-thrown from a fabric with inclusions of fine sand; unoxidizing firing; grey color; Ø mouth = ca. 23 cm, rim thickness = 3 cm, L = 7.3 cm, H = 3.2 cm; (Pl. 12/8).
11. Fragment from a tureen's rim; wheel-thrown from a fabric with inclusions of fine sand and larger sand grains; unoxidizing firing; grey color; Ø mouth = ca. 21 cm, rim thickness = 1.7 cm, L = 4.4 cm, H = 2.8 cm; (Pl. 12/5).
12. Fragment from a bowl's rim and body; wheel-thrown from a fabric with inclusions of fine sand; oxidizing firing; brick-red color but areas that turn grey; brick-red engobe with darker spots; Ø mouth = ca. 21 cm, rim thickness = 0.8 cm, L = 6.2 cm, H = 3.4 cm; (Pl. 12/4).
13. Fragment from a bowl's rim, deteriorated; wheel-thrown from a fabric with inclusions of fine sand and larger sand grains; unoxidizing firing; grey color; grey engobe; Ø mouth = ca. 26 cm, rim thickness = 1.4 cm, L = 4.6 cm, H = 2.5 cm; (Pl. 12/7).
14. Fragment from a pot's rim; wheel-thrown from a fabric with inclusions of fine sand; unoxidizing firing; grey color; grey engobe; Ø mouth = ca. 12 cm, rim thickness = 1.3 cm, L = 3.6 cm, H = 2.8 cm; (Pl. 12/1).
15. Fragment from a bowl's rim; wheel-thrown from a fabric with inclusions of fine sand and larger sand grains; unoxidizing firing; grey color, but darker grey core; Ø mouth = ca. 18 cm, rim thickness = 2 cm, L = 3.7 cm, H = 2.1 cm; (Pl. 12/3).
16. Fragment from a bowl's rim; wheel-thrown from a fabric with inclusions of fine sand and larger sand grains; unoxidizing firing; grey color; rim thickness = 0.9 cm, L = 3.3 cm, H = 3.8 cm; (Pl. 13/5).
17. Fragment from a bowl's rim and shoulder; wheel-thrown from a fabric with inclusions of fine sand and larger sand grains; unoxidizing firing; grey color; Ø mouth = ca. 24 cm, rim thickness = 1 cm, L = 5.5 cm, H = 4.6 cm; (Pl. 12/9).
18. Fragment from a tureen's base; wheel-thrown from a fabric with inclusions of fine sand and larger sand grains; unoxidizing firing; grey color outside and blackish core; Ø base = 9 cm, base thickness = ca 1.2 cm, L = 6.4 cm, H = 4.7 cm (Pl. 14/2).
19. Fragment from a tureen's base; wheel-thrown from a fabric with inclusions of fine sand; unoxidizing firing; grey color outside but the core displays a slightly brick-red hue and some of it is grey; Ø base = 9 cm, L = 6.2 cm, H = 5.4 cm (Pl. 14/3).
20. Fragment of a decorated pot; wheel-thrown from a fabric with inclusions of fine sand and larger sand grains; unoxidizing firing; grey color; L = 3.2 cm, H = 4.5 cm (pl. 13/4).

To these one can add 6 atypical fragments from large pots (a fact indicated by their thickness), wheel-thrown from a fabric with inclusions of fine sand and larger sand grains; unoxidizing firing; core or parts of it grey, brick-red outer surface with some grey areas.

Twelve more atypical fragments were once part of wheel-thrown pots made of a fabric with inclusions of fine sand and larger sand grains (the fabric of one of the fragments displays a higher proportion of larger sand grains); unoxidizing firing; grey color, six of the fragment have the core of darker grey color than the outer surface, but one has lighter grey core, a brick-red spot can be seen on the outer surface of one fragment, while another was covered in grey-blackish engobe; as for their decoration, two fragments include one groove and two others shallow furrows.

One should also mention one handle from a pot made of a fabric with inclusions of fine sand but also larger sand pebbles, brick-red in color; and also another handle that was once part of a pot made of a fabric with inclusions of fine sand, larger sand grains, and even pebbles, grey in color.

Finally, one fragment was part of a rejected pot, with a vitrified aspect in section; brick-red color but some of the core and the outer surface are grey.

Victor Sava

Museum Arad
Arad, ROU
sava_vic@yahoo.com

Dan Matei

"Babeş-Bolyai" University Cluj-Napoca
Cluj-Napoca, ROU
danmatei_mail@yahoo.com

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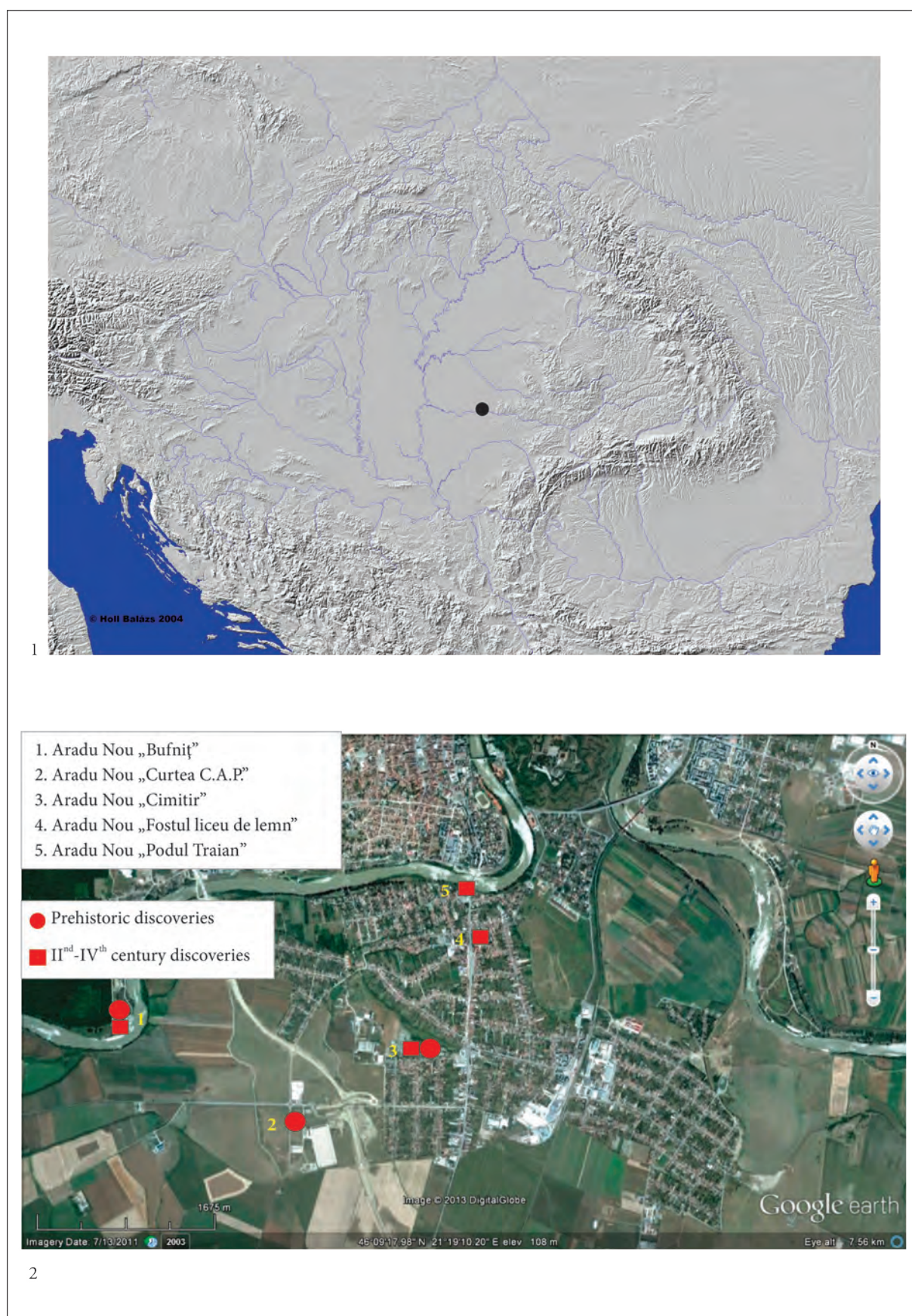


Plate 1. 1. Carpathian Basin map with the localisation of Arad city; 2. Aradu Nou quarter satellite photography with the localisation of the sites mentioned in text.

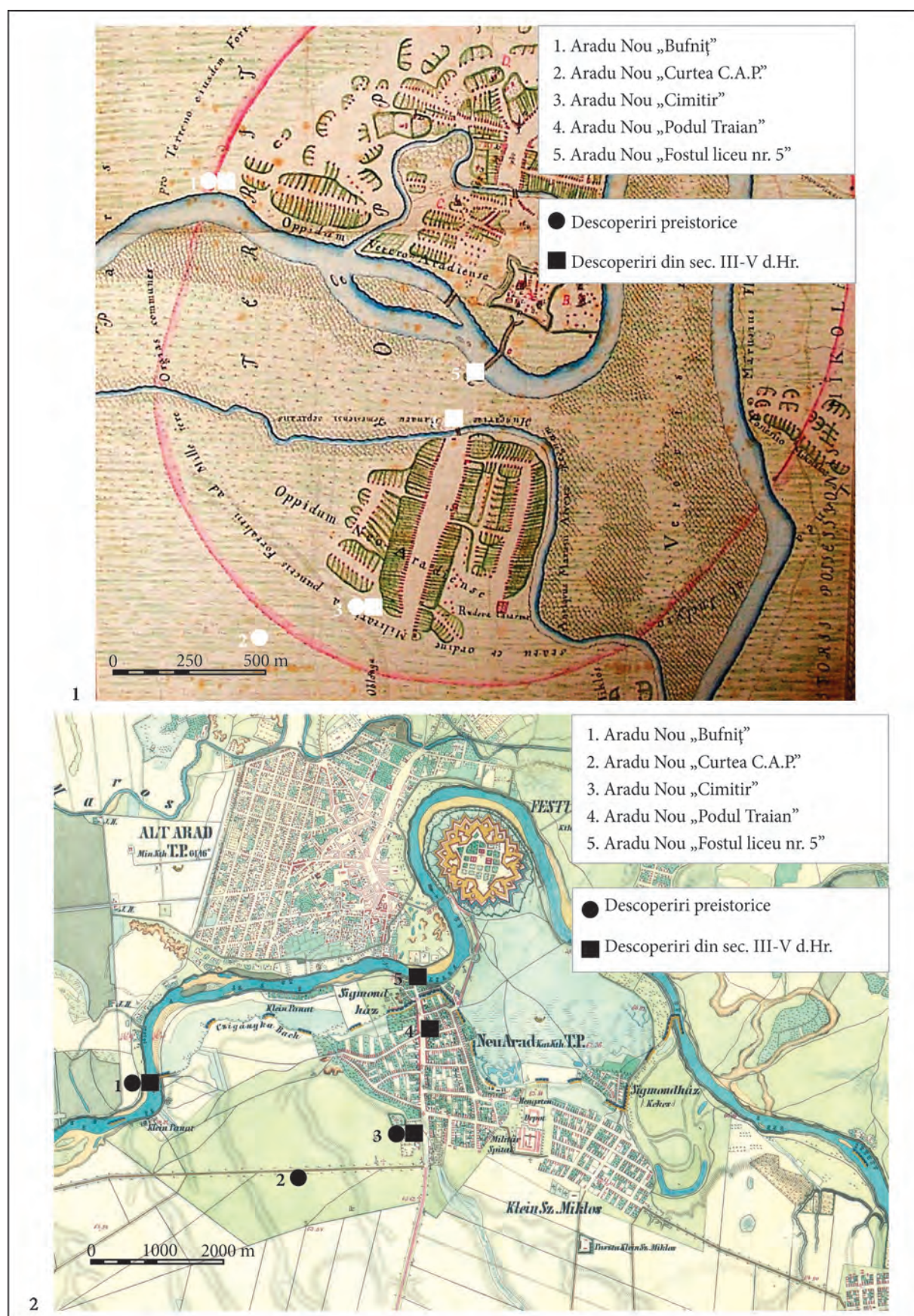


Plate 2. 1. 1751 map of Arad city with the localisation of archaeological discoveries from Aradu Nou quarter; 2. XIXth century map of Arad city with the localisation of the sites.

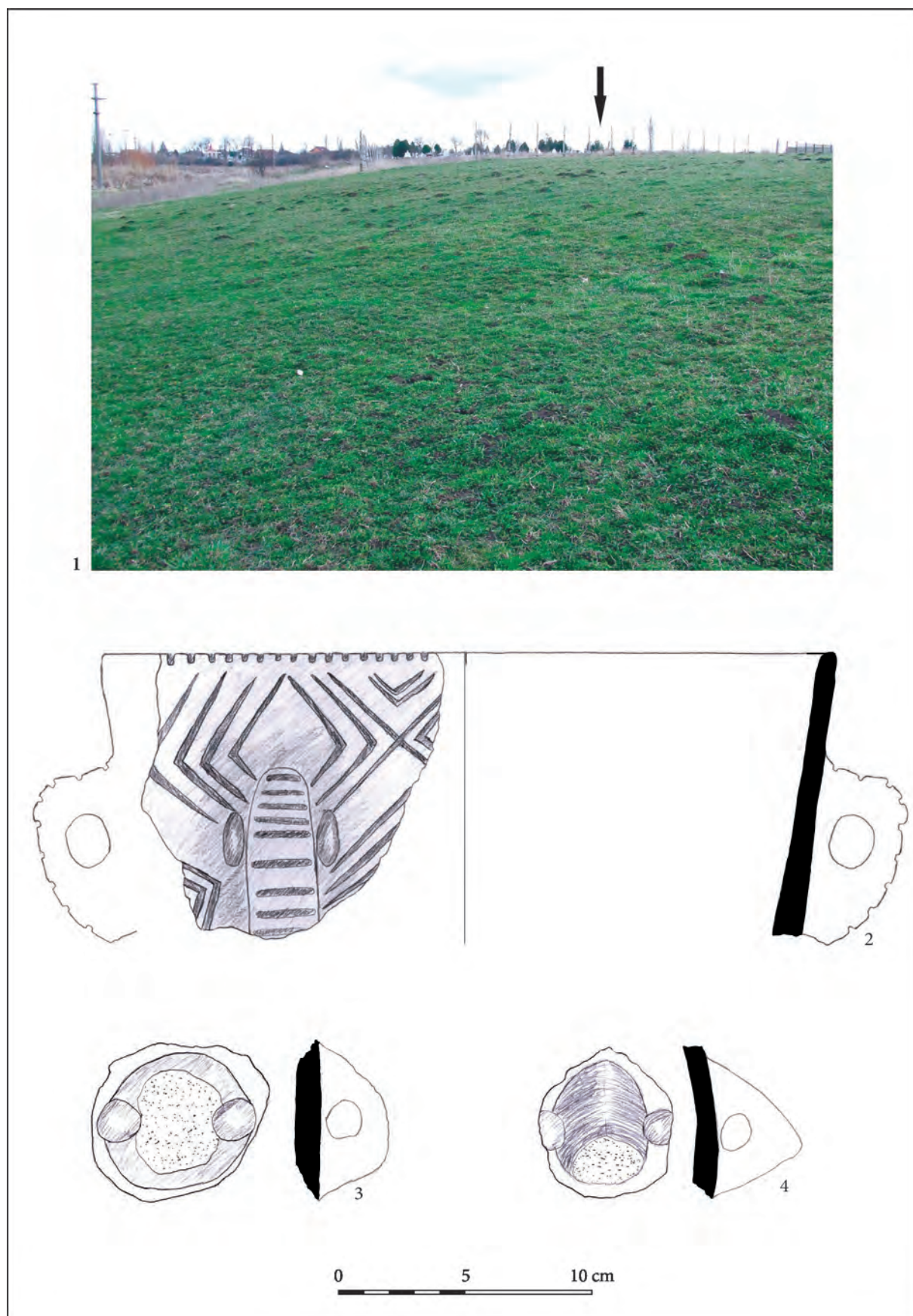


Plate 3. 1. Photo of Arad „Aradu Nou – Orthodox and Catholic Cemetery” site; 2. Vinča C type pottery, „Bufniț”; 3-4. Tiszapolgár type pottery, „Bufniț”.

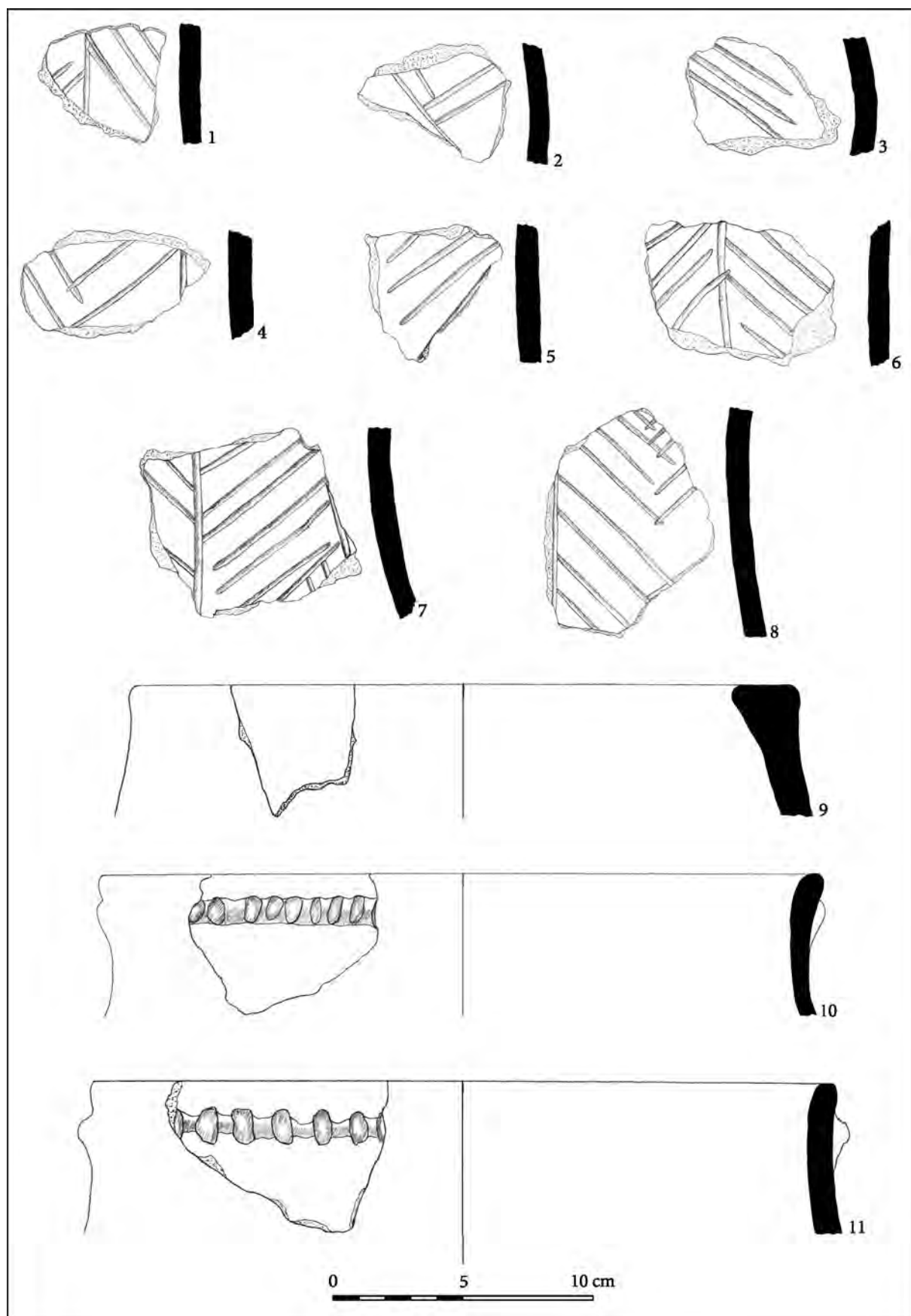


Plate 4. 1-8. Baden type pottery, „Grădina C.A.P.”; 9-11. Cornești-Crvenka type pottery, „Bufniț”.

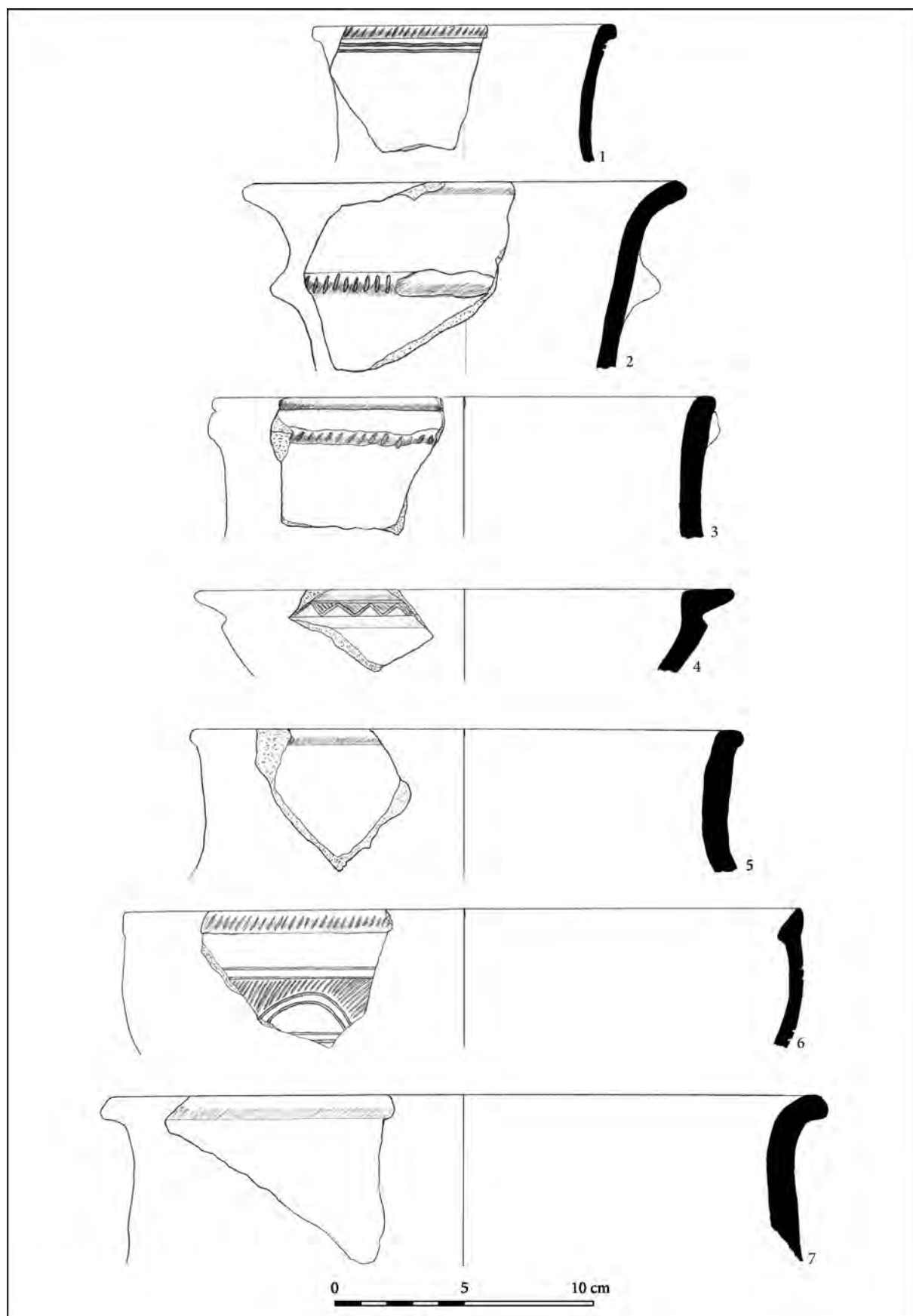


Plate 5. Cornești-Crvenka type pottery, „Bufniț”.

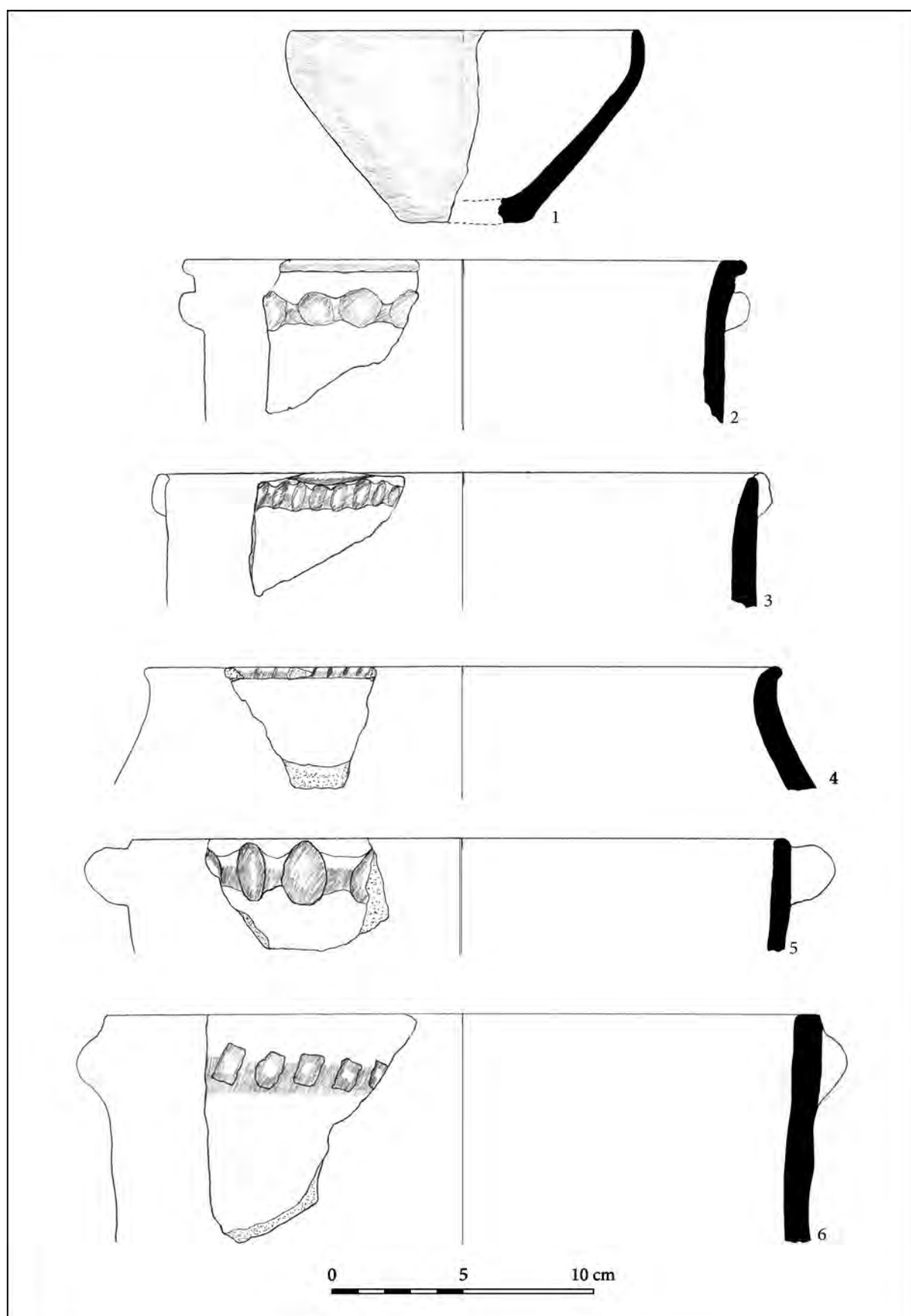


Plate 6. Cornești-Crvenka type pottery, „Bufniț”.

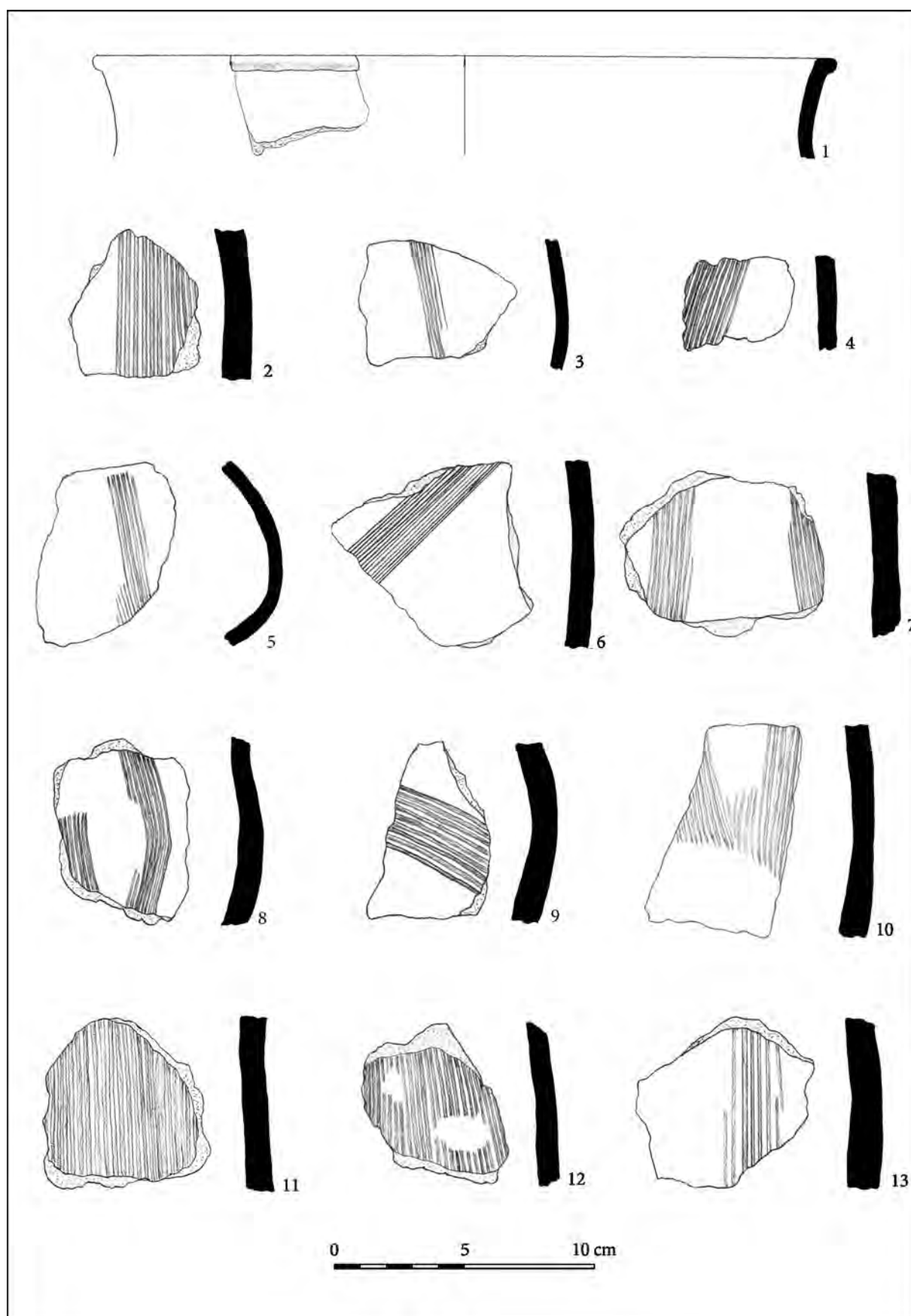


Plate 7. Cornești-Crvenka type pottery, „Bufniț”.

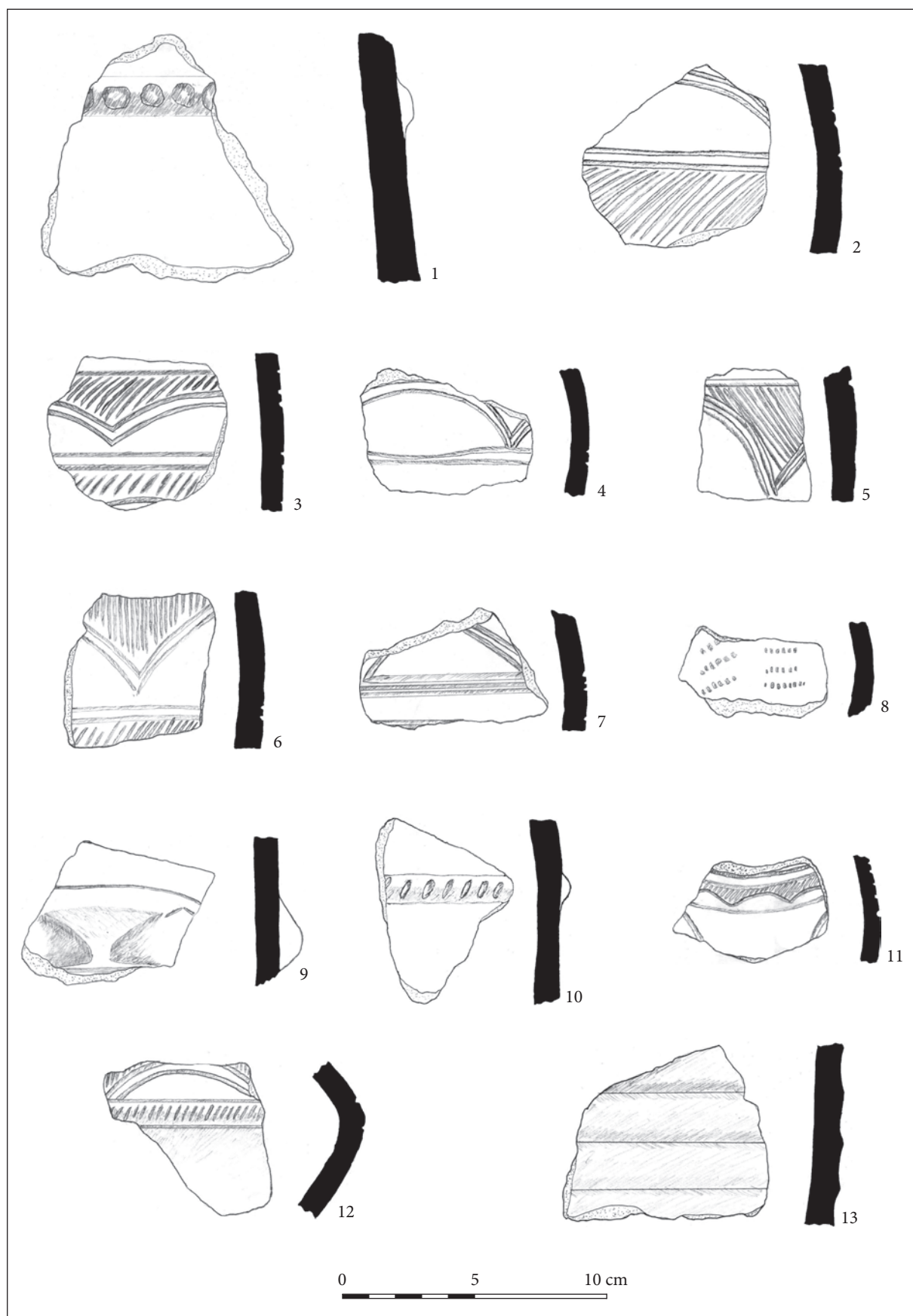


Plate 8. 1-12. Cornești-Crvenka type pottery, „Bufniț”; 13. HA1 chronological horizon pottery, „Bufniț”.

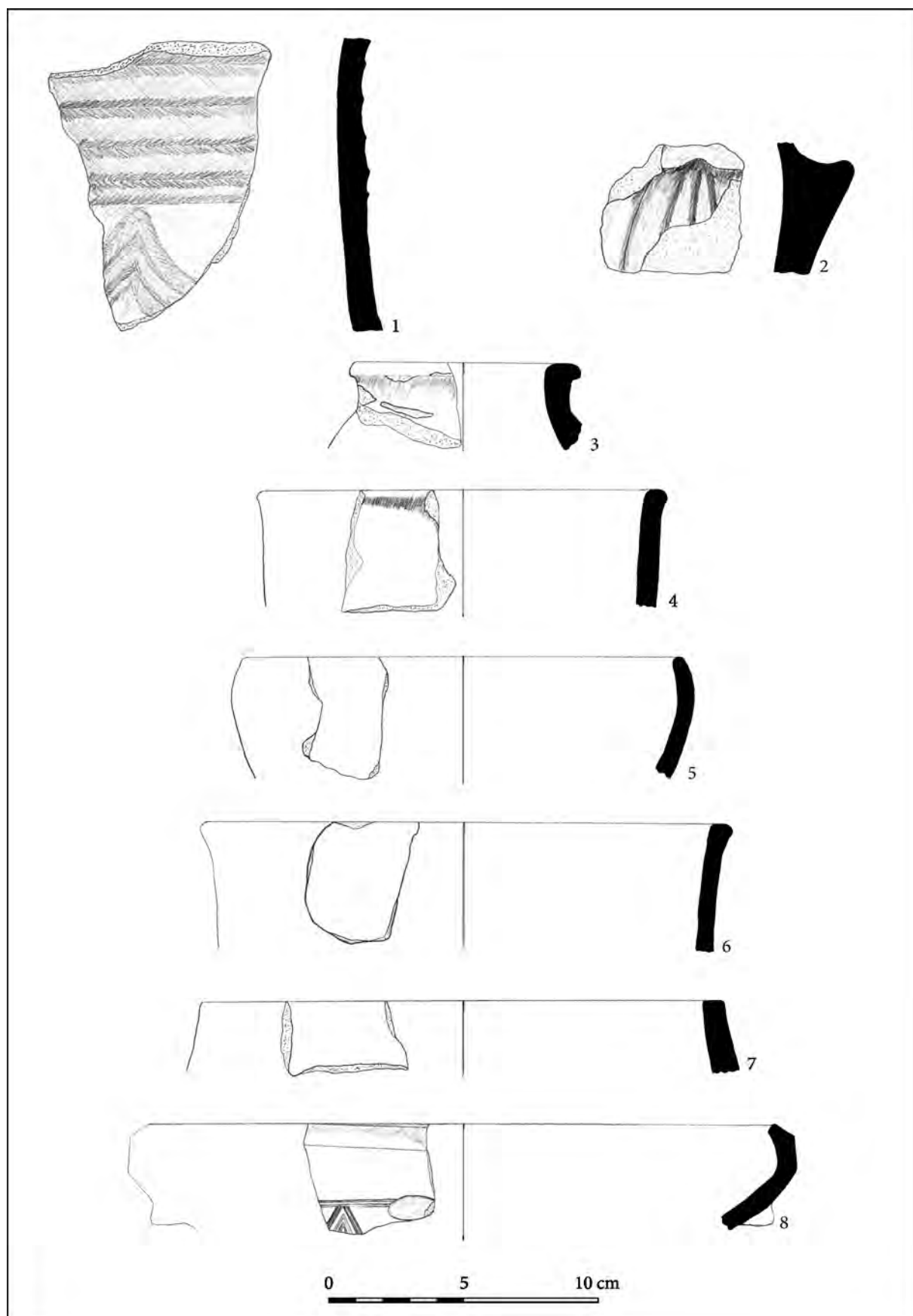


Plate 9. 1-2. HA1 chronological horizon pottery, „Bufniț”; 3-8. Gornea-Kalakača type pottery, „Cimitirul Ortodox și Catolic”.

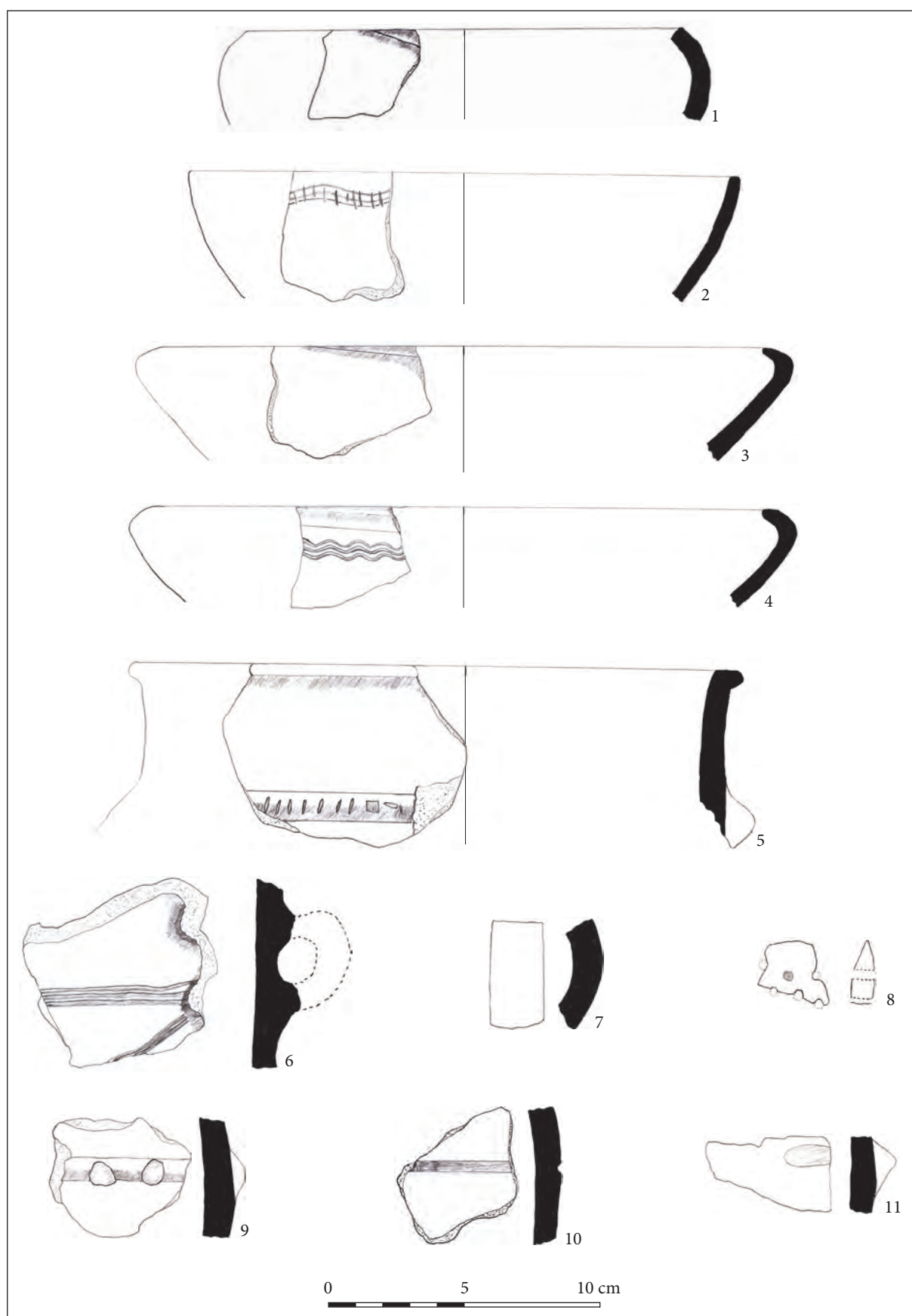


Plate 10. Gornea-Kalakača type pottery, „Cimitirul Ortodox și Catolic”.

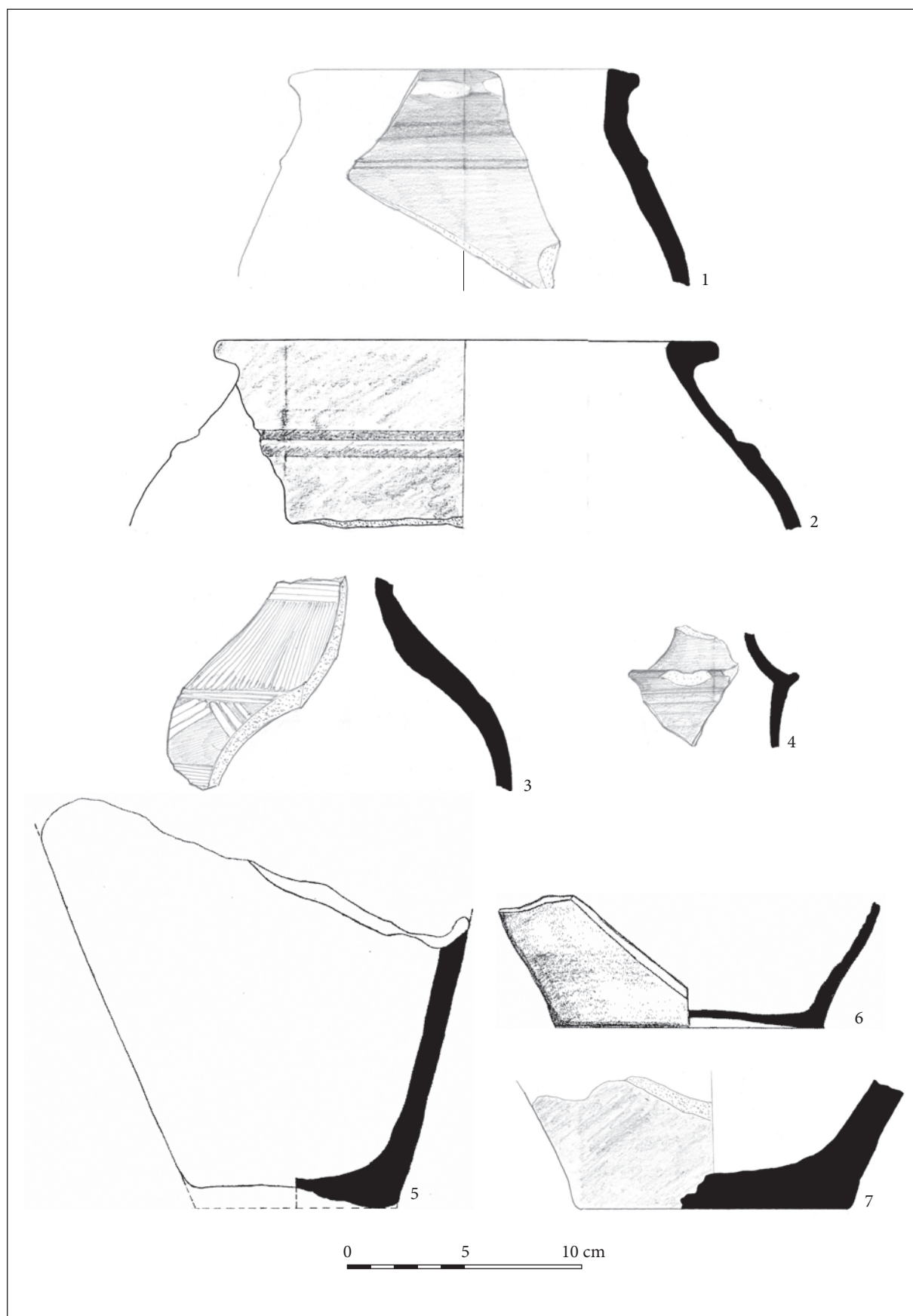


Plate 11. 2nd-4th centuries pottery, „Bufniț”.

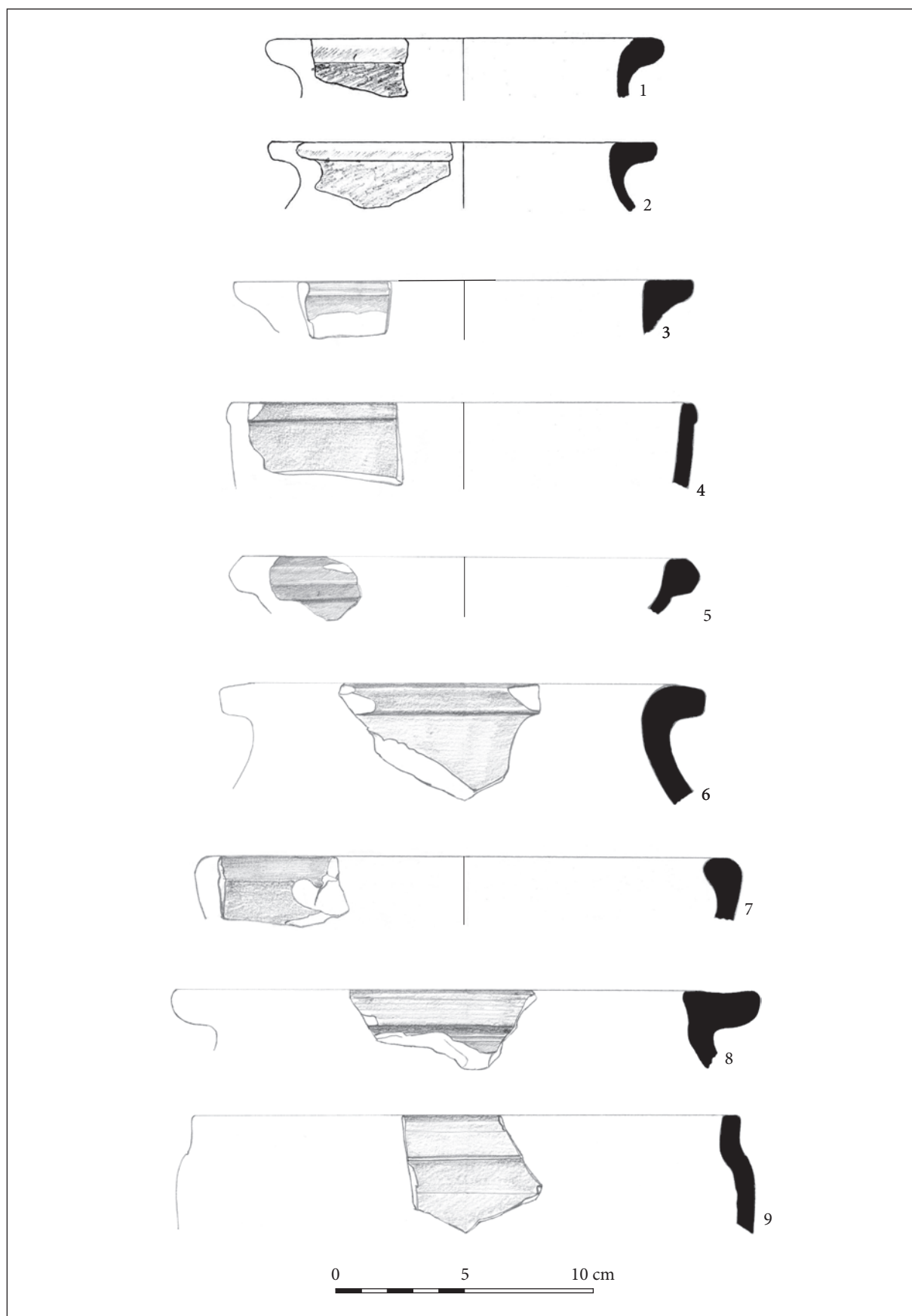


Plate 12. 2nd-4th centuries pottery, „Bufniț”.

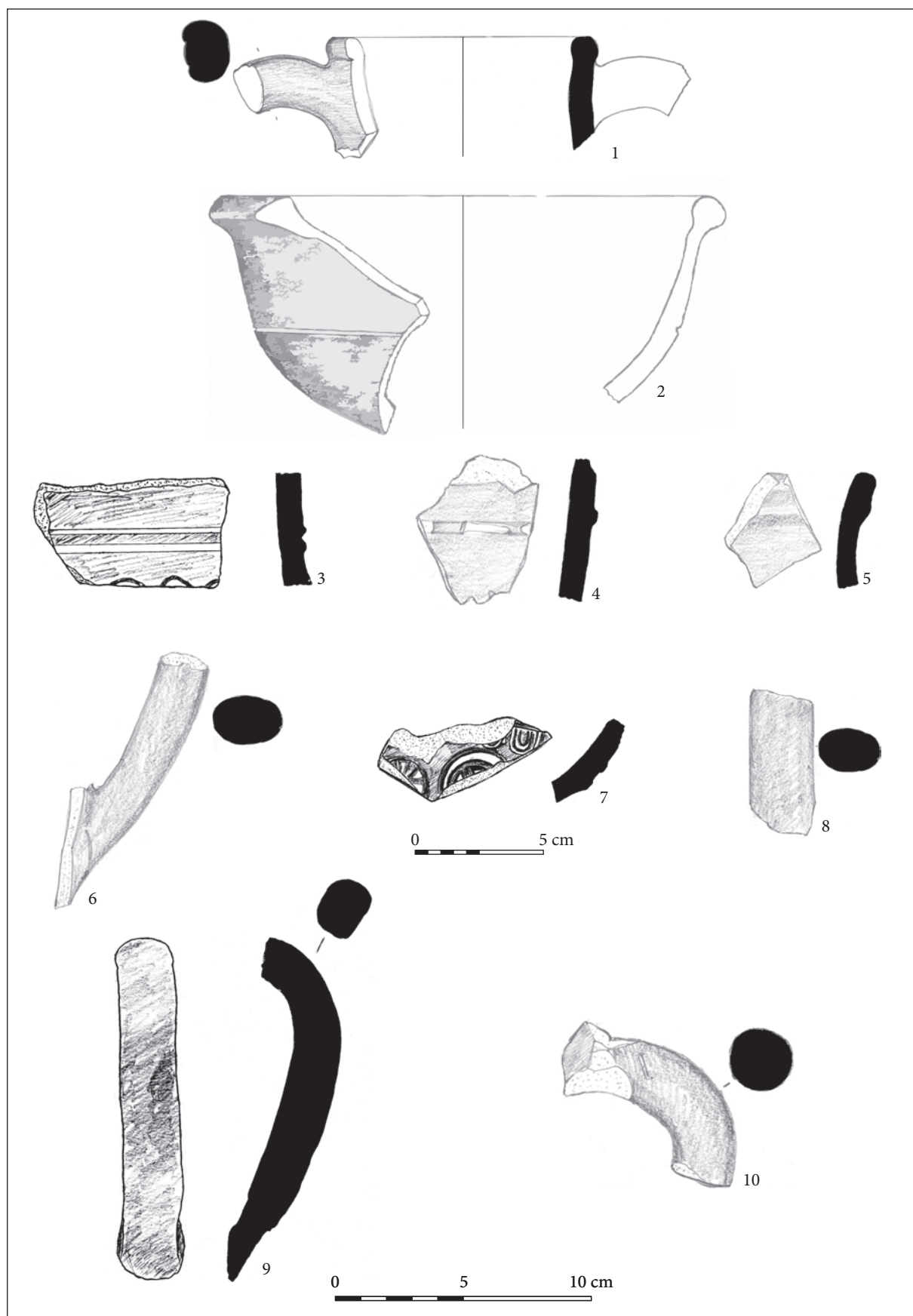


Plate 13. 2nd-4th centuries pottery, „Bufniț”.

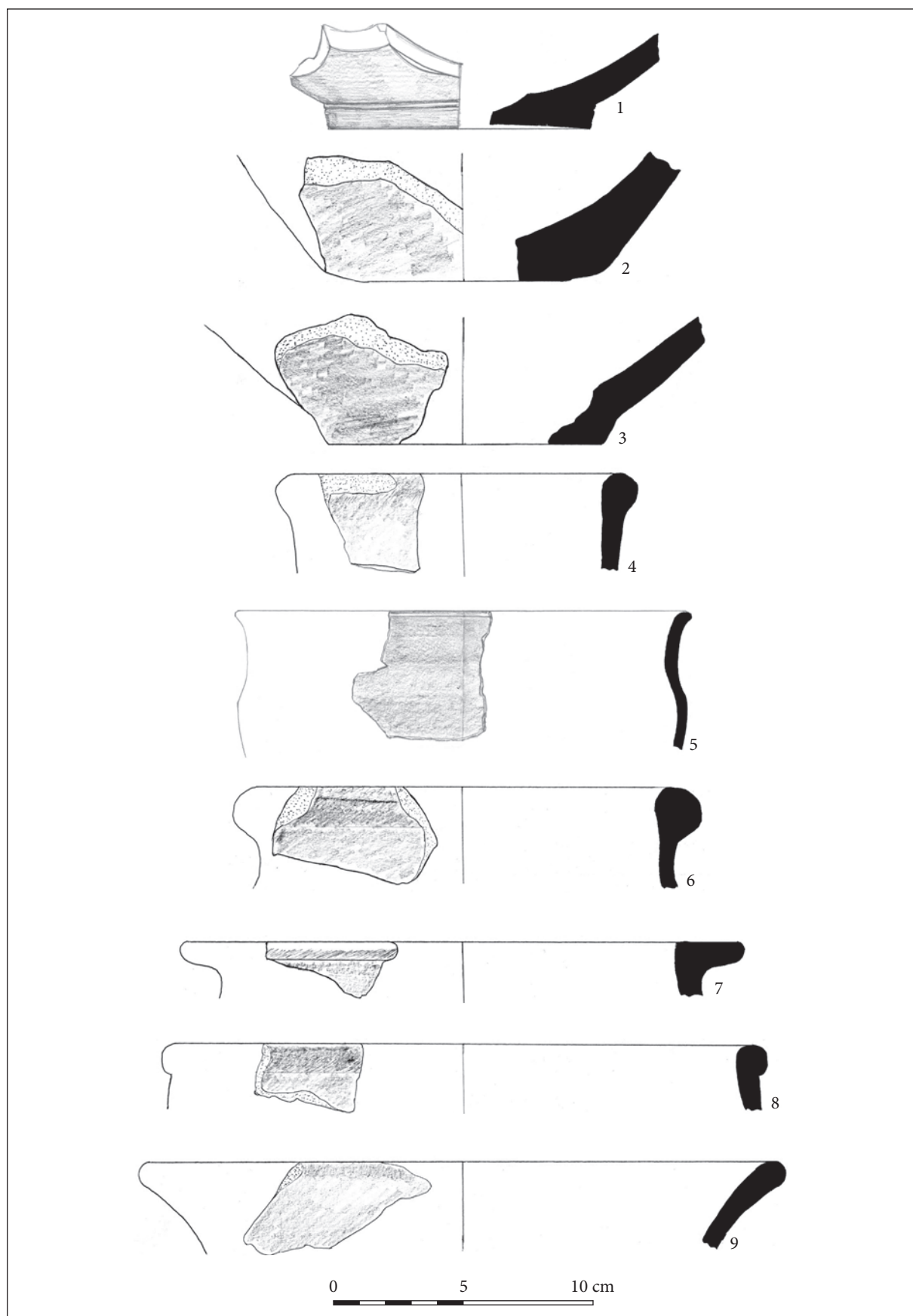


Plate 14. 2nd-4th century pottery. 1-3. „Bufniț”; 4-9. „Cimitirul Ortodox și Catolic”.

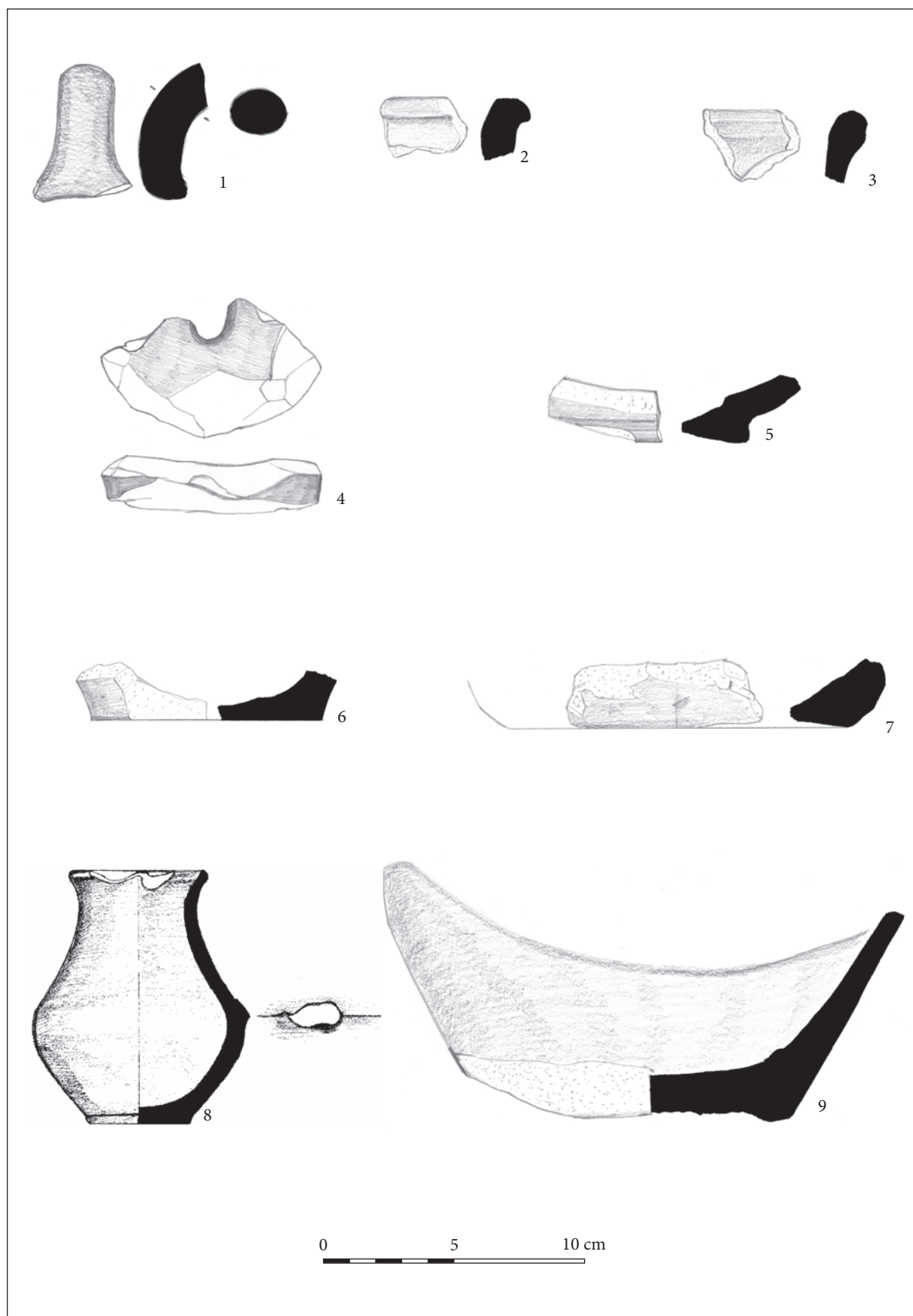


Plate 15. 2nd-4th century pottery. 1-8. „Cimitirul Ortodox și Catolic”; 9-11. „Fostul liceu nr. 4”; 12. „Podul Traian”.

Des monnaies antiques appartenant a une collection privée¹

Cosmin Mihail Coatu, Adrian Socaci

Abstract: The article presents a private collection of 41 pieces. The coins are mostly Roman, 38 pieces, with 1 Greek, 1 Macedonian and 1 Jewish coins. In presenting the coins we took into account the mints, the date of issue, the emitent and the denomination.

Keywords: ancient coins, RIC, Roman coins, Greek coins, Jewish coins.

Dans notre communication nous essayerons de présenter une série de monnaies qui font partie de la collection privée de monsieur le professeur Marius Coatu qui habite Focșani (département de Vrancea).

La collection a été réalisée le long de plusieurs années, les pièces ont été trouvées et achetées à l'occasion des foires ou dans des magasins d'antiquités de Bucarest et de Ploiești. Le possesseur des monnaies n'a pas fait de sélection consciente au moment de l'achat, et on a pu voir que certaines monnaies ne sont pas en bon état, ou d'autres représentent des faux. Le prix de vente assez bas demandé par les vendeurs a été l'un des critères d'achat des monnaies et le résultat s'est fait voir dans la qualité de la collection. En conséquence, nous ne pouvons ni considérer les pièces comme source historique, ni se prononcer sur la place où elles ont été découvertes; il est possible qu'elles aient été découvertes sur le territoire de la Roumanie ou aussi bien qu'elles proviennent de l'étranger. Si on analyse les limites chronologiques et la modalité d'achat des monnaies, on considère que celles-ci peuvent être à la fois le résultat des découvertes isolées, mais aussi elles peuvent appartenir à des possibles trésors (conformément à la stratégie de vente de ces pièces). Les monnaies ne font pas partie d'un tout unitaire, de manière que les éventuelles discussions sur leur interprétation historique s'avèrent être inutiles.

La collection compte 41 pièces en bronze et en argent; 38 pièces appartiennent à l'époque romaine, couvrant le laps temps dès la République jusqu'à la période de Constantius II. La collection est complétée par trois pièces différentes dont on peut voir une drachme grecque de Histria, une monnaie qu'on suppose être de Macédoine et finalement une pièce judaïque, rappelant les événements des années 69 – 70 après J.-C.

Bien que, au début, nous ayons considéré que les monnaies de la collection ne pourraient pas représenter un sujet d'article paru dans une revue de spécialité vu les doutes liés à l'originalité de certaines pièces, nous sommes ultérieurement tombé d'accord avec le possesseur de la collection et, tenant compte aussi de la suggestion des chercheurs numismates réputés, nous avons considéré utile la publication de ces monnaies, quoiqu'elles n'impressionnent ni par le nombre, ni par leur caractère rare; elles méritent pourtant d'attirer l'attention de ceux qui sont préoccupés par la numismatique et non seulement².

Suite au fait que certaines pièces semblent être des faux modernes, leur publication peut représenter un signal d'alarme pour ceux qui désirent avoir leur propre petite collection numismatique, car pendant ces dernières décennies ces préoccupations manifestées par des personnes aisées ont encouragé la prolifération d'une grande quantité de monnaies fausses. Vu l'ordre chronologique des monnaies nous avons utilisé les catalogues actuels et usuels. Par conséquent, pour les monnaies romaines datant du I^{er} siècle av. J.-C. jusqu'au IV^{em} siècle apr. J.-C., qui représentent la plus grande partie de la collection, nous avons utilisé le RIC, et pour les autres pièces – les catalogues de M. C. Crawford, C. Preda, B. Kanael, B. V. Head.

La présentation des pièces dans le catalogue est faite de manière chronologique, en respectant l'autorité qui a frappé les monnaies.

¹ L'article Des monnaies antiques appartenant a une collection privée a été donné pour être publié dans une traduction en anglais dans le nouveau numéro de la revue B.S.N.R.

² Nous voulons remercier à M. dr. Cristian Găzdac, chercheur scientifique à l'I.A.I.A. Cluj, et à M. dr. Radu Ardevan, maître de conférences de l'Université Babeș-Bolyai, qui nous ont conseillés et coordonnés dans notre travail d'étude sur le matériel numismatique.

VILLES GRECQUES DE LA MER NOIRE**Histria (pl. 1/1)**

1. Nominal: drachme.
 Datation: IV^{em} siècle av. J.-C.
 La Monnaie: –
 Axe: 12; D: 17,58 × 16,97 mm; G: 4,64 g.
 Avers: Deux visages humains, le visage qui se trouve à gauche est tourné.
 Revers: ΙΣΤΡΙΑ.
 Aigle de mer, à gauche, il tient dans ses griffes un dauphin; Δ en bas.
 Observations: Bon état de conservation (*argent*). Pièce fourrée.
 Références: cf. Head 1911, p. 274; Preda 1989, p. 43, pl. II/6.

ROYAUME DE MACÉDOINE**Amyntas III (pl. 1/2)**

2. Nominal: bronze.
 Datation: 389–383 av. J.-C. (premier règne), ou 381–369 av. J.-C. (second règne).
 La Monnaie: –
 Axe: 12; D: 20,79 × 21,05 mm; G: 4,80 g.
 Avers: Amyntas en hypostase.
 de Herakles portant sur la tête la fourrure du lion.
 Revers: AMYNTA.
 Cheval, à droite, sous cheval εΔ.
 Observations: La pièce est un faux. En antiquité de telles monnaies étaient frappées seulement en argent. Dans notre cas il s'agit d'une pièce en bronze.
 Références: cf. Head 1911, p. 221–222, fig. 133.

LA RÉPUBLIQUE ROMAINE**Denier (pl. 1/3)**

3. Nominal: denier.
 Datation: 56 av. J.-C.
 La Monnaie: –
 Axe: 7; D: 17,85 × 18,40 mm; G: 3,72 g.
 Avers: La tête d'Apollon couronné de lauriers, à droite; derrière Apollon il y a une couronne de lauriers (variante 10). Cercle perlé.
 Revers: Q (PO)MPONI à gauche, vertical en bas, MVSA à droite, vertical en bas. Calliope debout, à droite, en vêtement long, jouant de la lyre. Cercle perlé.
 Observations: Bon état de conservation, la monnaie est perforée en bas de l'avers. La pièce est un faux moderne. La technique de battre la monnaie et son poids ne correspondent pas.
 Références: cf. Crawford 1989, no. 410/2b.

L'EMPIRE ROMAIN**Vespasien (pl. 1/4)**

4. Nominal: as.
 Datation: 69–79.
 La Monnaie: –
 Axe: 6; D: 25,07 × 25,56 mm; G: 7,08 g.
 Avers:...VESPA...
 La légende est corrodée.
 Revers: Corrodé.
 Observations: Faible état de conservation, sur l'avers de la monnaie on observe la trace d'un coup ultérieur à l'émission de la pièce.
 Références: –

Vespasien (pl. 1/5)

5. Nominal: denier.
 Datation: 69–79.
 La Monnaie: Rome.
 Axe: 6; D: 17,26 × 16,96 mm; G: 1,84 g.
 Avers: [imp caesar] V[e]S[pa]SIA[nvs] [avg].
 Tête couronnée de lauriers, à droite.
 Revers: La légende est effacée.
 Personnage féminin, assis, la main droite tendue, la main gauche appuyée sur la chaise.
 Observations: Etat moyen de conservation, la monnaie présente un orifice à droite, en haut, où on a inséré une pierre bleue. La pièce est usée à cause de sa circulation à l'époque et à son usage comme pendentif.
 Références: cf. RIC II, p. 17, no. 20.

Nerva (pl. 1/6)

6. Nominal: sesterce.
 Datation: 97.
 La Monnaie: Rome.
 Axe: 11; D: 35,70 × 35,06 mm; G: 25,96 g.
 Avers: IMP NERVA CAES AVG / P M TR P COS III P P.
 Tête couronnée de lauriers, à droite. Cercle perlé.
 Revers: VEHICVLATIONE ITALIAE REMISSA.
 Exergue: S C.
 Deux mulets de dos, sans frein paissent. Cercle perlé.
 Observations: Très bon état de conservation, la monnaie présente sur sa surface une patine noire. Sur le revers on voit au centre la trace d'un coup ultérieur et les matrices sont faiblement décentrées. Il s'agit d'un faux moderne qui présente des fautes d'écriture dans la légende.
 Références: cf. RIC II, p. 229, no. 93.

Nerva (pl. 1/7)

7. Nominal: denier.
 Datation: 97.
 La Monnaie: Rome.
 Axe: 12; D: 17,17 × 17,55 mm; G: 3,17 g.

Avers: IMP NERVA CAES AVG PM TRP II COS III PP.

Tête couronnée de lauriers, à droite.

Revers: CONCORDIA EXERCITVVM

Deux mains jointes.

Observations: Bon état de conservation, avec patine, mais il s'agit probablement d'un faux.

Références: cf. RIC II, p. 225, no. 26.

Trajan (pl. 1/8)

8. Nominal: denier.

Datation: 112–114.

La Monnaie: –

Axe: 6; D: 17,58 × 17,94 mm; G: 3,28 g.

Avers: IMP TRAIANO AVG GER DAC PM TRP COS VI PP.

Tête couronnée de lauriers, à droite.

Revers: SPQR OPTIMO PRINCIPI.

Trajan à cheval, à gauche, il porte la lance et une petite Victoria.

Observations: Très bon état de conservation, avec patine.

Références: cf. RIC II, p. 264, no. 291.

Antonin le Pieux (pl. 1/9)

9. Nominal: dupondius.

Datation: 156–157.

La Monnaie: Rome.

Axe: 6; D: 24,38 × 25,00 mm; G: 12,86 g.

Avers: La légende est partiellement effacée, [an] TONINVS AVG [pivs p p imp II].

Tête couronnée de rayons, à droite.

Revers: La légende est partiellement effacée, TR POT XX [cos IIII s c].

Annona debout, à droite.

Observations: Etat moyen de conservation, le flan en métal est déformé.

Références: cf. RIC III, p. 146, no. 969.

Antonin le Pieux: Faustine II (pl. 1/10)

10. Nominal: denier.

Datation: 145–161.

La Monnaie: Rome.

Axe: 6; D: 17,78 × 16,89 mm; G: 3,63 g.

Avers: FAVSTINAE AVG / PII AVG FIL.

Buste à diadème, drapé, à droite. Cercle perlé.

Revers: VENVS.

Venus debout, drapée, à gauche; elle tient dans la main droite fléchie une pomme et avec la main gauche elle tient le timon. Cercle perlé.

Observations: Très bon état de conservation.

Références: cf. RIC III, p. 95, no. 515b.

Lucius Verus (pl. 1/11)

11. Nominal: sesterce.

Datation: 161 – 169.

La Monnaie: –

Axe: 12; D: 36,66 × 36,36 mm; G: 16,25 g.

Avers: L VERVS AVG ARM / PART MAX R (sic) R VIII.

Buste couronné de lauriers, drapé, à droite. Cercle perlé.

Revers: exergue – COS II / S C.

Jupiter en quadriga, en galop, à gauche. Cercle perlé.

Observations: Bon état de conservation, faiblement détérioré, à patine. La pièce ne figure pas dans RIC III!

Il s'agit d'un faux moderne, car le matériel, les dimensions et le poids de la pièce ne correspondent pas à l'époque.

Références: Avers cf. RIC III, p. 331, no. 1483, 1484, 1486.

Revers: cf. RIC III, p. 333, no. 1505, 1507, 1508.

Marc Aurèle (pl. 1/12)

12. Nominal: denier.

Datation: 161–180.

La Monnaie: –

Axe: 6 (?); D: 16,84 × 17,44 mm; G: 2,03 g.

Avers: légende effacée.

Silhouette de tête couronnée de lauriers, à droite.

Revers: Légende effacée.

Observations: Denier fourré dans un faible état de conservation, la pastille en métal présente des défauts de matriçage.

Références: –

Gordian III (pl. 2/1)

13. Nominal: antoninien.

Datation: 238–244.

La Monnaie: Antioche.

Axe: 12; D: 21,82 × 21,47 mm; G: 5,86 g.

Avers: IMP GORDIAN[vs] PIVS IVL AVG.

Tête couronnée de rayons, à droite.

Revers: PM TRP IIII COS II PP.

Felicitas debout, à gauche, tient dans sa main gauche la corne de l'abondance et dans la main droite le long caducée. Observations: La pièce est un faux moderne, aspect établi en observant les fautes de matriçage, les lettres sont allongées.

Références: cf. RIC IV/3, p. 98, no. 233.

Maximianus I (pl. 2/2)

14. Nominal: follis.

Datation: 295–296.

La Monnaie: Heraclée.

Axe: 6; D: 18,9 mm; G: 1,78 g.

Avers: IMP [c ma] V[al maxi]MIANVS [p f] AV [g].

Tête couronnée de rayons, à droite.

Revers: [conc]ORDIA MIL-ITV[m].

Au-dessus de l'exergue: HE.

Maximian debout, à droite, en tenue militaire reçoit une petite Victoria avec le globe de la part de Jupiter. Il tient le sceptre dans la main gauche.

Observations: Etat moyen de conservation, fragmentaire.

Références: cf. RIC VI, p. 531, no. 14.

Maximianus I (pl. 2/3)

15. Nominal: follis.

Datation: 312.

La Monnaie: Nicomédie.

Axe: 6; D: 21,27 × 20,48 mm; G: 2,48 g.

Avers: IMP C [gal] VAL [ma]X[imianvs] P F AVG.

Tête couronnée de lauriers, à droite.

Revers: GENIO AVG[vsti].

Exergue: – / A // SMN [?].

Genius debout, à gauche, le « modius » sur la tête, nu, la chlamyde agrafée sur l'épaule gauche, tenant dans sa main droite la patère d'où coule un liquide et la corne de l'abondance à gauche ; à gauche il y a un autel.

Observations: Etat moyen de conservation, la monnaie ne présente pas de déformations ; elle commence à être corrodée sur l'avvers.

Références : cf. RIC VI, p. 566, no. 71.

Constantin I : Constantinus II Caesar (pl. 2/4)

16. Nominal: follis.

Datation: 324.

La Monnaie: Thessalonique.

Axe: 6; D: 18,08 × 19,36 mm; G: 3,37 g.

Avers: CONSTANTINVS IVN NOB C.

Buste couronné de lauriers, drapé, cuirassé, à gauche.

Revers: CAESARVM NOSTRORVM.

La couronne de lauriers encadre VOT / X

Exergue: TSBVI.

Observations: Très bon état de conservation; la monnaie ne présente pas de déformations ni des traces de corrosion.

Références: cf. RIC VII, p. 513, no. 128.

Constantin I (pl. 2/5)

17. Nominal: follis.

Datation: 325–337.

La Monnaie: –

Axe: 12; D: 13,40 × 14,01 mm; G: 1,35 g.

Avers: Légende illisible.

Tête portant un diadème, à droite.

Revers: Légende illisible.

Exergue: détruite.

Deux soldats face à face séparés par un drapeau, une lance à la main et l'autre main se reposant sur le bouclier.

Observations: Etat moyen de conservation, la monnaie ne présente pas de déformations ou de traces de corrosion.

Références : cf. RIC VII – le type *GLORIA EXERCITVS* (avec un drapeau).

Constantin I (pl. 2/6)

18. Nominal: follis.

Datation: 326–337.

La Monnaie: Antioche.

Axe: 5; D: 18,06 × 18,87 mm; G: 3,22 g.

Avers: CONSTAN-TINVS AVG.

Tête couronnée de lauriers, à droite.

Revers: PROVIDENTIAE AVGG.

Exergue: SMANTA.

La porte de fortification a deux tours, la porte est ouverte, il y a une étoile au-dessus, six rangs de pierre.

Observations: Très bon état de conservation, la monnaie est couverte de patine noble.

Références: cf. RIC VII, p. 688, no. 63.

Constantin I (pl. 2/7)

19. Nominal: follis.

Datation: 330–337.

La Monnaie: Cyzique.

Axe: 2; D: 17,80 × 18,06 mm; G: 1,91 g. Avers: VRBS ROMA.

Rome, vers la gauche, portant un heaume à panache. Cercle perlé.

Revers: Exergue – SMKB.

La louve se trouve vers la gauche, la tête inclinée, allaitant les jumeaux, au-dessus il y a deux étoiles (qui représentent probablement les Dioscures). Cercle perlé.

Observations: Bon état de conservation. La matrice sur le revers est faiblement décentrée vers la droite.

Références: cf. RIC VII, p. 654, no. 71.

Constantin I (pl. 2/8)

20. Nominal: follis.

Datation: 330–337.

La Monnaie: Aquilée (?).

Axe: 12; D: 14,65 × 15,00 mm; G: 1,59 g.

Avers: légende fragmentaire, CONSTAN[ti-nvs ma] X AVG.

Buste, drapé, portant un diadème, à droite. Cercle perlé.

Revers: GLORIA [exer]CITVS.

Exergue: AQNSD.

Deux soldats face à face séparés par un drapeau, une lance à la main et l'autre main se reposant sur le bouclier.

Observations: Très bon état de conservation.

Références: cf. RIC VII – le type *GLORIA EXERCITVS* (avec un drapeau). Nouveau type d'exergue AQNSD.

Constantius II (pl. 2/9)

21. Nominal: follis.
 Datation: 337–340.
 La Monnaie: Antioche.
 Axe: 6; D: 16,29 × 14,9 mm; G: 1,33 g.
 Avers: légende effacée.
 Tête portant un diadème, à droite. Cercle perlé.
 Revers: [g]ORIA EXER[citvs].
 Exergue: SMA.
 Deux soldats face à face séparés par un drapeau, une lance à la main et l'autre main se reposant sur le bouclier.
 Observations: Etat moyen de conservation, la pastille est déformée, résultat d'un défaut de fonte de la pièce.
 Références: cf. RIC VII, p. 697, no. 108 – le type *GLORIA EXERCITVS* (avec un drapeau).

Constantin II: Helena (pl. 2/10)

22. Nominal: AE 3.
 Datation: 337–340.
 La Monnaie: Constantinople.
 Axe: 12; D: 14,59 × 14,70 mm; G: 1,41 g.
 Avers: [fl ivl he]-LEN[ae avg].
 Tête portant un diadème, à droite.
 Revers: PAX PV-BLICA.
 Exergue: CONSA.
 Pax debout, à gauche, tenant une branche et le sceptre dans une position transversale.
 Observations: Etat moyen de conservation, il y a de faibles déformations causées par la circulation de la pièce à l'époque.
 Références: cf. RIC VIII, p. 449, no. 33.

Constantin I/ses fils (pl. 2/11)

23. Nominal: AE 3.
 Datation: 337–361.
 La Monnaie: –
 Axe: 6; D: 15 mm; G: 1,42 g.
 Avers: légende effacée.
 Tête, à droite.
 Revers: légende effacée, fragmentaire.
 Exergue: détruite.
 Deux vagues silhouettes de soldats, face à face; entre eux il y a deux drapeaux.
 Observations: Faible état de conservation, la pièce fragmentaire présente sur l'avers des traces de fort brûlage.
 Références: cf. RIC VII – le type *GLORIA EXERCITVS* (avec deux drapeaux).

CONSTANS (pl. 2/12)

24. Nominal: AE 4.
 Datation: 347–348.
 La Monnaie: –

Axe: 6; D: 13,66 × 13,22 mm; G: 1,71 g.
 Avers: [d n c]ONSTA – [ns p f avg].
 Tête couronnée de lauriers, à droite.
 Revers: La couronne de lauriers encadre VOT / XX / MVLT.
 Exergue: détruite.
 Observations: Bon état de conservation.
 Références: cf. RIC VIII – le type *VOT / MVLT*.

Constantius II (pl. 2/13)

25. Nominal: AE 3.
 Datation: 348–361.
 La Monnaie: –
 Axe: 12; D: 16,77 × 16,03 mm; G: 1,90 g.
 Avers: DN CONSTAN[tivs p f avg].
 Buste couronné de lauriers, drapé, à droite.
 Revers: [f]EL TEMP REPARA[tio].
 Un soldat coiffé d'un heaume, vers la gauche, le bouclier à la main gauche frappe avec la lance un cavalier; le bouclier est sur la terre, vers la droite; le cavalier n'a pas de barbe, il porte un bonnet, il tombe sur le cou du cheval.
 Exergue: détruite.
 Observations: Etat moyen de conservation, elle est couverte de patine noble.
 Références: cf. RIC VIII – le type *FEL TEMP REPARATIO* (cavalier tombant).

Constantius II (pl. 2/14)

26. Nominal: AE 3.
 Datation: 348–361.
 La Monnaie: –
 Axe: 6; D: 16,76 × 16,37 mm; G: 1,86 g.
 Avers: D N CONSTANTIVS P P AVG.
 Buste, portant un diadème, à droite.
 Revers: [f]EL [t]EMP REP[aratio].
 Un soldat coiffé d'un heaume, vers la gauche, le bouclier à la main gauche frappe avec la lance un cavalier; le bouclier est sur la terre, vers la droite; le cavalier n'a pas de barbe, il porte un bonnet, il tombe sur le cou du cheval. Exergue: détruite.
 Observations: Bon état de conservation. Dans la partie gauche de la pièce on a fait un découpage triangulaire qui suggère son utilisation comme pendentif dans une période ultérieure.
 Références: cf. RIC VIII – le type *FEL TEMP REPARATIO* (cavalier tombant).

Constantius II (pl. 2/15)

27. Nominal: AE 3.
 Datation: 348–361.
 La Monnaie: –
 Axe: 12; D: 16,63 × 15,75 mm; G: 1,5 g.
 Avers: [d n con]STANS-TIVS [p f avg].

Tête portant un diadème, à droite. Cercle perlé.

Revers: FEL TEMP-REPARA[tio].

Un soldat coiffé d'un heaume, vers la gauche, le bouclier à la main gauche frappe avec la lance un cavalier; le bouclier est sur la terre, vers la droite; le cavalier n'a pas de barbe, il porte un bonnet, il tombe sur le cou du cheval. Cercle perlé.

Exergue: détruite.

Observations: Etat moyen de conservation, la pièce a circulé à l'époque.

Références: cf. RIC VIII – le type *FEL TEMP REPARATIO* (cavalier tombant).

Constantius II (pl. 3/1)

28. Nominal: AE 3.

Datation: 348–361.

La Monnaie: –

Axe: 6; D: 14,95 × 14,93 mm; G: 2,84 g.

Avers: D N CONS[tan-tivs p f avg].

Buste, portant un diadème, drapé, à droite.

Revers: [fel temp rep]ARAT[i]O.

Exergue: CON[?].

Un soldat coiffé d'un heaume, vers la gauche, le bouclier à la main gauche frappe avec la lance un cavalier; le bouclier est sur la terre, vers la droite; le cavalier n'a pas de barbe, il porte un bonnet, il tombe sur le cou du cheval.

Observations: Bon état de conservation, la pièce ne présente pas de déformations ou de traces de corrosion.

Références: cf. RIC VIII – le type *FEL TEMP REPARATIO* (cavalier tombant).

Constantius II: Constantius III Gallus Caesar (pl. 3/2)

29. Nominal: AE 3.

Datation: 351–355.

La Monnaie: –

Axe: 3; D: 18,54 × 18,81 mm; G: 2,69 g.

Avers: D N [constant] – IVS [nob caes].

Revers: Légende illisible.

La vague silhouette d'un soldat qui porte une lance. Pour le reste, la représentation est détériorée.

Exergue: détruite.

Observations: Faible état de conservation, la corrosion est présente sur l'avvers, la pastille en métal est faiblement déformée dans la partie inférieure.

Références: cf. RIC VIII – le type *FEL TEMP REPARATIO* (cavalier tombant).

Constantius II (pl. 3/3)

30. Nominal: AE 3.

Datation: 355–356.

La Monnaie: –

Axe: 12; D: 13,04 × 12,18 mm; G: 1,31 g.

Avers: légende fragmentaire.

Tête portant un diadème, à droite.

Revers: La couronne de lauriers encadre VOT / XX / MVLT.

Exergue: détruite.

Observations: Etat moyen de conservation, la pastille en métal présente des déformations, résultat de la circulation de la pièce ou suite à une exécution défectueuse.

Références: cf. RIC VIII – le type *VOT.../MVLT...*

Constantius II: Julien Caesar (pl. 3/4)

31. Nominal: AE 3.

Datation: 355–361.

La Monnaie: –

Axe: 12; D: 15,40 × 16,00 mm; G: 2,66 g.

Avers: D N CL IVL-IA[nvs] N[ob] C. Buste, drapé, à droite.

Revers: [fel] TEMP REPARATIO.

Un soldat coiffé d'un heaume, vers la gauche, le bouclier à la main gauche frappe avec la lance un cavalier; le bouclier est sur la terre, vers la droite; le cavalier n'a pas de barbe, il porte un bonnet, il tombe sur le cou du cheval.

Exergue: détruite.

Observations: Bon état de conservation, patine noble.

Références: cf. RIC VIII – le type *FEL TEMP REPARATIO* (cavalier tombant).

Constantius II (pl. 3/5)

32. Nominal: AE 3.

Datation: 355–361.

La Monnaie: –

Axe: 6; D: 13,85 × 13 mm; G: 1,26 g.

Avers: Légende illisible.

Tête à droite.

Revers: Légende effacée.

L'empereur porte un casque et un vêtement militaire; il tient dans ses mains le globe et la lance.

Exergue: détruite.

Observations: Faible état de conservation.

Références: cf. RIC VIII – le type *SPES REI PVBLICE*.

Constantius II (pl. 3/6)

33. Nominal: AE 3.

Datation: 355–361.

La Monnaie: –

Axe: 6; D: 14,82 × 14,65 mm; G: 1,65 g.

Avers: Légende effacée.

Tête couronnée de lauriers, à droite. Revers: Légende effacée.

La vague silhouette de l'empereur coiffé d'un casque, debout, en tenue militaire; il tient dans ses mains le globe et la lance.

Exergue: détruite.

Observations: Faible état de conservation. La pièce présente des traces de corrosion sur l'avvers et sur le revers aussi.

Références: cf. RIC VIII – le type *SPES REI PVBLICE*.

Constantius II (pl. 3/7)

34. Nominal: AE 3.

Datation: 355–360.

La Monnaie: –

Axe: 12; D: 14,38 × 16,02 mm; G: 1,35 g.

Avers: Légende corrodée.

Tête couronnée de lauriers, à droite. Revers: SPE[s rei pvblce].

La vague silhouette de l'empereur coiffé d'un casque, debout, en tenue militaire; il tient dans ses mains le globe et la lance.

Exergue: détruite.

Observations: Faible état de conservation. La pièce présente des traces de corrosion surtout sur le revers.

Références: cf. RIC VIII – le type *SPES REI PVBLICE*.

Valentinien I (pl. 3/8)

35. Nominal: AE 3.

Datation: 364–367.

La Monnaie: –

Axe: 4; D: 14,53 × 15,63 mm; G: 1,91 g.

Avers: Légende fragmentaire, D N [valentini-anvs] P[f] A[v].

Tête couronnée de lauriers, à droite. Revers: Légende illisible, fragmentaire.

Victoria en marchant tient dans la main gauche une couronne et une feuille de palmier.

Exergue: détruite.

Observations: Etat moyen de conservation, fragmentaire.

Références: cf. RIC IX – le type *SECURITAS REI PVBLICAE*.

Valentinien/Valens /Gratien (pl. 3/9)

36. Nominal: AE 3.

Datation: 364–378.

La Monnaie: –

Axe: 12; D: 15,17 × 15,21 mm; G: 1,91 g.

Avers: [d n v]A[lentini- a]N[vs p f] AV[g]. Buste, portant un diadème et une cuirasse, drapé, à droite.

Revers: Légende illisible.

La vague silhouette de l'empereur qui avance vers la droite; de sa main droite il traîne un captif, à gauche il y a un « labarum ».

Exergue: détruite.

Observations: Faible état de conservation. La pièce présente des traces de corrosion sur l'avvers et sur le revers aussi.

Références: cf. RIC IX – le type *GLORIA ROMANORVM*.

Valens (pl. 3/10)

37. Nominal: AE 3.

Datation: 364–378.

La Monnaie: –

Axe: 12; D: 14,59 × 14,98 mm; G: 1,52 g.

Avers: [d] N VALEN – [s p f avg].

Buste, portant un diadème et une cuirasse, drapé, à droite.

Revers: Légende illisible.

La silhouette de l'empereur qui avance vers la droite; de sa main droite il traîne un captif, à gauche il y a un « labarum ».

Exergue: détruite.

Observations: Etat moyen de conservation, la pièce ne présente pas de déformations ou de traces de corrosion.

Références: cf. RIC IX – le type *GLORIA ROMANORVM*.

VILLE GRECQUE INCONNUE

Septimius Severus: Iulia Domna (pl. 3/11)

38. Nominal: monnaie provinciale.

Datation: 193–211.

La Monnaie: –

Axe: 12; D: 21,00 × 19,85 mm; G: 4,87 g. Avers: [ιουλι] A – ΣΕ[βαστη].

Buste, drapé, à droite.

Revers: Légende effacée.

Nemesis, à gauche tient la balance (?).

Observations: Faible état de conservation. La pièce est utilisée à cause de sa circulation à l'époque.

Références: –

Monnaie non identifiable (pl. 3/12)

39. Nominal: AE?

Datation: IV^{em} siècle.

La Monnaie: –

Axe: (?); D: 15,77 × 15,69 mm; G: 2,14 g.

Avers: Légende corrodée.

Tête portant un diadème, à droite.

Revers: Corrodé.

Exergue: détruite.

Observations: Faible état de conservation. La pièce ne présente pas de déformations ou de traces de corrosion.

Références: –

Monnaie non identifiable (pl. 3/13)

40. Nominal: denier fourré.

Datation: –

La Monnaie: –

Axe: –; D: –; G: 1,94 g.

Avers: Légende effacée.

Tête, à droite.

Revers: effacé.

Observations: Très faible état de conservation, la Datation: 69–70.

pastille en métal est déformée.

Références: –

Axe: –; D: 22,19 × 22,05 mm; G: 7,55.

Avers: חלאגל וייצ

Citron.

Revers: חנש עברא עבר

Deux bouquets de myrte (palmier, saules).

Observations: Bon état de conservation. Références: cf.

Kanael 1963, p. 58–59, fig. 48.

Judaea (pl. 3/14)

41. Nominal: quart de shekel.

Cosmin Mihail Coatu

“Babeş-Bolyai” University Cluj-Napoca

Cluj-Napoca, ROU

cosminmihail_coatu@yahoo.com

Adrian Socaci

Cluj-Napoca, ROU

adrianszakacs@yahoo.com

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Planche 1.

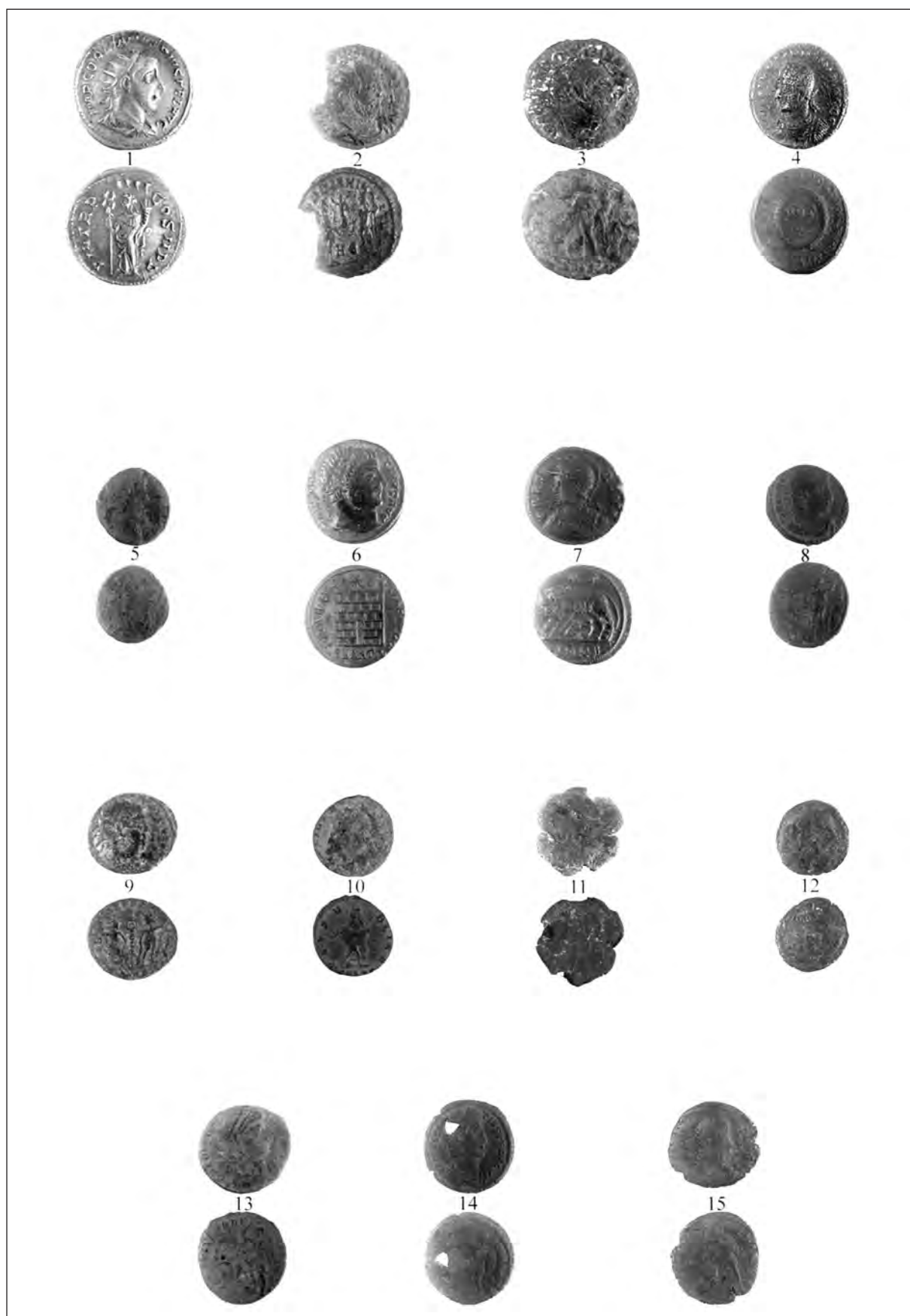


Planche 2.

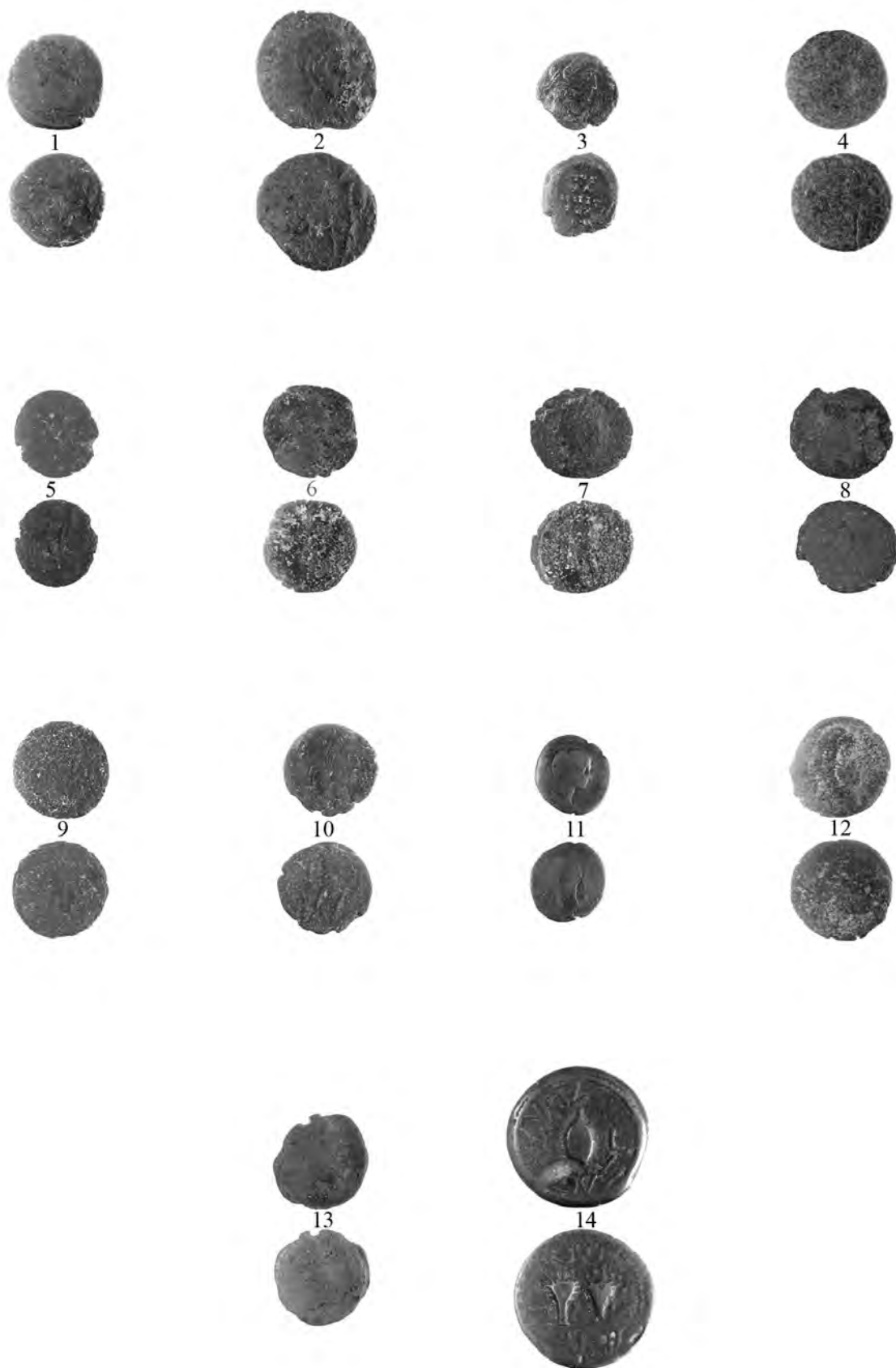


Planche 3.

Dacian Objects from Ardeu in the Collection of the MNIR¹

Iosif Vasile Ferencz

Abstract: The Dacian fortification in Ardeu is an archaeological site identified in the end of the nineteenth century. Nevertheless, interest in the site was not constant through time. One of the most significant stages of research, performed during the twentieth century, important through both the size of the excavations and the nature of the discovered material, were the test trenches performed by Larisa Nemoianu in 1973. Unfortunately, the results of this research remained largely unpublished. The present paper aims at recovering for the academia a small part of the objects discovered on that occasion.

Keywords: fortification, Dacians, Ardeu, MNIR, south-western Transylvania.

The Dacian fortification in Ardeu (Fig. 1) is located in south-western Transylvania (Fig. 2) and was discovered in the end of the nineteenth century by Téglas Gábor. The researcher from Deva provided the first data on the site², but research continues to this day, successfully³.



Fig. 1. Cetățuie Hill. Aerial view, photo Zoltán Czajlik, May 2012

A distinct moment in the research of the Dacian fortification in Ardeu were, no doubt, the test excavations performed by Larisa Nemoianu in 1973⁴. The four trenches and four test squares⁵ did not manage to convince on the continuation of research, despite having revealed diverse and interesting materials. The few objects published together with Ioan Andrițoiu were, even then, a proof in this direction⁶, but numerous artifacts have remained, to this day, unpublished. Several years ago, through Mr. George Trohani's benevolence, I was able to research the few archaeological items discovered in Ardeu during Larisa Nemoianu's excavations. All the objects I will describe here are preserved in box

¹ MNIR – The National Museum of Romania, Bucharest. English translation: Ana M. Gruia.

² Téglas 1885, 299–307; Téglas 1888, 134–138.

³ For the state of research, see also Ferencz 2012, and for the perspectives of the investigations see Ferencz, Roman 2010.

⁴ Nemoianu, Andrițoiu 1975.

⁵ Nemoianu, Andrițoiu 1975, 181.

⁶ Nemoianu, Andrițoiu 1975.

no. 157 in the storage room of the MNIR. The most numerous artefacts in this box are specific to the Dacian civilization and are the topic of the present article.



Fig. 2. Location of the village of Ardeu, in south-western Transylvania, taken from Ferencz, Roman 2010

Item catalogue

1. Iron object with undetermined function; it is oxidized and is preserved in the storage room of the MNIR, lacking an inventory number (Pl. 1/7).
2. Iron nail; through shape it might be dated to the Middle Ages. Though oxidized, it is in a good state of preservation. It is kept in the storage room of the MNIR, lacking an inventory number (Pl. 1/6).
3. Small-size iron fitting, with the decorative head in the shape of a hemispheric cap; is preserved in the storage room of the MNIR, lacking an inventory number (Pl. 1/4).
4. Iron object with undetermined function (could be a support rod for the resort of a fibula), oxidized, preserved in the storage room of the MNIR, lacking an inventory number (Pl. 1/3).
5. Iron, oxidized link, preserved in the storage room of the MNIR and lacking an inventory number (Pl. 1/2).
6. Flat, convex link; due to its shape, I believe it could have been part of a scythe, but maybe also a belt buckle. The object is made of iron, has not been restored, and is preserved in the storage room of the MNIR, lacking an inventory number (Pl. 1/1).
7. Strongly oxidized iron object that might be a lance heel. It is preserved in the storage room of the MNIR, lacking an inventory number (Pl. 1/5).
8. Unfinished antler object with undetermined function. It is made from the tip of a deer antler and is trunk-shaped. Three notches can be seen on the surface. It is preserved in the storage room of the MNIR, lacking an inventory number (Pl. 1/8)⁷.
9. Loom weight, polished on the outside, dark grey in color. The item could also be prehistoric and is preserved in the storage room of the MNIR, Inv. No. 172439 (Pl. 3/2).
10. Clay loom weight made of good-quality fabric, grey in color, preserved in the storage room of the MNIR, Inv. No. 172440 (Pl. 3/1).
11. Asymmetrical small cup, grey-brown in color, made of fine fabric with inclusions of large pebbles. Preserved almost entirely, small nick on the rim. On the base one can distinguish, with difficulty, a mark in black ink. It is preserved in the storage room of the MNIR, Inv. No. 172451 (Pl. 2/1).

⁷ Ferencz 2010, 81, no. 13, Pl. 3/1–2.

12. Clay flattening tool made by hand from a fabric with inclusions of large shards; brick-red on the outside, with calcareous depositions and traces of firing on the sole. It is preserved in the storage room of the MNIR, Inv. No. 172441 (Pl. 3/3).

13. Pottery fragment from a wheel-thrown vessel, brick-red both inside and outside, with a black core, made of fine fabric with inclusions of sand. One can note calcareous depositions on the inside. The pot has been perforated after firing from the outside in, probably for repairs. It is preserved in the storage room of the MNIR, Inv. No. 172245 (Pl. 2/6).

14. Large-size pot handle that could have been part of a cup or an amphora. Its characteristics are typical to Dacian pottery; it is brick-red in color and made of fine fabric, with inclusions of mica. The fragment is decorated with two stamped circles that include crosses and is preserved in the storage room of the MNIR, Inv. No. 172446 (Pl. 2/7).

15. Pottery fragment decorated with a notched girdle. The pot it was once part of was made by hand from a fabric with inclusions of sand; it was coarse on both inside and outside, and was brick-red in color. Inside, one can note calcareous depositions and on the back it has the following mark, written in black ink: "ARD 76 E C1 – 0.20". It is preserved in the storage room of the MNIR, Inv. No. 172442 (Pl. 2/5).

16. Game piece made of a pottery fragment, brick-red in color, made of good-quality fabric with inclusions of sand. One can note calcareous depositions on the surface. Four spot-like marks were made on each side with a sharp tip. The four marks are placed around the perforation. It is preserved in the storage room of the MNIR, Inv. No. 172447 (Pl. 3/4).

17. Pottery fragment from a pot made of fine fabric with inclusions of sand, with grey slip on both inner and outer surfaces, polished. It displays a perforation made after firing, probably for repairs, and bears the following inscription in ink: "Ardeu VI H1." It is preserved in the storage room of the MNIR, Inv. No. 172443 (Pl. 2/8).

18. "Fruit-bowl" rim, fragmentarily preserved, of large size, wheel-thrown from a fabric with inclusions of sand particles with large granulation, fired homogenously, covered in back slip. It has a perforation made for repairs. It is preserved in the storage room of the MNIR, Inv. No. 172444 (Pl. 2/4).

19. Miniature pot (Dacian cup), reddish-grey in color, made by hand from a coarse fabric, with inclusions of crushed shards. Inside one can note traces of firing. It is preserved in the storage room of the MNIR, Inv. No. 172450 (Pl. 2/3).

20. Small cup, grey in color, made by hand from a good-quality, fine fabric with inclusions of sand. It is preserved in the storage room of the MNIR, Inv. No. 172449 (Pl. 2/2).

21. Colored glass bead, prolonged in shape. Preserved entirely, kept in the storage room of the MNIR, lacking an inventory number (Fig. 3).

As one can note from the catalogue above, box no. 157 contains a great variety of objects. They are entirely or fragmentarily preserved, made of various materials such as clay, iron, glass, and deer antler. The same diversity can also be noted on the function of these items. The lot includes entire of fragmentary pots, parts of tools and utensils, building materials, or jewelry items.

The artifacts made of iron are generally oxidized, but the state of preservation of some of them is rather good. The glass bead and the antler item are very well preserved, while among the pottery objects one can find both entire and partially preserved items. The presence of calcareous depositions indicates the environment in which they were preserved, considering the fact that "Cetățuia" in Ardeu is a calcareous hill.

Conclusions

The link described in the catalogue at no. 6 (Pl. 1/1) was probably an element from a scythe type II according to the typology suggested by Ioan Glodariu and Eugen Iaroslavschi⁸. Such tools are frequent finds on Dacian sites⁹. Scythes are discoveries attested more often through such elements than through



Fig. 3. Glass bead discovered in Ardeu

⁸ Glodariu, Iaroslavschi 1979, 74.

⁹ Glodariu, Iaroslavschi 1979, 73–74.

their blades¹⁰. Circular links, such as the one described here at no. 5 (Pl. 1/2) had different uses and thus one cannot establish with certainty their function¹¹.

As for the rod described at no. 4 (Pl. 1/3), establishing its function is also difficult. It could have been a support rod for the resort of a fibula, but could have also had some other use.

The nails and fixtures are among the building materials most often encountered on Dacian fortifications and settlements¹².

The item described at no. 7 (Pl. 1/5) was probably used as a lance heel. Numerous such items are known, used during various periods¹³.

The flattening tool described in the catalogue at no. 12 (Pl. 3/3) is an object whose domestic use has only been suggested several years ago. At first, such objects were thought to have been used as pottery polishers¹⁴, but later on Mircea Babeş suggested another interpretation, according to which they were pottery stamps, employed in the modeling of pots and not in the polishing of surfaces¹⁵. Vladimir Kotigoroško issued another hypothesis to which I adhere: the objects under discussion can be included in the category of utensils, being used in the flattening of seams and of the surface of leather¹⁶.

Loom weights can be included in the category of utensils frequently found in domestic inventories from Dacian settlements¹⁷.

The function of the unfinished object made of deer antler (no. 8, Pl. 1/8) cannot be inferred, but similar items have also been found in Ardeu during more recent researches¹⁸. The extension of research during the campaigns of 2004¹⁹, 2009²⁰, 2010²¹, 2011 and 2013²² led to the identification and research of a blacksmith's workshop; the man also produced objects made of bronze and hard animal materials²³.

Glass beads are often found in Dacian fortifications and settlements²⁴, but also in funerary complexes and among object depositions²⁵. Items similar to the one illustrated here are known from Poiana²⁶.

Miniature pots are also common among the Dacians. They have been interpreted on various occasions as ritual objects, toys, or functional, practical objects²⁷. Small cups like the ones illustrated here (no. 20, Pl. 2/2, no. 19, Pl. 2/3) were also found during more recent researches in Ardeu²⁸.

The game piece or round object made of a pottery shard (no. 16, Pl. 3/4) is also of a type usually encountered among artefacts discovered in Dacian contexts. Some of them have been perforated, like the item illustrated here, but the orifice is too narrow to have rendered the object useful as a spindle weight²⁹. Items of this type, perforated or not, made of pot wall fragments but also of other materials, have been interpreted as objects used for counting, voting, or as game pieces³⁰. The four spot-like

¹⁰ Andrişoiu, Rustoiu 1997, 102.

¹¹ Glodariu, Iaroslavschi 1979, 126.

¹² Glodariu, Iaroslavschi 1979, 114–119.

¹³ Glodariu, Iaroslavschi 1979, 132–133.

¹⁴ Crişan 1967, 205.

¹⁵ Babeş 1980, 23–31.

¹⁶ Kotigoroško 1995, 91–92.

¹⁷ Rustoiu 2002, 70.

¹⁸ Ferencz 2010, 80, no. 4, (Pl. 3/3–4).

¹⁹ Ferencz *et al.* 2005.

²⁰ Ferencz *et al.* 2010.

²¹ Ferencz *et al.* 2011.

²² The results of the campaigns performed in 2011 and 2013 remain unpublished, but for the manufacture of objects from hard animal matter in Ardeu, see also Ferencz, Beldiman 2012.

²³ Ferencz 2010, 82, footnote 30; Ferencz, Beldiman 2012, 48.

²⁴ See for example the items discovered in Sighişoara-Wiettemberg: Andrişoiu, Rustoiu 1997, 114–115; the ones from Tilişca: Lupu 1989, 78–79, Poiana: Vulpe, Teodor 2003, 65–66 or Ocniţa: Berciu 1981, 30, 40, 51, Pl. 20/17–18, Pl. 120. See for example in Hunedoara-Castle Yard: Sirbu *et al.* 2007, 77.

²⁵ Vulpe, Teodor 2003, Fig. 129/26. The analogy is just for the shape, as the item in Poiana is decorated with “eyes”.

²⁷ Andrişoiu, Rustoiu 1997, 97–101. I agree with the authors who believe that according to the context of discovery, all three above mentioned hypotheses can describe their function.

²⁸ Ferencz 2011, 41.

²⁹ Andrişoiu, Rustoiu 1997, 91.

³⁰ Pop 1995–1996, 71–74; Andrişoiu, Rustoiu 1997, 91.

marks and even the perforation in the pot wall fragment might indicate a certain value assigned to the item during the game³¹.

As for the function of the pots of which the decorated fragments were once part of, one can note that they were cooking vessels (no. 15, Pl. 2/5), tableware items (no. 17, Pl. 2/8 and no. 18, Pl. 2/4), and vessels employed for serving and storing liquids (no. 14, Pl. 2/7). One of the pottery fragments (no. 13, Pl. 2/6) was part of a large vessels used in the storing of provisions.

All vessels of which the fragments here belong to have numerous analogies among Dacian vessels, therefore I shall not insist on the issue. It is interesting to note the large number of pot fragments perforated after firing. Such orifices have been interpreted as the result of attempts at repairing certain vessels accidentally broken during antiquity.

Few details are available on Larisa Nemoianu's researches in Ardeu. No ground plan has been published, not even sketchily, to indicate the location of the research units. One only knows their number. Traces of older trenches have been identified during researches performed on top of Cetățuie Hill in recent years. Some of them might have been performed by the above mentioned researcher from Bucharest during her test excavations. The marks than can still be noticed on certain items do not aid in the attempt to attribute them to one trench or another, but the fact that they are not very similar might suggest that the objects stored in box no. 157 were found in different research units and one might consider them as "special materials".

All these elements aid in the reconstruction of a general overview of Dacian settlement on top of Cetățuie Hill in Ardeu.

Iosif Vasile Ferencz

Muzeul Civilizației Dacice și Romane Deva

Deva, ROU

fiosifvasile@yahoo.com

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³¹ Pop 1995–1996, 73.

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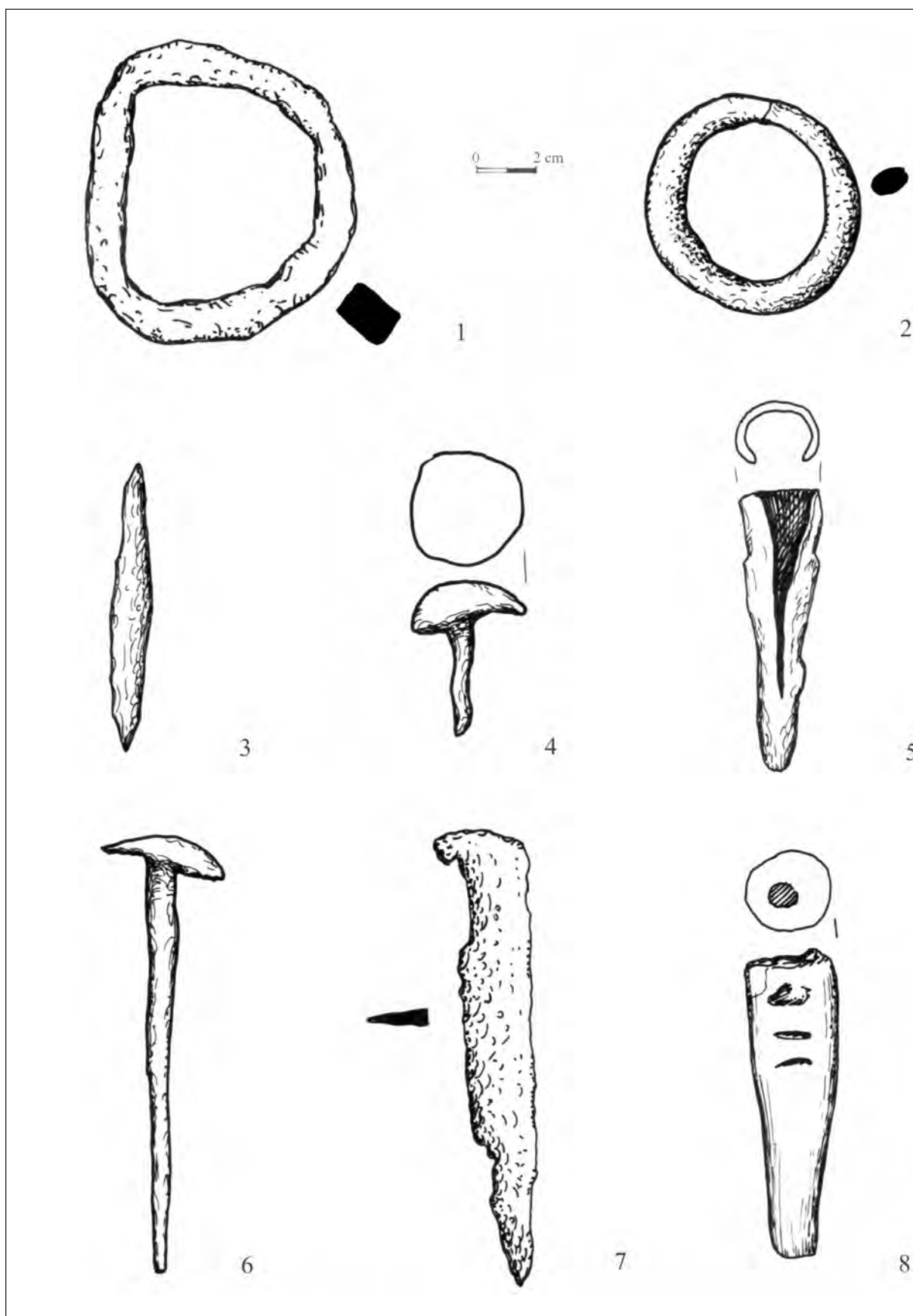


Plate I. Objects discovered in Ardeu. 1–7 made of iron; 8 deer antler.

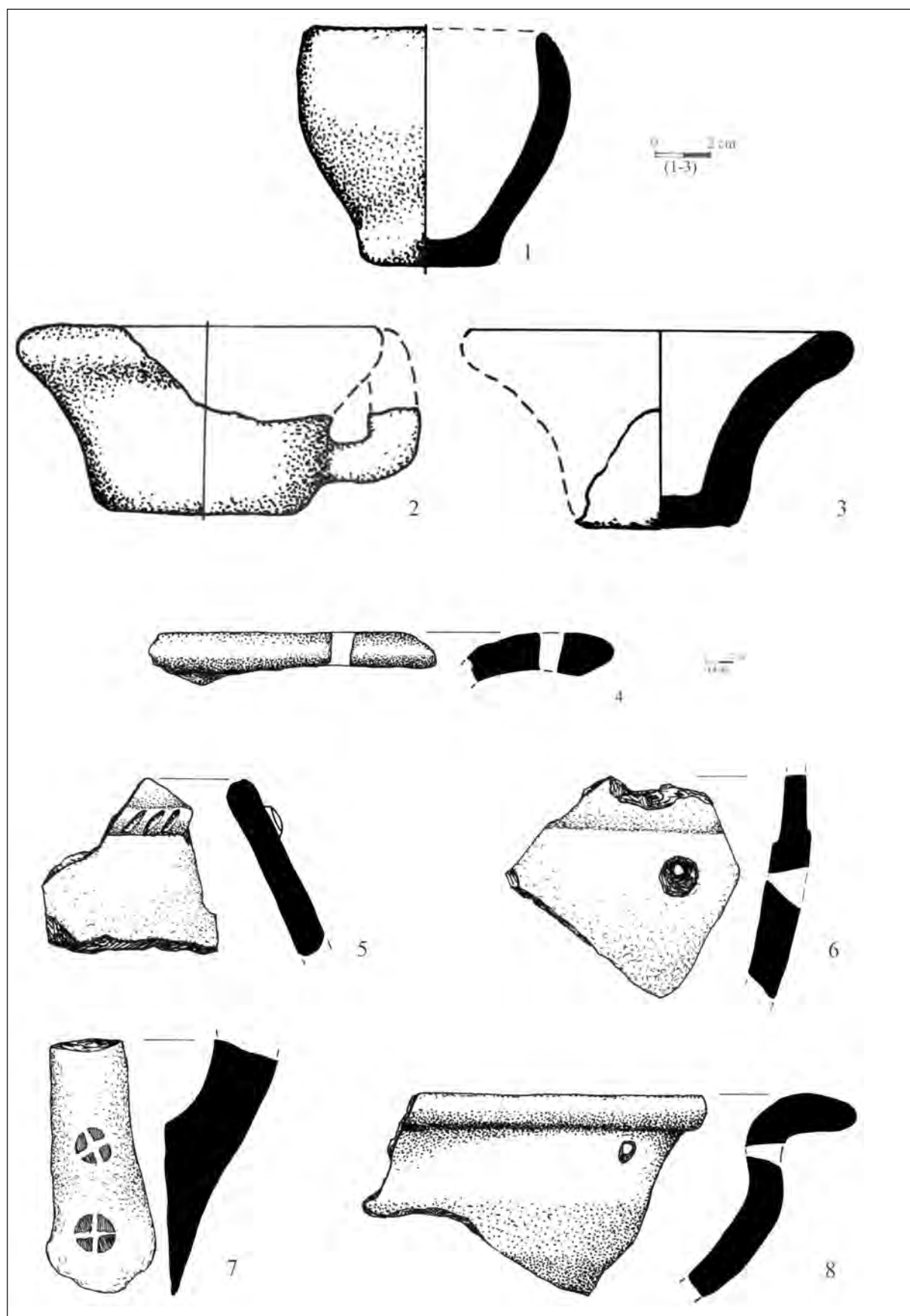


Plate II. Entire and fragmentary pots discovered in Ardeu.

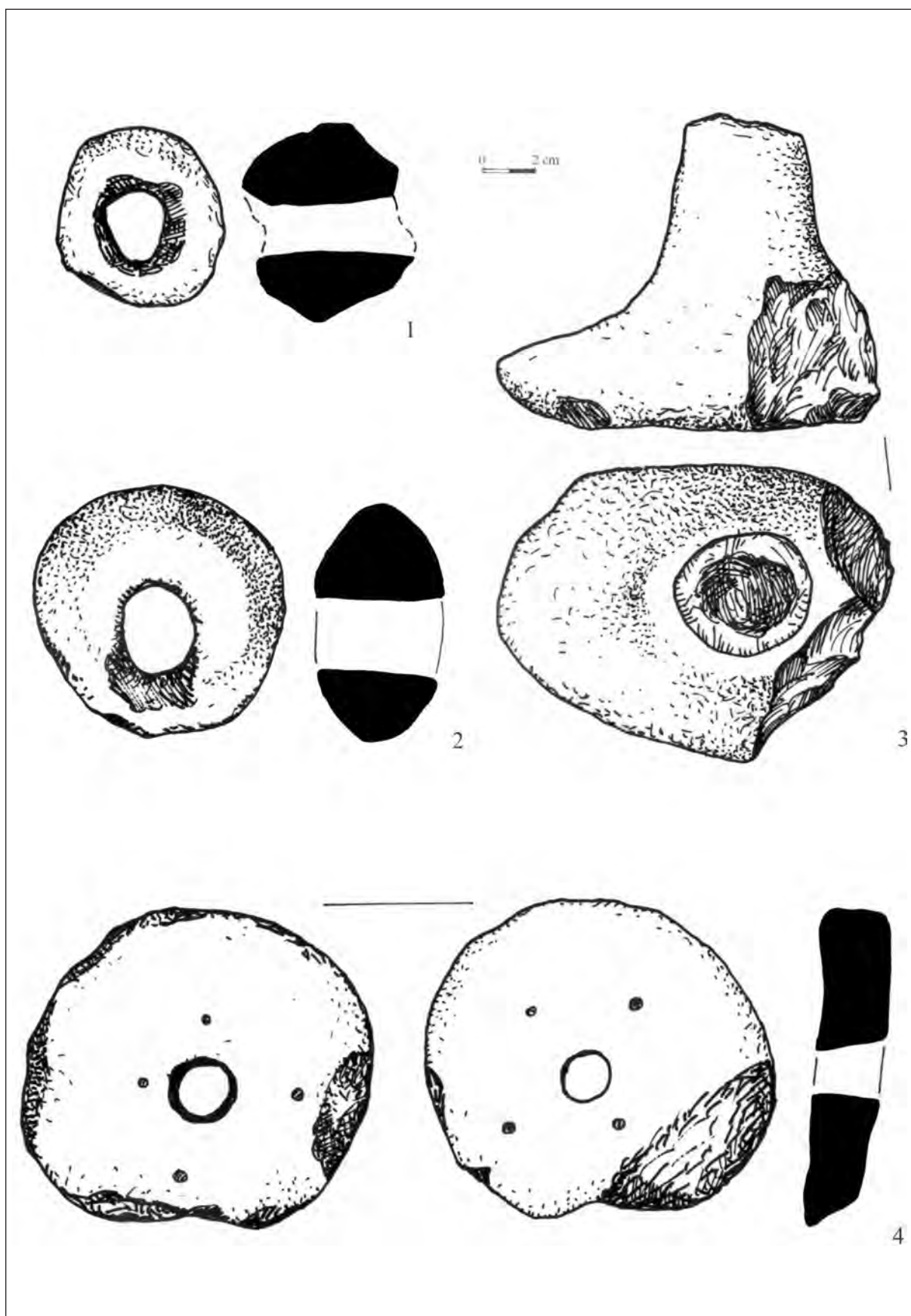


Plate III. Tools made of clay discovered in Ardeu.

Landmarks in the Development of Cartographic Representations of the Dacian Settlement in Ardeu (Municipality of Balșa, Hunedoara County)*

Cristian Constantin Roman

Abstract: The cartographic sources analyzed in this article, that include the micro-sector of Ardeu, can be grouped in three categories: sources with low accuracy, general sources and professional/modern ones created for military goals, and administrative and scientific sources. Each stage is characterized by its own manner of representation and the level and accuracy of its details. According to the topographic base and the means/methods of representation, I followed, from the *Josephinische Landaufnahme* (The Josephine Map) until the latest topographic survey of the site (2001), the development of all details of archaeological and historical significance for the micro-area covered by the archaeological site under discussion.

Keywords: Dacian period, Ardeu, cartography, maps, landscape history.

Introduction

On the general data regarding the Dacian complex in Ardeu (location, spatial limits, types of site, relation to the Mureș Valley and Orăștiei Mountains), one must note our colleagues' study published in 2004¹.

The importance of topographic approaches to the archaeology of historical landscape ("*landscape history*") in Romania² and in its surrounding western regions³ is a special one, whose theoretical founding has already been established, in my opinion, through synthesis works, monographs, and doctoral dissertations. The synthetic and diachronic approach of the categories of cartographic sources making reference to the settlement of Ardeu (municipality of Balșa, Hunedoara County) is part of an ample study of landscape history focusing on the Dacian site there that I aim to complete in the near future. *Cetățuie Hill* in Ardeu plays a significant role in the series of radical man-made changes of a type of pre-existent landscape, in the context of the area that connects the Mureș Valley to the auriferous quadrilateral. The result of these interventions motivates a morphological change of the hill, with processes typical to the new natural structure.

Goals and objectives

The main sources (i.e. cartographic ones, approached retrospectively), are completed in the present analysis by elements derived from geography and history, since I aim at reconstructing the elaboration structure of the topo-chronological criteria, the structure according to which the objective connections between attributes would be useful to the declared purpose. Rippon's statement remains emblematic: "*different landscape characteristics result from variations in the form and spatial arrangement of a wide range of features reflecting the different means by which human communities achieved subsistence, communication, recreation, and security in various periods in the past*"⁴, for the analysis methodology of the concept of "*landscape history*". The main goal, that of correlating data from cartographic sources with archaeological structures, is followed by the second goal, that refers to the spatial organization

* English translation: Ana M. Gruia.

¹ Bodó, Ferencz 2004.

² For western Romania, the most recent focused approach of the topic, in the case of the site in Dumbrăvița (Drașovean *et al.* 2004, 14–17).

³ For the latter, one of the best synthesis works in this direction is Balázs, Konkoly-Gyuró 2011. The contributions of the German school remain extremely valuable for the Iron Age (Schuppert, Dix 2007; Schuppert, Dix 2009; Bofinger *et al.* 2006). For the Slovak school one can note recent studies (Lieskovský, König 2007) that are reference works for the topic under discussion.

⁴ Rippon 2004, 19.

of this micro-sector, occupied by the Dacian complex, as well as constraints imposed by the natural context. The research follows a twofold approach. The first level of analysis envisages the site and its surroundings (ca. 17.5 ha) and follows the traces of possible Dacian-era structures (tombs, terraces, ditches, pits, traces of surface mining of useful minerals resources, shelters etc.). The second level of analysis, on a grander scale, follows the road network and the sources of primary materials over an area measuring 10 km in diameter, centered on the spot of Cetățuie.

Method

The method follows a multi-disciplinary approach, supported by numerous cartographic and non-cartographic sources (aerial photographs, on site measurements/ observations, archaeological and ethnographic data etc.) that aim at identifying, from a historical perspective, the characteristics of landscape dynamics in the micro-sector under discussion. Despite certain graphic, cartographic, and spatial expressions starting with the eighteenth century, included in landscape representation systems, the micro-sector occupied by the Dacian site in Ardeu did not benefit from a detailed representation based on the detailed knowledge of the relief and of certain elements that are typical to “intuitive” knowledge (access ways, man-made terraces etc.), taking into consideration the similarities with other Dacian fortifications. The interpretation and comparison of available maps aimed at stating the planimetric and altimetric characteristics of existing natural micro-structures during the Dacian Era, in order to identify elements that are useful to the present initiative.

Data sources

Our sources date between the first quarter of the eighteenth century and the beginning of the third millennium and I have analyzed each map individually as one must proceed due to the era, the design, the different projections, systems of coordinates, academic significance, including the different scale of these maps. Following only specific elements, imposed by the specificity / size of Dacian-era habitation and interventions (for ex. the *acropolis* on Cetățuiei Hill) one could direct the present study to few quantitative data, apparently having a negative impact on the quality of the conclusions. By studying the landscape representation systems in the area under analysis, one can infer that the cartographic system, initially, then the spatial system, provided specialists with numerous qualitative and quantitative data on the topic⁵, influenced by the various motivations (extraction of useful mineral resources, military cartography, civilian cartography with implications on historical research). The fact that geo-morphological profiles are absent from the available material deprived us from obtaining the maximum efficiency of the conclusions, compared to the multiple complex traits of the relief in this micro-sector.

Source analysis. Discussions

Sorin Forțiu has expressed one of the most challenging working hypotheses on the antique identification of the Dacian complex in Ardeu, starting from an ancient cartographic source⁶. In time, almost all Romanian archaeologists and historians have suggested various spatial locations of the ancient settlement without specific conceptual tools and without a critical discussion of the ancient text and of its numerous subsequent translations and comments that I intend to add up here⁷. The analysis of the numerous theoretical determinations of the modern localization of ancient Ziridava⁸ and the use of modern technology (translations of Ptolemy's coordinates into present-day coordinates, consulting the primary archaeological literature on the topic), and especially the *sine ira et studio* research of the ancient source and of those *codices secundarii*, among which Codex Vaticanus graecus 191, support, according to S. Forțiu, the hypothesis of identifying Ziridava with the Dacian complex in Ardeu⁹.

⁵ Grigore 1979.

⁶ Forțiu 2012.

⁷ Forțiu 2012, 6–8.

⁸ Forțiu 2012, 19–25.

⁹ I employ this term to designate the complex of site types (fortification, necropolis, civilian settlement, traces of mining useful minerals), interconnected in Ardeu. Archaeological discoveries made so far, their partial publication, and

The first known localization of the settlement of Ardeu (*Erdofalva*) (Fig. 1) in our cartographic sources dates to the first quarter of the eighteenth century. We make use of it due to academic and practical reasons¹⁰. The working manner, derived from a historical-geographic goal of this map, is more careful, insisting on rendering the mountainous aspect of the landscape (without scale), the elements of vegetation, and the name of important settlements. As in the case of other maps, the one under discussion does not employ toponyms. One notes the clarity in the identification of individual mountains and the corridor that connects Mureş Valley and Zlatna. The only element connected to Ardeu is the depiction of the church.



Fig. 1. Location of the village of Ardeu (apud Müller 1709, Augustissimo Romanor)

The first important observation is determined by perfecting certain databases and knowledge on the mineralogical resources in Transylvania (a fact also confirmed by the identification of certain silver and lead resources near Ardeu, a situation reflected by symbols). This aspect of data accumulation culminates for the first quarter of the eighteenth century with Marsigli's works¹¹ (Fig. 2), a period recently discussed by Gábor Papp in one part of a synthesis article¹². The areas of interest are stressed through the technique of shading, with the aid of strong hachures (lacking mathematical value) and of certain symbols that are also rendered on the map's cartouche. No toponyms are noted for the area under research.

Compared to the history of cartography, the maps that include the micro-region of Ardeu also reflect both the development stage of general cartography (in the first half of the eighteenth century) (that envisaged the spatial location of significant settlements and major water courses) and the stage reached by military and physical-geographic cartography. The usefulness of these maps is in strong connection to the characteristics of certain elements that can be analyzed both quantitatively and

the advanced stage of documentation processing place the site in Ardeu among the most important Dacian sites in Transylvania (Ferencz 2012).

¹⁰ Müller Johann Christoph, *Augustissimo Romanor. Imperatori Iosepho I. Hungaria Regi Invictissimo Mappam Hanc Regni Hungariae* (1709) – one of the most valuable modern cartographic sources – (apud https://aleph.mzk.cz/F/J2JLFXBICKAP411HYBSF4ESRRSH2CSJB1552RDD3AUK1FHBHXD-22434?func=find-acc&acc_sequence=000324382)

¹¹ *Mappa Mineralographica Fodinas in Hungaria* (1741) (<http://mapy.mzk.cz/en/mzk03/001/051/666/2619316354>).

¹² Papp 2008.

qualitatively, dynamically and from a developmental perspective (the outlook of Cetățuiei Hill, the civilian area of the site, the presumed areas with sacred/ceremonial function, the various man-made interventions identified topographically, the outlook of the hydrographic network, the distribution of the forest, the sources of useful primary materials, the roads, the surrounding landscape etc).

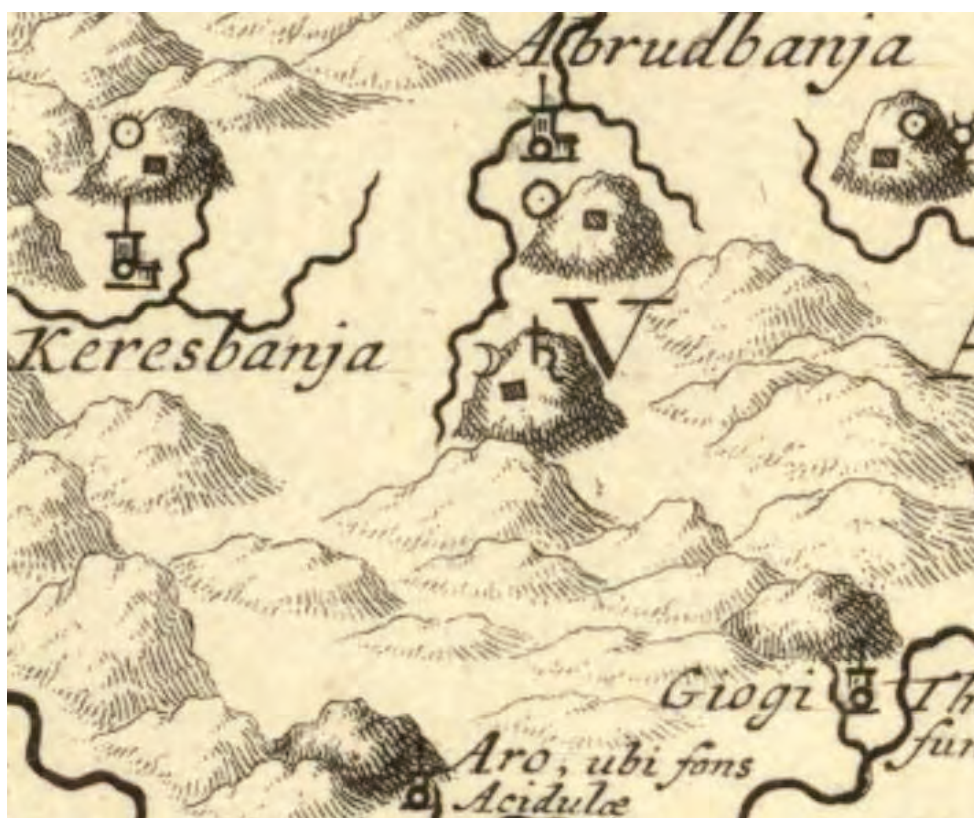


Fig. 2. Sector Geoagiu-Balșa, as reflected in A. Marsigli (1741)

Our starting point is folio 168 of the valuable Josephine Map of Transylvania¹³ (*Josephinische Landaufnahme*) (1769–1773), valuable for the historical-documentary perspective it provides. This mapping was at that time the result of the most advanced research and technical operations, scientific but also artistic, based first of all on direct observations, reflected by the accuracy of the documentation, of transcribing toponyms, of bi-dimensional representations, and of certain topographic details (triangulation points, milestones etc); the result is not a map in the current understanding of the word, since it does not render landscape altimetry.

The space imposed by the problematic of the present chapter made me analyze, from a cartographic and topographic perspective, only the perimeter of the Dacian site (the fortification, the civilian settlement, and the areas in their close proximity); the limits of this perimeter were determined by details of the hydrographic network and the base of certain slopes. We shall remember the idea suggested by this map that the slopes at the entrance into Ardeului Gorges are not very steep, since they were not marked with hachures, a fact put to good use during antiquity as several constructions were built there, some of which have been archaeologically researched. Future research will need to reconstruct and analyze the dynamics of the built surface in this sector of the archaeological site as compared to the landscape. Continuous effort was put in recent times, on a European level, into the maximal use of Josephine topographic maps (created despite the lack of a real geodesic basis¹⁴) with good results that can be employed in both topographic/geodesic researches and historical-archaeological ones¹⁵. The scale also employed in the case of folio 168 is of ca. 1:28.800, while for the area under discussion no data is provided on the altitude; differences in altitude were rendered through hachures (Fig. 3).

¹³ Arcanum 2006a.

¹⁴ Timár *et al.* 2007; Timár *et al.* 2007a.

¹⁵ Podobnikar 2009; Micle *et al.* 2009.



Fig. 3. Location of the village of Ardeu (Josephinische Landaufnahme/
Josephine Map of Transylvania) (1769–1773) (apud Arcanum 2006)

Cetățuiei Hill has the aspect of a mamelon, surrounded on three sides by Ardeului Creek (Fig. 4). The entire surface of the fortification is uneven, rocky, not covered by thick forest; the aspect is also suggested through comparison with the upper part of Pleșa Mare (*Plesa Mueze Mare*), without arboreal vegetation, as well as with the latter's eastern part, marked by an oblique wall, with rare arboreal vegetation. The hachures in the eastern part of Judelui Hill and the proportion between the first and Cetățuiei Hill suggest the fact that the road leading to Ardeu was located on a landscape contour higher than the present-day road. The steep southern slope of Judelui Hill is suggested by the oblique intersection of two systems of hachures, while its northern and western sides, through shading rendered as overlapping, very expressive close lines, are presumably a sector that includes a steep slope towards the river. One notes the fact that the perimeter between the southern border of the settlement and Cetățuiei Hill is rendered as a more elevated area as compared to the outlet area of the gorge that takes the aspect of an everglade: low, easily flooded, strongly influenced by the valley sectors with variable flows, with, at times, significant narrowing areas due to the closeness of the hills downstream from Cetățuie, represented with a relatively high degree of generality and abstractness of detail. The above mentioned narrowing areas were speculated in the construction of the present-day road, placed on the left bank of the river which it does not intersect between Bozeș and Ardeu. In order to prove the fluctuations of Ardeului Creek I have also employed the details included on the Josephine mapping, despite the fact that one must not assign absolute value to the precision of the stream's contour, shape, and characteristics (size, width, flow capacity). The graphical rendering of this detail is limited as far as morphometric values are concerned, but it has an advanced degree of expressivity. If the river course depicted on the Josephine map is the real one, then one can presume the fact that the area of the Dacian settlement at the base of Cetățuiei Hill (located on a strip of everglade) ended to the west by the base of Pleșa Mare and to the north and east by Ardeului Creek¹⁶. Another aspect,

¹⁶ Freshets and land sliding tend to push the creek of Ardeu towards the calcareous hills (Pleșa Mare and those downstream), located on the right side of the creek. The situation was also indirectly confirmed by the identification of a

with a possible impact at least for the medieval era, is connected to the cart road network; these roads followed the contours of the landscape, along the valley, connecting Ardeu to Mureşului Valley and the area of Zlatna¹⁷. Besides the valley road that follows the course of Ardeului Creek, one notes a parallel hilltop road that, once it descends from the point called Dial Szek, it meets the valley road by the intersection between Ardeului Creek and a minor affluent on the left (Matieşului Creek/Pereu Matyezuluj (a toponym mentioned in the National Archives, Deva Section, Fund Cadastral Technical Inspectorate, No. 12, year 1855, Ardeu). Near the intersection of these two roads, the hachure technique allows one to hypothesize on the existence of a possible access way towards Judelui Hill and implicitly towards the Dacian citadel (Fig. 4).

The second topographic survey of the Habsburg Empire (*Zweite oder Franziszeische Landesaufnahme*)¹⁸ provides new elements on the micro-area of Ardeu¹⁹. Major contributions in available literature²⁰ that underline the accuracy/quality of topographic measurements, of the depiction of settlements, toponyms, rivers etc., shed new light on the complexity of this topographic product for the first half/third quarter of the nineteenth century. The very careful use of the technique of hachures, of different length and thickness, unidirectional, in which the range of color creates contrasting areas, stress all the morphological traits of landscape in the micro-area of Ardeu, as well as the differences in altimetry and elements of topography. On this map, the toponyms are rendered in Romanian (Fig. 5).



Fig. 4. Detail of the sites in Cetățuie, Dealul Judelui, and Gura Cheilor (Josephinische *Landaufnahme*/Josephine Map of Transylvania) (1769–1773) (apud Arcanum 2006)

possible flooding, that one can hardly date, at the feet of “Cetățuie” Hill during research performed in 2003 (<http://www.cimec.ro/Arheologie/cronicaCA2004/cd>).

¹⁷ There are major advantages to studying, on the road network that might have been used in Antiquity basis of general infrastructure maps and identified archaeological sites. The fact is also supported by the structure of the landscape in the area of Balșa-Geoagiu that can easily clarify certain aspects of the problem.

¹⁸ Arcanum 2006a.

¹⁹ Our cordial thanks go to Ms. Dr. Mariana Vlad (The Institute of Social-humanistic Sciences in Sibiu), for her help throughout the documentation for the present study.

²⁰ Timár 2004, 2009. Timár *et al.* 2007a; Timár, Biszak 2010.



Fig. 5. Zweite oder Franziszeische Landesaufnahme. The area of Ardeu

One of the observations is connected to the presence of forest vegetation on Cetățuiei Hill, the working technique suggesting a relatively flat surface, lacking equally-distanced hachures that suggest steep or relatively steep slopes. The contour of this representation marks, on the south-western side, the sudden contact between the base of the mamelon and Judelui Hill. The northern side of Cetățuiei Hill, i.e. the area towards the creek's meadow (where the civilian settlement was located), draw the attention of the topographer/drawing artist; the center of this area is suggested through a polygonal, relatively flat perimeter, with two altitude levels that are strongly marked (Fig. 6) (this aspect was noted even since the beginning of archaeological research in 2001). On the contrary, the connection between the hydrographic network and the morphology typical to the limestone in the gorge sector is stressed through the use of dark color tones and compact hachures for both slopes.

The Schega map also aids our initiative (Generalkarte Oesterreichischen Monarchie Sceda XV) (made in 1865, scale 1:300.000), created through the technique of hachures and graphical alternation between interfleuves (light colors) and valleys (strong hachures). The micro-sector under discussion is sketchily rendered, with the area of the fortification with vague contours, as compared to the altitudes imposed by Ardeului Valley to the west and by Judelui Hill to the east (Fig. 7).



Fig. 6. Detail of the sites in Cetățuie, Dealul Judelui, and Gura Cheilor (Zweite oder Franziszeische Landesaufnahme)



Fig. 7. The area of Ardeu and the surrounding perimeter
(Generalkarte Oesterreichischen Monarchie Scheda XV)



Fig. 8. The area of Ardeu and the surrounding perimeter
(Dritte Landesaufnahme) (apud Arcanum 2007)

Significant interpretative contributions, on both European²¹ and national²² levels were published on the third topographical survey (*Franzisco-Josephinische Landesaufnahme* or *Dritte Landesaufnahme*)²³. This map presents, with clarity, the oval contour of Cetățuiei Hill, clearly delimited from Judelui Hill (Fig. 8). The large scale on which the map was designed cannot provide extra details for the estimation of the dimensions of the mamelon on which the fortification is located. One notes the fact that the creek follows a different route than the one marked on the first survey, i.e. after crossing the gorge sector it turns slightly to the left and then maintains almost a straight north-south direction, on the right side of the road. The hilltop road maintains approximately the same direction.

A map dated to the beginning of the twentieth century (scale 1:20.000) presents numerous novel elements on the micro-region occupied by the Dacian site²⁴ (Fig. 9). The first observation, according to which the western side of Cetățuiei Hill is steep and rocky, confirms data provided by older maps. On the other hand, one notes according to the hachure technique, that there are steeper slopes on the eastern and southern sides. The stepped profile of the southern side is suggested through hachures in alternating directions. The plateau is devoid of vegetation, while the area of the first terraces seems suggested by the first two rows of hachures, interrupted by a circle segment placed on the level curve. An interesting element is connected to the presence of a slightly thicker line, at some points interrupted, an element that can depict strictly topographic details (such as a level curve), geological details, or man-made features of archaeological significance (wall? overload of the slope with constructions?). Another line follows the same contour; it is thicker and seems to mark the base of Cetățuiei Hill.



Fig. 9. Detail of the sites in Cetățuie, Dealul Judelui, and Gura Cheilor (apud Crăciunescu 2010)

One of the earliest written mentions of the toponym Cetățuia features in Téglás²⁵ (*Cseteczuja* or *Cetecuja*), the author who mentions the fact that access towards the Dacian fortification was possible

²¹ Biszak *et al.* 2007; Biszak *et al.* 2007a.

²² Rus *et al.* 2007.

²³ Arcanum 2007.

²⁴ Crăciunescu 2010.

²⁵ Téglás 1885, 302, 306; Téglás 1898, 501.

from Dealul Hill²⁶, along a 50 m path carved in the rock (*“sziklába vágott ősvény”*)²⁷, near which bronze items and other artefacts have been discovered²⁸. The dimensions of the fortification’s plateau (6–8 m in width, 50 m in length), noted by Téglás, its aspect, the existence of certain pits excavated before 1885²⁹, are no doubt extremely valuable pieces of information in the context of literature published in the end of the nineteenth century. The published drawing, though lacking a scale³⁰, suggests that Cetățuiei Plateau followed an oval contour, with a very steep slope to the west (Fig. 10). The 4:1 proportion, recorded for the width/length indicators, does not match the description in the text; the above mentioned dimensions in meters – not matching topographic reality – might have been influenced by the rich vegetation there, despite the fact that the author declared that the hill was covered with grass³¹.

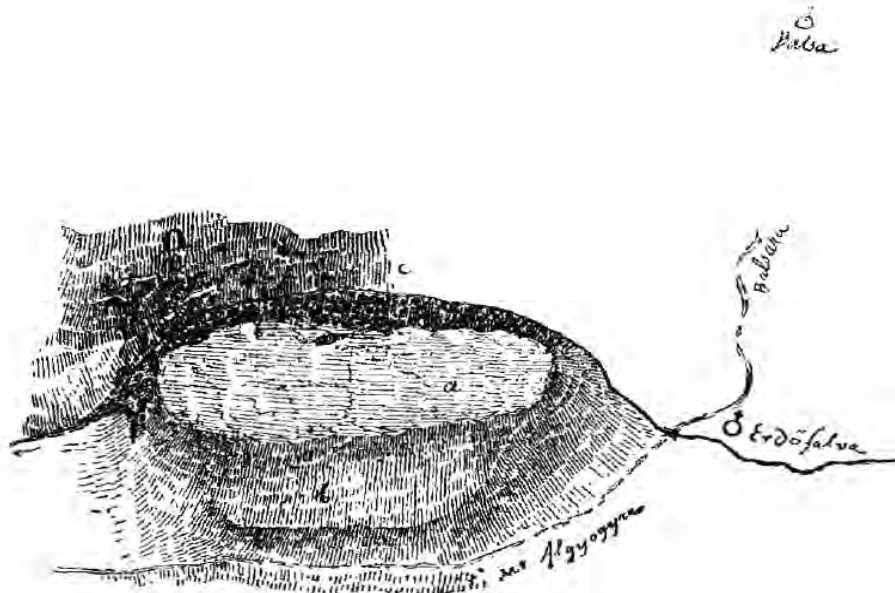


Fig. 10. Detail of the sites in Cetățuie, Dealul Judelui, and partially Gura Cheilor (apud Téglás 1885)

Another of Téglás’ drawing³² (Fig. 11) focuses, on another level, on the topographical characteristics of this micro-sector occupied by the archaeological complex. The recorded elements, due to a perpendicular view over the village, correctly suggest the proportion between the prolong hill top unaffected by stone extractions, the hill *per se* and Judelui Hill Plateau. Téglás also published a view from the north over Cetățuiei and Judelui hills³³ (Fig. 12). I believe that the contour of the limestone mamelon is slightly exaggerated in order to stress the level of man-made interventions. One notes that the artist insisted on depicting the advantages of placing the Dacian fortification on this spot, by suggesting a low degree of foresting of the site’s area.

The location sketch, with the text written in Hungarian, dated around 1900, which was identified in the archive of the municipality of Balșa³⁴ brings new data on the topographical description of the area of the Dacian complex and its neighborhood. The technical data include the number of map folio (10 sz), the name of points marked with letters, from north to south (points a-b), east-west (points b-c), north-south (points c-d), north-west-south-east (points d-e)³⁵ (Fig. 13). The analysis of the mate-

²⁶ Téglás 1885, 306 (mentions a path but does not detail its exact topographical position, possibly the road used during Antiquity).

²⁷ Téglás 1898, 501.

²⁸ Téglás 1898, 501.

²⁹ Téglás 1885, 306

³⁰ Téglás 1885, 304.

³¹ Téglás 1885, 306.

³² Téglás 1888, fig. 120.

³³ Téglás 1888, fig. 119.

³⁴ Cordial thanks to Mayor Simion Meteșan for his continuous support offered to the research team of the site in Ardeu.

³⁵ The subsequent two points (f, g) were placed on the left side of the road leading towards the settlement of Bozeș.

rial lacks the type (mode) of milestone employed³⁶, the topographical description (proportion with elements in the vicinity) and the description in words of the position of the points. Judelui Hill is depicted as a parceled surface (1569–1571), while the section south of it, towards Gura Cheilor (1567, 1566/1,2, the latter labeled *ee*) has contours conditioned by the direction of the road and of the base of the calcareous mamelon, that is correctly rendered. The western limit of the first mentioned lots can suggest the contact between the relatively flat area of Judelui Hill and the start of the slopes of Cetățuiei Hill, but also another perimetral reality in which part of the hill base might have been included in these plots. The un-parceled calcareous mamelon (labeled *ff.*) is bordered on the western and southern sides by Ardeului Creek and the area of the civilian settlement is marked on map 7. The dynamics of the creek bed is one of the elements tracked on this map as well, but its differences from the other maps are minimal.

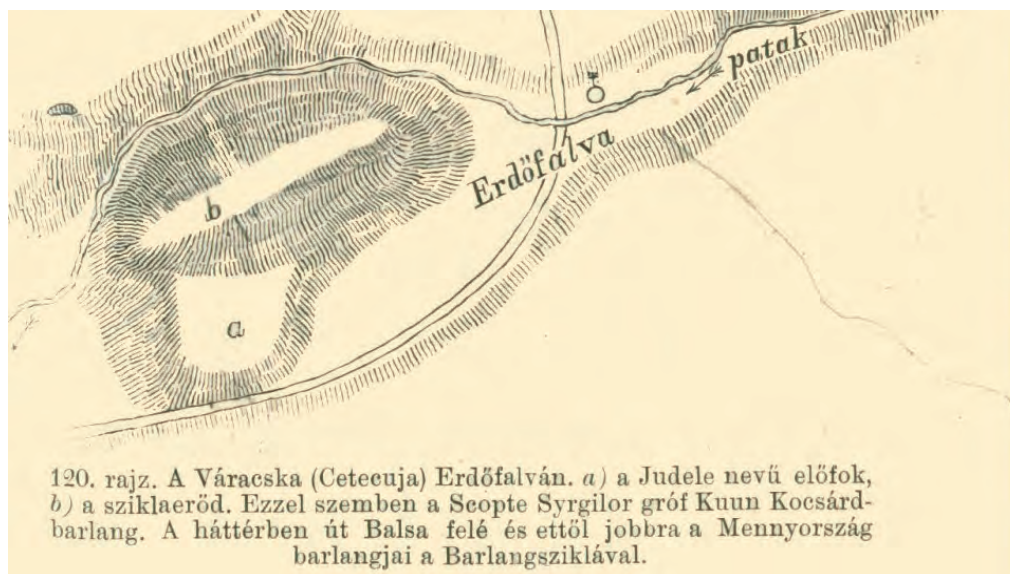


Fig. 11. Drawing (ground plan) of the archaeological site in Ardeu (apud Téglás 1888, fig. 120)

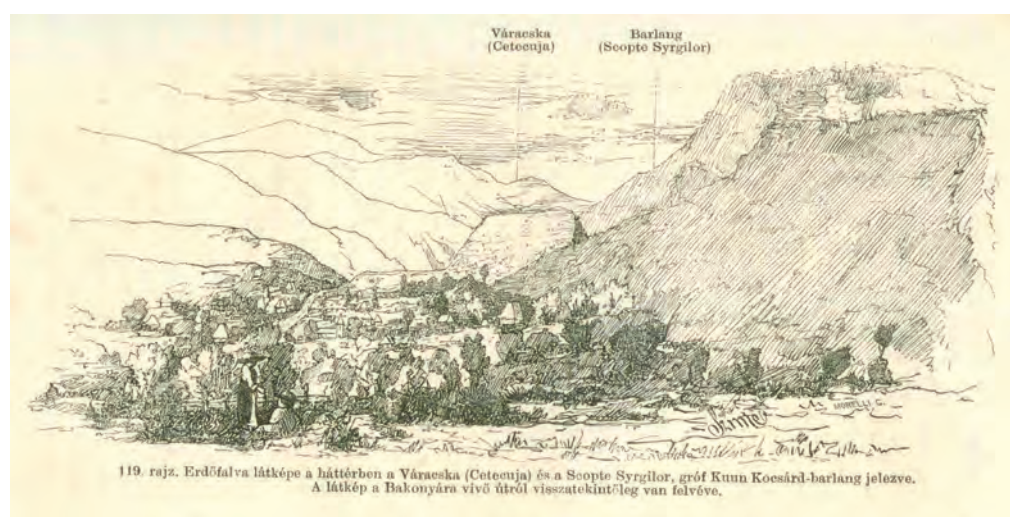


Fig. 12. View of the archaeological site in Ardeu in the end of the nineteenth century (apud Téglás 1888, fig. 119)

Military maps created after 1950 allow for the formulation of extensive comments with documentary value for the present issue. One can remark the much more stressed contour of Ardeului Creek as

³⁶ My attempt to identify these markings on site did not lead to positive results, since they were probably provisional landmarks, typical to local networks.

compared to the other maps and a sometimes detailed drawing of topographic details determined by the morphological traits of Cetățuiei Hill in particular.

The first topographic material analyzed (L-34-71-C) (1970) does not record the stage of limestone extraction on Cetățuia. The fact that there are few level curves and their route and frequency on Cetățuia and Judelului Hill suggest the plans scale and implicitly the contour of the upper part of the fortification, though the depiction of horizontal surfaces was not completely ignored (Fig. 14). The scale of the map can be declared as a limitation of this product, determined by the limitation of details. The isolation of this archaeological site, the low industrialization of the area, the specific morphology of the calcareous landscape, and the low productivity of the soil are factors that have determined the absence of man-made interventions after the Dacian Era, the development of which would be recorded cartographically.

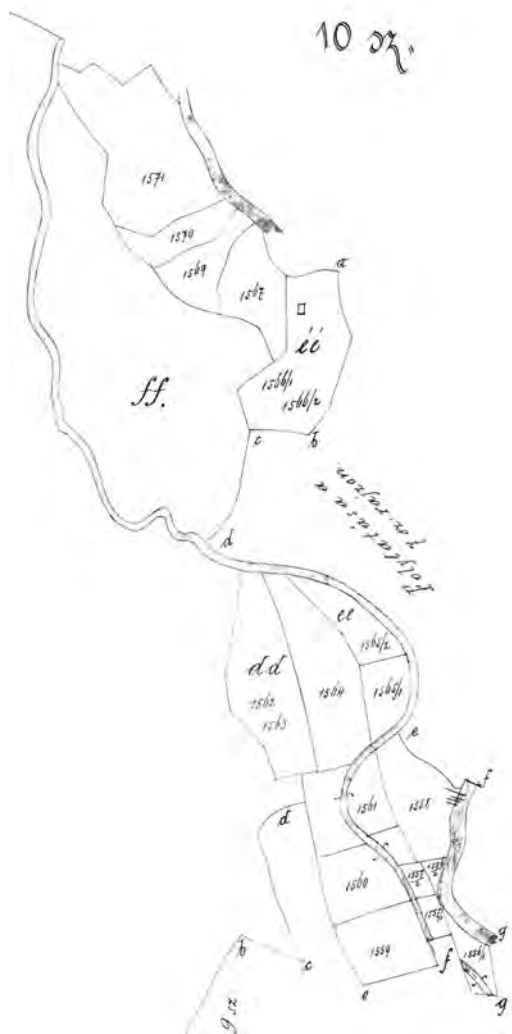


Fig. 13. Location sketch of the area covered by the Dacian settlement in Ardeu (apud Archive of the municipality in Balșa)

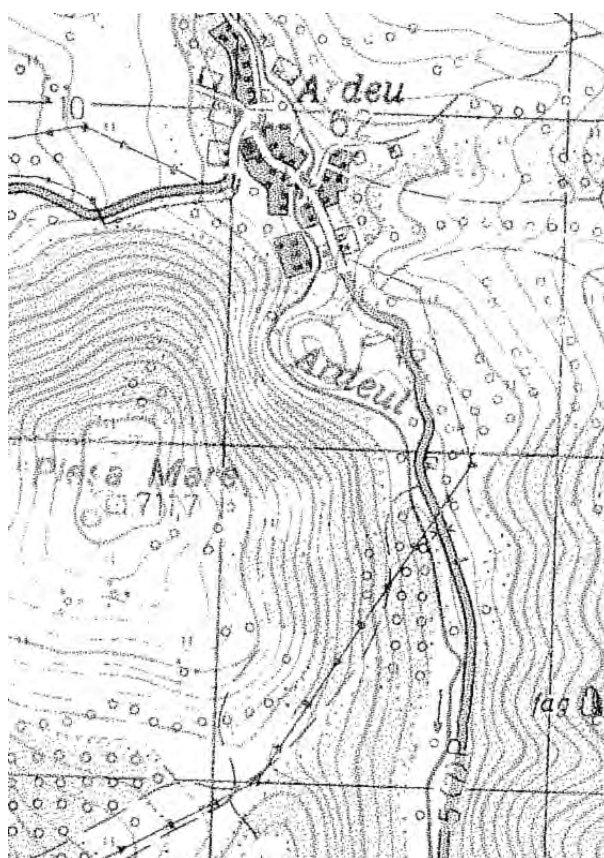


Fig. 14. Detail of the sites in Cetățuie, Dealul Judelui, and Gura Cheilor (Topographic map, mark L-34-71-C) (1970) (apud Military Topographic Department)

One of the military maps available shows a clear unfolding of the main and secondary level curves, stressing Cetățuiei Peak (478 m) as a flat area, similar to the one on Pleșa Mare. The rendering of the curves that describe Cetățuiei Hill suggest, on the one hand, the large amplitude of its relief, and on the other hand, the low oscillation of altitudinal values over the surface enclosed by the level curves in the area of the acropolis indicate an ovoid perimeter. The contour of the limestone quarry and the access ways leading to it are clearly marked in the southern side of Cetățuia Hill. One can also note that north of Cetățuie, from the north-east to the south-west, the level curves (some with the indication of the value of the main level curves) describe a route that can also suggest the route/direction of the road leading towards the fortification; its difficult sector is located between the major curve of the creek and the place where it comes out of Ardeului Gorge. The district of the civilian areas of the

Dacian complex is identified through level curves placed at wider intervals, with minimal differences in altitude (Fig. 15). Cofta Sârghilor cave is not marked on the eastern slope of Pleșa Mare.

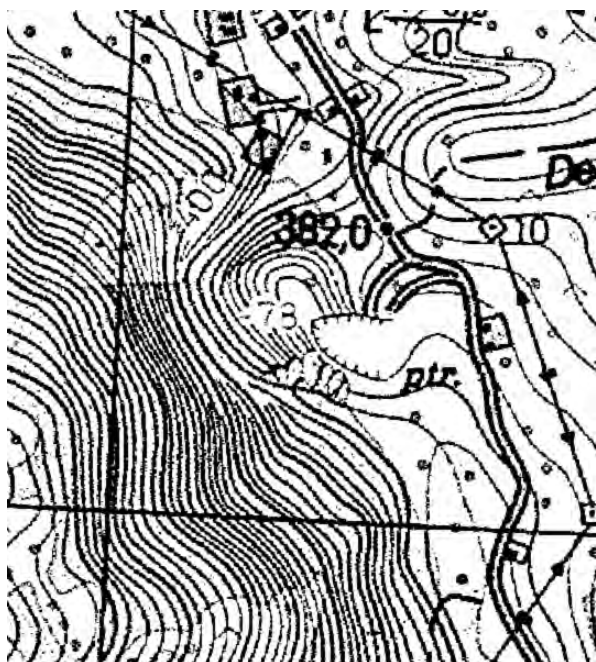


Fig. 15. Detail of the sites in Cetățuie, Dealul Judelui and Gura Cheilor (apud Military Topographic Department)



Fig. 16. Detail of the sites in Cetățuie, Dealul Judelui and Gura Cheilor (Topographic map, mark L-34-71-C-d-3-III) (1986) (apud Military Topographic Department)

This map (L-34-71-C-d-3-III) (1986) remains one of the most complete topographical sources employed in the present study. The precise implementation of the level curve method allowed for obtaining data on the building of the topographic profile of the height, of its volume and adding the altitude of the points (Fig. 16). The irregular contour on Cetățuie places it among the non-productive lands, limited to the east from Judelui Hill by a forest skirt.

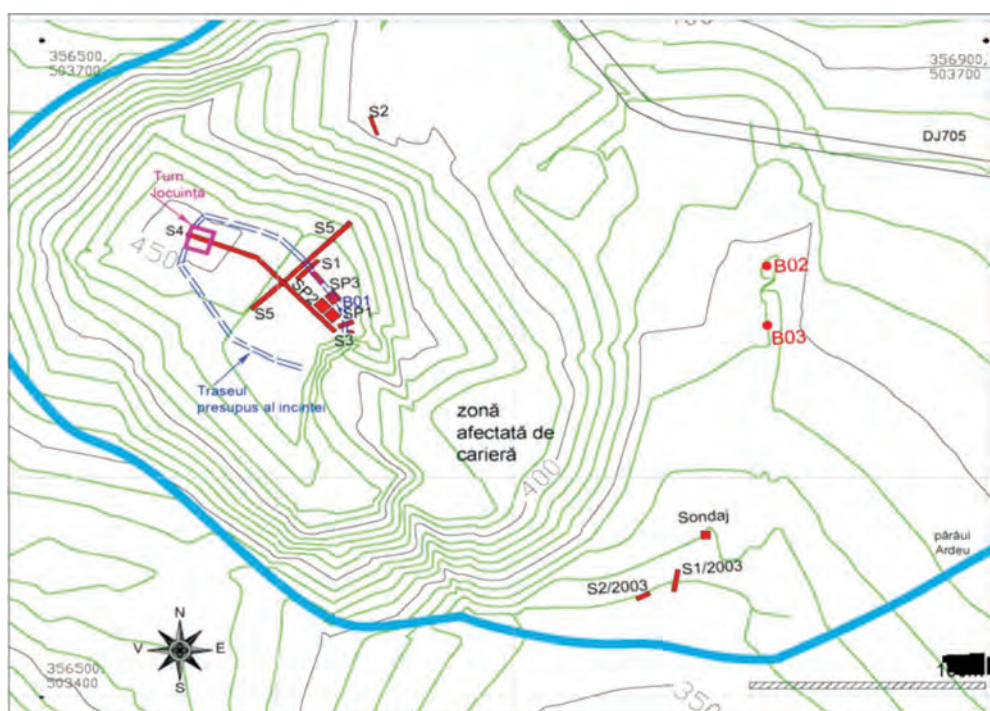


Fig. 17. Topographic survey of the Dacian site in Ardeu

The most recent contribution belongs to the team of geophysicists coordinated by Dan Ștefan. This survey completes the data of the first topographic map in 2001 (Fig. 17). This product includes all the sectors of the archaeological complex, i.e. all pieces of information accumulated during the various research campaigns, an element vital to the construction of a three dimensional model of the site. The team has created a system of landmarks that were the connection between the archaeological and topographical grids, and also with the network of geographical coordinates.

Instead of conclusions

The cartographic sources analyzed here that include the micro-sector of Ardeu can be grouped in three categories: maps of low accuracy (those dated until the first half of the eighteenth century), general maps (those dated to the eighteenth century, including the *Josephinische Landaufnahme*), and modern/professional maps (from the *Zweite oder Franziszeische Landesaufnahme* until the topographical survey that focuses on the archaeological site).

Though the available cartographic sources do not focus on the depiction of the archaeological site in Ardeu, they nevertheless contribute significantly to the historical knowledge of the site. Through the analysis of data extracted from the employed maps, I was able to approximate the shape, size and limits of the fortification, the route of the road leading towards the fortification, and the latter's perimeter. The geographical characteristics that are topographically relevant for Cetățuie reveal the reasons behind the erection of the fortification on that spot which holds obvious geo-strategic value and the spatial relation to the civilian settlement, the funerary and religious areas, water sources, useful primary materials etc.

The possibility and interpretation of following the natural geo-morphological changes of the sector of the Dacian complex (forestry/deforestation, quarries, creation of roads and paths) over a long period was one of the goals of our research team. The main objective remained that of identifying new archaeological areas or sectors with archaeological potential and of explaining, through the perspective of analyzing certain recent changes, certain situations that can generate areas that are improper to habitation or to being used for temporary activities.

From the analysis of cartographic sources we have excluded certain products (for ex. general, physical, tourist, geological/karstic maps, products such as the OpenStreetMap, Google Maps, and satellite images), due to their generally small volume of data for the area under research. This analytic, in-detail study, as compared to the micro-region, of monographic character, can have a decisive impact on the elaboration of regional studies, despite the fact that rendering the formats of the cartographic documents compatible with each other and their geo-referencing were not among our short-term objectives. The advantages of employing the new technologies are immense for all those involved in this academic initiative (historians, archaeologists, cartographers, computer programmers, statisticians). Some of the data extracted from specialized databases (DEMs, digital elevation models), combined with cadastral maps, would have been useful to the present initiative, but, at the present stage of documentation, gaining access to the primary information proved difficult.

Cristian-Constantin Roman

Corvin Castle Museum
Hunedoara, ROU
cricr2001@yahoo.com

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Considerations on “Troianul” in Țara Zarandului*

Alexandru Berzovan

Abstract: The present analysis is dedicated to the linear fortification in Țara Zarandului known as “Troianul”, “Calea lui Traian” (Trajan’s Way), “Drumul lui Traian” (Trajan’s Road), or “Iarcul” (The Ditch). S. Dumitrașcu, the archaeologist from Oradea who first mapped the landscape feature, expressed several hypotheses on this monument that is little known and little discussed in specialized works. Thus, according to the first hypothesis, the rampart was built during the reign of Burebista; according to the second, it was built by the Dacians against the Iazyges; the final hypothesis states that the rampart was a defensive element included in the border of the Roman province of Dacia. Field researches performed by the author along the preserved segments of the “Troian” allows for the formulation of certain useful observations. The construction of the rampart was aimed at protecting the mountain and hilly areas against enemies coming from the Pannonian Plain. The added enclosure of the Beliu Valley indicates that the constructors mainly intended to control and defend access towards the area of the Codru-Moma Mountains. Judging according to these facts, it seems less probable that the monument was originally designed as a defensive element of the Province of Dacia. Its attribution to the early Middle Ages is also possible, but less probable. With due precaution, at the present stage of research, I choose to date the erection of the rampart during the first century A.D. at the initiative of the Dacian kings in the context of the pressure placed by the Sarmatian Iazyges who had recently settled in the Pannonian Plain. The distribution of hoards and monetary discoveries from the time of the Dacian Kingdom, indicating a larger number of such finds east of the rampart, can be considered another argument that supports my dating.

Keywords: “Troian”, linear fortification, Țara Zarandului, Crișul Alb, Dacian Kingdom.

Introduction

The present analysis focuses on the linear fortification in Țara Zarandului known as “Troianul”, “Calea lui Traian” (Trajan’s Way), “Drumul lui Traian” (Trajan’s Road)¹, or “Iarcul” (The Ditch)². Relatively little known and debated by comparison to other similar monuments in the country, “Troianul” in Zarand was for the first time researched and mapped by a team led by Sever Dumitrașcu³ who formulated three hypotheses on its chronology and function⁴. Thus, according to the first interpretation, the rampart was erected by the Dacians during the reign of Burebista as a defensive measure against the Celts. The second hypothesis also links the erection of the rampart to the Dacian Kingdom but considers it is dated to the first century A.D. and intended to provide protection against the Sarmatian Iazyges (Fig. 1). Finally, the last hypothesis, that S. Dumitrașcu believed to be the most plausible, claims that the rampart was one of the elements in the defensive system of the Roman province of Dacia⁵.

Starting from these hypotheses and taking into consideration my interest in Dacian antiquities in the area of Arad, I believe that a new approach of discussions on this “Troian” is appropriate. I thus aimed at mapping the rampart’s route and attempt to present and discuss my preliminary results in the present study⁶.

* English translation: Ana M. Gruia.

¹ The denominations “Traian” and “Troian” are obviously connected to the conqueror of Dacia, preserved for centuries in Romanians’ memory, but also among other Balkan populations (see Petolescu 1994, 723–729; Madgearu 2010, 109–120).

² Two of the settlements along this segment, Archiș and Iercoșeni bear names inspired by the Slavic term *iaruku* (ditch) that also generated the Romanian regionalism “iarc”.

³ Data on the rampart’s route was provided by researcher Florian Dudaș, from Oradea, by that time a student, well-acquainted with the archaeological situation in Zarandului Depression.

⁴ Dumitrașcu 1969, 483–481; Dumitrașcu 2007, 187–194.

⁵ Dumitrașcu 1993, 82.

⁶ I thank Univ. Prof. Dr. Nicolae Ursulescu (UAIC), coordinator of my doctoral dissertation, for his support and advice regarding the present research; I would also like to express my gratitude to Prof. Eugen Pădurean (Arad) for the precious data he brought to the completion of this paper; to Dr. Eugen S. Teodor (MNIR) and doctoral student Cătălin Borangic, for his advice, ideas, and suggestions kindly offered throughout the writing of this study.



Fig. 1. Map of pre-Roman Dacia and the surrounding areas. The marked area indicates the location of the feature under discussion

The first pieces of information on the existence of the rampart can be found in specialized works published during the nineteenth century. Thus Márki Sándor⁷, discussing the issue of ramparts on the territory of the Arad Plain, presents a series of data on the existence of certain similar constructions in the depression of Zarand⁸, using as source the notes of another scholar of that era, Fábíán Gábor⁹. According to the Romantic spirit of those times, both authors believed that the ramparts were of Roman origin; they even presumed the existence of certain *castra* and *propugnacula*.

If the historiography of the issue is rather poor, the study of the cartographic material provided a series of extremely valuable data. Thus, the analysis of local maps, starting with the FranziszeischeLandesaufnahme (1806–1869)¹⁰ that renders one of the better preserved segments of the “Troian” and until modern topographic maps, allowed for an approximate identification of the rampart’s route, thus simplifying field work considerably.

The dating of simple linear fortifications, also known in different areas of our country as “troiene”, is a difficult initiative. Even archaeological excavations sometimes fail to provide the long-awaited answers, since the chance of discovering archaeological material is rather slim and even if such items are found, they are rarely good elements for dating (usually allowing for no more than general considerations of the *post quem* and *ante quem* type).

The systematic field research of such a rampart, as the present pages aim at presenting, might not provide definitive solutions and answers but can offer more realistic interpretative options as long as the observed features can be related to other archaeological discoveries in the area, but also to attested or suspected historical events.

⁷ Historian, university professor and member of the Hungarian Academy, author of an excellent historical monograph about the county and city of Arad, published in two volumes (Márki 1892; Márki 1895).

⁸ Márki 1892, 29–30. See also Dumitraşcu 2007, 188, n. 8.

⁹ Márki 1892, 31.

¹⁰ Available online at http://archivportal.arcanum.hu/maps/html/katfel2b_google.html (accessed 13.03.2013), allowing for a parallel inspection of the map on Google Earth.

Means and methods

In order to describe the rampart's route I believe it is useful to divide it in several distinct segments that are also the only preserved parts. In several areas, intensive plowing has completely destroyed the earthen rampart that can only be identified on the basis of oral information or toponyms that still preserve the memory of its existence. I have thus identified seven distinct segments, extending over a total distance of ca. 9.8 km.

Segment number	Settlements	Length
Segment I	Comănești	~ 570 m
Segment II	Comănești and Archiș	~ 2000 m
Segment III	Archiș and Săliște	~ 600 m
Segment IV	Săliște	~ 1300 m
Segment V	Răpsig	~ 800 m
Segment VI	Mănerău	~ 4200 m
Segment VII	Iercoșeni	~ 300 m

Table 1. Length of the segments and adjacent settlements.

Judging by this data on the segments and their hypothetical extensions, the estimated total length of the rampart should measure around 20 km, with the note that its limits are far from certain (Fig. 2).

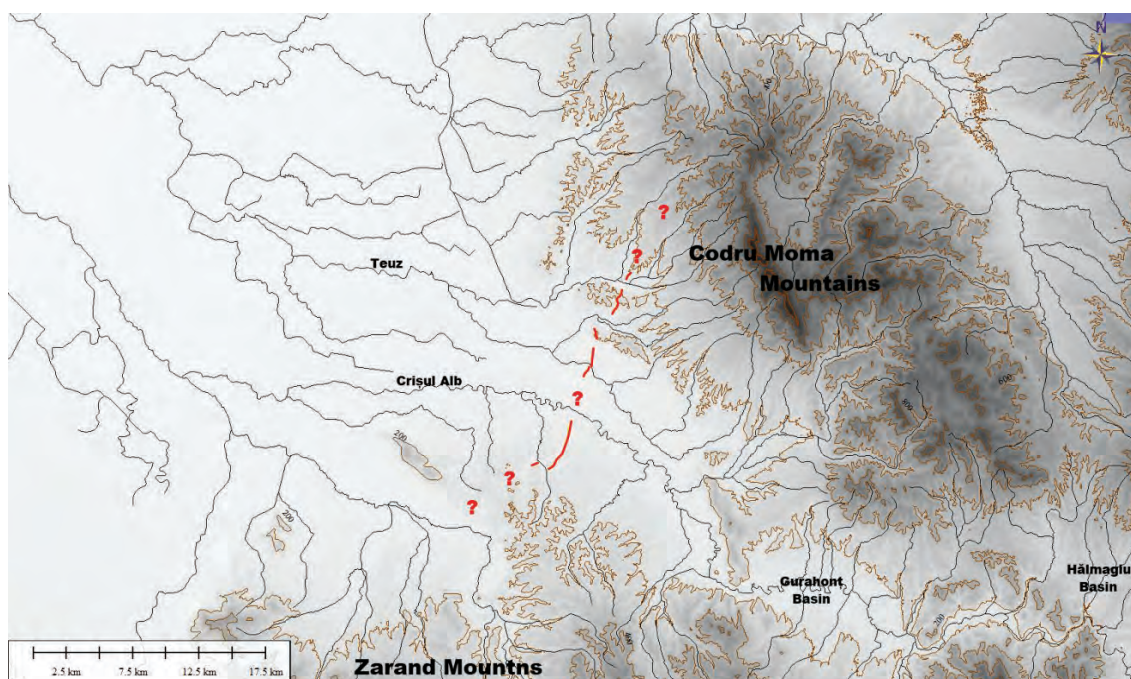


Fig. 2. Map of Țara Zarandului with the preserved segments of the “Troian” and its hypothetical extensions

The use of GPS equipment is mandatory for such an initiative; in this case I employed an older tool, Magellan 315, in taking coordinates every 20 meters, paying special attention to the “problematic” areas such as turns and forested areas. In the processing of data and final maps I employed the Global Mapper 13.01 software and a MNT (Digital Numerical Terrain Model), but also the orthophoto plans of the ANCP (National Agency for Cadastre and Land Registration), scale 1:5000¹¹. Satellite images provided by Google Earth for the area of interest are of low quality, but those at Bing Maps proved very useful due to their superior quality for the area of Țara Zarandului, even better than that of the orthophoto plans¹². I was surprised to notice that most of the “Troian” (though with significant

¹¹ The images can be accessed at <http://geoportal.ancpi.ro/geoportal/viewer/index.html> (accessed 15.03.2013).

¹² Can be accessed at <http://www.bing.com/maps/> (accessed 15.03.2013); employing functions Birds Eye and Aerial Map provide access to high resolution and very clear images.

errors) had been marked on the R.O.A.D. Map, a product of the project entitled România Digitală (Digital Romania)¹³.

Though I have been unable as yet to complete the on-site verification of all individual segments (I chose to start by focusing on the “difficult” sectors), the route of the other segments was easily reconstructed with the help of maps and orthophoto plans. I will describe each segment, but one should note that due to the limited capabilities of the employed GPS equipment, there might be differences of up to a few dozen meters between the estimated and actual coordinates; in order to minimize such errors I attempted, when possible, to correct them according to the orthophoto plans.

Description of the segments

The first goal I have set for my field research was to clarify the issue of the rampart’s northern end. According to data provided by Sever Dumitraşcu, the rampart “*might start in the piedmont area of the Codru-Moma Mountains, in the forest of Teiuş, located north of the settlement of Comăneşti*”¹⁴. The author does not provide more details and available maps did not reveal extra indicators; the forest of Teiuş covers a wide area between Comăneşti and Botfei (both in the municipality of Hăşmaş).

As for the geographic position, the forest covers a long extension of the Codru-Moma Mountains that ends north of the wide valley of Beliu Creek (affluent of the creek Teuz in the CrişulNegru Basin) which it surpasses in height by ca. 30–40 de meters; absolute altitudes are low in this sector, reaching under 200 meters. The extension is crossed in its southern part by several (un-named) dry valleys that look like deep glens, separated by wide and rather even interfluves, used as country roads or agricultural fields.

As I was able to note from the beginning, in order to locate this segment I had to make use of local knowledge since the “Troian” can no longer be observed on the orthophoto plans or on satellite images. Fortunately, at least in Comăneşti, every villager knows something about the “Troian”, even if the mix of veridical and fabulous data can be at times confusing¹⁵. Following the information kindly provided by the chief ranger in Comăneşti and by an older villager, I started field research in the area south of the forest of Teiuş. I was able to identify the “Troian” soon, following it northwards until the area where it apparently disappears (Pl. 1). I say “apparently” because further on, to the north, the peak becomes creased by a true labyrinth of older or newer country roads that have created deep culverts and ravines that significantly alter the landscape and render observation more difficult. I walked further north another kilometer from the point where the rampart disappears but despite all insistence I was unable to find further indications of its existence. It is nevertheless certain that the locals mention one “Trajan’s Road” in Agrişu Mic, settlement located ca. 2.5 km north of Comăneşti, and this raises the issue of a possible extension of the “Troian” to the mountain area and the Dacian fortification in Botfei – “Cetăţeaua Înaltă”¹⁶; the question might only be answered by future field researches.

In the following paragraphs I will describe the first segment from north to south. The “Troian” seems to start from coordinates 46°30’46”N and 22°03’30”E, near the forest milestone no. 131, where it is crossed by a forest road. North of the road the rampart is strongly flattened over ca. 20 m and apparently disappears, as previously mentioned. Nevertheless, south of the road it is strongly individualized against the landscape, measuring 8–9 m in width at the base and ca. 1.5 – 2 m in height; the ditch, oriented *westwards*, is ca. 2 m deep. With small variation, these dimensions are preserved over the entire length of this segment. As for its location, over the entire route under discussion, the “Troian” follows the maximum height line of the peak. Turning to the SSW, between coordinates 46°30’45”N, 22°03’28”E and 46°30’41”N, 22°03’21”E, the “Troian” is located along the very eastern border of the forest of Teiuş; several agricultural fields and pastures can be found in its close proximity.

¹³ The project, coordinated by Eng. Bogdan Condurăţeanu, produced this excellent map which, despite its intended role as navigation aid, contains numerous archaeological sites from various historical and prehistorical periods (mainly fortifications), surpassing by far, through value and complexity, other similar initiatives such as the national project eGISpat (<http://egispat.inp.org.ro/Romania.aspx>).

¹⁴ Dumitraşcu 2007, 190.

¹⁵ Thus, some of the locals interpret the massive ditch as the result of a tunnel’s vault collapsing.

¹⁶ RAJARad 1999, 46.

The verification of arable areas in search of archaeological traces did not lead to the expected results; the yellowish color of the plowed earth indicates sterile soil. At 46°30'43"N, 22°03'24"E the rampart is crossed by another forest road and south of it the descending line becomes gradually steeper towards the valley of Beliu, only to disappear when exiting the forest and one can no longer follow the feature in the area of the upturned fields. It seems that intense plowing has destroyed all visible traces of the rampart in the area of the wide valley of Beliu Creek. Despite all of these facts, the locals recount how during summer, in dry periods, in the areas where the original route of the rampart seems to have been located, the vegetation tends to pale sooner due to the sandy soil.

At first, the location of segment I seems curious – a rampart aimed at providing protection against attacks from the west should have been located on the westernmost spur of the peak on which Teiuș Forest grows, ending right by the eastern edge of the village of Comănești. Such a location would have allowed for the enclosure of a much wider front, providing better defense conditions (as the western slopes are much steeper). The builders' choice can nevertheless be understood due to certain relief elements – the western spur, besides being much longer, was also less even in altimetry (see Fig. 3/A and Pl. 3/B) as compared to the eastern one; furthermore, the spur to the east provides a wide plateau enclosed by the "Troian", that in time of need could have been used to group certain armed forces.

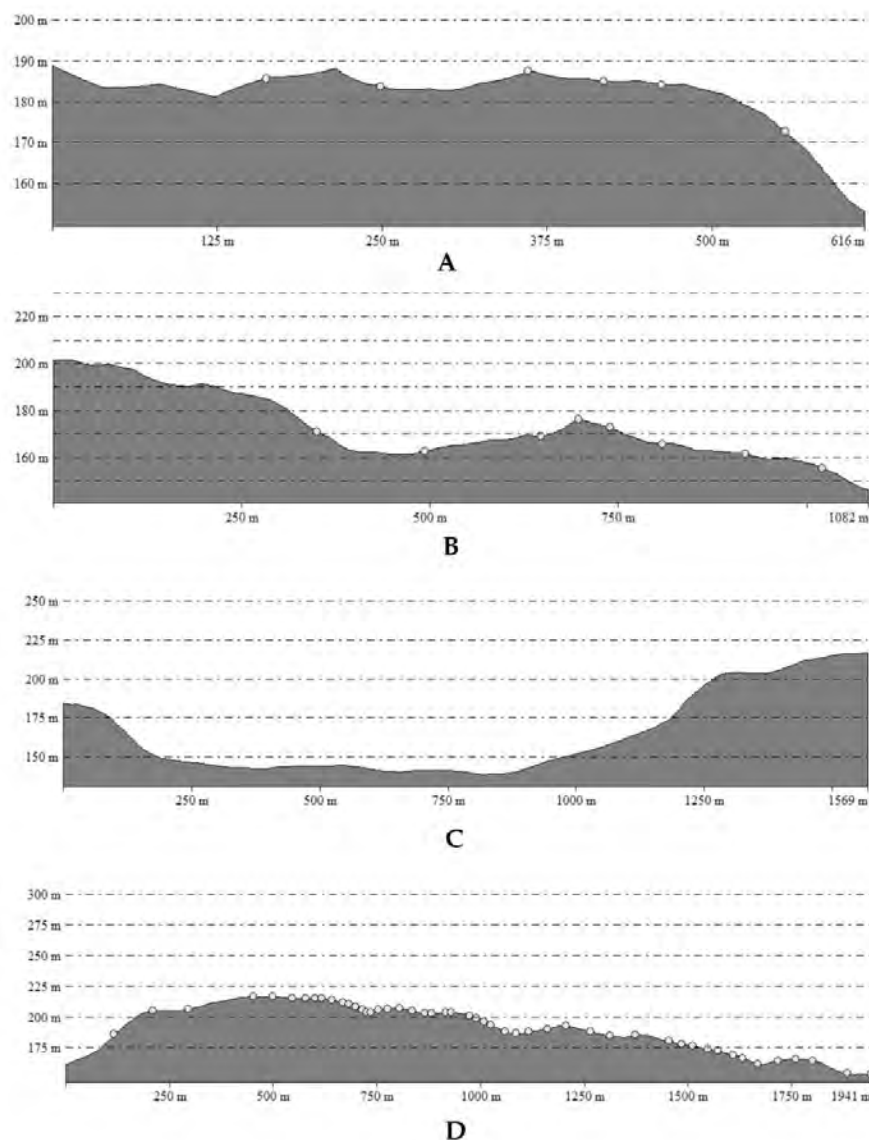


Fig. 3. Altimetric profiles: A. Segment I; B. Western peak of Segment I; C. Longitudinal profile The Valley of Beliu (N-S); D: Segment II

The western spur provides a spot (marked A in Pl. 1) of special strategic value, affording exceptional visibility over the entire area. The simple observation of the terrain could not provide too much data, since one does not expect for a structure like an observation tower to leave behind many traces. But it seems logical that this location protruding from the level of the rampart was used; for this reason I believe that point A is worth taking into consideration during future archaeological investigations.

If the identification of Segment I could only be attempted on the basis of data provided by local inhabitants, the case of Segment II was more favorable since some of its sections could be identified on both satellite images and the orthophoto plans rather easily. Furthermore, most of the rampart's route in this part also features on the 1968 topographic plans on a scale of 1:10000.

The hill of Gălălău (Pl. 2), that this segment of the "Troian" crosses from north to south, takes the shape of a prolonged and rather gentle peak oriented east-west, crossed by deep and rather long valleys running southwards and by shallower glens on the northern slope. These valleys, created by several slope springs, only contain water during rainy periods and are dry throughout the summer. Most of the Gălălău is currently forested (the forest bearing the same name), while the eastern part is covered in fallow pastures, seasoned with rare groups of trees. There are also puddling areas, caused by the clayish soil.

Segment II starts at the northern base of Gălălău Hill, around coordinates 46°30'06"N and 22°03'00"E. To the north it is crossed by the forest road and further on can no longer be observed in the valley of Creek Beliu. On the contrary, to the south, as S. Dumitrașcu has mentioned¹⁷, the main rampart is supplemented, to the west, by four other ramparts and five adjacent ditches, rather well preserved, almost equaling in size the main rampart. Ca. 150–200 m southwards, where the steep slope of the Gălălău starts, these extra ramparts disappear. At 46°29'55"N and 22°02'56"E, the "Troian" reaches the hill's plateau; the first out of the three sections that S. Dumitrașcu performed through the rampart is located 46°29'53"N, 22°02'51"E. Coming out of the forest, the "Troian" is crossed by a forest road, near milestone no. 32, continuing its route to the SW, following the contour above the origin of Lupoia Valley, avoiding in the same time the peak called Piatra Roșie. As for the rampart's dimensions, they are similar, in the well preserved areas, to those noted in the case of Segment I. The traces of the second archaeological section performed in 1967 can still be seen. Ca. 200 meters after exiting the forest, following the contour, the rampart again changes direction, this time to the SE. In this sector I was able to identify the third section performed by S. Dumitrașcu. 200 meters further the rampart is crossed by a slope spring, currently channeled, that supplies a small valley tributary to Lupoia Valley, on which occasion it changes again direction, turning to the SSE, only to turn again, 350 meters further, to the south-east. Reaching the edge of the forest in Lupoia Valley, the rampart continues to follow the contour, but its slopes become increasingly steeper. The ditch, far from being evident, ends up, probably due to clogging, looking rather like a berm located in front of the rampart.

Descending progressively steeper, the "Troian" fades somewhere close to the small stream in Lupoia Valley; after that point I was unable to identify it over the agricultural fields in the large valley of Groșilor where it disappears. A single toponym, "La Troian", located according to the topographic map 1:25000 several hundred meters to the west, still preserves its memory. It is very possible that the rampart continued westwards across Groșilor Valley; the hypothesis is supported by the fact that Segment III seems to start from a more western position as compared to the end of Segment II (see Pl. 2).

The fact that the "Troian" meets four more extra ramparts by the northern feet of the Gălălău is an interesting element that can provide several interesting indications on the goals of its builders. Though no solid proof exists as yet, it seems logical to presume that the four extra ramparts probably enclosed the entire valley of the Creek Beliu. This wide valley, with well defined terraces and lacking puddling areas, could have been perfectly suitable for military purposes (see Fig 3/C). The goal of the builders to defend as efficiently as possible the access towards the area of the Codru-Moma Mountains is obvious.

As for the route selected for crossing the Gălălău, among all possible variants, the "Troian" follows the way containing the least variations in height (Pl. 3/D). A spot with special strategic value, conventionally labeled B, is located on a hill top ca. 450–500 m east behind the line of the rampart. I was only able to perform brief checks that did not lead to relevant results, due to the inherent limits of surface

¹⁷ Dumitrașcu 2007, 190.

field research and the rather abundant vegetation. As in the case of point A, I believe that point B is worth being investigated in case the archaeological research of the “Troian” will be taken up again.

Segment III was no longer checked on site, but its route was reconstructed by correlating S. Dumitrașcu's observations¹⁸ with topographic maps of the area and the orthophoto plans. Thus, the “Troian” destroyed by ploughing in Groșilor Valley seems to start at the border of the forest on Oancii Hill and is currently employed as a forest road, reaching to the northern area of the village of Săliște (Pl. 3).

Oancii Hill is the name given to the western area of the prolonged spur of the Codru-Moma Mountains, called Husumal Hill. As for its aspect, the Husumal displays numerous similarities to its northern “neighbor”, the Gălău: east-west orientation, low altitudes in general, and a rather large number of valleys and glens that currently contain temporary water flows. As in the case of the previously discussed segments, Segment III includes one spot of strategic value marked C. It is located on a hill top, quota 167 m, in the continuation of Câmpul Moșilor Hill, and could have been used to control access in Groșilor Valley. I would like to bring it also into attention for further research.

If the previous segments were generally located in hilly areas, the following, Segment IV (Pl. 4) is located in a plain area, i.e. in Bocsigului Plain, part of Crișurilor Plain. Its route on the northern terraces of River Teuz was largely reconstructed, with the aid of the orthophoto plans and of satellite images. This segment seems to have had a rectilinear route (NNE-SSW), because the relief allowed it. It ends by River Teuz, close to the point where Segment V starts on the southern bank. From the area of the river meadow, S. Dumitrașcu mentions having recovered from the rampart bank fragments of grey pottery looking like concrete and others covered with black slip that he tentatively dated to the third-fourth century A.D.¹⁹

Segment V (Pl. 5) crossed the interfluvium between rivers Teuz and Crișul Alb. Here the two rivers flow less than 2 km apart, but several kilometers to the west they turn to different directions; the Teuz finally flowing into River Crișul Negru. The interfluvium is a low, marshy area, crossed by numerous dry river beds, but also a number of drainage channels created in the after-war period that seem to have modified, rather significantly, the natural landscape. Intense plowing has largely destroyed the “Troian”; besides Segment V, I was unable to identify other traces of its existence during my field research.

Displaying, in general, the same dimensions as the other sectors, Segment V starts on the shores of the Teuz, south of the dam. It turns, rather abruptly, then after ca. 500 meter it continues to the SW, with small deviations; it is sectioned by a carriage road and three marshes; it is not clear if these marshes existed or not at the time the rampart was built. 600 meters further the “Troian” disappears on the pasture, in the close proximity of a sheep shelter – in this final sector one can note the slightly wavy route of the rampart (see Fig. 7).

Despite crossing, in its turn, numerous agricultural fields, Segment VI (Pl. 6) fared better since its use as a road seems to have saved it from complete destruction. Since it is marked as such in the Franciscan topographical survey and on basic maps²⁰, one can easily reconstruct its route. From a geographical perspective, the area crossed by this segment overlaps the northern piedmont of Cuiedului Hills, a northern extension of Zarandului Mountains. The wide and prolonged interfluvium rarely surpass 150 meters in height; the bordering narrow valleys are crossed by semi-permanent streams.

The segment starts on a preeminent terrace that dominates by several meters the marshy meadow of River Crișul Alb and the Pârâul Morilor Canal. It continues to the SSE, with small deviations. After crossing a nameless valley it starts in the forest of Izicut, the rampart changes direction, ending somewhere above Iercoșenilor Creek. My attempts to check the junction area with Segment VII did not lead to favorable results since the western slope of Iercoșenilor Valley is covered by a thick, hardly accessible forest.

¹⁸ Dumitrașcu 2007, 190.

¹⁹ Dumitrașcu 2007, 190. Unfortunately, the presence of certain pottery fragments on the surface of the bank provides no data to the chronology of the monument; I was able to collect small late medieval and modern pottery fragments from the bank of segment V, probably left there by shepherds. The discovery context in Săliște of an imperial Roman coin, dated to the reign of Trajan, remains unknown (Sășianu 1980, 158).

²⁰ They can be accessed freely at <http://earth.unibuc.ro/harti/> (accessed 13.03.2013).

Segment VII (Pl. 7) starts from the valley of Iercoșenilor, mostly following the contour, oriented NE – SSE, while the ditch is oriented to the NW. This situation is accurate for the first 200 meters. At 46°22'56"N, 21°28'18"E the rampart is intersected by the country road on the eastern slope of the valley. After meeting the road, the "Troian" slightly changes direction, turning E-W (with the ditch to the north), but later disappears, after ca. 100 meters, in a freshly planted forest of birch trees. Considering the size of the trees, but also to the plantation's absence on the 1:25000 topographic map the young forest cannot have been planted more than 25–30 years ago. It is certain that further on, beyond this plantation, I was no longer able to identify the "Troian". The verifications only revealed one certain thing: the fact that the rampart continued further and did not turn to the south.

Segment VII, as I was able to note, blocked the access route along the wide country roads on the peak located east from Iercoșenilor Valley that the locals use even today. On the contrary, the valley contains no access ways since it includes numerous puddling areas that render it useless from a military perspective.

The southern end of the "Troian" is just as problematic as its northern end. A hypothetical continuation to the west seems plausible and there are other arguments in support of it besides the location of the rampart. Márki Sándor, when discussing the earthen ramparts in the area of Arad, mentions one rampart that presumably crosses the forested areas along the line of settlements Dud – Luguzău – Iercoșeni – Răpsig²¹ (see Fig. 2). Local inhabitants of Măderat claim, in their turn, that a certain feature called "Trajan's Road" is to be found somewhere south of Agrișul Mare²². I choose to be more cautious, though these seem more than simple local sayings; the truth of the matter might only be settled through future field researches²³.

In the end of the current description I would like to add one very important detail: no towers, gates, or other structures have been identified on the "Troian" or in its close proximity in none of the investigated segments²⁴.

Results of archaeological test trenches

During his research, Sever Dumitrașcu performed three archaeological test trenches along segment II (Gălălău Hill); unfortunately, the article he published only includes two of the resulted archaeological profiles, a fact that restricts interpretative possibilities.

I will first dwell on what the author calls "the profile of the eastern wall of Section I"²⁵ (Fig. 4), by stating from the very beginning that the author made a mistake, from a very simple reason: one cannot obtain an "eastern" profile of the section that renders the rampart and the ditch in this manner since Segment II (see *supra*) is nowhere oriented east-west²⁶! The drawing in question certainly renders the northern or the north-eastern profile.

Taking into consideration the presented stratigraphy (see Fig. 4 and Fig. 5), the rampart seems to have been built with the soil extracted from the ditch. But, due to the strongly clayish nature of the soil in the area of Hill Gălălău, prone to land sliding, its builders faced a considerable problem – they were forced to prevent soil sliding from the rampart back into the ditch. One might thus explain the design of the rampart's base, visible on both profiles – it is very probable that the builders placed there a system of beams and twigs in order to render the base more stable; that would have generated those traces of coal and "vegetal remains" recorded by S. Dumitrașcu in the layer under the mantle.

²¹ Márki 1892, 29.

²² Pădurean 1972, 3.

²³ The analysis of satellite images and the orthophoto plans revealed, south of the settlement of Drauț (in the municipality of Târnova), the existence of a possible rampart extending over a significant length (ca. 2–3 km), oriented E-W, with a ditch to the north and a rectilinear, even route; future field researches will confirm or contradict these observations.

²⁴ The so-called "Roman fort" in Iercoșeni, mentioned in Fábrián Gábor's notes (see Márki 1892, 31), also preserved in local traditions (Pădureanu 1972, 3), proved to be a simple grove, with a muddy lake in the middle, most probably the result of shepherds making a slope spring. The soil resulted from their excavating the area was probably deposited as a rampart, visible in the small forest over ca. 10 m. I did not notice any artefacts of archaeological interest, but only brick fragments and modern pottery shards.

²⁵ Dumitrașcu 2007, 191, fig. 3.

²⁶ The only segment of the entire "Troian" that is thus oriented is, as previously mentioned, Segment VII that has not been excavated (and probably not researched on site either) by S. Dumitrașcu.

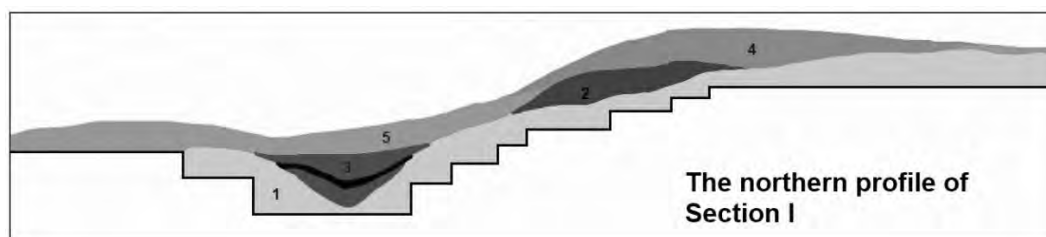


Fig. 4. Profile of the northern wall of Section I, taken from S. Dumitrașcu (adapted by A. Berzovan) 1. undisturbed brick-red clay, with concretions (sterile); 2. Light grey clay with traces of coal and vegetal remains (the ancient humus maybe together with works performed before the erection of the rampart); 3. Light grey clay with traces of as hand coal; 4. Loose brick-red clay with concretions, forming the rampart's mantle; 5. Brick-red clay located above the ditch, identical to the vegetal soil on the pasture; In black: compact layer of ash and coal.

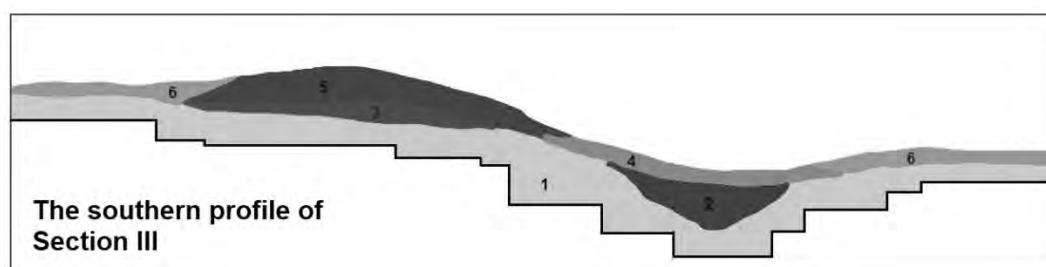


Fig. 5. Profile of the southern wall of Section III, taken from S. Dumitrașcu (adapted by A. Berzovan) 1. Brick-red clay pigmented with grey clay, undisturbed, with concretions (sterile); 2. Grey clay, with as hand coal, used for filling; 3. Grey-yellowish clay with traces of coal and vegetal remains; 4. Layer of brick-red-yellowish clay with traces of coal that fell in from the rampart; 5. Porous brick-red clay, with concretions, forming the rampart's mantle; 6. Brick-red-yellowish clay layer (vegetal layer).

Another issue that cannot be easily settled by these profiles is related to the existence or inexistence of a palisade. Normally, any rampart should have a palisade. From my point of view, the presence of rather consistent coal and firing traces in section might be the result of the palisade collapsing into the ditch, though I do not exclude other possible explanations.

Even if estimative, a calculation of the work required for the building of such a rampart would be interesting and I will dwell on the matter over the following lines. Even if the exact dimensions of the rampart are not available, during my field researches I was able to estimate for the segment in Răpsig the following dimensions of the rampart: base width of ca. 9 m, crown width of 2 m, and an average height of 2 m. Taking into consideration these values, plus the estimated length of ca 20 km, one can calculate that the volume of dislocated soil was of ca. 220,000 cubic meters. For earlier eras, iron tools were, if not a luxury, then at least rarities and one can presume that, indifferent when the "Troian" was built, the workers must have used primitive, wooden tools, and thus I estimate an average productivity of ca. 1.5 m³ / 14 working hours per person²⁷. In such conditions, given also other issues such as the clearing of the areas where the rampart would be built and works required for setting up the foundation, 5000 people would have needed ca. one month of work to complete the task; 2500 would require almost two months of hard work. Considering the route of the construction, the entire effort had to be coordinated by persons with certain empiric knowledge of topography. I do not believe that professional topographers were involved, such as those in the Roman world – if in most sectors the rampart follows the contour of the relief with little deviation, but in flat areas such as those in segment V one notes a certain meandering tendency, unjustified by the relief conditions and this seems to indicate a certain clumsiness of execution²⁸ (see Fig. 7).

The two published profiles fail to clarify numerous issues, so that in order to reach more relevant results specialists must perform certain geophysical investigations and new excavation trenches.

²⁷ Value also estimated according to the same considerations by I. Ioniță (1982, 57), who discusses the issue of the rampart Stoicani – Ploscuțeni that was probably built by the Dacians.

²⁸ Which is not the case, for example, with the large ramparts in the Western Plain that are designed in a straight line, with angular changes of direction, following the recommendations of Roman engineering tradition (Fodorean 2006, 35).

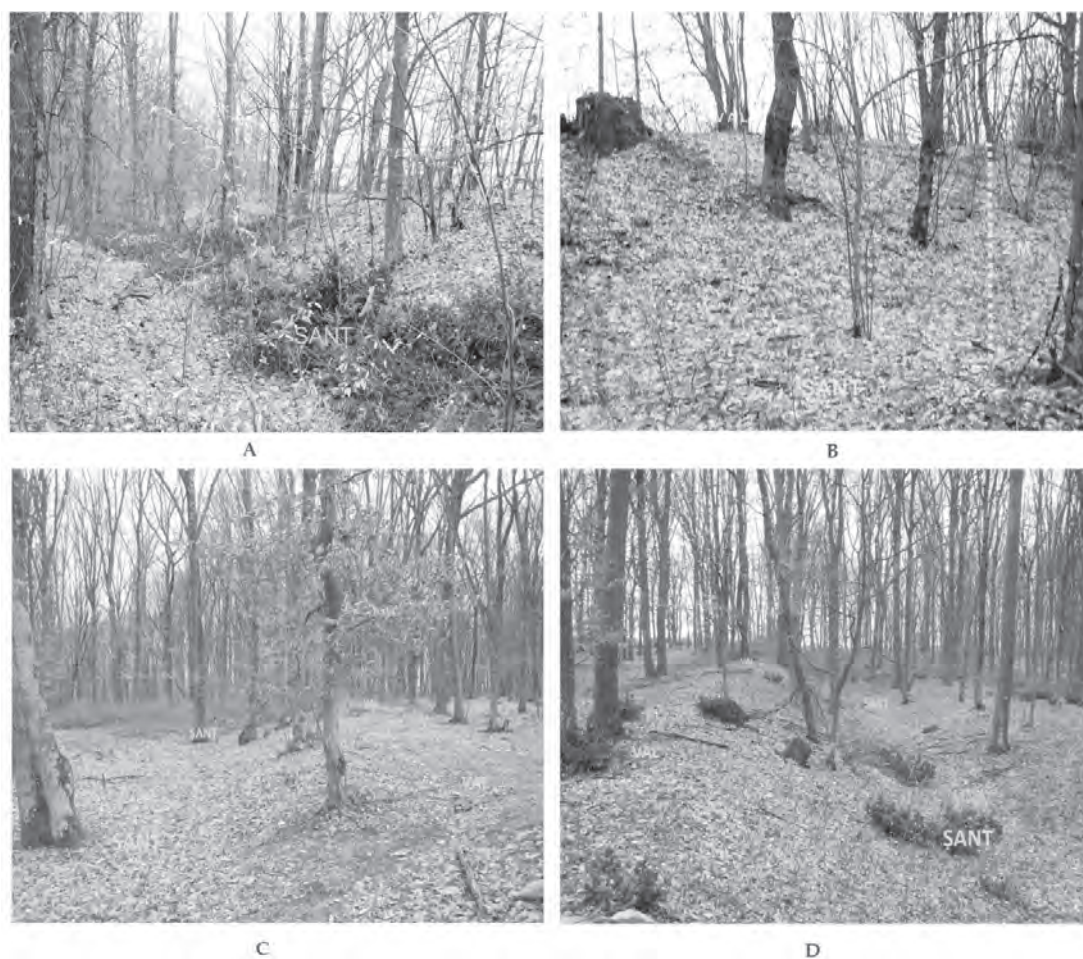


Fig. 6. Field photographs: A. Segment I in the forest of Teiuș, photo taken from the ditch northwards; B. Segment I in the forest of Teiuș, photo taken from the ditch northwards; C. Segment II in the forest of Gălălău, photo taken from the top of the rampart northwards; D. Segment II in the forest of Gălălău, photo taken from the top of the rampart southwards

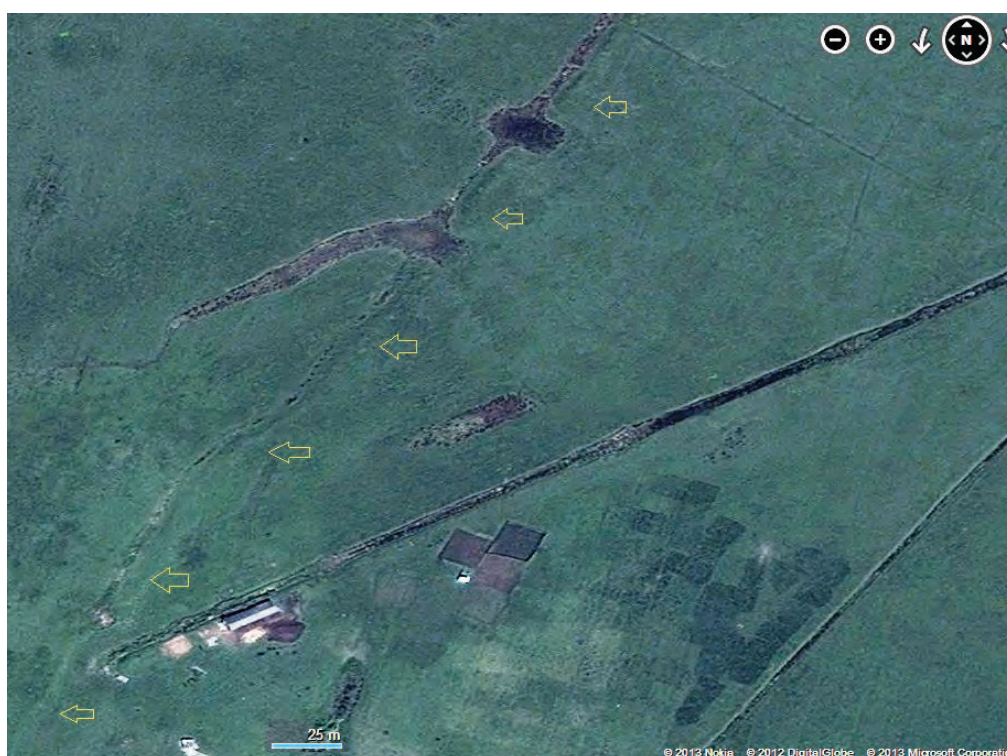


Fig. 7. Part of Segment V (image BingMaps)

Cultural attribution and chronological identification

Viewing the route of the "Troian" one can make some observations. From a geographical perspective, even if the rampart also crosses hilly areas, it seems to follow, rather visibly, the limit between the mountain area *per se* and the plain areas (Fig. 2). I do not believe that its role was limited to blocking access in Crișul Alb Valley towards the areas with auriferous resources in the heart of Transylvania, as some authors have stated. If such a role was envisaged exclusively, much more favorable locations could have been found eastwards, where the rampart could have been shorter. The fact that those who built the monument had wider interests in the area is beyond arguing: they wanted to defend the entire Țara Zarandului, but also the mountain areas against threats from the west. The strong blocking of Beliului Valley, through the construction of four more ramparts in front of the main one, a design singular to the entire route of the monument, indicates a strong need to protect as much as possible the access towards the pastures and valleys of the Codru Moma; this possible indication is thus useful in finding the identity of the "Troian's" builders and where one might look for them. It is certain that all these facts together render the hypothesis according to which the rampart was initially designed as part of the defensive system of the Roman province of Dacia less probable²⁹.

One knows of several fortifications in the area of the Codru Moma Mountains that can be connected to the rampart. Thus, following the country roads in the continuation of Segment I one can easily reach, after several kilometers, the small fortification, of the blocked promontory type, in Botfei – "Cetățeaua Înaltă"³⁰ inhabited between the second century B.C. and the first century A.D. Segment I, just like part of segment II, is also in the visual range of two other fortifications, those in Clit – "Gurețul Negrilor"³¹ and Groșeni – "Jidovina"³² both inhabited during the Dacian period, but also during the ninth-thirteenth centuries (see Fig. 8 and Fig. 9).

The hypothesis according to which the rampart was built during the Early Middle Ages raises several questions that cannot be easily answered. Its orientation to the west, thus towards the Pannonian Plain, might suggest that it was aimed against the incursions of the recently settled Magyar tribes or against the Avars, as a system in opposition to the massive "ring" that covered the entire Pannonian Plain³³. Despite all these, one can hardly believe that the small indigenous local territorial formations had the demographic resources (but also the political strength) required for such a construction³⁴, which, as previously noted, required significant efforts³⁵; therefore, the medieval hypothesis raises more questions than possible answers.

At the present stage of research, it seems much more probable that the rampart was built by the Dacian kingdom – the significant number of hoards and monetary finds³⁶ east of the attested (and

²⁹ The issue of the western border of Roman Dacia is still largely unsettled. I believe nevertheless that Țara Zarandului, even if not under direct Roman military occupation, must have been placed under their direct supervision from strategic and military considerations, since it provides easy access to the auriferous area of the Apuseni Mountains. Some of the discovered material seems to suggest a Roman monitoring point under the ruins of the actual medieval fortification of Șiria (see the discussions in Berzovan, Pădureanu 2010, 58) – nevertheless, several such points must have existed. I hope that future investigations will clarify this difficult issue.

³⁰ RAJ Arad 1999, 46

³¹ Dumitrașcu 1970, 142–160; Dumitrașcu 1972, 120–149

³² RAJ Arad 1999, 73; Pădureanu 2000, 13–24

³³ That system of ramparts most probably belongs to the Avar Ring; the attribution is explicitly attested confirmed by written sources (The Monk in St. Gall, *Life of Charles the Great*, II, 1); see also Rusu 1977, 196–197. From my perspective, until this moment there are no solid arguments to support the idea that the ramparts were built by the Iazyges or by the Romans during the first century A.D. or during the Constantinian Period; these hypotheses are rather supported according to lengthy historiographic traditions and not on the basis of objective and argued analyses, as Paolo Squatriti rightly noted (2002, 19). See also Uwe Fiedler's excellent studies (1986; 2008).

³⁴ Even if one admits that, directly or indirectly, they were under the suzerainty of other powers of that era, such as the Bulgarian Tsardom.

³⁵ Another linear fortification in Țara Zarandului is more likely to have been built during the Middle Ages; it is of much smaller size, probably located in the area between the town of Sebiș and the village of Ignești. Florian Dudaș researched it on site, presumably recovering material dated to the ninth and tenth centuries (RAJ Arad 1999, 151). The term that designates it, "Bălhad" or "Bălhrad", seems to be of Western-Slavic origin, a curious fact since Slavic or Slavic-Romanian toponyms in this area have Bulgarian or Serbian parallels. I intend to verify this fortification on site in the near future, since, according to existing data, it has the ditch also oriented westwards (Márki 1892, 31).

³⁶ The striking disproportion between the number of hoards and monetary discoveries in the area of Țara Zarandului and the number of known settlements is obviously due to the stage of research; the middle and upper basin of Crișul Alb still includes numerous white spots on the map of archeology in Arad.

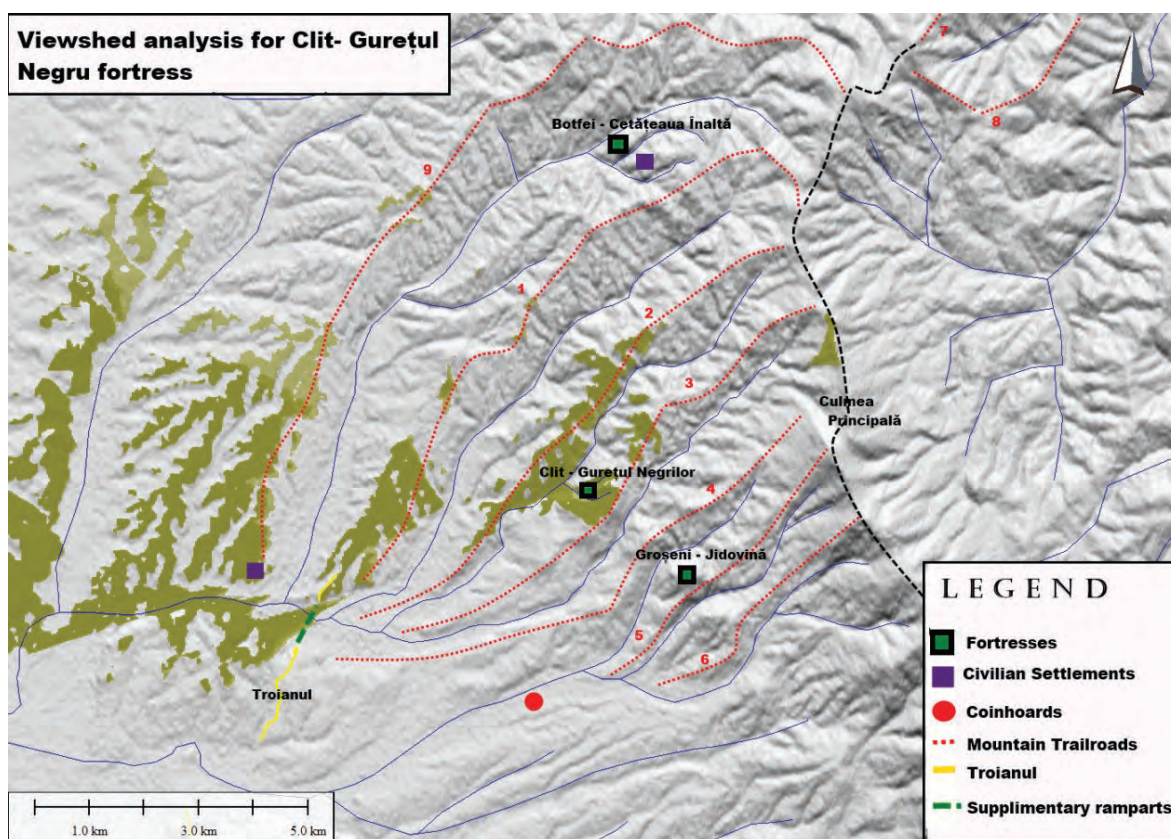


Fig. 8. Viewshed analysis for the Dacian and early medieval fortification in Clit- “GurețulNegrilor”

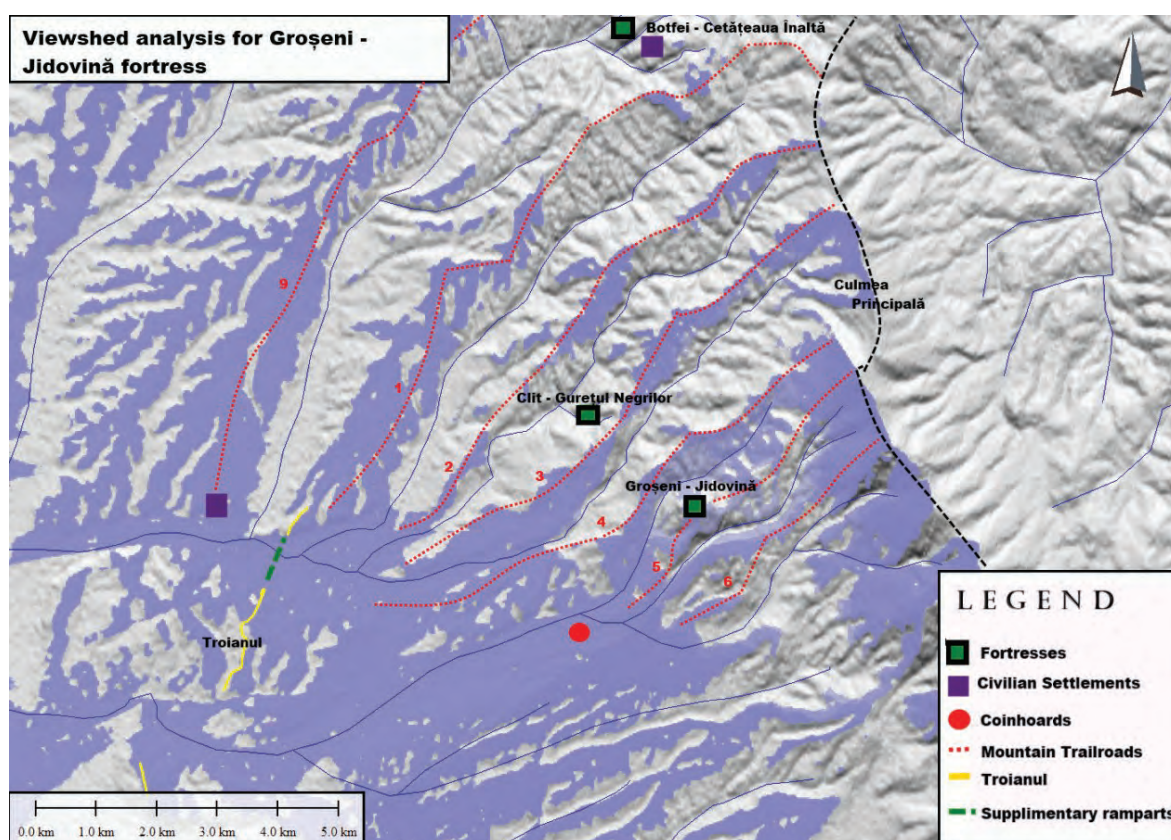


Fig. 9. Viewshed analysis for the Dacian and early medieval fortification in Groșeni – “Jidovină”

presumed) line of the “Troian”, in Almaș³⁷, Bârsa³⁸, Bârzești³⁹, Feniș⁴⁰, Dieci⁴¹, Gurahonț⁴², Dezna⁴³, GuraVăii⁴⁴, Zimbru⁴⁵, as compared to those to the west are, besides the above mentioned elements, another argument supporting this hypothesis. There are rather few⁴⁶ discoveries of any type that can be dated between the first century B.C. and the first century A.D. along the Crișul Alb, upstream from Răpsig, except for the area of Ineu⁴⁷; the general impression is of a poorly inhabited area.

As S. Dumitrașcu also noted, the hypothetical attribution of the rampart to the reign of Burebista does not subsist criticism, since the great king's actions were offensive, not defensive⁴⁸. It seems much more likely that the rampart was built in the middle of the first century A.D., maybe in order to prevent the attacks and raids of the Sarmatian Iazyges. A nomad population from the steppes, they entered the area under discussion sometime in the beginning or the middle of the first century A.D.⁴⁹; from the very beginning they entered into conflicts with the Dacians which according to Plinius Maior they forced to retreat east of River Tisa⁵⁰. Nevertheless, taking into consideration the archaeological discoveries, the Sarmatian pressure on Dacian lands must have become even stronger towards the end of the first century A.D. – tombs such as the one in Vârșand, dated according to certain gold items displaying north-pontic characteristics to the turn between the first and second centuries A.D.”⁵¹ indicating the direction of Sarmatians entering the lower course of Crișul Alb.

The “Troian” might have been built in this context, both as a defensive measure against Sarmatian attacks and as a work designed to state the prestige and power of Dacian royalty in the area – it is possible that it even marked the border of the kingdom at a certain time. Even if the rampart itself is not a very strong military barrier and could have been crossed without difficulty by a professional army such as the Roman one, it was still a significant obstacle against the raids of Sarmatian horsemen⁵². One can also presume that local communities were entrusted with defending the monument's various sectors (in the future, specialists will have to search and identify on site the settlements of these communities), while the administration of the fortification was probably entrusted to nobles in the king's entourage⁵³.

Final considerations

Large-size linear fortifications enjoy an interesting history at the level of barbaric Europe during the Late Iron Age and they were built to fulfill various functions. Thus, Herodotus, the father of history, talks of a conflict between the Scythians and their slaves, telling how the latter, in order to defend themselves, built a large size ditch between the Meotic Lake (Sea of Azov) and the Tauric Mountains in the Crimean Peninsula⁵⁴. In other cases though, such earthen barriers were built in order to mark

³⁷ Hoard (Chirilă, Chidioșan 1965, 118–119).

³⁸ Hoard (RAJ Arad 1999, 43). Though it might have been confused with the hoard in Bârsa.

³⁹ Hoard (Barbu, Hügel 1993, 68/3).

⁴⁰ Hoard and isolated monetary discovery (Barbu, Chirilă 1987, 55–59).

⁴¹ Four distinct hoards discovered inside the settlement's perimeter (Dudaș 1975, 136; RAJ Arad 1999, 65–66).

⁴² Isolated discovery (Dudaș 1975, 135–136; RAJ Arad 1999, 74).

⁴³ Hoard with silver coins and isolated monetary discoveries (RAJ Arad, 65).

⁴⁴ Hoard and isolated monetary discoveries (RAJ Arad 1999, 75–76).

⁴⁵ Isolated discovery (Preda 1986–1991, 294–295).

⁴⁶ Only in Chereșu a hoard (Winkler 1955, 100–101) and a possible settlement in Chișineu-Criș (Hügel *et al.* 2010, 20–21). The hoard consisting of Greek coins with gold item from Grăniceri suggests, through this latter element, rather an early Sarmatian context.

⁴⁷ Berzovan 2012, 78–83.

⁴⁸ Dumitrașcu 2007, 193.

⁴⁹ Muscalu 2008–2009.

⁵⁰ Plinius Maior, *Historia Naturalis*, IV, 2 (apud Fontes, I, 408).

⁵¹ Dumitrașcu 1993, 110.

⁵² An image of the manner in which these raids took place, but also their impact on local population might be provided by a historical parallel with the periodic raids of the small Turkish garrisons in Ineu or Tăuț, that during the sixteenth and seventeenth century periodically plundered the Romanian villages in the entire valley of Crișul Alb, reaching upstream to Hălmașiu and Brad.

⁵³ “... and while some were appointed to supervise those working the land with oxen, others among the king's men were appointed to take care of the fortifications”, Statilius Crito, in *Suidas*, s.v. **Boutiaia** (apud Fontes, I, 507). I do not believe these were noble residences-fortifications (since every noble “tended” his own residence, without special order from the king!), but larger fortifications, of state interest, among which one might expect to find barrage fortifications such as the one discussed in the present study.

⁵⁴ Herodotus, *Histories*, IV, 3(288).

territorial boundaries among the different tribal factions: Tacitus for example mentions the existence of a rampart erected by the German tribe of the Angrivarii in order to separate their lands from those of their neighbors, the Cherusci⁵⁵. Archaeology also provides several examples of linear fortifications, in areas such as pre-Roman Britain – Beech Bottom Dyke⁵⁶, Devil's Dyke⁵⁷, Cleave Dyke⁵⁸, Scott's Dyke⁵⁹, Grimm's Ditch⁶⁰ and others – built by the small Celtic kingdoms; these are perfectly comparable in size and aspect to the "Troian" discussed in the present paper. These fortifications fulfilled diverse functions – from inter-tribal boundaries, to military barriers, but they are a late phenomenon on the level of fortification development during the Late Iron Age⁶¹.

In its turn, the Dacian Kingdom also built such fortifications, of variable size: Porțile de Fier – Tapae⁶², Ponorici – Cioclovina⁶³, and Poiana Omului⁶⁴, which are the best known examples of linear fortifications attributed to this period, but their role was strictly military. But the best analogy for the "Troian" in Zarand is the Stoicani-Ploscuțeni rampart in southern Moldavia, if indeed its dating to the Dacian period will be confirmed.

Through its traits, the "Troian" seems to have combined several military and also political functions⁶⁵. One must note that an over 20 km long rampart, for the erection of which such a great effort has been made, was not only a common military objective, but also a visible and noticeable (until today!) delimitation in the landscape, both for those east and west of it. Decebal's clear interest in the area is proven by his military action against the Sarmatian Iazyges, in the period between the two wars, that seems to have taken place there. Though defeated by the Romans after a long war, the Dacian king risked an attack against an able and dangerous enemy, thus re-stating and confirming his authority over his subjects inhabiting these lands on the western borders of Dacia.

It remains for future research to complete the preliminary observations discussed in this article.

Alexandru Berzovan

Alexandru Ioan Cuza University of Iași

Iași, ROU

berzovanalexandru@gmail.com

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⁵⁵ Tacitus, *Annales*, II, 19(412).

⁵⁶ Cunliffe 2010.

⁵⁷ Cunliffe 2010.

⁵⁸ Harding 2004, 38.

⁵⁹ Muir 1997, 71.

⁶⁰ Bradley 1968, 1–14.

⁶¹ Cunliffe 2010.

⁶² Oltean 2012, 426–432.

⁶³ For an introduction into the topic, see Tatu, Moraru, 1982–1983; Oltean 2012, 571–576. A more detailed study on this fortification is currently under publication by a team that includes the author of the present paper.

⁶⁴ For an introduction into the topic, see Oltean 2012, 583–585. A more detailed study on this fortification is currently under publication by a team that includes the author of the present paper.

⁶⁵ Or even economical, as possible customs point (suggestion kindly provided by Dr. Christian Schuster).

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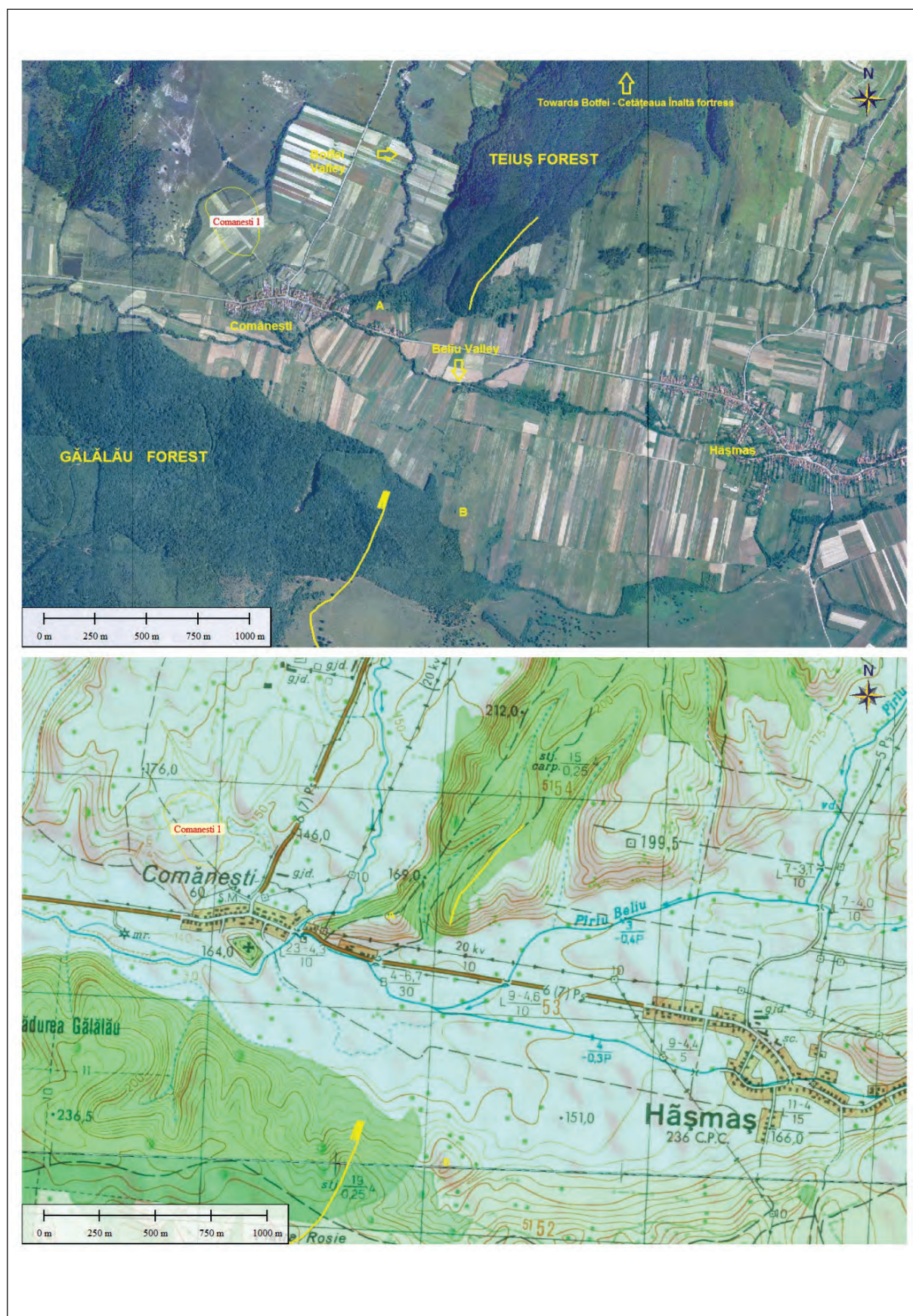


Plate 1. Segment I, orthophoto plan and topographic map 1:25 000; A and B: strategically favorable points. Comănești 1: Dacian settlement on “Dealul Mămăligii”.

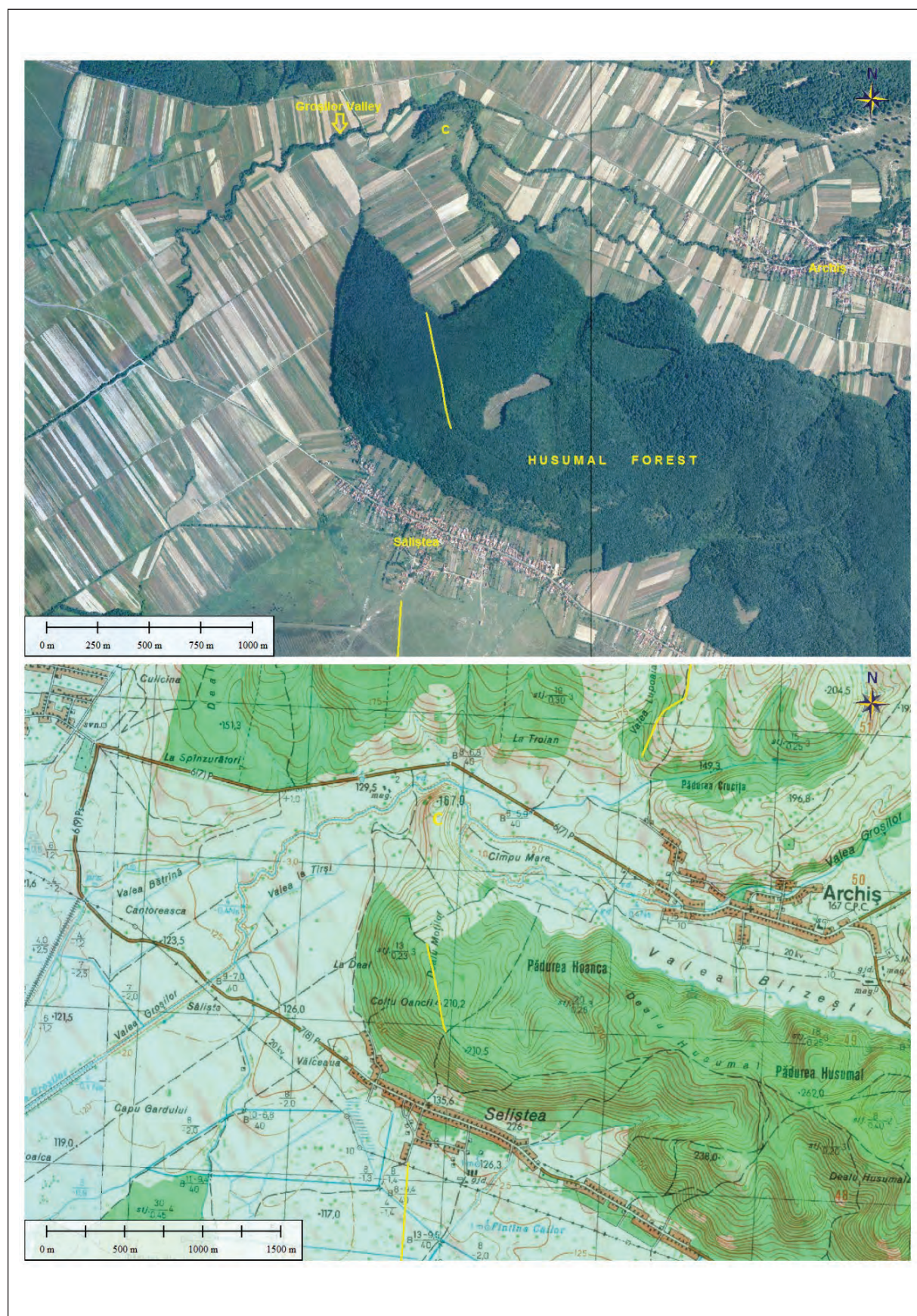


Plate 3. Segment III, orthophoto plan and topographic map 1:25 000; C: strategically favorable point.

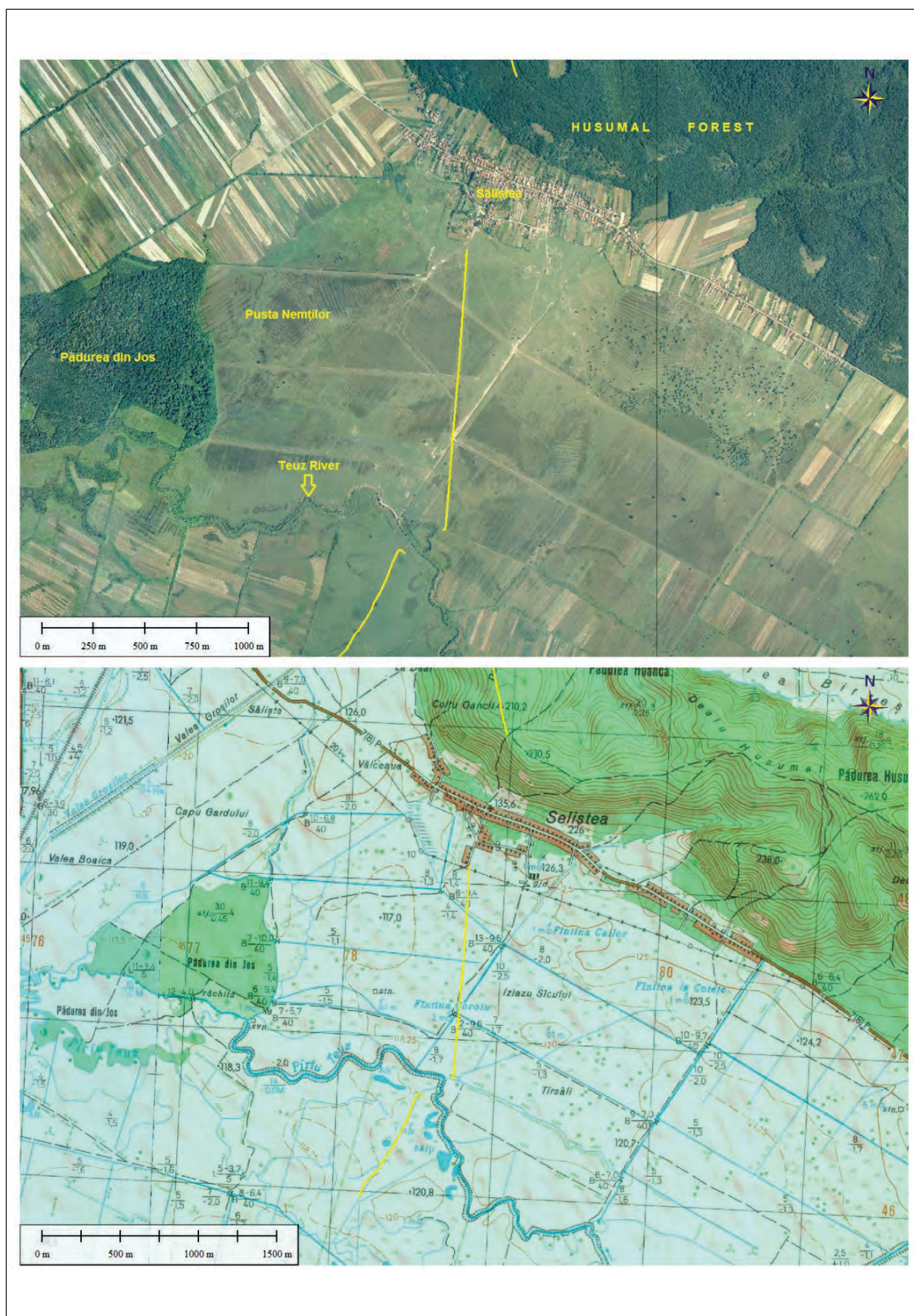


Plate 4. Segment IV, orthophoto plan and topographic map 1:25 000.

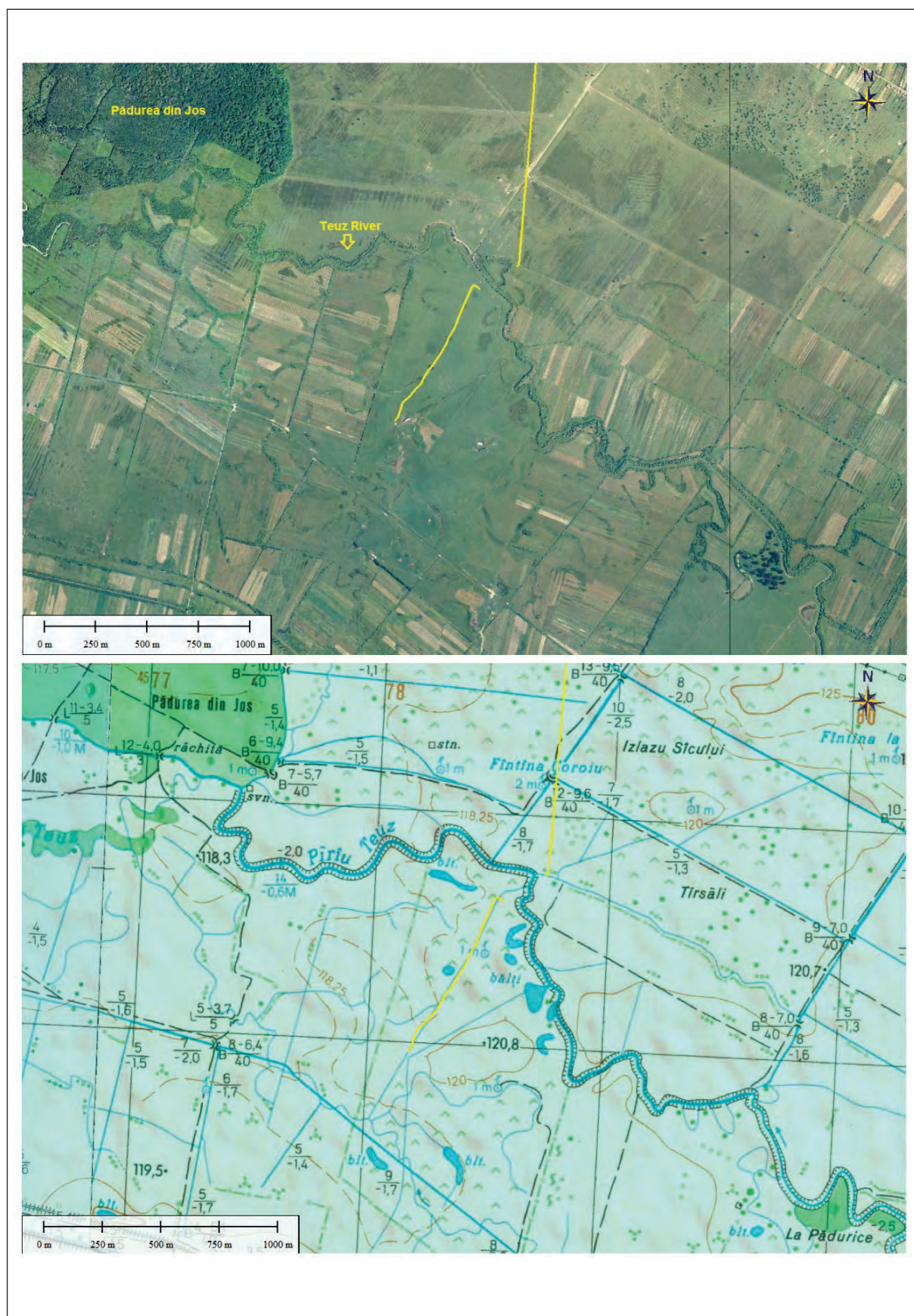


Plate 5. Segment V, orthophoto plan and topographic map 1:25 000.



Plate 6. Segment VI, orthophoto plan and topographic map 1:25 000; Răpsig 1, traces of Dacian habitation (?).

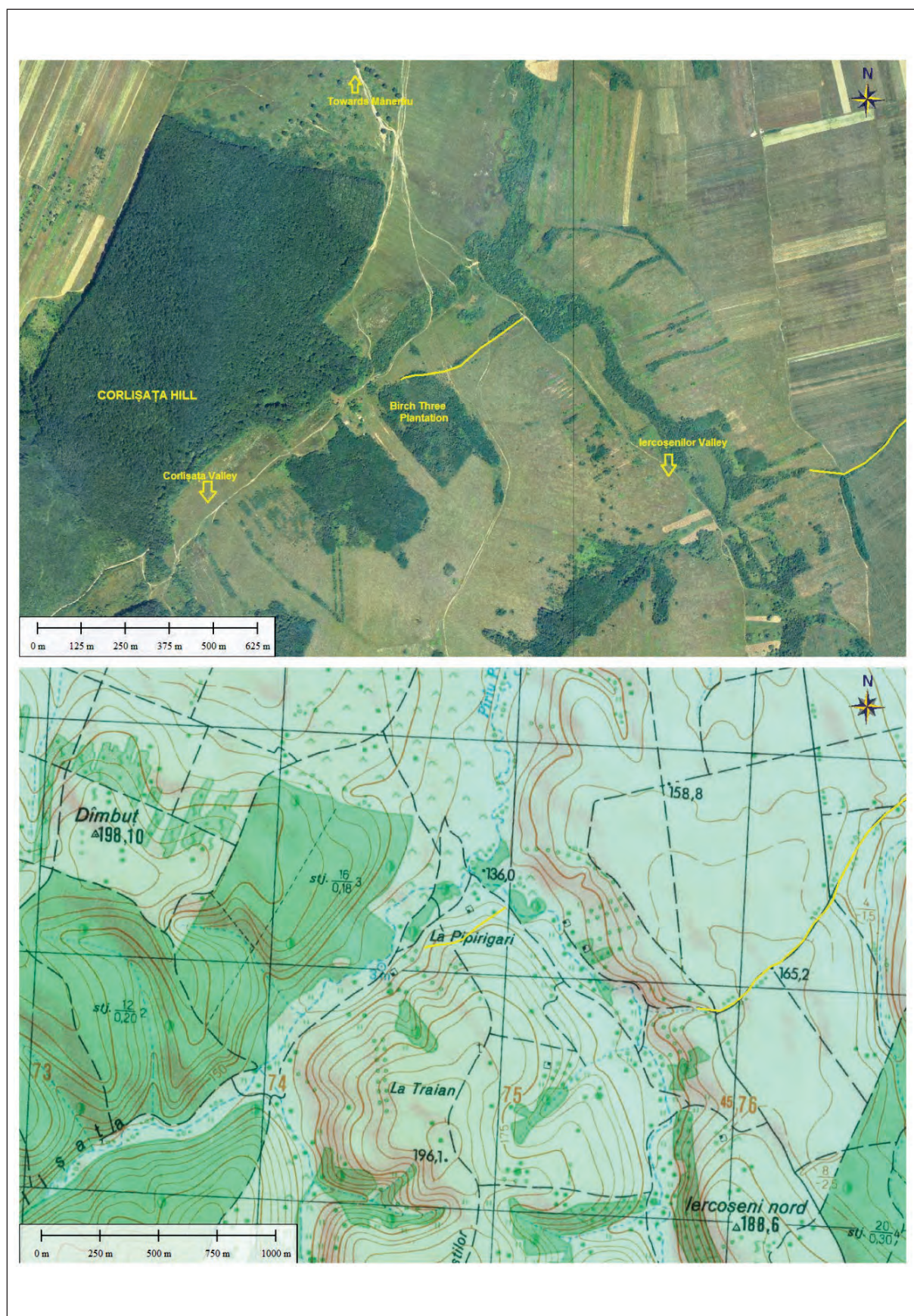


Plate 7. Segment VII, orthophoto plan and topographic map 1:25 000.

The Bow and Arrow during the Roman Era*

Petru Ureche

Abstract: The bow and arrow are not typical weapons to the Romans, but the flexibility of the Roman military system and its easiness to adapt made their adoption possible. In the Orient, archers were respected fighters, as the bow and arrow were used by those rich enough to afford expensive and efficient composite bows, which they usually used from horseback. In the western provinces of the Roman Empire the bow and arrow were typical weapons to lower social groups. In these areas people used simple bows, less efficient but easier to build and cheaper to buy.

Keywords: bow, arrow, simple bow, composite bow, shooting range.

As other weapons, the bow and arrow were not typical to the Romans, but were introduced to the Roman army under the pressure of populations that required different tactical approaches¹.

The bow was the easiest and oldest solution of transferring potential energy stored in the materials employed in its construction into kinetic energy, with the goal of propelling a projectile faster than is possible with the human arm².

According to the production technique and the materials employed, bows can be classified into three main categories: simple bows, made of a single wooden piece, tied with a string made of leather or sinew; bows strengthened with sinew in order to prevent them from braking and so as to increase their efficiency; and composite or reflex bows that combine layers of horn, wood, and sinew in order to ease a more efficient transfer of energy stored in the bow³. Among them, the simple and composite types were used in the Roman army, while specialists believe that bows reinforced with sinew were only used in the Near Orient⁴.

All bows were built in order to resist both tension and compression forces and to return to the original position without significant distortion during release. Energy was thus efficiently transferred from the bow's limbs and the string into the arrow⁵.

The simple bow (Pl. 1/1) is one of the first man-made mechanisms, fascinating through the fact that its simplicity generates a complex behavior⁶. This bow is typical through generating a slow velocity of the arrow as compared to the composite bow, and thus has a restricted shooting range⁷.

In order for a bow to function at an optimum, the wood it is made of must possess increased elasticity, flexibility, and durability⁸. The mechanical properties of the simple bow show some weaknesses, mainly due to the characteristics of the fibers in the wood employed in its construction. Thus, in the case of a bow with limbs long enough for a good shot, the energy necessary for the limbs to detension requires more of the bow's potential energy than in the case of a composite bow with shorter limbs⁹. Thus, due to the oscillations of cord and limbs, the energy transfer into the arrow is inefficient¹⁰. The simple bow gradually loses in power over long use, due to the properties of the wooden fibers to stretch under continuous pressure. In order to preserve the strength of such a bow for a longer period, one has to apply as little as possible pressure upon the wood. This was achieved by bending the ends to

* English translation: Ana M. Gruia.

¹ Ţentea 2012, 101.

² Miller *et al.* 1986, 180; Paterson 1966, 78; French *et al.* 2006, 533.

³ Miller *et al.* 1986, 179–180; Coulston 1985, 226; Feugère 1993, 212.

⁴ Rouault 1977, 63, 141.

⁵ Miller *et al.* 1986, 180.

⁶ French *et al.* 2006, 533.

⁷ Xenophon, *Anabasis*, 3.3.7.

⁸ Cartwright, Taylor 2008, 77, 82.

⁹ Paterson 1984, 109 *apud* Miller *et al.* 1986, 180.

¹⁰ Klopsteg 1947, *apud* Miller *et al.* 1986, 180.

the front and maintaining a minimum distance between the bow's string and body¹¹. Also, when not used, the bow had to be unstrung.

It is difficult to shoot accurately with a simple bow, even more if it is a short one, since even the smallest variation in pulling the string triggers significant variation in the arrow's flight and speed¹². Thus, in order to reach the same result in different moments with a simple bow, one needs different shooting angles and string stretching lengths. This reduced its efficiency, especially when the goal was to hit a certain spot repeatedly. For this reason it may be said that in the case of simple bows used during Antiquity, precision was rather an exception than a rule¹³.

In order to shoot an arrow at a satisfying speed and over an acceptable distance¹⁴, a wooden bow must measure over 180 cm in length; only thus is it capable of sustaining a strong extension of the string. Nevertheless, this means the archer has to adopt a standing position and this reduces to minimum the possibility of performing tactical maneuvers¹⁵.

Simple bows were employed mainly by archers recruited from the western provinces of the Empire, where they were part of the lower social classes. In the eastern provinces, the archers were respected fighters, many of the rich becoming mounted archers and thus affording expensive, efficient bows. Also, the oriental populations benefited from extensive training required by the use of bows both on horseback and on foot¹⁶.

Oriental archers used "Turkish-type" composite bows¹⁷, the most efficient ones of the time¹⁸ that provided superior penetration power and were thus more effective despite their smaller size as compared to simple bows¹⁹. For this reason, composite bows were adopted by several populations of archers²⁰.

The composite bow (Pl. 2/1–3) transfers potential energy more efficiently to the arrow, since no energy is lost through the oscillation of the limbs which is typical to the simple bow. Also, while shooting a reflex bow, the place where the bow is held remains rigid, thus providing increased accuracy and fluency of action²¹.

The composite bow can be drawn easier than the simple bow, thus more power can be obtained with less effort than with a simple bow having the same dimensions²². This characteristic provides the archer with the possibility of choosing between two tactics: throwing lighter projectiles over longer distances or shooting heavier projectiles that have an increased piercing capacity²³.

Making and using such a bow required superior skills for both the bowyer and the archer²⁴. An archer needs regular training in order to use a bow efficiently and with complete control²⁵. When training, an archer maintains his pose after shooting and watches the arrow until it reaches its target, but while fighting he has no time to loose between the shots²⁶. The stronger the bow, the more skill was required of the archer²⁷.

Besides the central part made of a slender piece of wood, reinforcement elements were also used in the construction of composite bows, made of (mainly) deer antler and bone.

The complementary properties of the materials used in the composition of the different segments of the bow, connected through gluing and tying, provide much bigger force of propulsion than that of other types of bows²⁸. Thus, sinew withstanding intense bending and antler withstanding intense

¹¹ Grayson 1961, fig. 1a *apud* Miller *et al.* 1986, 181.

¹² Miller *et al.* 1986, 181.

¹³ Miller *et al.* 1986, 181.

¹⁴ Ureche 2010, 36.

¹⁵ McEwen 1978, 188 *apud* Miller *et al.* 1986, 182.

¹⁶ Bradbury 1985, 12.

¹⁷ Peddie 1996, 90.

¹⁸ Ruscu, Ruscu 1996, 216.

¹⁹ Bărcă 2009, 274.

²⁰ Herodotus, *The Histories*, 1.73 – on the Skythians using it; Pausanias, *Description of Greece*, 1.21.5–1.21.6.

²¹ Paterson 1966, 72–73; McEwen, McLeod 1986, *apud* Miller *et al.* 1986, 187.

²² Coulston 1985, 247.

²³ Miller *et al.* 1986, 187.

²⁴ Bradbury 1985, 12.

²⁵ Paterson 1966, 69.

²⁶ McAllister 1993, 15.

²⁷ Bivar 1972, 283.

²⁸ Feugère 1993, 211; Dixon, Southern 1992, 53.

compression are connected on the opposite parts of the wooden core. The latter is made of non-resinous, not very hard wood, marked with grooves²⁹ dueto which the adhesive adhered better³⁰. It was too thin to contribute significantly to the bow's power, but provided the surface on which the sinew and antler elements were glued and aligned in order to store and then release a maximum of energy³¹. Different types of wood could be used for the different sections of the bow's core³².

The composite bow appeared in areas with insufficient wood to build simple bows and with a wide practice of horseback riding, thus requiring a type of bow with increased maneuverability³³. Thus, the use of antler and bone became necessary in the attempt to build stronger bows. Sometimes, the use of such materials led to the production of larger bows, since the bone would have turned the wooden frame too rigid³⁴. Usually, composite bows included seven bone items, two at each tip and three at the grip. Those at the ends were different in size, with the upper larger than the lower. The reinforcement elements on the grip were placed one on each side and one in the inner part of the bow. The use of bone and antler made the grip and the ends remain fix while the ballistics was taken over by the extremely flexible limbs³⁵.

As each layer was added, the bow was left aside until the adhesive dried completely before the next layer was applied, so as the entire manufacturing process could take more than a year³⁶. The adhesive employed was very flexible and did not granulated in time; it was obtained from dried fish swimming bladders³⁷. Antler elements were glued during winter, when the low temperatures and elevated humidity delayed the drying of the adhesive and provided better gluing. On the other hand, since the fibers obtained from sinew cannot be successfully applied on cold weather, this was usually done during the warm spring days³⁸.

Since the setting and removal of the string on a reflex bow was a delicate procedure, as the limbs might become twisted, bowyers were often the onesto set the string as well³⁹. This was possible since bows of this type did not deform and did not lose power even if left strung for a long period⁴⁰.

For the setting of the string on a reflex bow the latter was sometimes heated in order to become more flexible⁴¹. During the same process, the limbs of a reflex bow were adjusted so that it became an extremely efficient weapon, with increased accuracy and strength⁴². Thus, with the string set in the beginning of a campaign, the bow was ready to be used even during surprise attacks⁴³.

Composite bows were expensive by comparison to other bows, since certain types of wood, antler, and bone were required and dueto the lengthy production process that might have lasted up to ten years for an excellent bow⁴⁴. Dueto the long time required in the making of a bow, one can suspect that they were made in series of several hundreds⁴⁵.

There are two main types of reflex bows: Scythian and Hunnish. These were bows with double reflex, with the ends curved towards the shooting direction⁴⁶, while the grip was straight or a little curved⁴⁷. The Hunnish bow included bone reinforcements in its construction, while the Scythian one had seven wooden reinforcements⁴⁸.

²⁹ Balfour 1897, 212.

³⁰ Paterson 1966, 70.

³¹ Miller *et al.* 1986, 182.

³² Paterson 1966, 70.

³³ Miller *et al.* 1986, 184.

³⁴ Bârcă 2009, 276.

³⁵ Bârcă 2009, 276.

³⁶ Paterson 1966, 74–75 ; Klopsteg 1947, Latham, Paterson 1970, 8, McEwen, McLeod 1986 *apud* Miller *et al.* 1986, 184.

³⁷ Miller *et al.* 1986, 184; Paterson 1966, 72

³⁸ Paterson 1966, 74–75.

³⁹ Paterson 1966, 76; Klopsteg 1947, 90 *apud* Miller *et al.* 1986, 185.

⁴⁰ Unlike the simple bow. Miller *et al.* 1986, 184.

⁴¹ Paterson 1966, 76, 82.

⁴² Paterson 1966, 76–77.

⁴³ Miller *et al.* 1986, 185.

⁴⁴ Anglim 2007, 82.

⁴⁵ McEwen 1978 *apud* Miller *et al.* 1986, 182.

⁴⁶ Bârcă 2009, 274.

⁴⁷ Bârcă 2009, 275.

⁴⁸ Bârcă 2009, 275.

When the bow was not used, the string could be detached in order for the wood to preserve its natural curvature. The unstrung bow is oriented opposite the curvature, as seen in the case of the Parthian bow from Yrzi⁴⁹ (Pl. 3/1). The bow could be stringed in the beginning of campaign or in the beginning of a battle⁵⁰. For this, in the case of Hunnish-type bows (with bone and antler reinforcements), the archers bent their bow on their knees⁵¹. In order to attach the string to the other type of reflex bow, to the Scythian one, the bow was bent by pushing one hand against the upper end, while the stability of the lower part was ensured against one's leg. With the other hand, the archer would push the string loop over the reinforcement's string groove on the upper limb. A depiction of this stringing method decorates a vessel found inside the Scythian tumulus in Kul' Oba (Kerci, Crimea)⁵² (Pl. 4/1).

In Roman-era archaeological contexts, the only elements preserved from the structure of bows are those made of bone or antler, labeled under the generic term of bow reinforcements⁵³ (Pl. 3/2). They have been grouped, according to where they were attached to the wooden core, in two categories: central and terminal reinforcements⁵⁴. The size and shape of bow reinforcements depends on the size of the bow to which they were attached⁵⁵. Thus, long, wide, and less curved reinforcements were employed on large bows, used by pedestrian archers⁵⁶, while the smaller and more curved ones were used on smaller bows, employed by horse archers⁵⁷. The fact is also confirmed by the discoveries made inside the bow making workshop in Micia⁵⁸, where the two types of reinforcements were used by the same military unit, the *cohors II Flavia Commagenorum Sagittaria Equitata* that included both foot soldiers and cavalymen⁵⁹. It is also possible that reinforcements of different size were used in the composition of the same bow⁶⁰.

Arrows are the most abundant archaeological finds connected to archers⁶¹, due to the large number of arrows used and therefore lost. The iron head is the part usually preserved, but in the eastern provinces, where the climate allowed for better preservation conditions, entire arrows were also found.

An arrow consists of head, shaft, and fletching⁶².

An arrow head is usually made of metal. It seems that the Huns used arrows with bone heads that shattered on impact and could be extremely dangerous against enemies not wearing armor⁶³.

For the Roman period, the most often encountered arrow heads are those three-lobe-shaped in section⁶⁴, a type spread by oriental archers in the entire Empire besides the composite bow⁶⁵. One sometimes finds also arrows with four-lobed-section-heads, flat heads, pyramidal heads, and heads for fire arrows (Pl. 1/2).

The production of three-lobed arrow heads was extremely complex and required highly specialized masters. The process included twelve steps⁶⁶ and thus required an average of 105 minutes for each item⁶⁷.

Two methods were employed for attaching the arrow head to the shaft: with the aid of a cap (Pl. 1/2 a, c) or a socket tang (Pl. 1/2 b, d, e).

⁴⁹ Coulston 1985, 222, fig. 2.

⁵⁰ Yadin 1963, 63–64, *apud* Miller *et al.* 1986, 181.

⁵¹ Feugère 1993, 212.

⁵² Bărcă 2009, 275.

⁵³ Coulston 1985, 223.

⁵⁴ Petculescu 2002, 765.

⁵⁵ Țentea 2007, 155.

⁵⁶ Coulston 1985, 245–246.

⁵⁷ Dixon, Southern 1992, 53.

⁵⁸ Petculescu 2002, 765.

⁵⁹ Petculescu 2002, 789.

⁶⁰ Bărcă 2009, 276.

⁶¹ Miller *et al.* 1986, 189.

⁶² McAllister 1993, 20.

⁶³ Ammianus Marcellinus 31.2.8–31.2.10; Coulston 1985, 268.

⁶⁴ Țentea 2012, 108; Pauli Jensen 2009, 370.

⁶⁵ Coulston 1985, 264; Țentea 2007, 154.

⁶⁶ Zanier, Guggenmos 1995, 21, Abb. 2, 3.

⁶⁷ Zanier, Guggenmos 1995, 22.

The best materials for making the shaft are rush⁶⁸, reed⁶⁹, corneal or pine tree wood⁷⁰, and bulrush. These materials combine the essential characteristics of an arrow; they are light, rigid, elastic⁷¹ and aerodynamic. About rush and reed, a Persian manual states that they must be mature, dried, modeled, and strengthened⁷². Elasticity is extremely important since an arrow's shaft must be able to curve beside the bow when it is released, but then to return to the shooting line in order to reach the target accurately⁷³ (Pl. 2/4).

Because when it is made of rush or reed the shaft can be very light and there is a danger it might get carried away by the wind⁷⁴, the tip must be provided with a weight⁷⁵. In the case of arrows discovered in Egyptian tombs, this was ensured by ebony tips⁷⁶, while stone or bone arrowheads were used in the Orient, ca. 6000 B.C., inserted into a wooden cane and attached to the tip of the arrow. In the case of arrows employed during the Roman period, the necessary weight was usually accomplished with the aid of the metal head, and in cases this was insufficiently heavy, the tip was inserted into a wooden cane that was attached to the shaft⁷⁷. This type of arrow was also used in order to prevent the shaft from shattering on impact with a target wearing armor⁷⁸ or in order to make it more difficult to extract from a wound.

An arrow's fletchings were attached to the back of the shaft, near the notch where the string was fixed and had the role of providing the arrow with speed and stability during flight, making the hit more precise and stronger⁷⁹. In all preserved antique examples that are known so far, the fletchings are made of feathers⁸⁰.

Arrows can be of different size and weight and can have different shafts and heads, according to the archer's strength, the manner in which the bow is employed, the target's vulnerability⁸¹, the shooting range, and the archer's purpose⁸². Archers carried several types of arrows which they used according to circumstances. Thus, they employed heavier arrows in order to penetrate armor and lighter ones for harassment from a distance⁸³. Since archers and bows are of different size, the arrows as well must be adapted for each archer. For this reason, one can presume that each archer had a stock of arrows made especially for him, and when they ran out he tried to use standard-size arrows or to use/reuse those shot by the enemy⁸⁴.

Since a large number of arrows was shot even during short battles⁸⁵, very large quantities of reed or rush were needed; one can presume that such plants were cultivated in areas with archers⁸⁶.

From a purely mechanical perspective, the maximum efficiency of a bow is reached when used with a very heavy arrow, capable of taking over the entire propelling force of the string. This arrow did not cover a large distance, but its impact when hitting the target was significant; if the head was well chosen, it could penetrate armor. A light arrow, even if reaching higher speed, cannot take over the entire energy transmitted by the string⁸⁷. Thus, depending on the archer's goal, he could be armed with a smaller bow and a light arrow when required to hit a target located farther away and when he needs fast arrows, or a larger bow and a heavy arrow when fighting against an enemy wearing armor and thus needing an arrow with increased force of penetration⁸⁸.

⁶⁸ Ascham 1869, 116; Mason 1893, Moseley 1792, 115–119, *apud* Miller *et al.* 1986, 188.

⁶⁹ Plinius, 16.65.

⁷⁰ Pausanias, *Description of Greece*, 1.21.5–1.21.6.

⁷¹ Elmer 1952, 264, *apud* Miller *et al.* 1986, 188.

⁷² McEwen 1974, 84 *apud* Miller *et al.* 1986, 185.

⁷³ Paterson 1984, 44, *apud* Miller *et al.* 1986, 188.

⁷⁴ Plinius, 16.65.

⁷⁵ Mason 1893, 660–661, Heath, Chiara 1977, 47 – 50, *apud* Miller *et al.* 1986, 188.

⁷⁶ McLeod 1982, 55, Rouault 1977, 63, *apud* Miller *et al.* 1986, 188.

⁷⁷ Miller *et al.* 1986, 188.

⁷⁸ Coulston 1985, 268.

⁷⁹ Plinius, 16.65.

⁸⁰ McAllister 1993, 22.

⁸¹ Coulston 1985, 264.

⁸² Miller *et al.* 1986, 187.

⁸³ Paterson 1984, 44; Heath 1980; McEwen 1974 *apud* Miller *et al.* 1986, 188.

⁸⁴ Xenophon, *Anabasis*, 3.4.17; Coulston 1985, 270.

⁸⁵ Miller *et al.* 1986, 188.

⁸⁶ Moens 1984, 24; Roth 1970, 156 *apud* Miller *et al.* 1986, 188.

⁸⁷ Paterson 1966, 80.

⁸⁸ Paterson 1966, 80–81.

The strongest arrows were short, with narrow heads, meant to penetrate armor according to the same principle as the *pilum*⁸⁹.

In order for the arrow to reach its target, the archer had to pay attention that its trajectory was unobstructed and that the string would not catch at his equipment⁹⁰.

The bow sheath, quiver, (Pl. 2/4) and arrows are extremely important elements of an archer's equipment.

The bow sheath is an essential item in an archer's equipment since both the string and the attached and glued wooden, bone, and antler parts can be destroyed by dampness. There is no direct proof of such sheaths having been used in the Roman army, but they are depicted on Sassanid and Parthian reliefs⁹¹. Among the Sassanid, the bow sheath was called *kamandan*⁹².

The quiver, usually made of leather, was also very important, since it protected the arrow from becoming damp. In visual sources it is depicted as being cylindrical in shape among the Romans, carried on one's back⁹³, connected to the *balteus*, as seen on sculptural monuments (one funerary stone from Walbersdorf)⁹⁴, in the case of soldiers on foot, while horse archers carried it by the right side of the saddle, behind the rider⁹⁵, or at the waist⁹⁶. Scythians and Parthians used a single sheath for both bow and arrows, called *gorytos* by the Greek⁹⁷. Traces of quivers were found in Sarmatian tombs, as traces of leather, wood, or birch tree bark. They were cylindrical in shape and painted or even decorated with bronze appliques⁹⁸. Quivers were also used by the Sassanid archers, who called it *tirdan*⁹⁹.

Another element of the archery equipment consisted of arm guards¹⁰⁰. They were used to protect the left arm from injuries that may result from releasing the cord. No material evidence of such elements being used by the Romans has been found, but they are depicted worn by archers on Trajan's Column. The lack of archaeological remains might be explained by the fact they were made of organic materials¹⁰¹ or might be the result of certain materials having been wrongly identified and erroneously attributed to other categories. Archery arm guards are mentioned in the fourteenth line of the Rig-Veda as *gasatagna*¹⁰².

Vegetius mentions the fact that those archers for whom the armor was not a specific element were forced to wear it since they were unable to carry shields¹⁰³.

It is possible that the archers were also equipped with lances, in order to reduce their vulnerability when facing the danger of being captured by the enemy, but due to the lengthy periods they spent training in archery, the time available for practicing with other weapons was rather limited¹⁰⁴.

The archery units recruited in the Roman army initially preserved their traditional equipment, dress, fighting style, and field instructions in their native tongue¹⁰⁵. After a while though, Oriental archers underwent a strong process of Romanization that is also reflected militarily. Thus, they gradually gave up the traditional, cone-shaped helmets, since they were not produced in Roman workshops. Also, the Roman sword, plus sometimes several spears, gradually replaced the traditional battle axe, the *bipennis*¹⁰⁶.

The shooting distance and efficiency depend both on the archer's physical characteristics (physical force, length of the arms, wideness of the chest) and on those of the bow (weight, characteristics of component materials)¹⁰⁷.

⁸⁹ Goldsworthy 1996, p. 185.

⁹⁰ McAllister 1993, 15.

⁹¹ Coulston 1985, 271.

⁹² Farrokh 2005, 15.

⁹³ Zanier 1988, 7.

⁹⁴ Coulston 1985, 271.

⁹⁵ Schleiermacher 1984, no. 23, *apud* Dixon, Southern 1992, 57.

⁹⁶ Coulston 1985, fig. 29, 30, 33; Dixon, Southern 1992, 57, Fig. 23

⁹⁷ Anglim 2007, 97.

⁹⁸ Bărcă 2009, 286, Fig. 116.

⁹⁹ Farrokh 2005, 15.

¹⁰⁰ Vegetius, 1.20.

¹⁰¹ Coulston 1985, 277; Dixon, Southern 1992, 55.

¹⁰² Bărcă 2009, 287.

¹⁰³ Vegetius 1.20; 2.15

¹⁰⁴ McAllister 1993, 38.

¹⁰⁵ Țentea 2012, 102.

¹⁰⁶ Țentea 2007, 154; Țentea 2012, 106.

¹⁰⁷ Paterson 1966, 78.

Specialists disagree on the shooting range of composite bows¹⁰⁸. Thus, ancient authors claim that an archer on foot could hit a target 600 feet away (180 meters)¹⁰⁹, while a mounted archer, employing a weaker bow¹¹⁰ and thus having a smaller shooting range, was able to hit a target measuring 90 cm in diameter from a distance of 70 meters, according to Saracen manuals¹¹¹. Modern researchers have different opinions on the topic. After an experiment performed during the reign of Napoleon III it has been concluded that a Roman archer could shoot an arrow as far as 165–175 meters¹¹²; Bivar suggests a maximum distance of up to 230 meters, but with maximum efficiency only at 90 meters¹¹³; Collingwood and Richmond agree with Bivar on the effective range of the composite bow, but believe it could be deadly up to a distance of 137 meters¹¹⁴; McLeod believes that the archer could hit his target accurately from a distance of 50–60 meters¹¹⁵. The most optimistic view on the shooting range of an arrow is that a war arrow, weighing 30 gr., shot from a composite bow, could easily reach 330 – 370 meters, while the accomplishments of light arrows are almost unbelievable, reaching up to 700 meters¹¹⁶. One of the main reasons behind such diverging opinions on the shooting range of a Roman bow is the fact that an archer's talent was much more important than the manufacturing technology of the bow¹¹⁷. I believe that the shooting range was rather large, and that suggested by McLeod is much closer to the distance at which a strong spearman could throw his weapon. I also think that the 700 meter shooting range is exaggerated. As for the wooden bow, some researchers believe it had a shooting range of 210–230 meters¹¹⁸, while others mention that it was three times less effective than the composite bow (i.e. ca. 60 m)¹¹⁹.

No exact details on the distance from which an arrow could pierce armor are available, but since Parthian archers were capable to penetrate the armor of Roman soldiers at *Carrhae* without entering the shooting range of their weapons, the *pila*, one can presume that armor penetration could be achieved from a distance of 30 – 50 m¹²⁰.

The large number of *sagittarii* troops recruited between the first and the third century A.D.¹²¹ proves the special and extremely significant role that such troops played due to certain characteristics: mobility¹²², wide shooting range¹²³, penetration power, volume of arrows shot, and the accuracy of their shooting¹²⁴. Thus, despite the fact that the bow and arrow were not traditional Roman weapons, the Romans managed, due to the flexibility of their military thought, to employ them at maximum capacity by recruiting populations with experience in this field.

Petru Ureche

Babeş-Bolyai University Cluj-Napoca
Cluj-Napoca, ROU
petru_ureche@yahoo.com

¹⁰⁸ See also Ureche 2008, 253 – 254.

¹⁰⁹ Vegetius 2. 23.

¹¹⁰ Paterson 1966, 85.

¹¹¹ Goldsworthy 1996, 184; Ureche 2009, 334.

¹¹² Anglim 2007, 82; Goldsworthy 1996, 184.

¹¹³ Goldsworthy 1996, 184.

¹¹⁴ Bărcă 2009, 276–277.

¹¹⁵ Goldsworthy 1996, 184.

¹¹⁶ Peddie 1996, 90.

¹¹⁷ Goldsworthy 1996, 184.

¹¹⁸ Peddie 1996, 92, table 4.

¹¹⁹ Anglim 2007, 82.

¹²⁰ McAllister 1993, 16.

¹²¹ Davies 1977, 269–270; McAlister, Appendix 1, 95–101.

¹²² McAllister 1993, 38.

¹²³ Bradbury 1985, 5.

¹²⁴ Farrokh 2005, 14.

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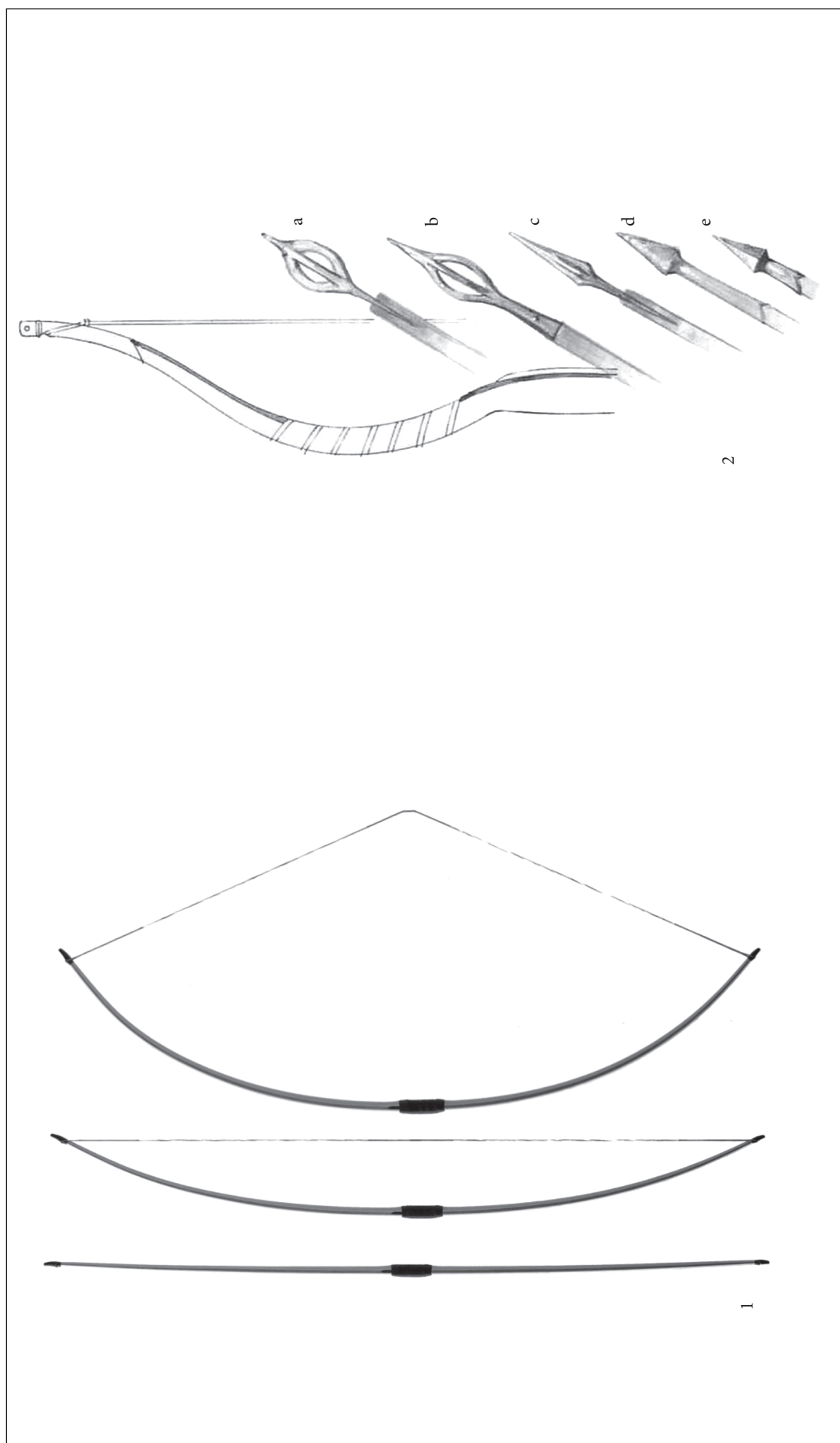


Plate 1. 1. Simple bow (taken from http://rangersapprentice.wikia.com/wiki/Longbow?file=English_longbow.jpg); 2. Types of arrow heads and shafting methods (taken from Cowan, McBride 2003, Fig. D).

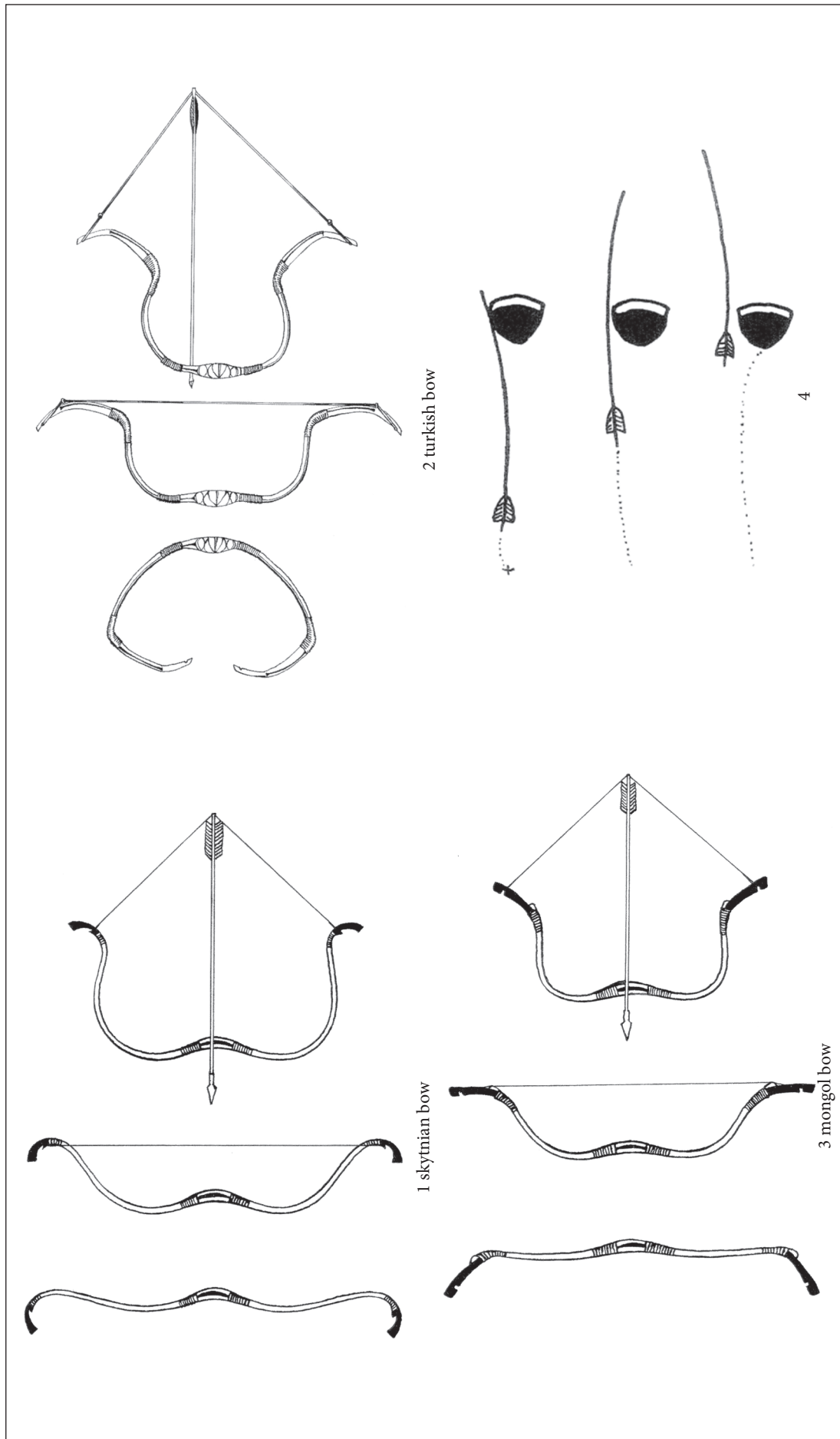


Plate 2. 1-3. Types of bows (taken from Karasulas, McBride 2004, 8, 20, 23); 4. Arrow bending by the bow in flight (taken from Miller, McEwen, Bergman 1986).

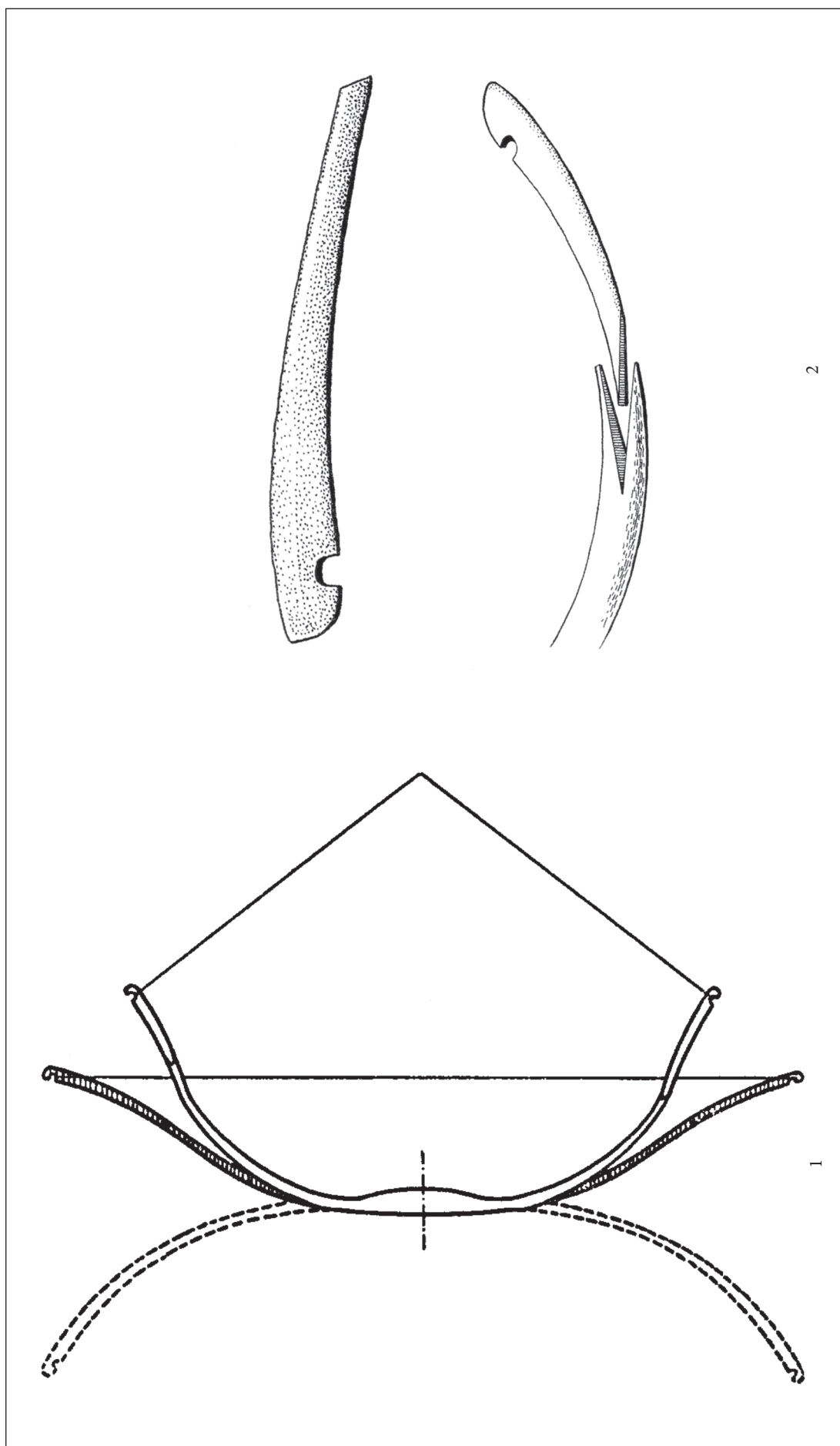


Plate 3. 1. The bow from Yzri (taken from Brown 1937, 4); 2. Bow reinforcements (taken from Karasulas, McBride 2004, 22).



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Plate 4. 1. Bowing an arrow, drawing on the pot from Kul Oba (taken from Karasulas, McBride 2004, 60); 2. Antoninianus. Obverse - Postumus, Reverse – Bow and quiver/quiver (RIC 5.2, Postumus 291).

Two 10–11th century arrow-heads from the environs of Kotori/Cattaro – Herceg Novi/Castelnuovo. Archaeology (?) and art-dealing in the Balkans

Erwin Gáll

Abstract: In September 2012, during a visit to some Dalmatian towns, in Budva/Budua (it.), we bought two deltoid-shaped arrow heads from the antique vendors near the museum, which can be categorized as 10–11th century finds and have been found in the microregion of Kotor/Cattaro – Herceg Novi/Castelnuovo.

Keywords: Balkans, Byzantine Empire, Bulgaria, Kotori/Cattaro–Herceg Novi/Castelnuovo region, arrow-heads, 10–11th centuries.

The acquisition of the objects and suppositions about their places of provenience

In September 2012, during a visit to some Dalmatian towns (Split/Spalato, Dubrovnik/Raguzza, Kotori/Cattaro, Budva/Budua, after visiting the exhibitions of several museums, we had the chance to glance through the archaeological and ethnographical collection of the museum of Budva.

After visiting the museum, in the courtyard nearby the museum, we found antique dealers selling their goods, mainly modern objects. At one of them nevertheless we could find fibulas from the 2–3th and 5–6th centuries, while at another collector a medieval spear could be bought. Among the objects exhibited on the stand, we noticed two arrow-heads, whose parallels can often be seen among the 10–11th century archaeological finds of the Carpathian Basin. After informing the art collector that the objects do not come from Roman time, but are part of the early-medieval armament, he told us to our question that he had got them from the environs of Kotor/Cattaro, 60 km from Budva, using the equivocal expression: „on the plain” since on the basis of the context he thought unambiguously of a plough-land and not lowlands. Nevertheless, if the objects were found 60 km from Budva, it could not have been the environs of Kotor/Cattaro, since the town of the Kotor/Cattaro bay is found no more than 10–15 air kilometres from Budva. On the other hand, if we count exactly 60 km in the north-west direction of Kotor/Cattaro, there we will find high mountains, on the seaside then, it is the microregion of Konavle belonging today to Croatia (the environs of Dubrovnik/Raguzza, Zvekovica, Močići, Vitaljina). This latter possibility is very likely to be excluded because of the today political border. Therefore, the place of provenience of the finds can be put into the microregion of Kotor/Cattaro – Herceg Novi/Castelnuovo, in a circle 15–30 km from Budva (Fig. 1).

The description of the objects

1. Short, curved-edged deltoid arrow-head from iron. A small piece is broken from the lower part of the edge. 1. Length: 7.0 cm (with mandrel); 2. Length (without mandrel): 5.4 cm; 3. Width: 2.8 cm. Weight: 10.0 gramm. The collection of the Department of Archaeology of Szeged University, Hungary (Fig. 2. A, Fig. 3. A).

2. Long-edged (perhaps curved on the bottom), simple, deltoid arrow-head, with fragmental mandrel. 1. Length: 8.0 cm (with mandrel); 2. Length (without mandrel): 5.4 cm; 3. Width: 2.8 cm. Weight: 8.0 gramm. The collection of the Department of Archaeology of Szeged University, Hungary (Fig. 2. B, Fig. 3. B).

The chronological determination of objects

The two objects are arrow-heads applied specifically with reflex-bow used in early-medieval strategy¹. Among the archaeological finds of the Carpathian Basin they turned up in the graves of

¹ Sebestyén 1932, 167–180; A.H. 1996, 38.

the conquering Hungarians. Since in case of the 10th century burial customs, it was in fashion to put weapons into the graves, and this type of weapon in whole Europe is mostly known from this region, it became so to say classic to attach them to the population of this politico-military structure, generally known as „the conquering Hungarians”.



Fig. 1. The region of Kotor/Cattaro and Herceg Novi/Castelnuovo

The arrowheads found in graves dating from the time of the Hungarian conquest were collected, grouped and categorised by Károly Cs. Sebestyén and his work is still used: he distinguished 6 basic types (types A–F), and in the case of the first three types he distinguished several variants². He discussed the material, the weight and the cross-section of the arrow, the morphology of the parts of the arrow the method of its making and its rules. According to him, the bigger the difference is between the weight of the arrowhead and that of the shaft, i. e. the easier the shaft and the heavier

² A–1–5, B–5, C–4. Sebestyén 1932, Fig. 13.

the arrowhead, the faster the arrow will fly and the more reliable trajectory it will have. The arrow must be straight, therefore, according to Cs. Sebestyén, only reed (*Phragmites vulgaris*) could have been used, which was strengthened by a method unknown to us. The arrowhead was glued into the pipe of the reed with resin or wax, and it was completely wrapped around in the whole length of the spine. The fletching was attached with fish glue at about 8 cm from the end of the shaft. The ends of the feathers were bound with phloem strings and the proper size of the fletching was also highly important because if the fletching was too big or too strong, it could reduce the speed of the arrow. An arrow was supposed to be 60–70 cm long and the diameter of the reed had to be at least 0.8–1 cm.

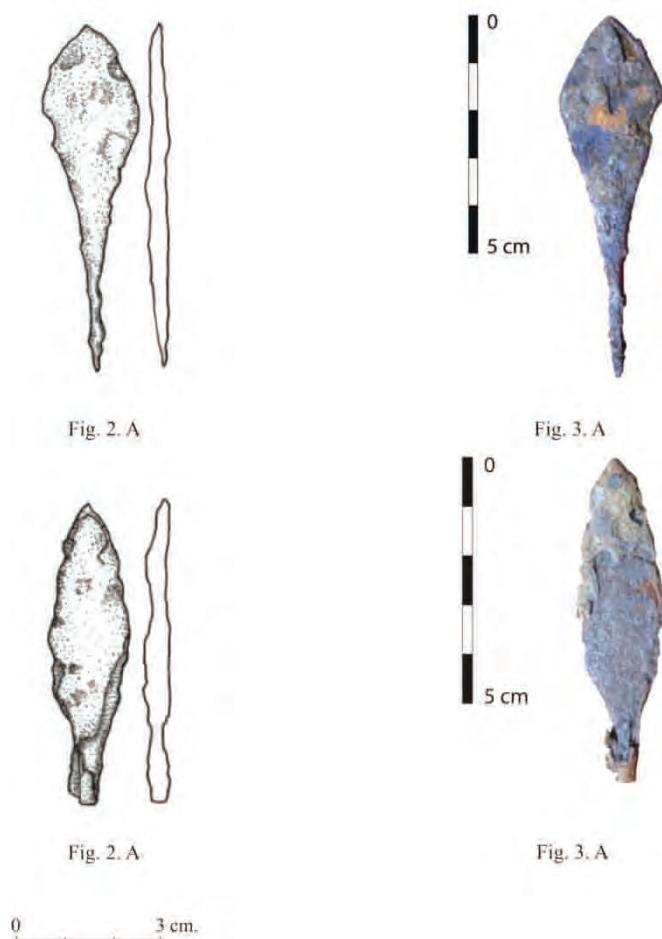


Fig. 2–3. Arrowheads: A–B

Recent researches have confirmed other facts (too). Arrows were not made of reed but wood. According to László Kovács they were made of poplar, birch or willow wickers, and these arguments have been supported with folklore analogies by Károly Mesterházy³. In the '20s of the last century Sebestyén didn't know that *long bladed, deltoid and spiked arrowheads* were in use in the 10th century (too), and they were present, although in a lower percentage, in the graves from the time of the Hungarian conquest.

Tips with short blades and rhomboid arrowheads were the most common, but long bladed tips have also been found in considerable number. The arrowheads (more than 100 of them have been weighed) have been found to weigh between 4.5–16.7 gr in the Transylvanian Basin, the Partium and the Banat⁴. However, the researches of Levente Igaz show that some of them weigh even more⁵. The items found in Kotor belong to the group weighed by us. According to our researches, there is no weight difference between the various types only among single items.

³ Kovács 2004, 311; Mesterházy 1994, 322.

⁴ Gáll 2008, 333.

⁵ Igaz 2010, 280.



Fig. 4. Arrowheads from Opaka (Bulgaria), after Jahn et al. 2001, 68

The two arrowheads found near Kotor/Cattaro in September 2012 may give rise to numerous historical assumptions that the writer would prefer to avoid. Being sceptic towards this kind of attitude, I would not like to commence such interpretations.

Nevertheless, it should be noted that the rhomboid, short and long deltoid variants of the 10th century arrowheads cannot only be connected to the finds from the time of the Hungarian conquest in the Carpathian Basin. More and more of them are found in Bulgaria (Fig. 4)⁶ and in the Bizantine fortifications from Dobrudja (dating after 971)⁷. The stray finds in Western Europe are traditionally connected to the Hungarian raids, but this is not the case as has been proved with concrete examples by Péter Langó⁸. As far as we could check the finds ranging from Kotor/Cattaro through Dubrovnik, Split to Zadar, among the finds from the 9th–11th centuries no such arrowhead has been found so far⁹. The weapons dating from this era are mainly swords, lances, and axes.

Therefore, we would categorise these two items from Kotor, being aware of the relativity of the situation, and taking into consideration the growing number of Bulgarian and Bizantine finds in the Balkans, as the weapons of this cultural circle.

Erwin Gáll

Institute of Archaeology „Vasile Pârvan”, Romanian Academy
Bucharest, ROU
ardarichus9@yahoo.com

⁶ For example: Vitljanov 2004, *Tabl.* 3–4; Jahn et al. 2001, 68.

⁷ Diaconu, Baranschi 1977, II. *Fig.* 104. 5, 7, 17; Ștefan et al. 1967, 343–344, *Fig.* 182. 30, 35; Stănică 2005, 85: second figure.

⁸ Langó 2010, 586–587.

⁹ For example: Cetinić 2010, 1–23; Jurčevrć 2007, 249–265; Perkić 2008, 63–122; Petrinec 2005a, 21–52; Petrinec 2005b, 173–212; Petrinec 2009, 71–129.

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From the fortress of Stephen I (997–1038) to the centre of ‘lord Gelou’. Dăbâca (germ.: Dobeschdorf; hung.: Doboka) in the nationalist myths in the 20th Century.

Erwin Gáll

Abstract: Researching archaeological site of Dăbâca beginning in the early 60's in the 20th century were conducted with preconceptions, as the centre of ‘lord Gelou’ was thought to have been discovered before the start of the excavations, which is an impassable way from a scientific point of view. According to the archaeological and numismatic finds, the fortification built in/after the first third of the 11th century, but the fortress system reached their peak in the 12th century. This is clearly shown by the coins found in the graves in Fortress Area IV, Tămaş's garden and the cemetery of Boldăgă/Boldogasszony, as well as in diverse structures of the settlement. The 13th saw a decline of the central fortress as a political and administrative center.

Keywords: Dăbâca, 11th century, 12th century, Transylvanian Basin, political-military and administrative center.

1. The topographic location of Dăbâca

The village of Dăbâca is situated 30 kms northwest of Cluj-Napoca, by the stream called Lonea/Lónya, which flows into the River Someş 10 kms away from this place. One side of the mountain called Nagyhegy, which is situated southwest of the village (529 m above sea level) made the valley of the stream Lónya so narrow that it is a vantage point of the pass. The road in the narrow valley, squeezed between two hills, in the middle of the village takes a sharp turn to the left. The old fortress district was in the area curbed this way¹. The two hills are gradually declining towards northwest. The shape of the fortress is similar to a pie with a sharp angle and an arc at the end, pointing towards north-north-east. Both sides are well defensible, sloping in 25°–45°. The early medieval fortress district was built in this place with a number of villages and churches around it.

2. Research history. The interpretation of the Dăbâca fortress complex in the scientific literature

In Hungarian historiography it is widely accepted to connect the fortress of Dăbâca to King Stephen I and to date it to around 1000², and to trace back the name of the fortress and the county to the name of the war ‘lord Dăbâca’, who defeated Gyula, based upon one single written source. It is not a new phenomenon in Hungarian historiography at all, as it was interpreted in a similar way already in the synthesis written by Hóman and Szekfű between the two World Wars³. This was adopted by Károly Crettier in his historical-archaeological work on the fortress⁴, who derived the name Dăbâca from the old Hungarian proper name *Dob* to which the diminutive suffix *-ika* was added⁵. Contrary to this, in 1900, in their monography on County Szolnok-Dăbâca Károly Tagányi, László Réthy and József Kádár trace back this place name to the old Slavonic word *dluboku*, *duboka*⁶. Four decades after Crettier's study was published, György Györffy explained the place name Dăbâca with the name of a steward of King Stephen I who was called Dobuka⁷. According to Gyula Kristó, the army of King Stephen I was

¹ It was first mentioned in an archeological-topographic context as the ruins of a castle: Könyöki 1906, 292.

² Benkő 1994, 169.

³ Hóman-Szekfű 1935, Vol. I., 211.

⁴ Crettier cites six more Doboka place names in the Carpathian Basin. A place named Doboka is also known in County Bacău, in Moldva. Crettier 1943, 197–208; Madgearu 2001, 167.

⁵ Crettier 1943, 197.

⁶ Tagányi-Réthy-Kádár 1900, Vol. III. 320.

⁷ Anonymus: *Sunad f. Dobuca nepos regis*. SRH. I. 50. According to György Györffy, Doboka already existed in the 10th century. Györffy 1987, 66–67; Györffy 1970, 242. On dating the work of Anonymus to a time after King Béla III, see:

led by *Dobuka* against Gyula, and the king gave this territory to him⁸. As we can see, there are two theories in connection with the name of Dăbâca in Hungarian historiography and linguistics: the old Slavonic theory, which was championed before Trianon (1900) and the other theory set up between the two World Wars. If one intends to give an objective interpretation of the *Hungarian* origin, which also appeared in the historical discourse, the question has to be put whether it is not a disguised incarnation of the Hungarian national frustration appearing after Trianon⁹. Certainly, in lack of linguistic knowledge, we cannot discuss this problem, but if we keep to the archaeological points of view (and we can only do that) the problem of whether this place name can be traced back to a Hungarian or an old Slavonic name is irrelevant.

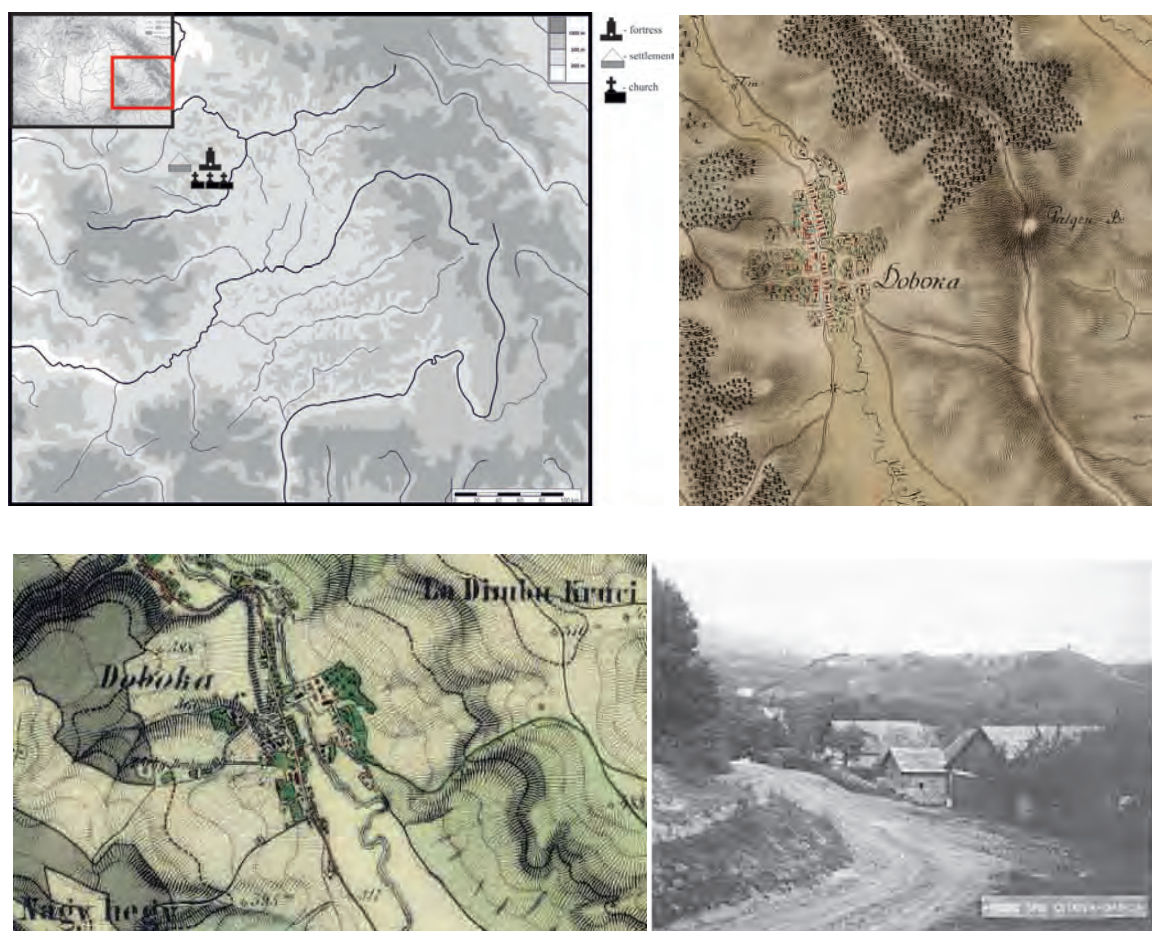


Fig. 1. Dăbâca on the 1st and 2nd military maps, respectively the fortress from the north-west direction (1964)

After 1945, the Romanian Communist Party, which took over like in Hungary and also in Central- and East Europe, promoted the official Soviet doctrine in the education. However, after 1956 (clearly in connection with the Hungarian revolution), Romanian historiography returned to the nationalist concepts of the era between the two World Wars¹⁰, but from this era on, in a complementary way, they tried to make use of the results of archaeology to support the theory of Daco-Romanian continuity¹¹. All this was in close connection with the political changes: Gheorghe Gheorghiu Dej and Nicolae Ceaușescu were promoting a secession from Moscow against the pro-Moscow faction after 1956 (so to say as a consequence of the Hungarian Revolution!) the members of the Romanian (nationalist) elite of the pre-WW II era, who were imprisoned in the earlier period, were released after 1958, to 1964.

Madgearu 2010, 177–182.

⁸ Kristó 2002, 91.

⁹ A similar attitude of historians was characteristic of the experts of the era between the two World Wars. As an example, Iorga's theory can be mentioned, according to which the Székelys were originally Romanians who became Hungarians. Nicoalea Iorga, *Neamul Românesc*, October 1919.

¹⁰ The fact that by 1958 the Soviet army left Romania can be in connection with this.

¹¹ Boia 1999, 152; Ciupercă 2009, 134.

The course of events reached an upheaval in 1964, with the famous *Declaration of Independence* of the Romanian Workers' Party, which meant that Romanian communism exchanged 'internationalism' with nationalism¹².

The committee of historians set up in 1955 played an important role in shaping science policy concerning history¹³, and the synthesis called „*Istoria României*” was published by them in 1960. In contrast with Roller's work published in 1948¹⁴, they support the theory of Daco-Romanian continuity in this work, condemning Roesler's emigration theory. As opposed to the pre-WW II era, one of the characteristic features of the new Romanian nationalism, revived by the communists¹⁵, was that after 1955 the experts supporting the theory of continuity played an important role and the archaeological finds were made use of to support the theory of continuity (it is another problem to what extent it can be used for that purpose). 'As written sources had mostly been exhausted, Romanian historiography invested all its efforts in archaeology' - wrote Lucian Boia¹⁶. The concrete plan was/must have been that the gap between 271 and the establishment of the two Principalities was to be filled with archaeological sources, which was to prove Daco-Romanian continuity and that Romanians are an 'autochthon' people. Therefore the excavation started in Dăbâca provide clear evidence of nationalist science policy, this excavation, which was funded with a considerable sum, was part of this scientific policy plan. Besides discovering the past, the excavations in Dăbâca were mainly started to achieve the aims of science policy, and the 'findings' were predictable. After four years of excavations, which covered only a small part of the fortress complex, the team led by Ștefan Pascu declared that Dăbâca was the centre of 'Lord Gelou', dating the first phase of his reign to the 9th century¹⁷. The excavations must have been very important to the contemporary Romanian scientific elite in Transylvania: they were visited several times by Constantin C. Daicoviciu, the chairman of the committee set up in 1955 (several photos of these events have been identified by us in the museum in Cluj)¹⁸. According to the various documentations in the museum in Cluj, there were at least ten archaeologists in the team led by Pascu.



Fig. 2. Picnic at the archaeological excavation in Dăbâca (1968)

Therefore the Dăbâca project was part of the science policy plan of the new Romanian nationalism revived by the communists in the 60's, on the other hand, it was also a prestige contest between Romanian science in Transylvania (whose best-known figures were Constantin C. Daicoviciu and Ștefan Pascu) and in București, whose main representative was Ion Nestor (it was a widely known that the relationship of Ion Nestor with Constantin C. Daicoviciu was not ideal by far). Ștefan Pascu's careerist ambitions also contributed to the fact that Dăbâca was declared to have been the centre of

¹² Boia 1999, 76.

¹³ Madgearu 2007, 297, 305.

¹⁴ „...Încă din perioada interbelică începe să se facă, ce-i drept timid, apel la informațiile arheologice, care ar fi trebuit să completeze insuficiențele sursei literare”. Ciupercă 2009, 134.

¹⁵ Boia 1999, 152.

¹⁶ Pascu et al. 1968, 153–202.

¹⁷ Pascu et al. 1968, 153–202.

¹⁸ „Și de data aceasta, ca și totdeauna când este vorba de o cercetare de seamă, acad. C. Daicoviciu, directorul instituțiilor de cercetare și muzeale din Cluj, a fost mobilizatorul, sfătuitorul și îndrumătorul atent și priceput de fiecare zi a cercetărilor de la Dăbâca...” Pascu et al. 1968, 153.

'Lord Gelou', since it might have come in useful for the Cluj historian, who had an important position in the national-communist organisation, to improve his prestige this way (in 1974 he became a member of the Academy of Romania). The long lasting effect of this article published in 1968, which was written by several authors, is clearly shown by the fact that except for the works of a few experts (dating the fortress complex to a later period¹⁹) it has taken roots in Romanian history, archaeology, and even in the general knowledge of ordinary people that '*the history of Dăbâca goes back to the 9th century*', and what is even more unfortunate, as a symbol of the *mixed argumentation*, the fortress of 'Lord Gelou' became part of common knowledge, not to mention the vulgar level of school books. Alexandru Madgearu tried to 'move' this central fortress of Gelou's to Cluj-Mănăştur, but it seems that this other attempt based upon a *mixed argumentation* did not have any effect on Romanian historiography²⁰.

It can be stated that the excavations in Dăbâca started in the 60's of the last century began with preconceptions since the method of research is not to be tolerated as after three seasons of excavations the leading archaeologists assessed the archaeological finds from the fortress complex of Dăbâca as the signs of the political-military centre of the legendary *Gelou*, the leader of the Slavs and Vlachs based upon one single written record (Chapters 24–27 of the *Gesta* by Anonymus) although Anonymus himself does not know about Dăbâca²¹.

Disproving this interpretation of Dăbâca, in György Györffy's paper, in a note István Bóna refuted the chronology of Dăbâca set up by Pascu and his team, although unfortunately it has left hardly any traces in the archaeological literature and is almost completely unknown in Romanian archaeology²².

From the early 90's on, a relentless attack was started against nationalist-communist historiography led mainly by the best-known figures of the Bucharest school, Lucian Boia and Radu Popa (Boia was followed by the Cluj, Sorin Mitu), unfortunately, it only yielded some concrete results in history, or to be more exact, in a part of it²³. Radu Popa and Lucian Boia gave a severe criticism of the attitude and conception of the Romanian researchers in the 70's and '80's and the scientific deductions of these researchers which were doubtful in many cases²⁴. Radu Popa's criticism was the most clear cut: in his 1991 article, the Bucureşti archaeologist, who originally comes from Transylvania, called Ştefan Pascu „an amateur” and his writing „romantic”²⁵.

The most appropriate evaluation of the trend of historiography in the 50's and 60's was given by Lucian Boia²⁶ concerning Daco-Romanian continuity: '*As written records had mostly been exhausted, Romanian historiography invested all its efforts in archaeology*'²⁷.

As a result of Lucian Boia's work as a professor, an editor and a coordinator, two books were published on the myths of national-communism and its distorting effects²⁸, however, concerning its methodological and general consequences, it made hardly any impact on Romanian medieval archaeology.

It can be confirmed that the new ways pioneered by Radu Popa and Lucian Boia hardly made any impact, and the publications by other representatives of the Romanian archaeology that reached the international level are marginal, and are not known by Romanian archaeologists, let alone by the public²⁹. It poses another problem that the findings of archaeology, due to its methods and characteristics, are/were not understood by the vast majority of historians.

Taking all this into consideration, it is not surprising at all that in the third volume of the series *Dăbâca* is still mentioned as the fortification of *Gelou* at the end of the 9th and the beginning of the 10th centuries³⁰.

¹⁹ Horedt 1986, 127; Rusu 1998, 5–19; Madgearu 2001, 162. However, A. Madgearu does not attempt to refute the tales of Anonymus, but he shifted the sites of these tales and the legendary great battles creating new myths.

²⁰ A. Madgearu argues that Anonymus did not mention Doboka, therefore no battle could have taken place there. Madgearu 2001, 165.

²¹ Bóna 1998, 20.

²² Bóna 1970, Note 315. In Romanian literature we could only find any reference to Bóna's note in Madgearu's work. Madgearu 2001, 162, Note 14.

²³ E. g. these findings have not been incorporated in school books, the contemporary Romanian and Hungarian language history books are practically the doctored, blunted versions of the books used in the 80's of the last century.

²⁴ On the connection of Romanian national-communism with archaeology, see: Boia 1999, 144–149.

²⁵ Popa 1991, 159, 165, Note 51.

²⁶ On the disputes on Romanian ethnogenesis in the 50–60's, with lots of information, see: Măgureanu 2007, 289–321.

²⁷ Boia 1999, 152.

²⁸ *Miturile Comunismului Românesc* 1998.

²⁹ Niculescu 2002, 209–234; Harhoiu 2004, 149–167; Niculescu 2007, 127–159.

³⁰ I. R. 2010, 244–245.

So the evolution of Romania archaeology in the past 23 years can be best described by the following observations: 1. Part of it including the majority of the works discussing the early period of the Middle Ages (the so called Sarmata–Hun–Germanic era) approaches the level of Central European archaeology³¹; 2. One can see a considerable degree of disinterest shown towards the Avar era, the 9th–10th centuries and the researches concerning the Árpád era – without any major projects, only a few archaeologists do research into this period; 3. The revival of *postsecular nationalism* (whose different forms – keeping the Dacian and Roman traditions – can be recognised in various meetings) does not have a good influence on the archaeology of the period of the Early Middle Ages in Romania; 4. Some representatives of the nationalist-communist historiography retained their positions after 1990 and some researchers representing the same level have been put in good positions in the fields of education and research.

In the 90's one of the most greatest Hungarian archaeologists of the 20th century, István Bóna, treated the fortress of the early Árpád era and the Transylvanian border fortress, which were considered the corner stones of all fortress researches, in detail. In his synthesis on fortress, he discusses each Transylvanian fortress, however, Dăbâca is mentioned only in a half sentence³². In his last article in 2001, he clearly proposes a later dating: *“Dobokavár többször átépített kisméretű (9 és 14 m hosszú) templomairól egyelőre csak azt lehet tudni vagy sejtteni, hogy egyik sem korábbi a XI. század közepénél, vagyis nem államalapítás koriak. A zavarosan leírt, zavaros vázlatokon ismertetett alaprajzok nyomán a templomok története mindaddig értelmezhetetlen lesz, míg a körülöttük feltárt 800 temetkezés rétegvizsgálatai és leletei nincsenek közzétéve.”* (*‘Of the small size (9 and 14 m long) churches of Doboka fortress, which were reconstructed several times, we can only know or suppose that none of them are older than the mid-11th century, so they were not built at the time when the Hungarian state was founded. The history of the churches, which were described confusingly based upon confusing schedules, cannot be interpreted until the layers of the 800 graves excavated around them and the finds are published.’*)³³.

In his *‘Transylvania around 1000’*, Florin Curta's history of the research touches on the problem of Dăbâca, but his standpoint is not clear enough. Read through several times, it seems as if Curta was trying to defend Pascu's research team, and concerning Dăbâca, he considers István Bóna's note as an attack against Romanian archaeology. As opposed to this, it was István Bóna, who wrote it in *‘The history of Transylvania’* that there was a Slavonic settlement and its cemetery in the 8th century in Dăbâca³⁴. Curta's criticism on Bóna is hardly understandable as he attributes something to Bóna which Bóna never wrote in any of his works (the exact source of the sentences attributed to Bóna is not cited either!)³⁵. Surprisingly, Curta defends the Dăbâca research team, pointing out that one does not necessarily have to see the influence of politics in their interpretation (the consequences of Romania's national-communist politics for the archaeological research are acknowledged by many Romanian archaeologists, starting with the excellent article published by Radu Popa in 1991³⁶) and that they did not live up to the complexity of the research (although at least 10 researchers participated in the excavation, as has been mentioned above)³⁷.

The best example showing how the 1968 article and the science policy of the 60's are ingrained in present day Romania science is the recently published new edition of *‘The History of the Romanian*

³¹ We think of the works by Alpár Dobos, Radu Harhoiu, Alexandru Niculescu, Coriolan Opreanu, Ioan Stanciu.

³² Bóna 1998, 34.

³³ Bóna 2001, 89.

³⁴ *„Avar koriak, ám későbbiek a Dobokán talált urnasírok is, az egyik urnáról tudjuk, hogy szabad kézzel készült, ugyanott a másikat – szórt hamvasztásos temetkezést (?) – lapos indás díszítésű, avar, öntöttbronz csüngős övverete viszont már a 8. század vége felére utalja...”* (*‘The urn graves at Doboka are from the late Avar period. One of the urns is reported to be hand-made; another cremation grave — with scattered ashes (?) — dates from the late 8th century, for it yielded an Avar cast bronze belt decoration, with a flat, tendril-patterned pendant’*). Bóna 1988, 181.

³⁵ *„Bóna sustinea că nu există nici un fel de materiale databile în secolul al IX-lea și că până și cele databile în secolul al X-lea sunt foarte puține. În același timp, el îi acuza pe arheologii români de a fi ascuns acele materiale ce ar fi contravenit interpretării fortificației de la Dăbâca, drept capitala lui Gelu. De fapt materialele publicate până acuma, fie chiar și atât de deplorabil, conțin și piese databile în secolul al IX-lea...”* (*‘Bóna claimed that no ninth- and very few tenth-century artifacts were found on the site. He also accused Romanian archaeologists of hiding the evidence that did not match their interpretation of Dăbâca as Gelou's capital city. In fact, the evidence published so far, albeit poorly, does contain evidence of a ninth century occupation of the site’*). Curta 2002, 274.

³⁶ Popa 1991, 153–188.

³⁷ Curta 2002, 274.

People'³⁸ in which the separation of 'autochthons' and 'migrators' does not seem to reflect any changes in the conception compared to the 80's³⁹.

Unfortunately, since the change of the political system no field research has been carried out in *Dăbâca*. This indifference can be traced back to several reasons, but the most important is the fact that at present the early medieval archaeology is not represented by project or institutions, but by a few people⁴⁰. Since then no considerable breakthrough has been made in the research of the churchyard cemeteries in *Dăbâca*, only the publication of the results of the excavations in Fortress Area IV and some parts of the churchyard cemetery in A. Tămaș's garden can be considered any progress. Drawing the conclusion, all the Romanian archaeological works concerning *Dăbâca* are base on the same very uncertain and questionable 19th century nationalist construction, which can be traced back to a note by Anonymus in his romantic *gesta*, in terms of their methodology, it is an example of the incorrect *mixed argumentation*, which is not to be followed.

Scientific-political, political and supposedly personal interests and careerist considerations all played a part or worked as the driving forces behind the start of the excavations in *Dăbâca* in the 60's. It may also explain that later, as the results were not satisfactory from the given point of view, the starting pace of research slackened and gradually phased out. The last excavation in 1986 was led by Petru Iambor and the results was only the excavation of eight graves, representing the disinterest shown towards the site in the 80's.

In this brief research history, which in many cases is not so relevant in our research, one can draw three conclusions:

1. *Dăbâca* perfectly demonstrates the concepts, interpretations and vision of the expert who lived in the various eras in the 20th century;

2. in the interpretation of *Dăbâca* historical narrative and linguistic data have played the main role so far, archaeology has played an auxiliary part, being reduced to providing arguments for different historical theories⁴¹.

3. Scientific-political, political and supposedly personal interests and careerist considerations all played a part or worked as the driving forces behind the start of the excavations in *Dăbâca* in the 60's. It may also explain that later, as the results were not satisfactory from the given point of view, the starting pace of research slackened and gradually phased out. The last excavation in 1986 was led just by a one archaeologist, Petru Iambor and the results was only the excavation of eight graves, representing the disinterest shown towards the site in the 80's.

Unfortunately the past political manipulations have had a great 'career' in national-communist Romania⁴², and *Dăbâca* is a sad symbol of this.

3. The present state of research in the site of *Dăbâca*

As has been mentioned, from 1964 on there were archaeological excavations carried out in *Dăbâca* with shorter intervals, which took more than 20 years. During these excavations three churches were excavated which were renovated and rebuilt several times (Fortress Area IV, A. Tămaș's Garden, and the Church of Boldăgă/Boldogasszony) together with 871 graves in three cemeteries around them (most of the graves were dated back to the 11th–13th centuries) and sections of settlements that were inhabited in different periods from the stone age to the 16th century. In several places the ramparts of the medieval fortification made of soil and wood were cut and its profile was treated as an absolute chronological reference point.

The time and quantity of the excavations are shown in the chart below:

³⁸ It is telling that the names of Lucian Boia, Radu Harhoiu, Sorin Mitu, Alexandru Niculescu and Adrian Andrei Rusu are missing from the group of the most important figures of contemporary Romanian science.

³⁹ The titles of the chapters of the synthesis excellently indicate this attitude: „*Raporturile populației autohtone, cu migrațiilor*”, „*Populațiile migratoare pe teritoriul Daciei*”. This is reflected by the bibliography too, which is divided into an 'autochthon' and a 'migratory' part. I. R. 2010, 667, 712, 787, 873–884, 884–896.

⁴⁰ Similarly: Țiplic 2011, 148–154.

⁴¹ Niculescu 1997, 64.

⁴² In this aspect one cannot cite enough Radu Popa's criticism from 1991.

Site	Year of excavations	Number of graves	Number of excavated graves	Another complexes
Fortress Area IV	1964	Graves 1–35	35	1 pit house
Fortress Area IV	1965	Graves 36–106	71	6 pit houses, 5 houses
A. Tămaş's garden	1966	Graves 1–10, 11–28, 29–37	37	2 pit houses, oven
A. Tămaş's garden	1967	foundation of church, Graves 38–60, 61–71	32	
Fortress Area IV	1968	templom alapja, 107–150. sár	44	
Fortress Area IV	1969	151–284. sár (284–294)	134 (144)	
Braşte/Braşistye	1972	cremation graves (pits cremation, cremation in urn)	?	4 pit houses
Fortress Area IV	1973	295–303., 310–325. sár	25	3 pit houses, 7 houses, iron workshop?, wall of Fortress, 2 ovens
Boldăgă/Boldogasszony	1975	foundation of churches, graves	?	
Fortress Area IV	1976	Graves 326–425, 427–436	110	
Fortress Area IV	1977	Graves 437–482	46	
Boldăgă/Boldogasszony	1977	Graves (1–103)	?	
A. Tămaş's garden	1980	pit house	1	1 pit house
Boldăgă/Boldogasszony	1982	Graves 106–134	29	
Fortress Area IV	1986	Graves 483–490	8	

Fig. 3. The present stage of the excavated archaeological sites

It is a serious deficiency that the bones found in the cemeteries could not be identified. According to Tudor Sălăgean, at the beginning of the 90's the bones were buried again in the ground by Petru Iambor somewhere in Dăbâca (either in the fortress or near it). Even if we managed to identify the bones and to publish one of the sites in a small monography⁴³, unfortunately, the loss of the bones is an irreparable damage. A modern, scientific analysis of the population in the old Dăbâca can only be done after new and successful excavations.

4. Churchyard cemeteries, settlements and the fortress complex in Dăbâca

Any conclusions concerning the excavations in the area of the fortress can only be drawn carefully, due to the present stage of research described above. During the 20 years of work only a small area of the fortress was excavated, not more than an estimated 20% (Pl. 3). On top of this, the documentation of the excavations is also poor, in several cases they do not exceed the level of the 19th century, and in other cases (such as the excavation in 1980) no documentation has remained, just some notes. Therefore the great conclusions that can be read in the article written in 1968 and in Petru Iambor's paper of 2005 (and based upon them, in several other papers) must be considered in a more relative way. To draw such overall conclusions, the excavation of the whole site would be required with a much more accurate documentation! Unfortunately, at the moment it can be stated that the quality and the documentation of the excavations in the Dăbâca site only reach Research Level 1 in Sebastian Brather's chart⁴⁴, so it does not even meet the requirements of Level 2 (structures, social-economic relations). In this phase of the research it would be problematic to draw any conclusion apart from the typology of the finds and their chronological analyses. Unfortunately, this situation cannot be changed as the bones were buried back in the ground at the beginning of the 90's by Petru Iambor, moreover, the archaeozoological material excavated in different places of the settlement (pit dwellings, pits etc) have not been included in the inventory. For this reason, we can only aim to systematize the information we have (mainly chronological). At this stage the only thing that can be stated is that the site, since only around its 20% have been excavated, has not been lost for science, but we need more modern and responsible research methods.

⁴³ Gáll 2011.

⁴⁴ Brather 2006, 27, Fig. 1.

Fortress

First of all, it is important to clarify some misconceptions concerning the beginnings of the *fortress*, as the excavating experts dated the first phase of the fortress to the end of the 9th century, and its destruction was considered as the result of the fight between *Gelou* and Tuhutum/Töhötöm. But in burning layer 1 in Fortress Area I some items were found which are impossible to be dated to the 9th or even the 10th century. In Section A, which was opened next to Trench 1 in 1964 pendants with granulated ornaments⁴⁵, (Pl. 4. 2–5) and from foundation ditch 1 neck-and bracelets with rhomboid cross section and a ring with multiangular cross section were found⁴⁶, (Pl. 4. 6–8, Pl. 5. 1) which cannot be dated before the first half of the 11th century. The hooked arrow point, which was found along with the necklet with multiangular cross section, is usually known from the second half of the 11th century and the 12th century finds⁴⁷. (Pl. 4. 9) It can be stated that none of these objects can be dated earlier than the 11th century and the hooked arrow point is from a later period. Similarly, the pit house that was classified by the excavators to the second phase also belongs to this layer. A lunula shaped pendant was found in its backfill. (Pl. 4. 1) The ground heap in Fortress Area III was used parallel with Fortress Area I, which is supported by stratigraphic measurements. The H9 coin of Andrew I (1046–1060) was found in the north-eastern corner of the ground heap. Not far from here, in the backfill of the ground heap, next to a fire place two H1 (Pl. 6. 9) and H2 coins of King Stephen I were discovered. At the moment it seems that the fortress was burned in its first phase, in the second third or in the middle of the 11th century.

After the destruction of the earth-wooden fortress, a new fortification with cassette-structure, was built in Fortress Areas I and II, so the original small fortress was extended. On its walking level, in Section B an H6 coin of Peter Orseolo (1038–1041, 1044–1046) was found along with a spur (Pl. 4. 10). The ground plan of the fortress suggests that it was built in the time of Andrew I and was destroyed at the end of the 11th century.

The third phase of the fortress is to be dated to the end of the 11th century, in its stone and ground heap a coin Coloman The Possessor Of Books (1095–1116) was discovered (Pl. 6. 10), which cannot be identified any closer, and according to the excavators it was destroyed at the end of the 12th century (phase III). From our point of view it is not important, but according to the excavators in the site of the destroyed fortress a stonewall was built, which was destroyed by the Mongolians in 1241 but later was rebuilt. (phase IV. 1–2).

Sections of the settlement

When researchers tried to analyse Dăbâca area district, one of the problems was caused by the fact that they tried to date the sections of the settlement parallel with the fortress, they couldn't or did not want to separate the excavated sections of the settlement from the fortress. Above we tried to clarify the dating of the fortress and we try to follow this method here. Based on the published and unpublished finds, the following statements can be made:

1. Some pit houses and ground level houses of communities from the 8th and 9th centuries were found in the north-western part of Braniște Fortress Area IV and under the wall of Fortress Area II. As is supposed by Ioan Stanciu, the existence of the latter ones is quite doubtful because it cannot be verified by the illustrated documentation. At any rate, it can be stated that this settlement had nothing to do with the 11th century fortress. It is most likely that this population could have been related to the 11th century population, it may be indicated by the considerable number of Slavonic place names known around Dăbâca.

2. Apart from the above mentioned finds that are dated to the 11th century, the village sections found in the southeastern part of Fortress Area III and in the north-western part of Fortress Area IV are also dated to the 11th century. I would like to draw attention to the southeastern part of Fortress Area IV, i. e. the pit house found in the churchyard cemetery, where a jug with grooves on its neck was registered. It is not impossible that in this case we can suppose an earlier, 10th century settlement. Two pit houses of a similar settlement section are known from the garden of A. Tămaș.

⁴⁵ Bóna 1970, Note 315.

⁴⁶ Gáll 2008, I. K. 199–208, 216–260.

⁴⁷ Gáll 2008, I. K. 329; Pascu *et al.* 1968, Fig. 4.16; Bordi 2006, 91–97.

3. We think it necessary to discuss the finds excavated in the surface dwelling house S1/IV/1965, as the authors mention 'Byzantine, glazed ceramic shards' together with a strike-a-light (?) (Pl. 6. 5)⁴⁸, green glazed (?) ceramic fragments (Pl. 6. 3–4), two spurs ornamented with gilt plates (Pl. 6. 1–2)⁴⁹, the fragment of a cross and iron knives. (Pl. 6. 6) In our opinion it remains doubtful as the only documentation we have is a superficial list of the finds. Concerning the finds excavated in the house, it remains undecided what belonged originally to the house and what was found in the fill. However, even if the above mentioned objects were found at walking level, thus dating the house, the typochronology would not allow it to be dated to the 9th–10th centuries, but to a much later date, partly based on the two spurs (10th–11th centuries)⁵⁰, but mainly upon the two strike-a-lights (which can rather be dated to the 12th century). It should be emphasized once again: all this may be true only if the finds belong to the same place and time, but in the documentation there is no evidence of it! From a methodological point of view, it would be far fetched to consider three or four ceramic shards as the evidence of Byzantine connections (certainly they cannot be excluded either), whose dating is at least doubtful, as their chronological classification is not clear. Therefore it is more than dangerous to list the finds from this house as one unit, and methodologically, it is a major mistake to envision the presence of Byzantine Christianity in the 9th–10th centuries.

4. In Fortress Areas III and IV settlement sections dating to the second half of the 11th century and the 12th century are documented. Based upon this, we can state that the territory covered by the medieval Dăbâca in the 11th–13th centuries was considerably great.

5. Some concrete settlement features of a later period were found in the churchyard cemetery (as a sign of the discontinuity of the population!), to be more exact a house and a pit house that can be dated to the end of the 13th century and the 14th century.

To clarify and classify this issue, we have summerized the settlement phenomena in Dăbâca including their topographic position and dating in the following table:

Position of fortress area	Topography	Pit houses	House	Other settlement features	Finds	Dating
Braniște	S3, S6, S7/1972	4 pit houses		holes	fragments of clay pottery, 'Avar' belt end (Pl. 5. 12), coal, arrowhead with three edges (Pl. 5. 11), burnt pieces of bones	8 th century
Fortress Area I	section „A” / 1964			fire place under the burning layer of the palisade (1, 25 m deep)	pendants with gilt silver granulated ornaments (Pl. 4. 2–5), iron plough, wood gouger, rhomboid arrowheads	first half of 11 th century
Fortress Area I	section „A” / 1964				clay pottery (Pl. 6. 14), fragments of clay pottery, spurs, Friesach coin	13 th century
Fortress Area I	section „B” / 1964	1 pit house			lunula shaped pendant from the backfill (Pl. 3. 1)	first half of 11 th century
Fortress Area I				the burning layer of ground Section I	neck-and bracelet with rhomboid cross section, finger ring with multi-angular cross section, hooked arrowhead (Pl. 4. 5–8; pl. 5.1)	first half of 11 th century
Fortress Area I				Donjon	fragments of clay pottery, horseshoes, spurs, arrowheads, coins	13–14 th centuries
Fortress Area II	S2/II/1966–1976			cultural layer	fragments of clay pottery (Pl. 18. 2)	11–12 th centuries
Fortress Area II	S3/II/1973		2 houses		fragments of clay pottery	second half of the 11 th century

⁴⁸ Mentioned as the cross-guard of a sword of type X Petersen, based upon a 1968 article. Gáll 2011, 53.

⁴⁹ Unfortunately, as a 'result' of the restoration, such ornamentation cannot be seen on them.

⁵⁰ Cosma 2004, 192–193.

Fortress Area II	S3/II/1973		1 houses		fragments of clay pottery	11–12 th centuries
Fortress Area II	excavation trench – 37 meters, depth: 66 cm		under the house floor	cultural layer	arrowhead (Pl. 5. 2)	11–12 th centuries
cultural layer of Fortress Area II					one spur, some iron knives, arrow heads	second half of 11 th century
Fortress Area II	section „B”			walking level	Peter Orseolo (1038–1041, 1044–1046) – coin of <i>H6</i> ’s type	second half of 11 th century
Fortress Area III				upper cultural layer	one spur	second half of 13 th century
Fortress Area III	S3/III/1966			well (?)	fragments of clay pottery ¹ (Pl. 18. 1)	11–12 th centuries
Fortress Area III	S3/III/1973		2 houses		fragments of a clay cauldron ²	first half of 11 th century
Fortress Area III	S3/III/1973 depth: 66 cm			cultural layer	arrowhead (Pl. 6. 12)	11–12 th centuries
Fortress Area III	S3,5,6, 8/III/1973			Iron workshop?		first half of 11 th century
Fortress Area III	S5/III/ 1973/excavation trench – 12–14 meters, depth: 66 cm			cultural layer	arrowhead (Pl. 5. 3)	11 th century
Fortress Area III	S6/III/ 1973/ excavation trench – 13 meter, depth: 15 cm			cultural layer	arrowhead (Pl. 5. 4)	11 th century
Fortress Area III	S6–8/III/1973		1 house ³		fragments of clay pottery	first half of 11 th century
Fortress Area III	S6–8/III/1973			fortress wall		first half of 11 th century
Fortress Area III	S6–8/III/1973			fortress wall	one spur	13 th century
Fortress Area III	S8/III/ 1973/ excavation trench – 4 meter, depth: 20 cm			cultural layer	two arrowheads (Pl. 5. 5–6)	11 th century
Fortress Area III	S10/III/ 1973			cultural layer		12–13 th centuries
Fortress Area III	S10/III/ 1973/ excavation trench – 1 meter, depth: 50 cm			cultural layer	arrowhead (Pl. 5. 7)	12–13 th centuries
Fortress Area III	S10B/III / 1973			oven	fragments of a clay cauldron, spurs, iron nails, iron knives	12 th century
Fortress Area III	eastern wall			cultural layer	button made of bone (Pl. 5. 9)	12 th century
Fortress Area III	?			cultural layer		13–14 th centuries
Fortress Area IV Northwest	S1/IV/1965	1 pit house	1 house ⁴		fragments of clay pottery, one rim is patterned	9 th century
Fortress Area IV NW	S1/IV/1965		1 house		strike-a-light, two spurs, fragments of green glazed pottery, a fragment of a cross, iron knives	first half of 11 th century
Fortress Area IV NW	S2/IV/1965		1 house		rhomboid arrow head, animal bones, iron slag, fragments of clay pottery, copper wires	first half of 11 th century

Fortress Area IV NW	S3/IV/1965	2 pit house			fragments of clay pottery, clay pottery (Pl. 6. 13)	8–9 th centuries
Fortress Area IV NW	S3/IV/1965		1 house			9 th century
Fortress Area IV NW	S4/IV/1965		1 house		fragments of clay pottery	8–9 th centuries
Fortress Area IV NW	S5/IV/1965	1 pit house			hair-ring, S-ended lockring with twisted wire (Pl. 6. 7), two iron knives, a bone showing signs of work	first half of 11 th century
Fortress Area IV NW	S6/IV/1965	1 pit house			fragments of clay pottery, animal bones, iron knives, the iron hinges and handles of wooden buckets,	9 th century
Fortress Area IV NW	S6B/IV / 1965	1 pit house			green fragments of glazed clay pottery	first half of 11 th century
Fortress Area IV Southeastern part	S7/IV/1973	1 pit house			pottery with grooved neck (Pl. 6. 11)	first half of 11 th century?
Fortress Area IV SE	S7/IV/1973			cultural layer	fragments of clay pottery	13–14 th centuries
Fortress Area IV SE	S8/IV/1973	1 pit house			fragments of clay pottery	first half of 11 th century
Fortress Area IV SE	S8/IV/1973		1 house	furnace	fragments of clay pottery, spurs	13–14 th centuries
Fortress Area IV SE	S11/IV / 1973	1 pit house		furnace	fragments of clay pottery, a spur, finger ring with incised pattern (Pl. 6. 8)	12–13 th century
Fortress Area IV SE				cultural layer		13–14 th centuries
the garden of A. Tămaş	S1/1966	2 pit houses				11 th century
the garden of A. Tămaş	S2/1966			oven ⁵		11 th century
the garden of A. Tămaş	1980	1 pit house			Coin H82 (Pl. 11. 1)	12 th century
Dăbâca-Boldăgă	S4/1b/1966–1976 (excavation trench – 4–8 meters, depth: 0,50–0,70 cm)			cultural layer	fragments of clay pottery (Pl. 18. 3)	12 th century

Fig. 4 The settlements phenomena in Dăbâca

Table footnotes:

¹ MNIT. F. 13595.² Takács 1986.³ Part of the house was levelled when the castle wall of Fortress Area 3 was built.⁴ He cut the pit house.⁵ The bigger part of the oven was destroyed when the shrine of Church was built.⁶ After L. Huszár's system. Huszár 1979.⁷ After L. Huszár's system. Huszár 1979.⁸ After L. Huszár's system. Huszár 1979.⁹ After L. Huszár's system. Huszár 1979.

Churches and cemeteries: Fortress Area IV, Alexandru Tămaş's garden and Boldăgă/Boldogasszony

On the southeastern side of the Dăbâca fortress complex and in Subcetate/Váralja, churches and the cemeteries around them were excavated in three places. Besides a cemetery with cremation burials with scattered ashes has also been excavated south of the fortress. The trend remained the same as in the case of the settlement sections: they tried to date the churches (or the (imagined) first phase of their construction) to the ninth century.

4. 1. An 8th–9th century cemetery with cremation burials with scattered ashes

Using improper methods, in a small area by probe-like excavations 10 or 15 cremation burials with scattered ashes were excavated south of the fortress, near a stream called Braniște (Branistye)⁵¹, right next to the dwelling pits of the settlement dating from the 7th–9th centuries (Pl. 19–20).

Unfortunately, no find has been published, but the ceramic finds discovered in the cremation burials with scattered ashes date this cemetery to the 8th–9th centuries. On the other hand, it seems that the settlement found not far from these graves and in the western ground of Fortress Area IV can be dated to a later period. As most of this area remained untouched, there are good prospects at carrying out better and more accurate excavations.

The graves, as far as they can be identified in the documentation, were excavated in Casette 'A' and in Section 8. Unfortunately, there is documentation on the excavated Section 10 and the so called area only in 4 cases. Therefore it is possible that the 15 graves with scattered ashes and the 1 grave with an urn mentioned by Kurt Horedt are the real data as the Saxon archaeologist, who worked in Cluj in the 70's, must have had quite correct information on all these. As not the whole cemetery, only part of it was excavated, its dating is doubtful and the disappearance of cremation burials in the whole Transylvanian Basin in the 9th century can be considered a hypothesis that has not been proved⁵².

The dating of a big part of the burials with scattered ashes, those with urns and the mounds with scattered ashes known in the Valley of the Little Someș is similarly doubtful. Part of the finds in Someșeni can firmly be dated to the 8th–9th centuries, in contrast with the rest of the finds whose dating is more than doubtful.

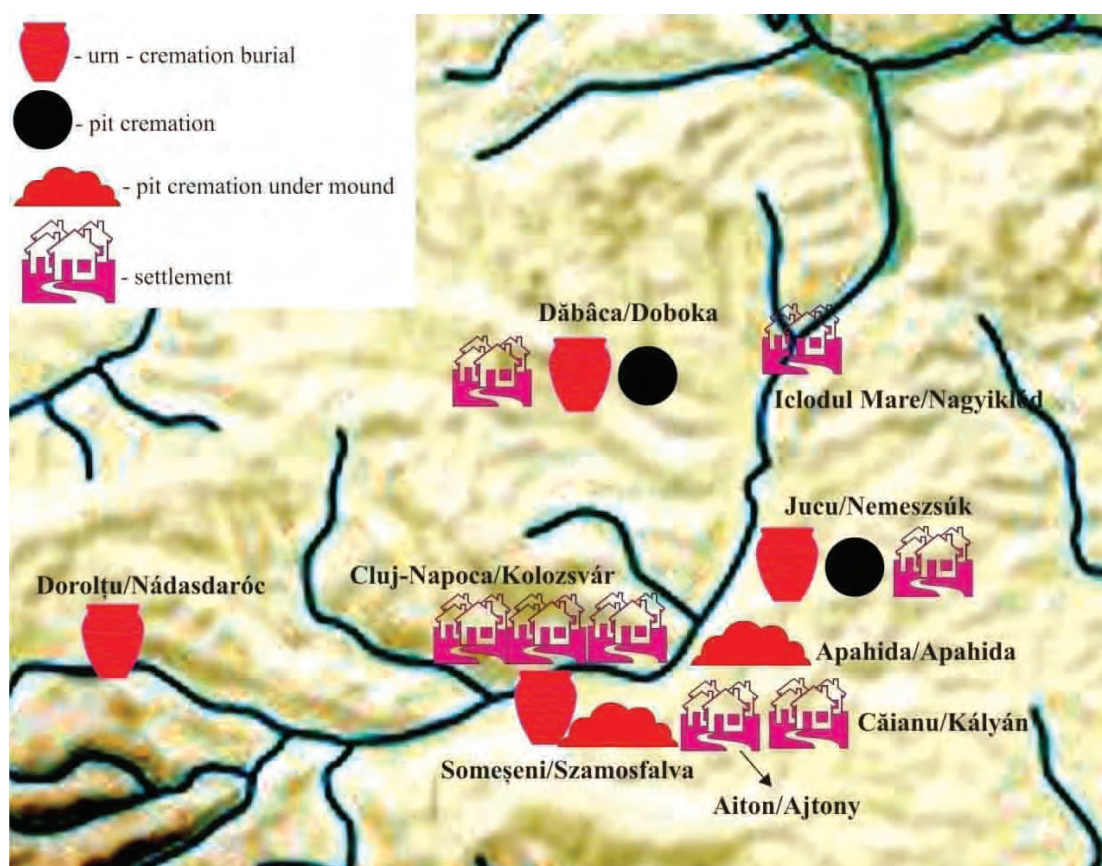


Fig. 5. Population in the 7–9th centuries in Little Someș Valley

As can be seen above, in the microregion of the valley of the Little Szamos, a considerable amount of settlements and cemeteries with cremation burials⁵³, dated to the 7th – 9th centuries are known and

⁵¹ Kurt Horedt mentions 15 graves, we could identify 10 cases in the documentation.

⁵² For example they were known in Poland as late as the 11th century. Jażdżewski 1951, 91–191; Miśkiewicz 1969, 241–302.

⁵³ Aiton: RepCluj 1992, 22; Dăbâca: Horedt 1976, 48; Căianu: RepCluj 1992, 22; Cluj-Napoca: RepCluj 1992, 121, 143, 149; Dorolțu: Horedt 1976, 48; Ferenczi1970, 565–570; Iclodul Mare: RepCluj 1992, 237; Jucu: Ioan Stanciu's informations;

the *Slavonic* place names in the Little Someş Valley can be connected to this⁵⁴. However, the 10th century cemeteries with poor furnishings and a great number of graves are completely unknown but as an isolated archaeological phenomenon, the cemeteries of the population in Cluj, whose great proportion was buried with their weapons, appeared⁵⁵. This phenomenon leads us to think that there must have been a connection between the population with cremation burials (Slavs) and the conquerors arriving in the 10th century, this could explain the complete lack of the cemeteries with poor grave furnishings and a great number of graves (there was no immigration or settling in the 10th century besides the warrior class), on the other hand, it also explains the various Slavonic place names around Cluj. As we see it, in the 10th century the conquering Hungarians did not *slay* this population but *integrated* them into the economic-political-military structure of the age, certainly as a conquered population. That is what makes us think that it would be a huge mistake to draw the chronological line of cremation burials at the 9th century in Northern Transylvania (in fact without any evidence!). In our opinion, the population exercising these burial rites lived to see the Hungarian conquest and the early Árpád era, they were integrated in the structures of the Árpád era and were converted to the Christian religion. Based upon this, we think that in the future it would be necessary to check the dating of cremation burials by ¹⁴C analyses.

4. 2.a. The churches in Dăbâca⁵⁶

The church in Fortress Area IV

The spiritual centre of the (Christian) cemetery is the church⁵⁷. However, (in spite of most other sites) in Dăbâca it was not found in the middle of the cemetery, but in its eastern half. The simple small church, which was called funerary chapel by the excavating archeologists due to its small size, was excavated almost on the northeastern edge of the plateau⁵⁸. The orientation of the church is ENE–WSW with the shrine on the eastern side and the nave in the west, which was in accordance with the orientation of medieval churches⁵⁹. The foundation of the church was detected 25–30 cm deep, and before the excavations, during agricultural landworks, a large number of limestone fragments were unearthed from the foundation of the church. The church is 11.5 m long and 6 m wide at the entrance.

The foundation of the nave and the apsis was made of stones placed in mortar made of lime and sand. In the foundation of the western and northern walls 8 stoneslabs were found whose size was 0.75–0.8 × 0.40–0.45 m. On their sides engraved cross patterns with equal and unequal stems are to be seen and we cannot cross out the possibility that originally they were tombstones⁶⁰.

The foundation of the nave is 1.25 m wide, by contrast that of the transept is only 0.75–0.80. The large amount of carved limestone slabs, on which the western foundation of the nave was partly constructed must have played a role in the construction of the entrance (Pl. 7).

The cemetery must have been used before the construction of the church, which is underpinned by the upper part of a skull found in the grave that was destroyed below the foundation of the shrine. It cannot be ruled out that the engraved limestone slab found in front of the entrance, similar engraved pyramidal stone slabs were found in the wall of the church of Boldăgă/Boldogasszony⁶¹ (Pl. 10). The possibility of the existence of a wooden church before this church cannot be excluded either⁶².

The church can be dated to the 12th century based upon the coins found in the cemetery around it.

The church excavated in Alexandru Tămaş's garden

The church (and its cemetery) excavated in A. Tămaş's garden seems to show some close chronological and perhaps other connections with the cemetery in Fortress Area IV, both being built in the

Someşeni: Macrea 1958, 351–370.

⁵⁴ Herepei 2004, 13.

⁵⁵ The last analysis of this phenomenon: Gáll 2013d, 461–481.

⁵⁶ In lack of the knowledge of fine art and architecture, we try to do a limited analysis of the church. We have made use of Ştefan Matei's manuscript to describe the church. Matei w.y., 6.

⁵⁷ Rush 1941.

⁵⁸ Matei w.y., 8.

⁵⁹ Szatmári 2005, 28.

⁶⁰ Lővei 2005, 77–83.

⁶¹ Matei w.y., 7.

⁶² On wooden churches and their mention in written records see: Németh 2002, 84–91.

late 11th century. The church and its cemetery excavated in A. Tămaş's garden were found approximately 250 m away, at the southeastern end of the plateau.

Before starting our analysis, we would like to dispel some false information on churches I and II that became widely known in scientific literature. This is the result of a mistake made several decades after the excavations: it was first published in Ştefan Matei's manuscript in 1996 and then in Petru Iambor's PhD thesis⁶³. It was noteworthy that in Ştefan Matei's manuscript of 1996 discussing A. Tămaş's garden, the term „church” (biserică) is used mixed with the word „churches” („biserici”) allowing us to suppose that 30 years after the excavations one of the leaders of the excavations was not sure of the number of the excavated churches. This assumption is supported by the fact that in Matei's text there is a strange sentence: *the foundations of Church 2 were removed and taken away by the locals* („totalitatea fundației bisericii a II-a au fost scoase de către localnici”). The main problem with this interpretation is that Matei does not give any explanation of why the foundations of Church 1, which were registered 60 cm deep, were not carried away by the locals. In 2012 this confusion was completely clarified: by identifying the original documentation drawn on graph paper in 1966, it came to light⁶⁴ that the remains of only the foundations of one church were documented, the foundations of the so called Church 2 are completely missing. The question arises: what caused this confusion? It is difficult to answer. It can have happened that after 30 years the two 1.5 m long church (?) walls excavated north-west of the church might have caused some confusion in the memories of the aging colleagues.

The church excavated in A. Tămaş's garden (in the previous literature called Church 1) was small, the nave of the church was 4.3 m long and 4 m wide, and the apsis of the church was 2.6 m. The foundation of the apsis and the nave was registered at 125 cm compared to the walking level of 1966–1967. The foundation of the nave and the apsis is made of stone and yellow clay was used as bonding material. In some places, on the outer part of the wall, some carved stones were also used together with natural stones, which were put in a mortar bed containing a lot of sand and lime. The foundations of the walls of the churches are not thicker than 1 m and the walls are approximately 80 cm thick.

The structure of the church is characteristic of the Árpád era, however, its rectangular apsis represents a rarer form. From the collection of Imre Szathmári we know of 8 churches from County Békés and in Ilona Valter's collection there are 3 such cases⁶⁵.

Based upon its shape, a more exact date cannot be given as to its building, it was some time between the 11th and 14th centuries. In his work published in 2005, Petru Iambor mentioned 8 coins of King Ladislaus I (1077–1095) in a treasure find and they were found on the walking level of the so called Church II („pe nivelul de călcare, în exteriorul bisericii (II.-m.n.), pe latura de nord”). However, according to the documentation in the museum in Cluj, 9 coins were found and their connection as a part of a treasure is more than doubtful, but one thing is for sure: based upon the above mentioned data, the walking level of Church II as the finding place of the treasure can be crossed out.

In the coin collection of the Museum of Cluj we found the following data concerning the 9 coins from 1967:

1. a denarius of type H28 from the excavated section, 43 cm deep (it was found on 2 September 1967). Diameter: 1.4 × 1.32 cm. Weight: 0,509 grams. ENTM. N. 97940 (Pl. 11. 5).
2. a denarius of type H28 from the excavated section, 60 cm deep (it was found on 2 September 1967). Diameter: 1.3 cm. Weight: 0,603 grams. ENTM. N. 97936 (Pl. 11. 2).
3. a denarius of type H28 from the northern wall of the excavated section, 60–80 cm deep (it was found on 4 September 1967). Diameter: 1.5 cm. Weight: 0,588 grams. ENTM. N. 97937 (Pl. 11. 3).
4. a denarius of type H28 from the excavated soil, approx. 60–80 cm deep (it was found on 4 September 1967). Diameter: 1.55 × 1.5 cm. Weight: 0,562 grams. ENTM. N. 97939 (Pl. 11. 4).
5. a denarius of type H28 from the northern slope of the excavated section, 60–80 cm deep (it was found on 5 September 1967). It was not included in the inventory.
6. a denarius of type H26 from the excavated section, 80 cm deep (it was found on 4 September 1967). Diameter: 2.1 × 2.0 cm. Weight: 0,880 grams. ENTM. N. 97938 (Pl. 11. 6).

⁶³ Iambor 2005, 188.

⁶⁴ Its publication, see: Gáll 2013b; Gáll 2013c.

⁶⁵ Szathmári 2005, 41: kép; Valter 2005, 146, 164–165, 169, 50. kép, 77. kép, 87. kép.

7. a denarius of type H30 from the excavated section, 85 cm deep (it was found on 4 September 1967). Diameter: 1.6 × 1.5 cm. Weight: 0,549 grams. ENTM. N. 97941 (Pl. 11. 7).

8. an unidentified type of denarius from the excavated section 85 cm deep (it was found on 5 September 1967). Diameter: 1.0 cm. ENTM. N. 97942 (Pl. 11. 8).

9. a denarius of type H28 from the excavated section, 90 cm deep (it was found on 5 September 1967). Diameter: 1.5 cm. Weight: 0,593 grams. ENTM. N. 97935 (Pl. 11. 1).

Drawing the conclusion, the coins found in the section that was excavated in 1967 do not date the so called Church II, they do not even date any closed archaeological object. Nevertheless, the coins found in the graves of the cemetery (which will be discussed later) may underline that the church could not have been built before the time of Ladislaus I.

The church of Boldâgă/Boldogasszony

Three phases of the construction of the church in Subcetate/Váralja (Foot of the Fortress) are known. Its first church is dated to the earliest period among the churches excavated in Dăbâca. Its later dating is attested by a 12th century anonym denarius found in Grave 57 or according to the identification made by Eugen Chirilă, a coin minted during the reign of King Stephen II (1116–1131). A confused

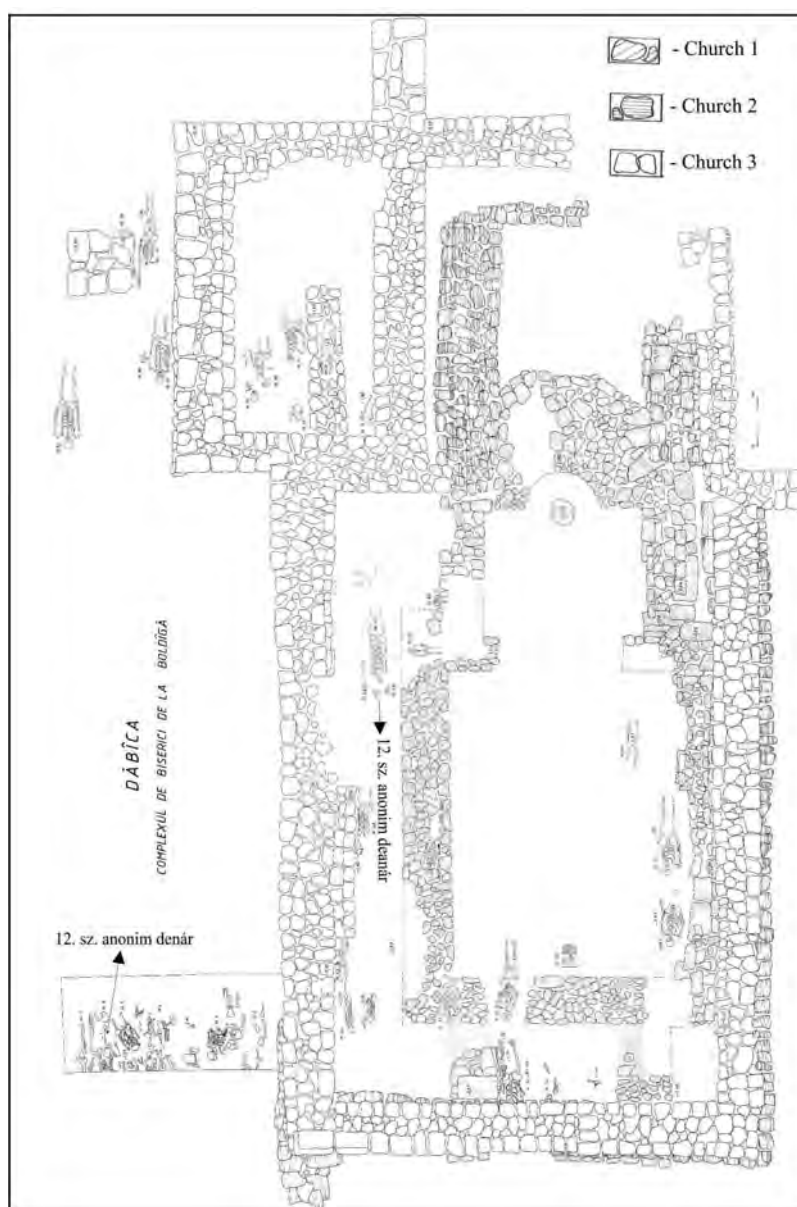


Fig. 6. Dăbâca-Boldâgă/Boldogasszony: church and churchyard

documentation that is hard to follow or use and therefore it must be treated with care⁶⁶. Nonetheless, before the time of this church, there must have been a churchyard cemetery (with a wooden church or the church being somewhere else); this is clearly shown by the skeletons in Graves 66, 67 and 68, which were buried on top of one another and may have been disturbed when the tower was built (if the tower was not built later!). Similarly, the infant skeleton in Grave 60, in front of Church 1 may provide evidence of this. The time when Church 2 was built, which was much bigger, is also doubtful. Grave 6, which has been cited by the excavating archaeologists and is dated by a 12th century denarius to the time of King Géza II (1141–1161), cannot be considered evidence as according to its location, it might as well have belonged to the group of graves dug around Church 1. Church 3, which was of similar proportions, dates from a much later time, probably it was still used in the 16th–17th centuries.

The data of the churches described are the following:

Church	Length	Width	Inner length and width of the nave	Foundation	Width of its foundation walls
Fortress Area IV	11,50 m	6,00 m	6,00 × 4,00 m	lime+sand, stone	1, 25; 0,75 – 0,80 m
A. Tamás's garden	6,90 m	cca. 4,80 m	4,30 × 4,00 m	clay, stone, carved limestone	0,80 m
Boldâgă/ Boldogasszony Church 1	13,19 m	5,75 m	6,10 × 4,75 m	lime+sand, stone	1,00 m
Boldâgă/ Boldogasszony Church 2	17,70 m	?	13,00 × 8,00 m	lime+sand, stone	?
Boldâgă/ Boldogasszony Church 1	19,70 m	?	cca. 13,00 × 8,00 m	lime+sand, stone	1,25 m

Fig. 7. The dimensions and the foundations of the churches in Dăbâca

4.2.b Churchyard cemeteries

Although in an indirect way, the place a community chooses as its burial place is also part of the burial customs. The burial customs mainly reflect the emotional reactions of the family members, relatives and the community when someone passes away, and the most important condition of the quality and the quantity of the grave furnishings was the wealth of the individual, the family or the community, certainly in most cases it was closely related to the social status of the deceased. It is expressed clearly with the quality and quantity of the *ritual sacrifices, weapons, clothes and jewellery* placed in the grave. We have to bear in mind that the quantity of the objects and sacrifices largely depends upon the political or economic situation in a region, the significance of the roads crossing it, or whether it is in a central or periferial situation and to all these the occasional foreign presents (!) should be added, which are palpable in some cases and might indicate the political significance of a person or a family.

In Dăbâca, churches and cemeteries around them used in different ages, were found in three different places between 1964 and 1968⁶⁷.

The cemetery around the church built not far from Fortress Area IV despite the insufficient excavations seems to have surrounded the church in a U shape (Area IV).

As the excavations were carried out by means of trenches, the site map reveals the fact that only part of the cemetery has been excavated so far, the other part of it remained underground. Based on the length of the trench, we managed to identify the southern, western and partly the northwestern edges of the cemetery with some approximation. It allows us to suppose that the cemetery extends in a semicircle towards west. South of the cemetery, Trench S13/IV made it clear that the cemetery did not reach so far (Pl. 8).

⁶⁶ Here, I also cite the opinion of Tamás Emődi, who is an architect and that of the archaeologist Antal Lukács. Hereby, I would like to express my acknowledgement to them.

⁶⁷ On the summary of the research of churchyard cemeteries in the Carpathian Basin, see Ritoók 2010, 473–494. On the analysis of the churchyard cemeteries in the Transylvanian Basin, see Gáll 2013a.

The cemetery trench, which can be observed in many of the cemeteries of the Árpád era, was not found or cannot be found in Dăbâca. But it must have been separated by a hedge from the village that was found in Fortress Area IV and was probably inhabited well into the 12th century.

The density of graves in the cemetery is not equal. They are the most frequent west, south-west, south, southeast of the church (Graves 1–35, 94–106, 153–190, 332–334, 375–377, 379–380, 382–383, 385–410, 432–433). Here it occurs frequently that graves are dug on top of one another, or part of the skeletons from the destroyed graves were placed in new graves, in many cases only the skulls. So graves were the most densely dug in the area near the church.

Out of the dense cemetery zone to the southwest, south and east of the church, graves peter out, hardly any superposition can be registered here, and graves are structured more or less in rows. A most interesting observation can be made in connection with the group of graves on the southern edge of the 1968 trench: here a completely separated group of graves can be observed without any grave furnishings (Graves 123–127). In this case the question arises whether a *genetic* or *sociological* relationship can be supposed between the members of this group. Similar questions might arise in connection with the edges of the cemetery, where separated groups of 2–4 graves are to be observed (Pl. 7).

The church and its cemetery in A. Tămaş's garden were excavated about 160 m away in the south-eastern end of the plateau. The churches of Boldâgă/Boldogasszony and the cemeteries belonging to them used in several eras (several times in the 11th–18th centuries but certain discontinuities were also registered) were excavated in Subcetate/Váralja (see Pl. 1A–B, pl. 2).

With all their local features, the churchyard cemeteries excavated in Dăbâca show a common chronological feature: the coins used as *oboluses* date the burials to the 12th century in all cases. The oldest boluses were found in Fortress Area IV, but they are the coins of type *H41* and *H42a* of King Coloman the Book-lover, which were minted in the 12th century. The list of the graves with *oboluses*:

Site-grave number	The years when the king who issued the coin reigned	Coin type (<i>H</i> ⁶)	Weight	Skeleton	Position in the grave
Dăbâca-Area IV Grave 1	?	?		Infans I (?)	Next to the left of the skull
- Grave 34	?	?	–	adultus-maturus	on or in the skull
-Grave 39 (Pl. 12. 3)	Anonym denarius	<i>H91</i>	0,402 gr.	juvenilis	in the mouth
-Grave 53	?	?	–	adultus-maturus	on mandible
-Grave 79 (Pl. 12. 2)	Coloman The Possessor Of Books (1095–1116)	<i>H41</i>	0,248 gr.	adultus-maturus	in the mouth
-Grave 145 (Pl. 12. 4)	Anonym denar	<i>H101</i>	0,262 gr.	?	the skull
-Grave 188	III. Béla (1172–1196)	<i>H183</i>	–	Infans II	in the mouth
-Grave 190	?	?	–	juvenilis	in the mouth
-Grave 391 (Pl. 12. 1)	Coloman The Possessor Of Books (1095–1116)	<i>H42a</i>	0,100 gr.	adultus-maturus	behind the destroyed skull
-Grave 483	Anonym denarius	?	–	Infans?	in the mouth
Dăbâca-A.Tămaş' garden-Grave 2	Anonym denarius	?	?	maturus	on the right part of the chest
- Grave 12A	Anonym denarius	<i>H100</i>	0,298 gr.	infans	near the skull
- Grave 15	Anonym denarius	<i>H102</i>	0,269 gr.	?	near the skull
- Grave 26B	Anonym denarius	<i>H96a</i>	0,155 gr.	?	in the place of the skull
Dăbâca-Boldâgă Grave 6	Anonym denarius	?	–	?	in the mouth
- Grave 57	Anonym denarius	?	–		in the mouth

Fig. 8 Oboluses in the graves and their positions

By analysing the coins found in the Little Someş Valley, we came to the conclusion that the integration of communities, the expansion of the area of settlements, the construction of Christian institutions and the appearance of western type state organisation can be connected to the name of Saint

Ladislav I (1077–1095), however, the formation of the network of settlements and the centres in the Little Someş Valley can be dated earlier:

Obolus		Settlement/Cultural layer		Stray find	
<i>Site-grave number</i>	<i>King/Coin type (H⁷)</i>	<i>Site</i>	<i>King/Coin type (H⁸)</i>	<i>Site</i>	<i>King/Coin type (H⁹)</i>
Dăbâca-Area IV Grave 1	–	Dăbâca -out of fortress	H1, H2	Cluj-Napoca-Mănăştur-George II Rákóczi's bust	H1
- Grave 34	–	Fortress Area II	H6	Cluj-Napoca- Veterinary University (Pl. 12. 1)	H73
-Grave 39	H91	Fortress Area III	H9	Chinteni	Ladislav I (1077–1095)
-Grave 53	–	Fortress Area III	Coloman The Possessor Of Books (1095–1116), anonym denar		
-Grave 79	H41	Dăbâca-A.Tămaş's garden („Treasure”) (Pl. 11. 1–8)	H26 (1), H28 (6), H30 (1),? (1)		
-Grave 145	H101	Dăbâca-A.Tămaş's garden pit house/1980 (Pl. 11. 1)	H82		
-Grave 188	H183	Cluj-Napoca-Mănăştur-(pit house)	H17		
-Grave 190	–	Cluj-Napoca-Sora shopping centre	Solomon (1063–1074)		
-Grave 391	H42a	Cluj-Napoca-Deleu street (Pl. 12. 3)	H101		
-Grave 483	?				
Dăbâca-A.Tămaş' garden-Grave 2	–				
- Grave 12A	H100				
- Grave 15	H102				
- Grave 26B	H96a				
Dăbâca-Boldăgă Grave 6	–				
- Grave 57	–				
Cluj-Napoca-Mănăştur Grave 1	H49				
- Grave 10	H22				
- Grave 32	H24				
- Grave 41	H25				
- Grave 64	H189				
- Grave 75	H22				
- Grave 112	–				
- Grave 124	H22				
- Grave 130	H9				
Gilău–5 (Pl. 12. 2)	H73				
Chidea-unknown number of grave	Béla II (1131–1141)				
Chidea-unknown number of grave	Ladislav II (1162–1163)				

Fig. 9. Coins from the 11th–12th centuries from the Little Someş Valley

The finds from Dăbâca, which is dated to the 11th–13th centuries, comprises fashion commodities common in the Hungarian Kingdom and in Central-Eastern Europe⁶⁸. Similarly to other objects, the jewels of this era cannot symbolize more than a jewel of any kind could: fashion, commerce, social status. These object probably signify the same things in this cemetery too.

⁶⁸ Részletes elemzésüket a IV. vártárségi temetőben ld.: Gáll 2011, 31–44.

In lack of bones, the use of these fashion commodities and our related analysis cannot be supported with anthropological researches. As has been shown above, the objects cannot be connected to a gender, only their functionality bears with gender symbolism.

This observation of ours is demonstrated in the table below:

<i>Finds</i>	<i>Female</i>	<i>Neutral</i>	<i>Male</i>
Tin ballheaded hairpin (Grave 172)		•	
Plain hairpin-in a ribbon, on a band bracelet (Grave 322)	•		
Hair-rings used as lockrings			•
Hair-rings used as ear rings		•	
Hair-rings in a ribbon	•		
String of pearls	•		
Rings		•	

Fig. 10. The social gender symbol of the functionality of objects

Concerning their typology and functionality, these finds do not differ from other finds excavated in cemeteries elsewhere in Transylvania. However, it does not mean that such a uniformity of the material culture was characteristic of Transylvania and the Hungarian Kingdom. It is only a consequence of the disappearance of the 'exiled' pagan burial customs, which resulted in the simplification and Puritanism of rites. Certainly, we have no idea of what customs could have been preserved by Christianity that left no archaeological trace. Also the so called Christian Puritanism was interpreted in different ways in different communities: in some cemeteries less jewellery was found, in others more. In some 12th century burials swords were found (such as Sighișoara-Stadium⁶⁹), which attests that the old customs were preserved in some cases. Therefore we cannot talk about a complete *cultural* discontinuity, but it is a fact that the most important cultural features of the 10th century pagan people such as the burials with horses or weapons can hardly be documented from the beginning of the 11th century on. As has been indicated elsewhere, this archaeological phenomenon does not necessarily mean the spread of Christian spirituality, but another way of propagating the social prestige of the elite. From the 11th century on, it was the Christian church and its norms that meant the system of ethic codes of elitism, which was in stark contrast with the forms of pagan customs.

Some observations on the churchyard cemeteries in Dăbâca:

1. Based upon the burial customs observed and analysed, the cemeteries in Dăbâca can clearly be classified in literature as '*churchyard cemeteries*'⁷⁰, and whose presence in the Transylvanian Basin is the most important archaeological 'sign' of the expansion of Christianity institutionalised by the Hungarian Kingdom.

2. Based upon the customs of the population of the cemetery in Fortress Area IV in Dăbâca, one can clearly suppose a Christian – pagan syncretism.

3. The fact that there is a small number of graves also raises the question if it could have been the burial place of a 12th century clan, which is supported by the size of the church excavated here in A. Tămaș's garden (compared to the cemetery in Fortress Area IV) and the topographic location too.

4. The distribution and concentration of the various burial customs within the cemetery in Fortress Area IV seem to show that this population was heterogeneous in terms of its mentality, customs and identity.

5. By mapping the different burial customs, the above mentioned cemetery can be divided into two zones: the north-eastern and the south-western zones. Can this phenomenon hide two different populations⁷¹?

6. Based upon the burial customs, genders as an issue of the social-cultural construction cannot be traced any more as opposed to the burial customs of the pagan era. Nevertheless, concerning

⁶⁹ Pinter 2007, 37.

⁷⁰ On the summary of the research of churchyard cemeteries in the Carpathian Basin, see Ritoók 2010, 473–494. The list and map of churchyard cemeteries in Transylvania, see Gáll 2013a, Pl. 1a, Fig. 4. (u.pr.)

⁷¹ Gáll 2011, 29.

the church of Boldâgă/Boldogasszony and the churchyard cemetery around it, we suppose that this community was the last to arrive in this area.

5. Conclusions

Based upon the walls of the fortress area, the settlement sections, churches and cemeteries analysed above, the following conclusions can be drawn:

1. The excavations have covered only a small section of the fortress complex so far.
2. It is impossible to connect the settlement sections dated to the 8th–9th centuries with the fortress, which was built in the early 11th century.
3. The small fortress built of soil and wood in the first third of the 11th century was reconstructed and enlarged in/after the middle of the century, making it a wood and soil fortification, which was rebuilt again at the end of the 11th or the beginning of the 12th century. This fortification is mentioned as *urbe Dobuka* in 1068.
4. At the end of the 11th century, during the reign of King Ladislaus I, considerable immigration must have taken place as the above mentioned necropolis in Fortress Area IV and A. Tămaş's garden was opened around the end of that century.
5. There is a problem that raises a question yet to be answered. If only the cemetery of the 8th–9th settlement section is known and the churchyard cemeteries can only be dated from the 12th century on, how can we explain the lack of cemeteries of the 10th–11th century settlements and that of the population of the 11th century fortress? It can be explained by two reasons:
 - a. on the one hand, it is not clear for us why the period of cremation burials should be terminated in the 8th–9th centuries as for instance in Dăbâca there is clear evidence of cremation burials in a much later period than the magical time limit in the 9th century, which has not been proved yet.
 - b. on the other hand, the 11th century cemetery (where the *comes* of Dăbâca could have been buried) has not yet been identified, and this can only be explained by the present stage of the excavations.
6. Concerning the connection between the church in Tămaş's garden and the churchyard cemetery, it is supposed that in Tămaş's garden the graves were dug in the time of its Church. Building a new and much bigger church is a clear sign of a bigger community (immigration?), it was the time when graves appeared in the south-eastern plateau of Fortress Area IV. The cemetery around the church in Tămaş's garden was used on, and certainly, it remains a question what the relationship of these two communities was. Can we talk about social differences? Christian burial customs make the analyses of this kind impossible and the lack of bones excludes the possibility of any research into this problem.
7. The cemeteries excavated so far are dated to the end of the 11th century and the beginning of the 12th century. The cemetery in Fortress Area IV can surely be dated between the end of the 11th century and the beginning of the 13th century and the 61 graves excavated in Tămaş's garden and at least 30 graves in the cemetery of Boldâgă/Boldogasszony date from the end of the 11th century through the 12th century as far as the first half of the 13th century⁷². However, only a small portion of the settlement material that has been excavated so far can be connected to these graves. The location of the settlement(s) can be defined only by further researches and excavations.
8. A great archaeological example of the discontinuity of the collective memory, which indicates a change of the population, can be observed in the case of the cemetery in Fortress Area IV: in the 13th–14th centuries those who built a house on the surface and a dwelling pit disturbing the graves did not know about the existence of the cemetery, which shows a break in the culture and the population which occurred in the first half of the 13th century.
9. The retrospective analysis of the research team of the Dăbâca project cannot be done scientifically. Despite the huge gaps, the authors insisted on discussing the fortification system, the settlements, the churches and the cemeteries at the same chronological level, which renders the whole enterprise a scientific utopia.
10. Based upon the findings of the researches done so far, the following chronological evolution of the Dăbâca fortress complex can be drawn up:

⁷² The later burial horizon in the cemetery of Boldâgă belongs here.

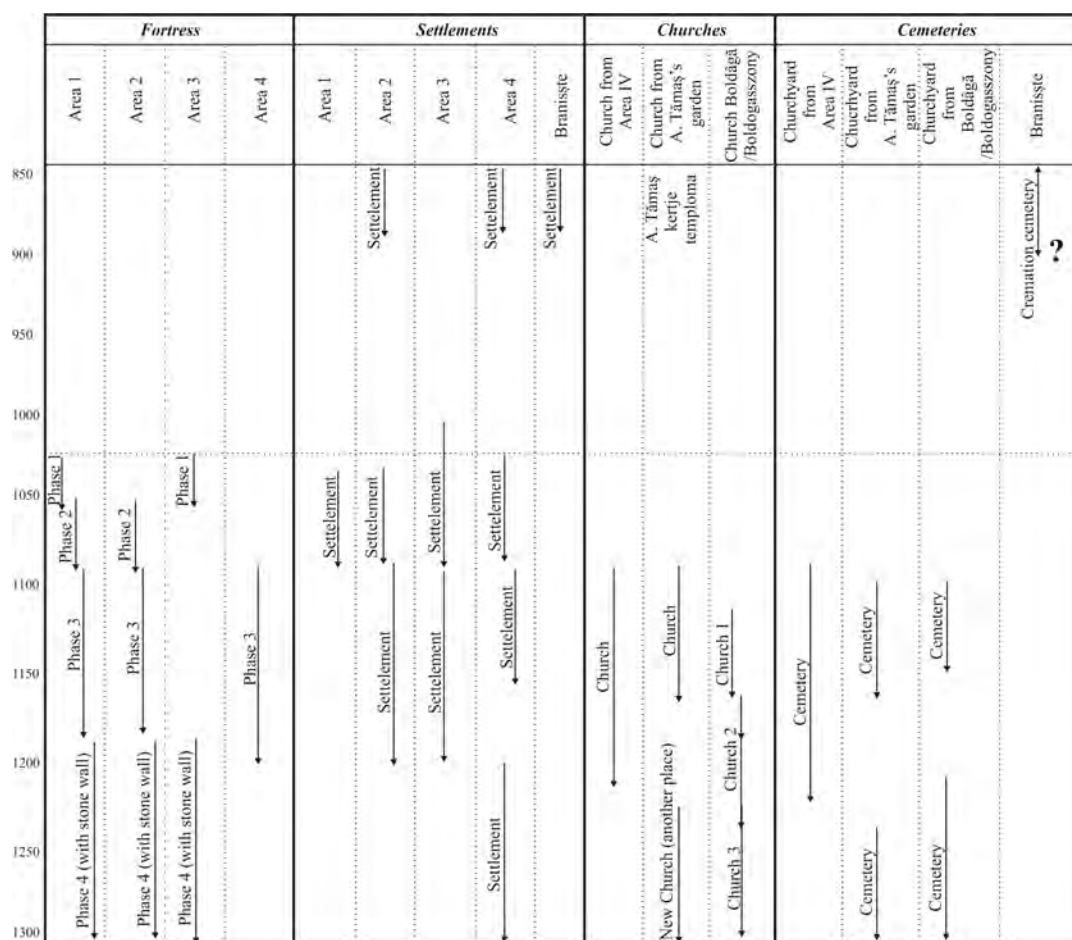


Fig. 11. Chronological evolution of the Dăbâca fortress complex

6. A (historical) hypothesis: the 'failure' of Dăbâca

According to the archaeological and numismatic finds, the fortification built in/after the first third of the 11th century and the settlement system reached their peak in the 12th century. This is clearly shown by the coins found in the graves in Fortress Area IV, Tămaș's garden and the cemetery of Boldăgă/Boldogasszony.

The 13th century saw a decline of the central fortress as a political-military and administrative centre. We would not say that the downfall of the centre in Dăbâca can be the result of the Mongolian raid, it can be traced back to other, both administrative and political, reasons (too). As a working hypothesis we propose that the decline in its significance as a centre may be explained by the eastward expansion of the system of settlements in this county as the county received its final shape in the 12th–13th centuries. This observation of ours seems to be supported by the fact that no 13th century coin has been found in the three cemetery sections, the latest one is a coin of Béla III (1172–1196)⁷³. Most of the settlement phenomena excavated so far can be dated to the 11th–12th centuries. Certainly, we do not want to consider these data to be of absolute value, but the numismatic gap in the 13th century (not at all just in cemeteries) requires further explanation in the future. Nevertheless, this can only be proved or refuted by extended interdisciplinary researches.

Erwin Gáll

Institute of Archaeology „Vasile Pârvan”, Bucharest
Bucharest, ROU
ardarichus9@yahoo.com

⁷³ Gáll 2011, 27–28.

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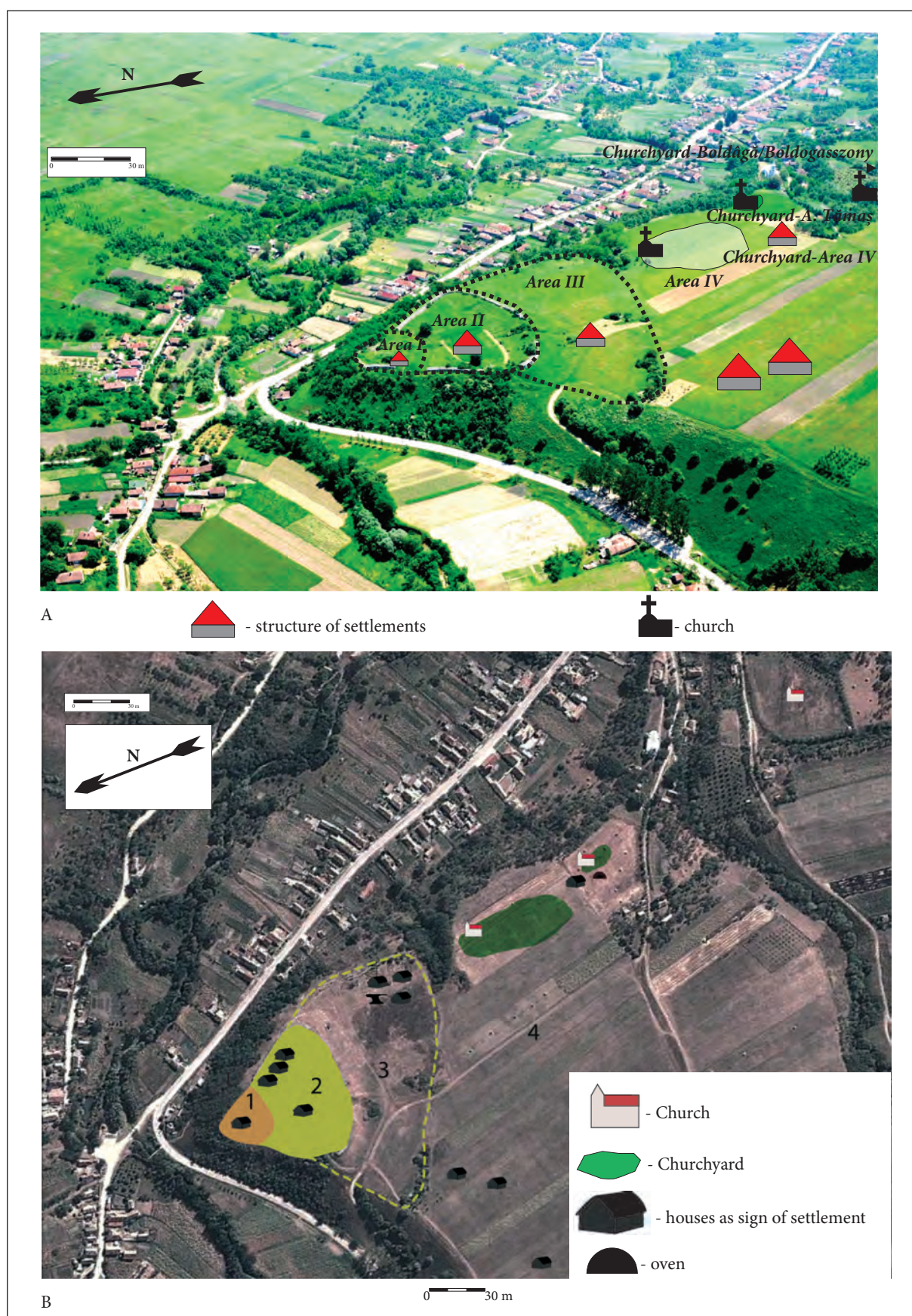


Plate 1. A–B. The fortress complex of Dăbâca. The structure of the settlement in the 12th century, based upon archaeological data (drawn by E. Gáll and N. Laczkó).

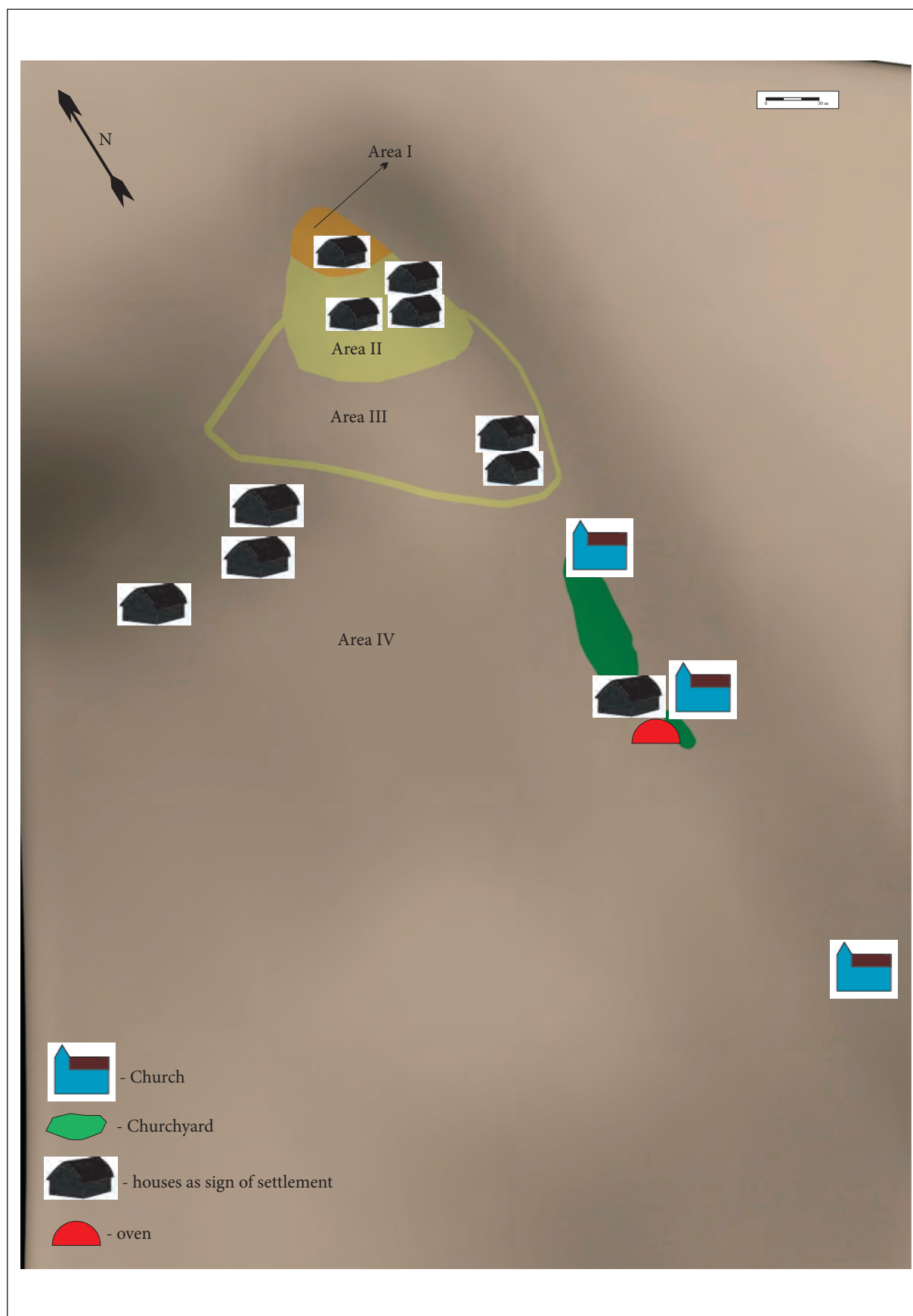


Plate 2. A 3D reconstruction of the settlement structure of the 12th century Dăbâca (drawn by N. Laczkó).

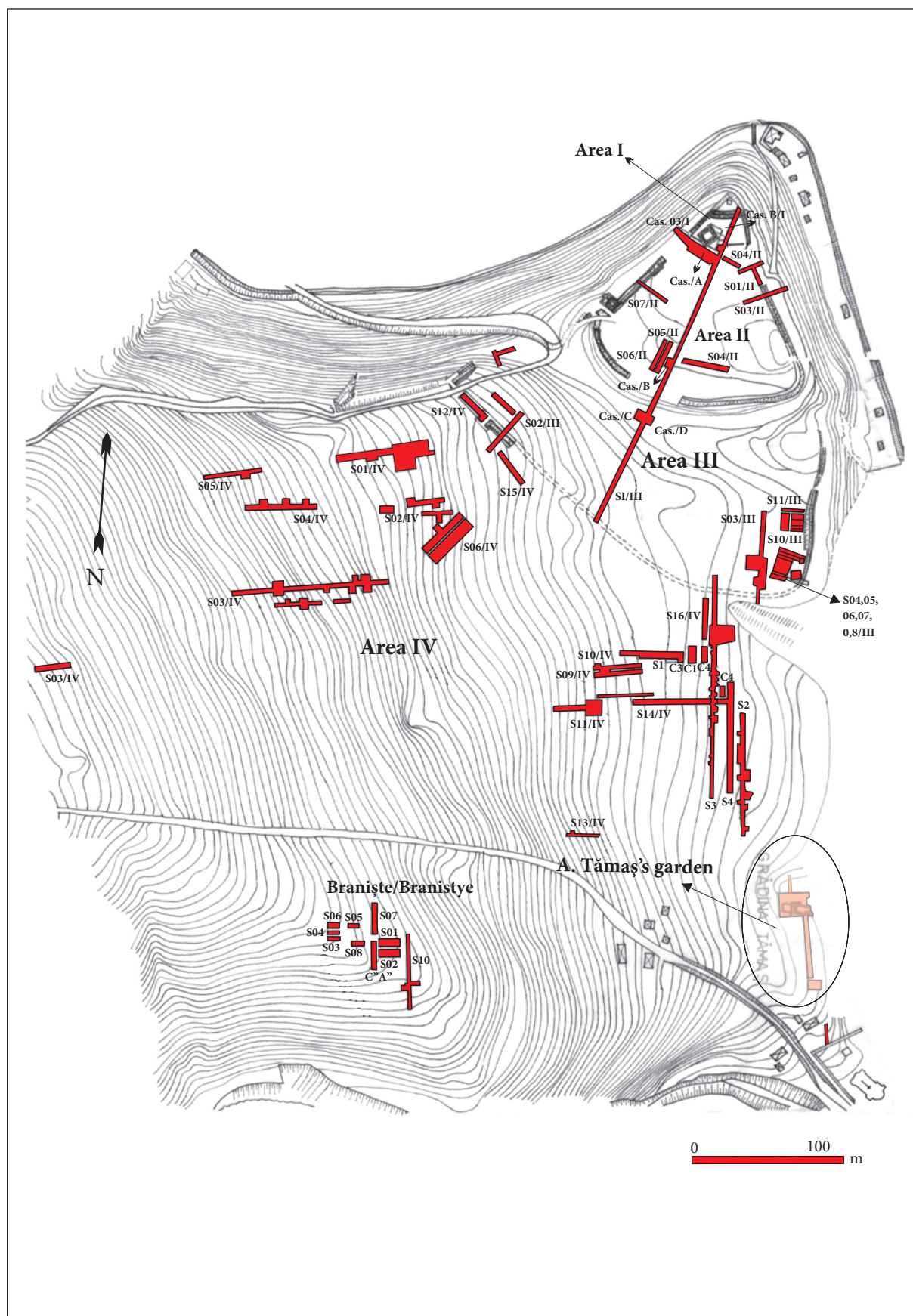


Plate 3. The present stage of the archaeological excavations in the castle complex of Dăbâca (drawn by E. Gáll).

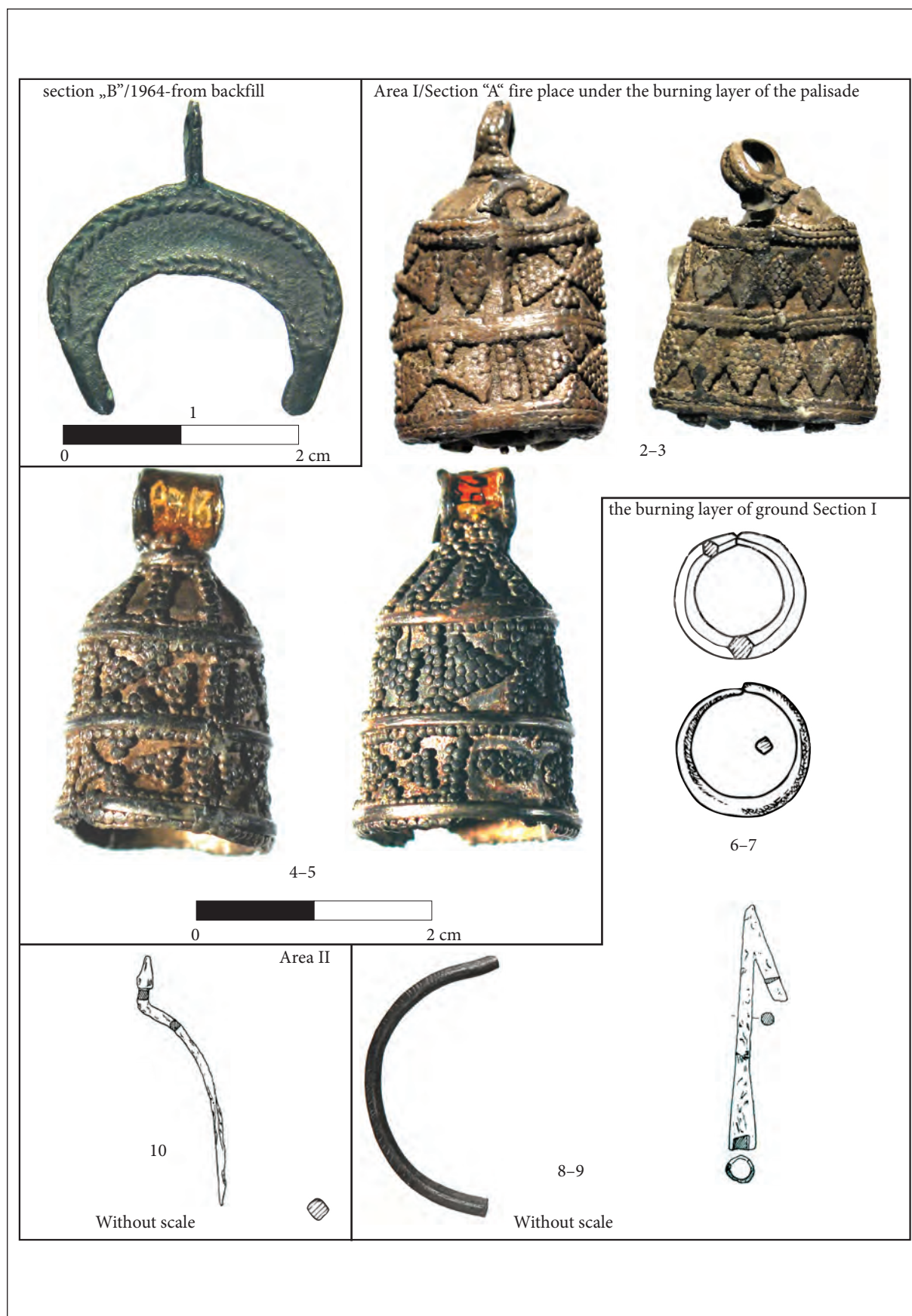


Plate 4. Dăbâca-Fortress rea I: 1-9; the cultural layer of Fortress Area II: 10 (drawn by E. Gáll).

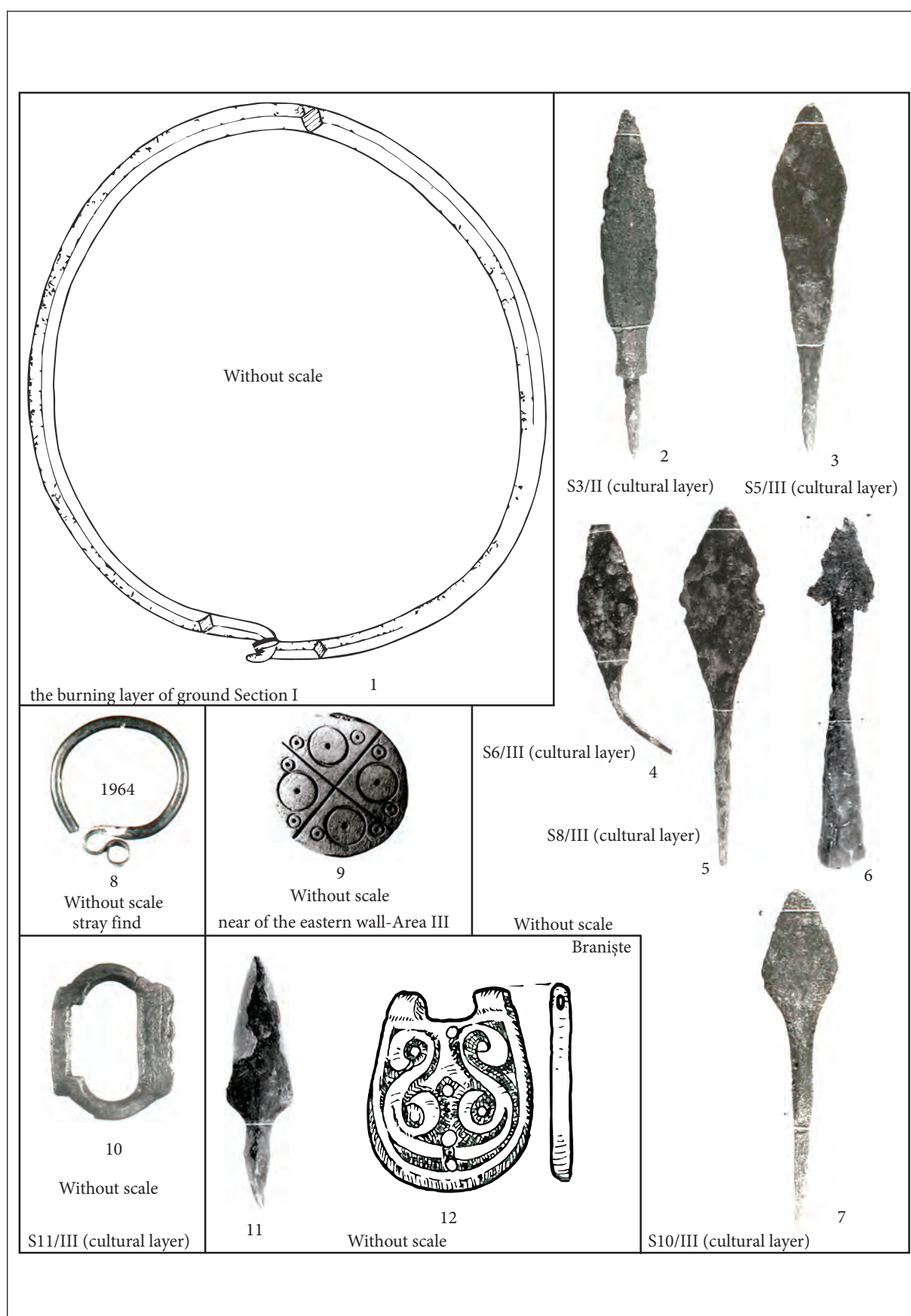


Plate 5. Dăbâca-Fortress Area I : 1; Fortress Area II : 2; Fortress Area III: 3–7, 9–10; Braniște: 11–12; Doboka-stray find: 8 (drawn by E. Gáll).

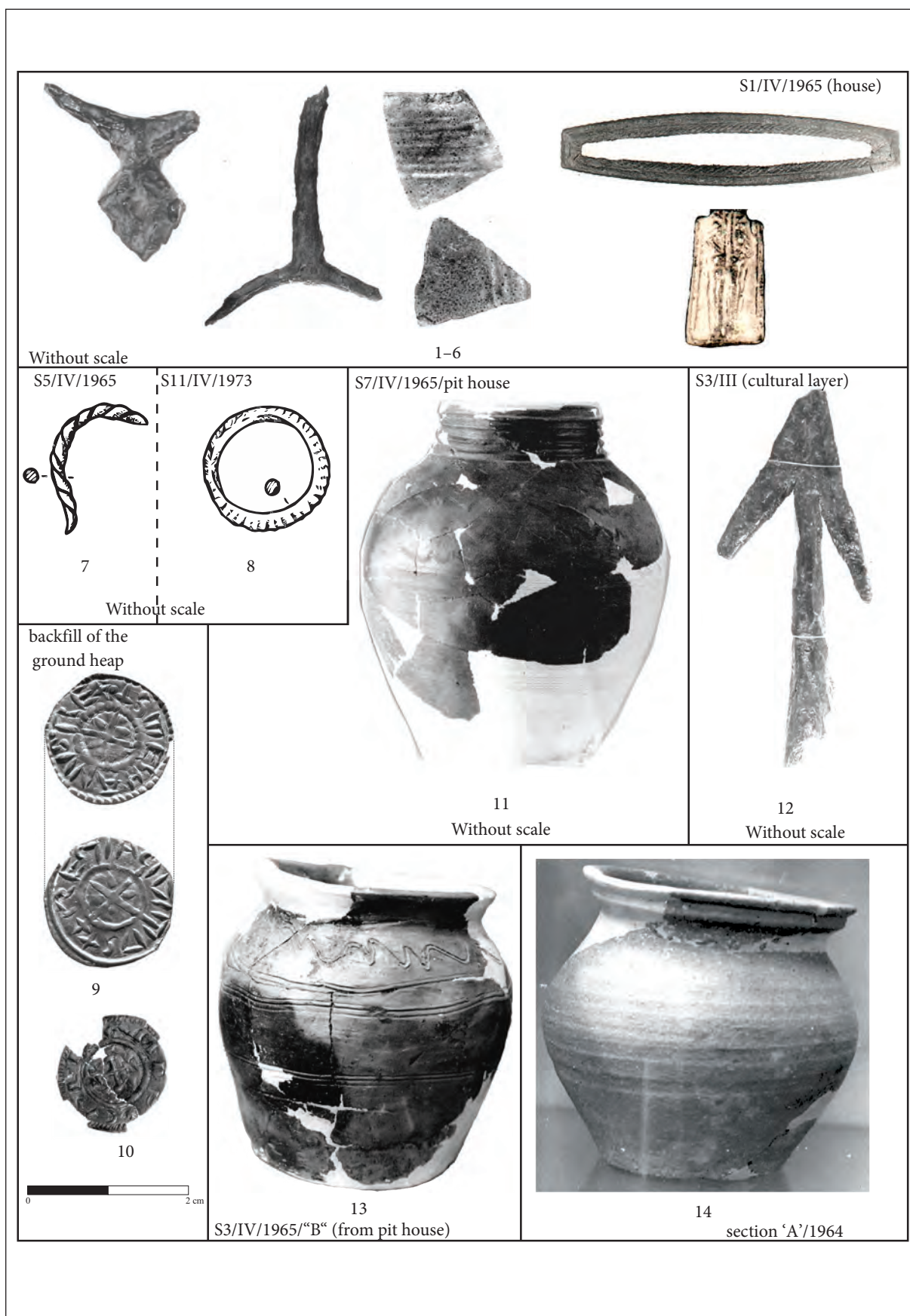


Plate 6. Dăbâca-Fortress Area III: 12; Castle Area IV: 1-8, 11, 13-14; outside the castle: 9-10 (drawn by E. Gáll).



Plate 8. The NW-SE, NNW-SSW and SW-NE orientations registered in the churchyard cemetery in Dăbâca-Fortress Area IV (drawn by E. Gáll).

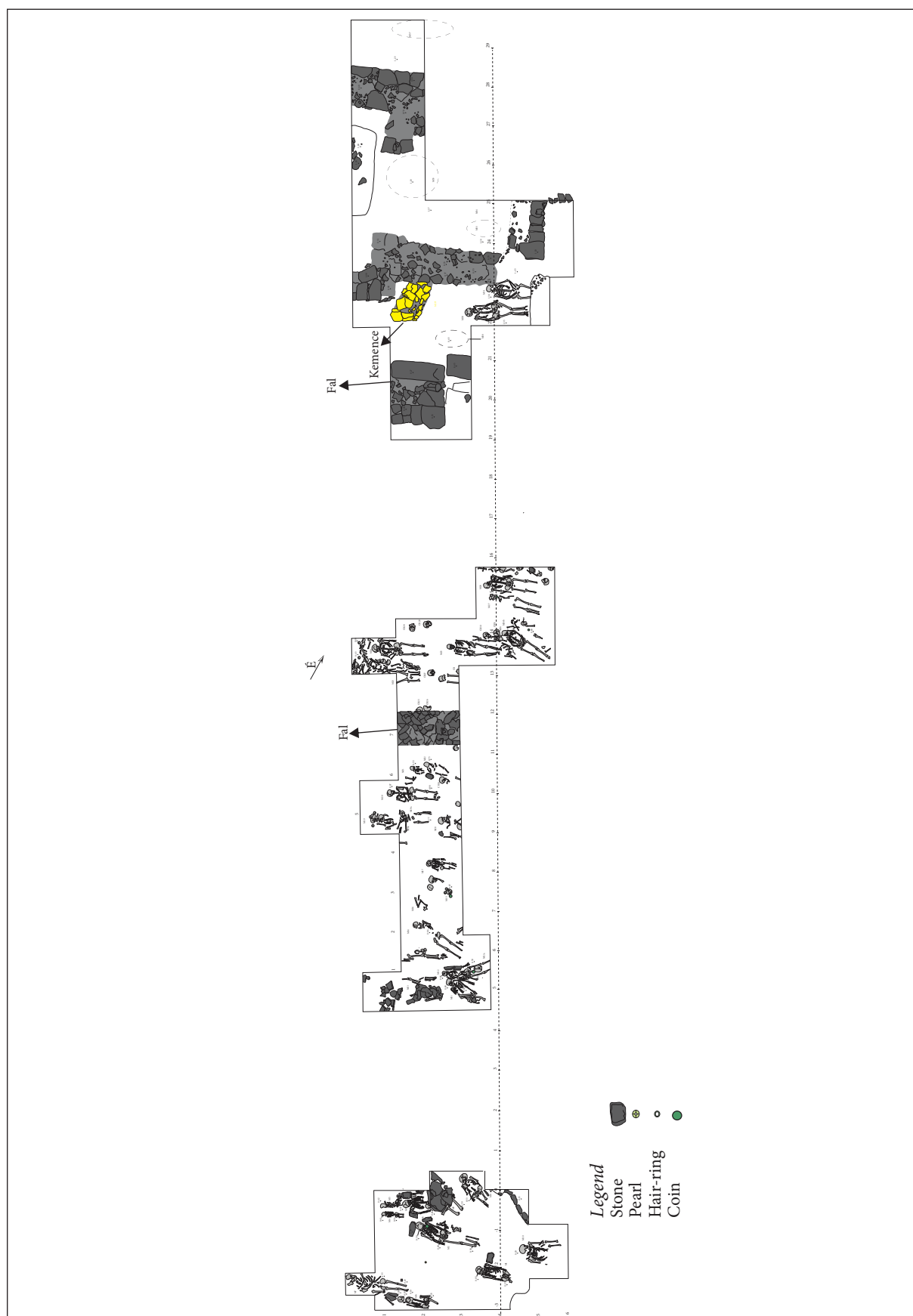


Plate 9. Dăbâca – the map of the cemetery in A. Tămaș's garden (drawn by N. Laczkó).



Plate 10. Dăbâca-parts of the church of Boldăg (Boldogasszony) (drawn by E. Gáll).



Plate 11. Dăbâca-the coins registered in the graves in A. Tămaș's garden: Grave 2: 1; Grave 12: 2; Grave 15: 3; Grave 26: 4; Excavation Trench II – 9,20 meters: 5; near Grave 38: 6; „Treasure”: 1–8; Pit house/1980: 1 (drawn by E. Gáll).



Plate 12. Dăbâca-Fortress Area IV, Grave 391: 1; Grave 79: 2; Grave 39: 3; Grave 145: 4; Cluj-Napoca-the yard of the University of Veterinary Medicine: 5; Gilău-the castle of George II Rákóczy: 6 (drawn by E. Gáll).

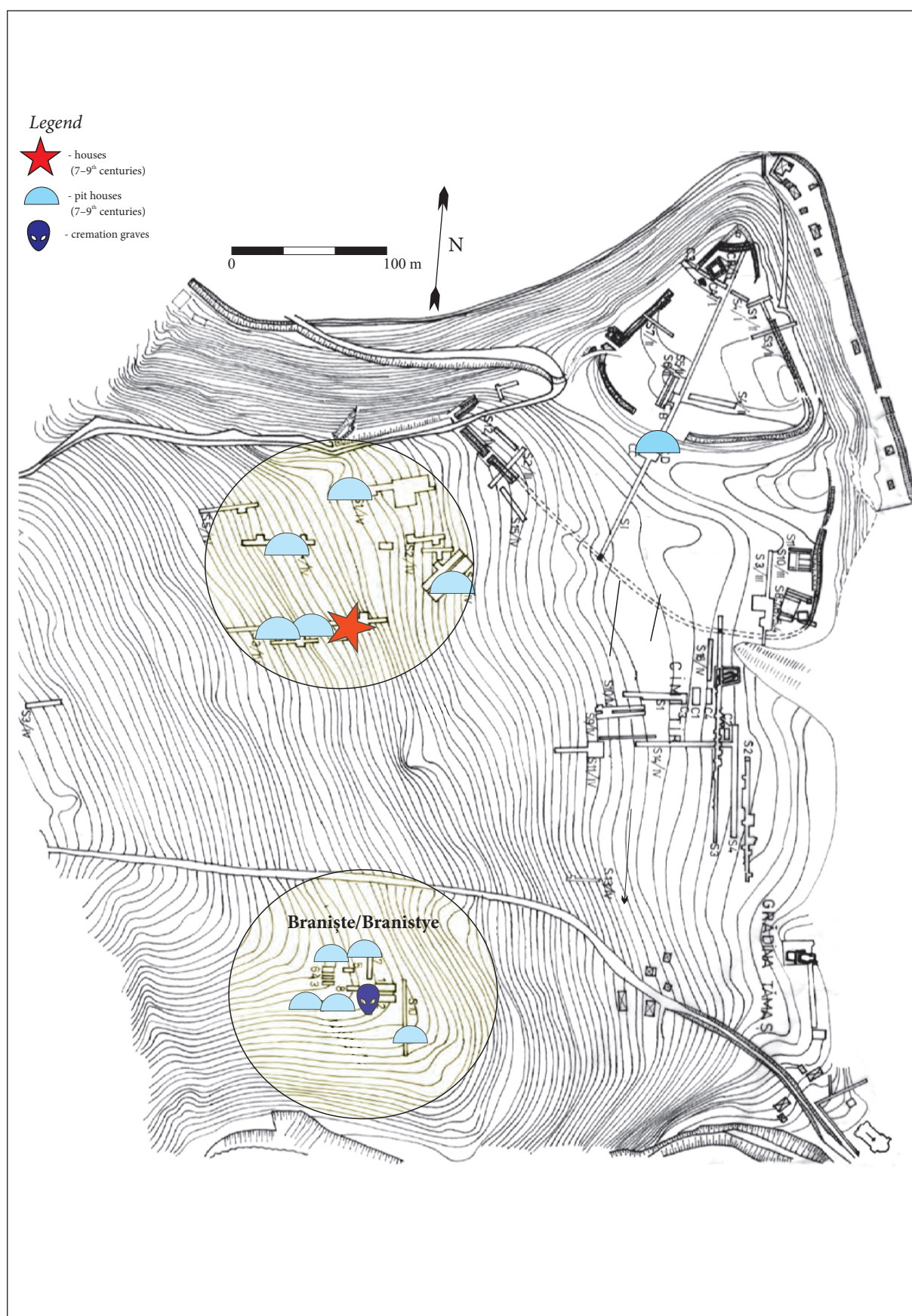


Plate 13. Dăbâca: 7th–9th century finds (drawn by E. Gáll).

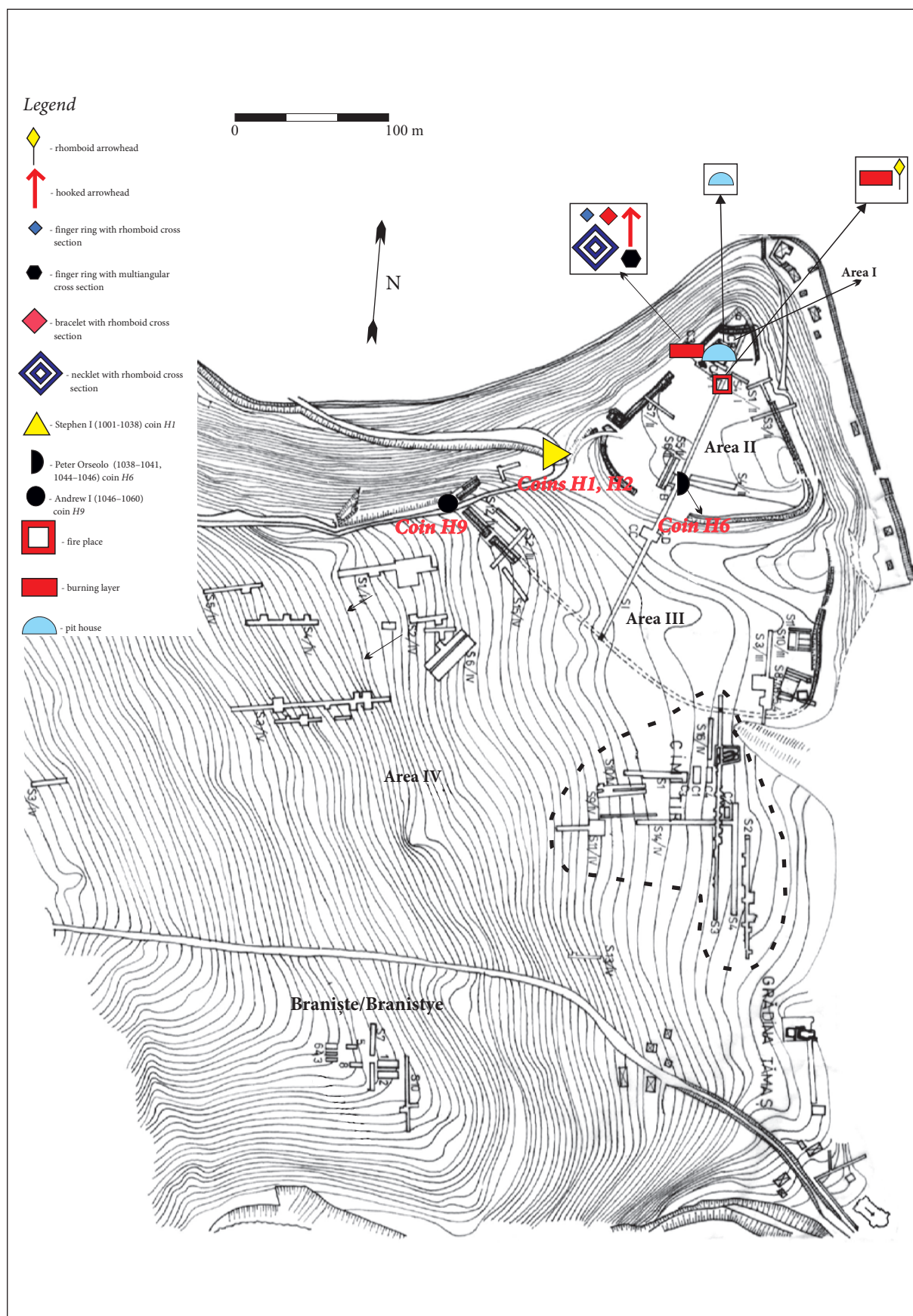


Plate 14. The elements dating the 11th century castle (drawn by E. Gáll).

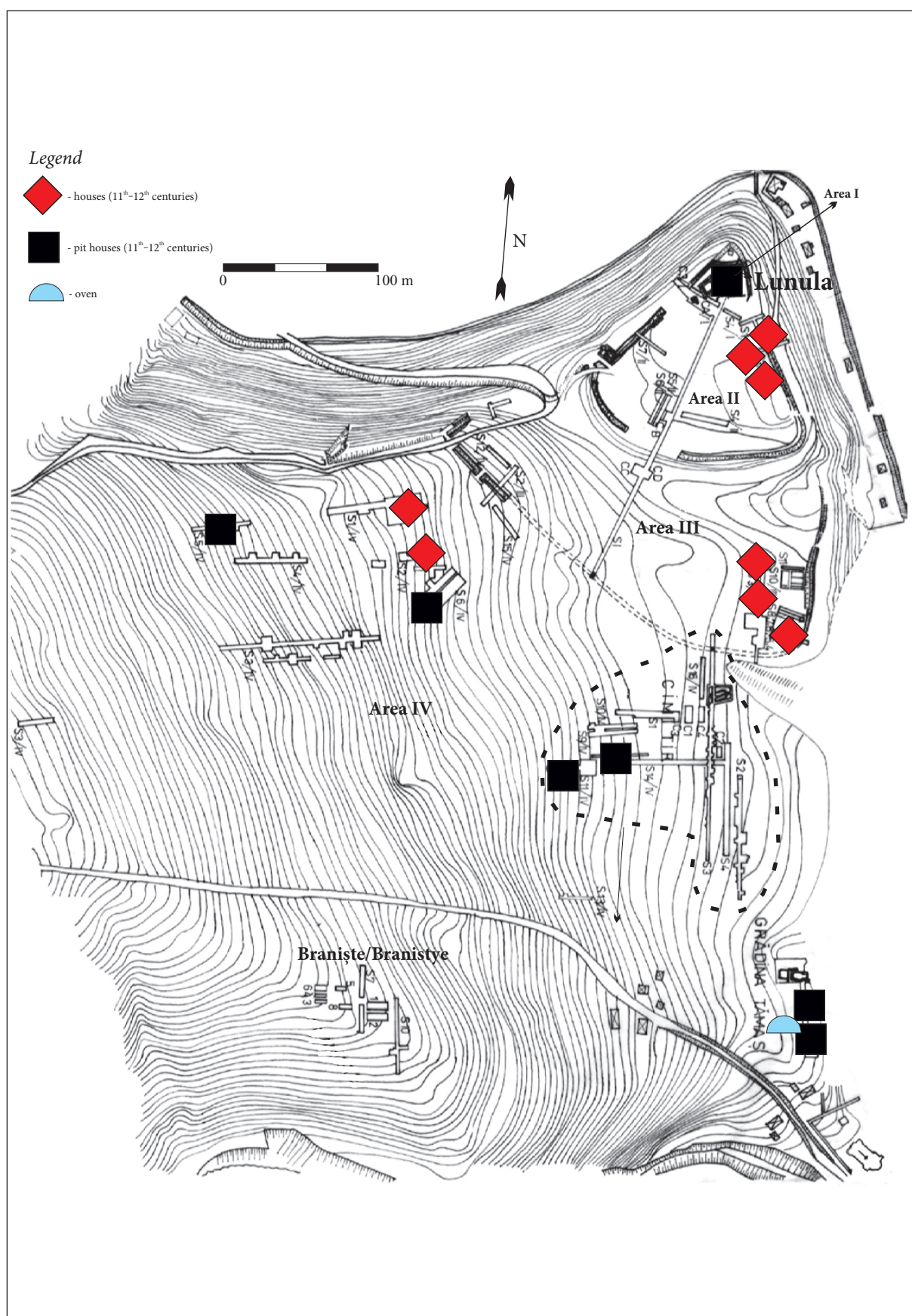


Plate 15. The structure of the settlement in the 11th–12th century Dăbâca (drawn by E. Gáll).

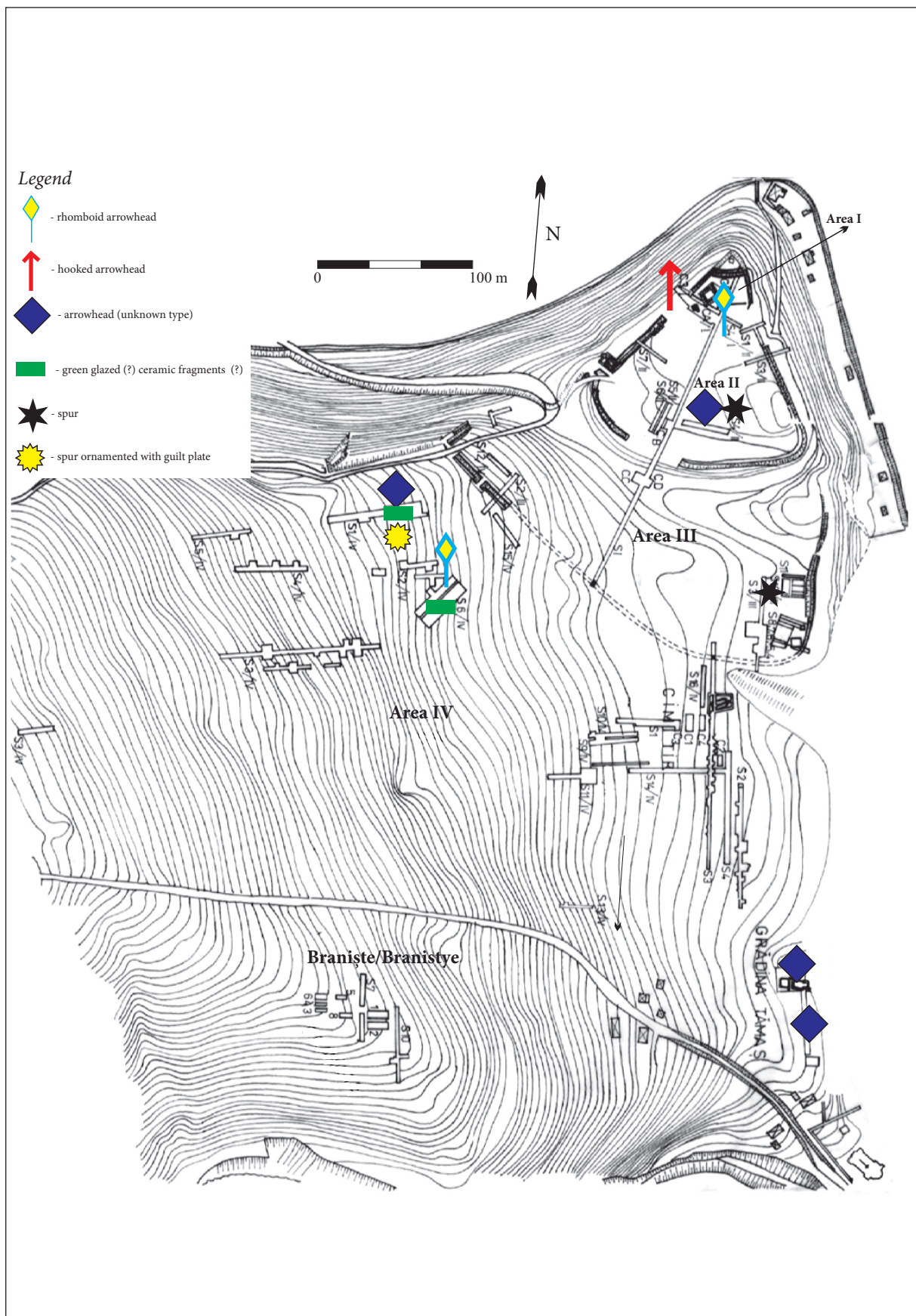


Plate 16. 11th –12th century armour and harness in the castle complex in Dăbâca (drawn by E. Gáll).

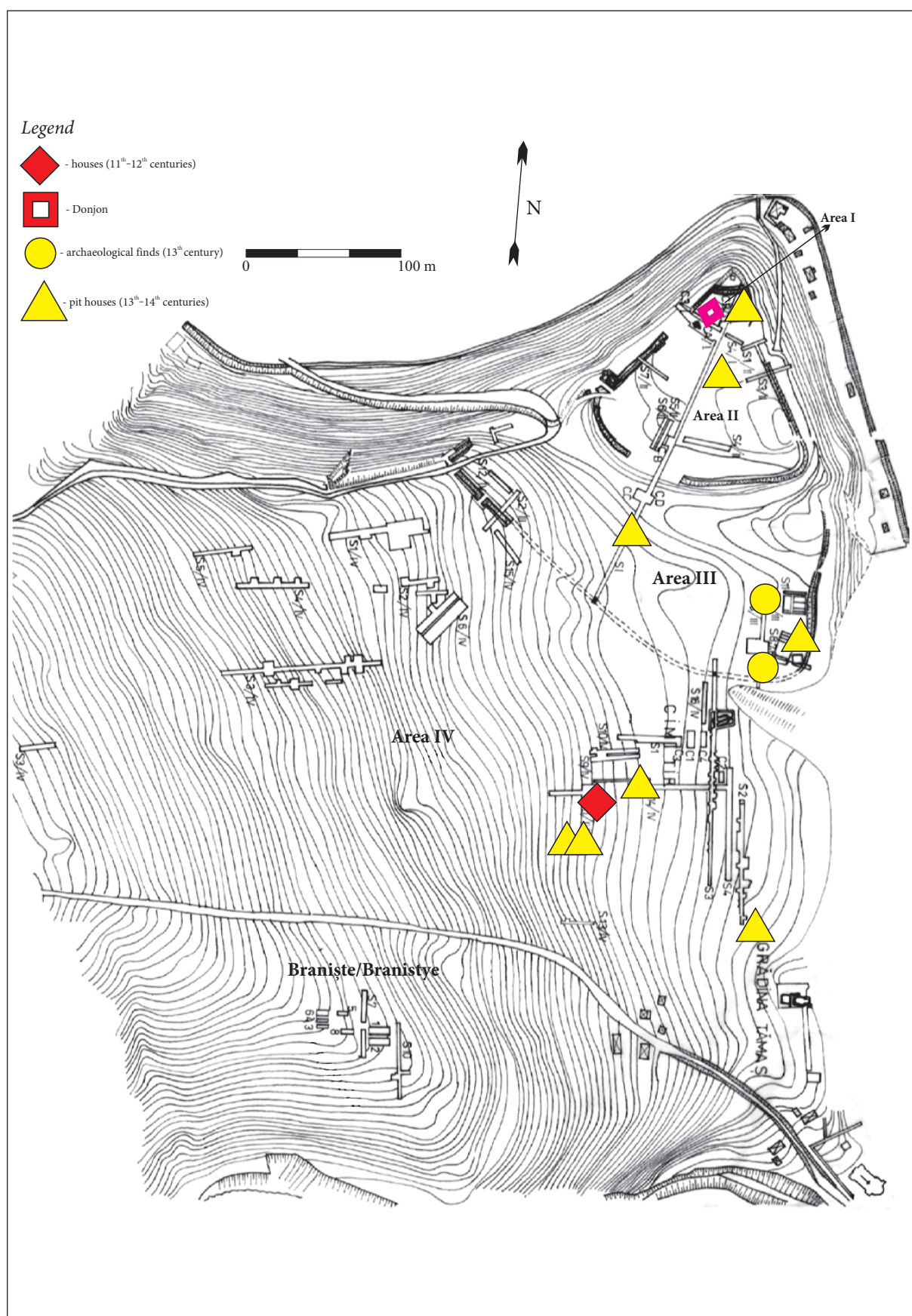


Plate 17. The structure of settlements in the 13th–14th century Dăbâca (drawn by E. Gáll).

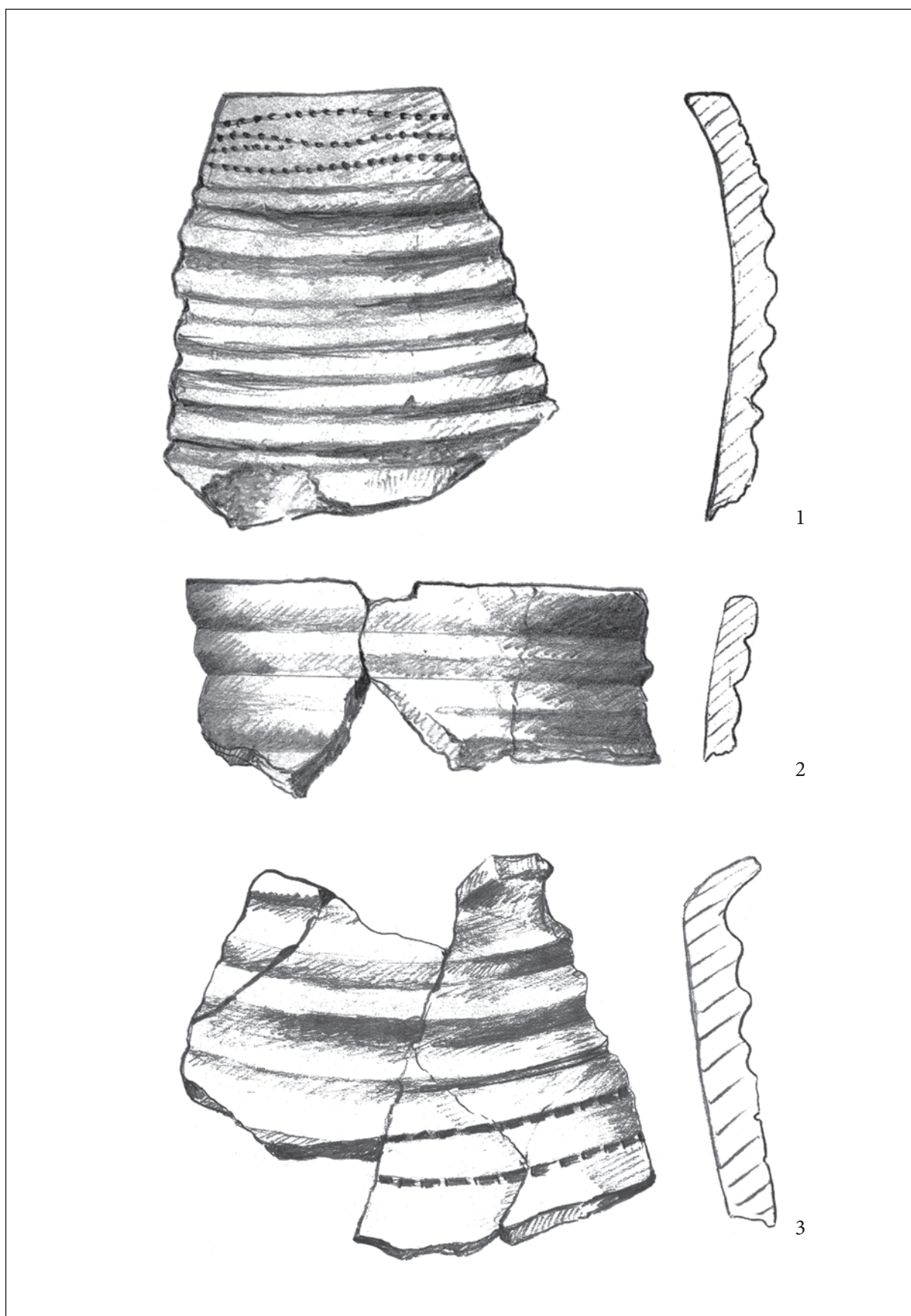


Plate 18. Dăbâca-Fortress: Area III/Section 3: 1; Area II/Section 2: 2; Dăbâca-Boldâgă SIV: 3 (drawn by N. Laczkó).

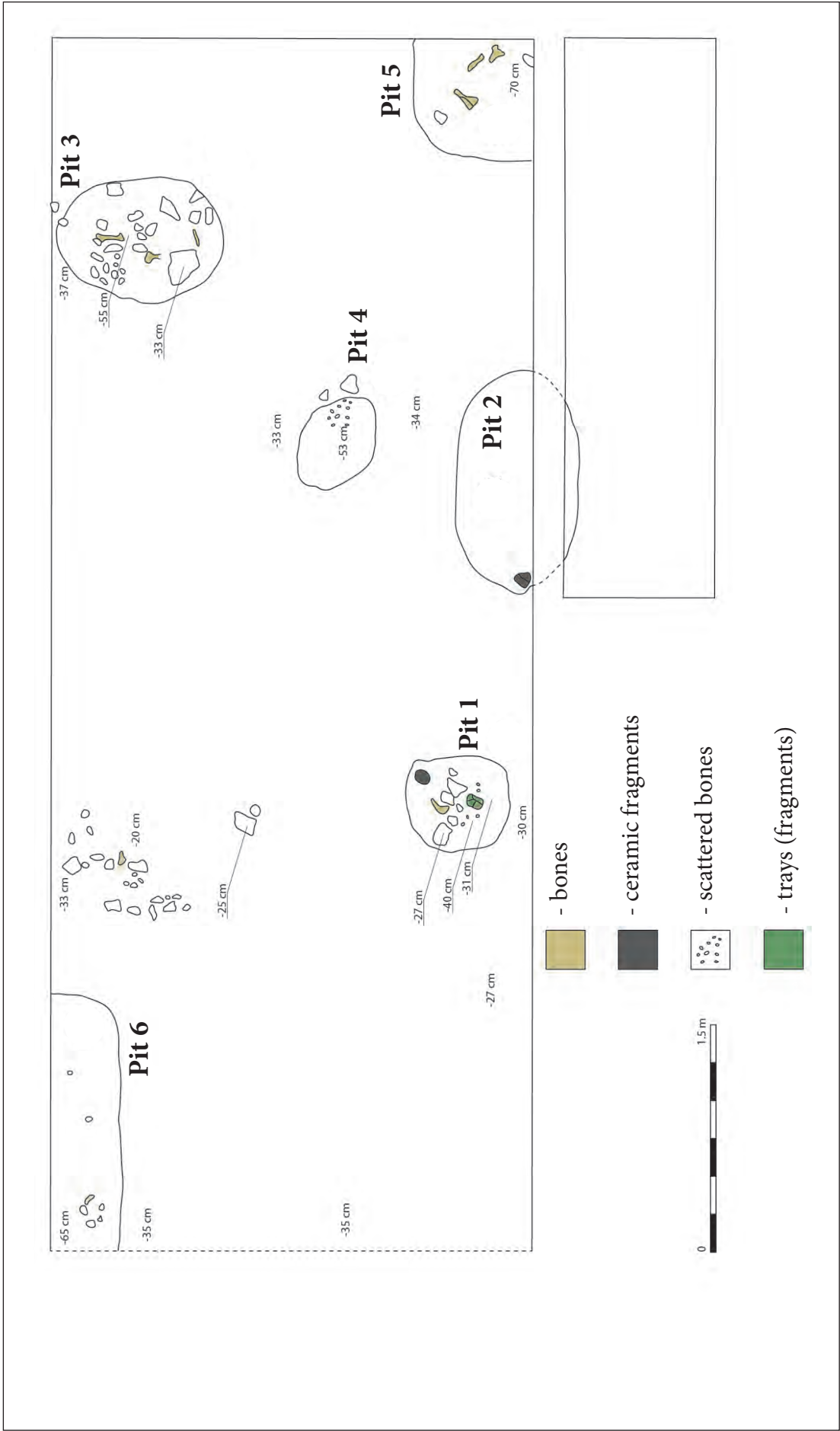


Plate 19. Dăbâca-Fortress: Area III/Section 3: 1; Area II/Section 2: 2; Dăbâca-Boldăgă SIV: 3 (drawn by N. Laczkó).

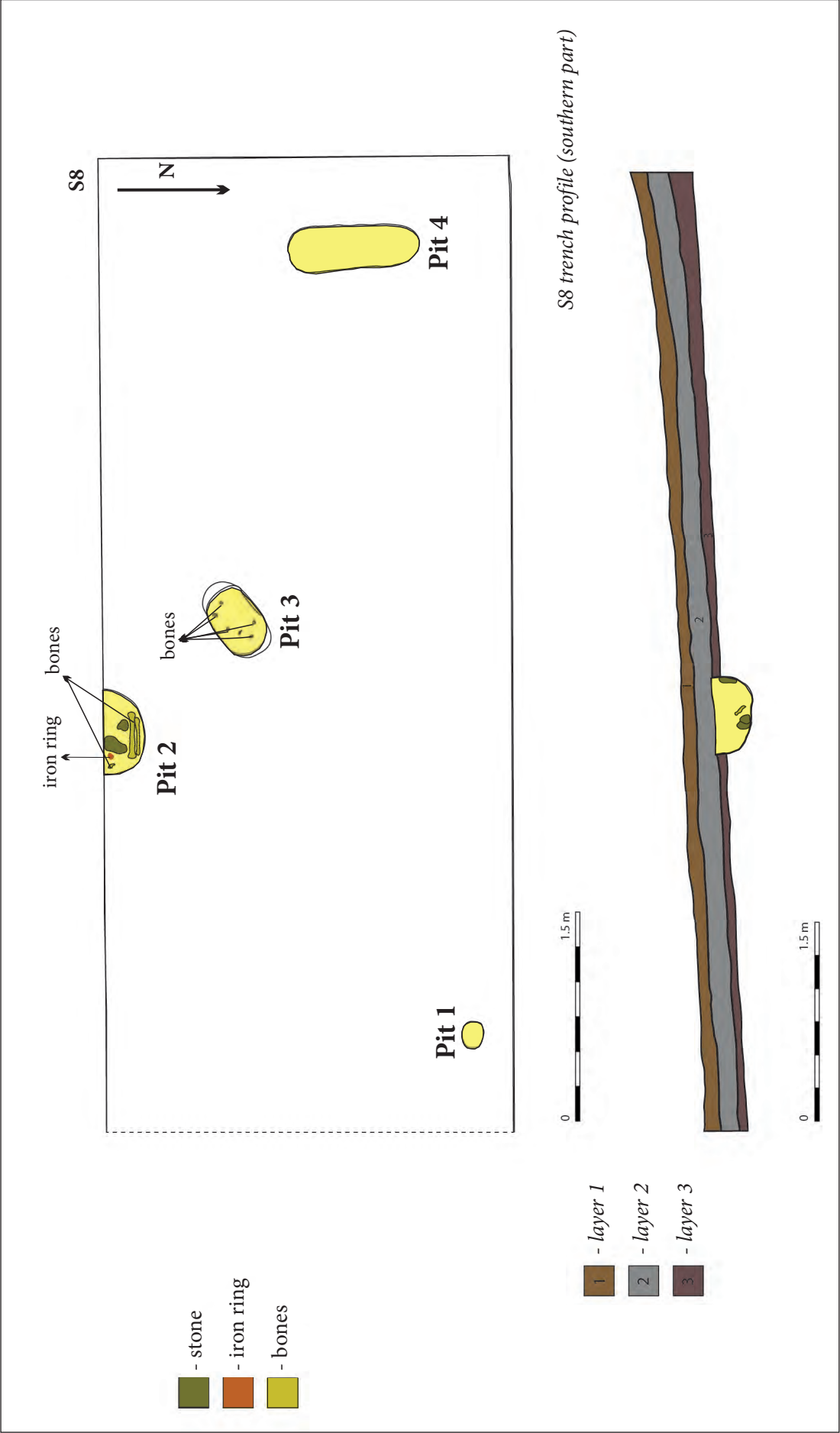


Plate 20. The ground plan of sections S03 (Braniște) (excavation from 1973) (drawn by N. Laczkó).

Implications of a tibia and fibula fracture in the secondary adaptation of the skeleton of an individual discovered in Nădlac “Lutărie” (Arad County)*

Luminița Andreica

Abstract: The present study focuses on the analysis of a fracture on the level of the left tibia and fibula diaphysis of a male individual from the mature adult age category. The skeleton was discovered during the 2004 archaeological campaign in Nădlac “Lutărie” (Arad County) in an Early Medieval cemetery. Fractures are among the pathological lesions most often encountered in past populations. I have analyzed the implications of this fracture on the individual’s locomotion and implicitly on the modifications that occurred due to this trauma on the level of the significant articulations.

Keywords: fracture, arthrodic modifications, disc herniation, Early Medieval cemetery, Nădlac.

Introduction

Clinical studies claim that biological factors such as age, osteoporosis, reduction of bone mass due to the lack of activity, and poor health can make an individual susceptible to the onset of fractures during casual work. Studies performed on modern populations have demonstrated that factors of the surrounding environment, such as geographical location, climate, technological level, occupation, and everyday life style play a dominating role in fracture etiology. Daily routine activities and poor health, both catalysts of accidental falling, are the primary explanation of fractures in the case of modern populations, even if our society has excelled in technology and medical discoveries. Through analogy, daily activities and poor health might be responsible for some fractures in the case of populations from the past¹.

The skeleton to be analyzed here was discovered during the 2004 campaign in Nădlac, on the spot called “Lutărie”. It has been labeled M 04 and is in a good state of preservation and representation.

It was found in an Early Medieval cemetery where eight other skeleton were also discovered during the 2005 campaign and another, single skeleton was uncovered during the subsequent year². In the case of the nine individuals discovered during the campaigns performed after 2004, the anthropological analysis has been performed and published³. For objective reasons, the skeleton inventoried with no. M 04 was recovered by the Arad Museum after the publication of anthropological data on the nine skeletons mentioned above.

The present analysis completes the anthropological picture of a necropolis from the end of the first millennium in the Lower Mureș Valley.

Methods

In order to estimate the age of the individual according to his cranial skeleton, I observed the degree of obliteration of the cranial sutures⁴, while according to the postcranium I employed as age indicators the modifications on the surface of the pubic symphysis⁵, the sternal end of the ribs⁶, and the auricular surface of the ilium⁷. The sternal end of the ribs is in the VIth stage of development, thus indicating an approximate age of 43–55. The surface of the pubic symphysis displays modifications

* English translation: Ana M. Gruia.

¹ Judd, Roberts 1998, 44.

² Mărginean, Huszarik 2007.

³ Băbău *et al.* 2008.

⁴ Meindl, Lovejoy 1985, 57–66.

⁵ Işcan 1989, 152.

⁶ Işcan 1989, 111.

⁷ Işcan 1989, 164.

typical to the age of 45.6 years, while the auricular surface of the ilium is in the Vth stage of development. One can thus estimate that the individual died at ca. 45–55 years of age.

The skeleton belongs to a male individual. On the cranium I have identified all the five osteological elements: the nuchal crest, the mastoid processes, the supraorbital margins, the prominence of the glabella, and the mentonian eminence. All five indicators of gender were evaluated on a 1 to 5 scale (with 1 – typically female and 5 – typically male)⁸. The nuchal crest, the mastoids, and the supraorbital margins are in the fourth degree of development, while the prominence of the glabella and the mentonian eminence are typical to the fifth degree.

As for the postcranial skeleton, the pelvis provides the most precise piece of information in determining gender. The following osteological components of the pelvis were observed in the determination of gender: the subpubic concavity, the *ischiopubic* ramus, the ventral arc, the preauricular sulcus, and *greater sciatic* notch⁹. The subpubic concavity is convex, the *ischiopubic* ramus is very wide, the ventral arc is not visible, the preauricular sulcus is missing, and the *greater sciatic* notch is very narrow.

Results and discussions

Two oblique, healed fractures can be noted on the left side of the tibia and fibula (Fig. 1). The first fracture is located in the middle of the diaphysis, while on the fibula the fracture is located in the upper third of the diaphysis. The leg became shorter due to these fractures: by ca. 3 cm from the length of the tibia (the maximum length of the right side tibia is of 34.9 cm, while the left side tibia measures 31.5 cm in length) and by 2 cm from the length of the fibula (the maximum length of the right side fibula is of 33.7 cm, while that on the left side measures 31.8 cm in length). Consistent callus has formed around the fracture; it has a non-homogenous aspect, with certain perforations specific to signs of infection (Fig. 2). This was probably an open fracture.

The situation of the right side clavicle is also interesting, since it shows a completely healed fracture in the distal half of the clavicular body, more precisely in the area of the conoid tubercle (Fig. 3). Due to the fracture, the length of the clavicle was reduced by ca. 0.8 cm (the maximum length of the right side clavicle is of 13.3 cm, while the maximum length of the left side clavicle is of 14.1 cm). It is possible that this fracture took place in the same time as that of the lower left limb, during falling.

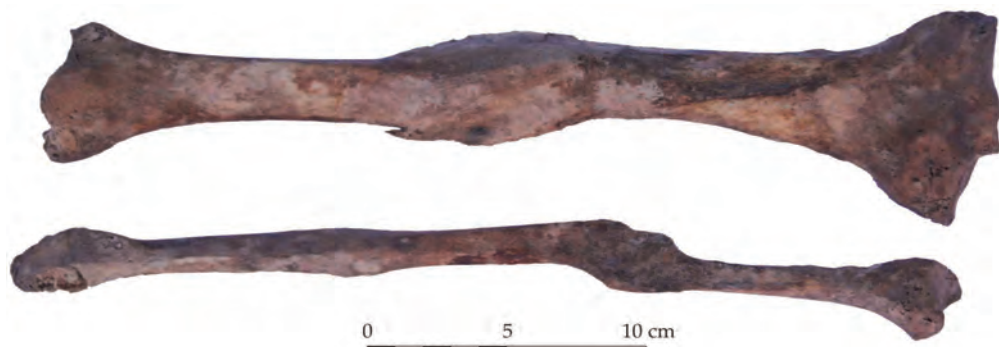


Fig. 1. Healed fracture on the left side tibia and fibula



Fig. 2. The formation of callus with infection signs in the area of the fracture on the left tibia diaphysis

⁸ Buikstra, Ubelaker 1994, 19–20.

⁹ Buikstra, Ubelaker 1994, 18.



Fig. 3. The right side clavicle with a completely healed fracture on the distal half of the body

Other modifications that can be related to the fracture of the shank bones

On the right side, the osteoarthritis on the level of the coxofemoral articulation suggests that the hip articulation was under mechanical stress. On the level of the acetabulum, in the upper part of the *crescent-moon* shaped surface, one can observe arthrosic modifications. The head of the femur on the right side also presents arthrosic modifications, much more developed than those on the left side. Inside the acetabulum one can note a half-circle-shaped incision. There are very few available specialized studies that explain the causes of such marks. Saunders (1978)¹⁰ claimed that the onset of this incision is nothing more than a reminiscence of a supernumerary bone (the acetabular bone). On the contrary, Mafart (2005)¹¹ has explained the existence of this mark as the result of mechanical stress. He based his conclusion on his research on the pelvic belt bones of 425 individuals discovered in cemeteries from France dated between the thirteenth and the seventeenth century.

All these arthrosic modifications can be explained by the fact that the individual, after the accident that made his leg shorter, did not feel safe leaning on that side and thus almost his entire weight was supported by the right side of his body.

The acromioclavicular articulation displays bilateral osteoarthritis. These arthrosic modifications can also occur as a consequence of the fractures suffered by the individual. Traumatic arthritis refers to the modifications of the articulations as a consequence of trauma (fractures, injuries, dislocations). The most affected articulations are those of the lower limbs (hip, knee, ankle), followed by those of the elbow and the shoulder¹².

On the body of the three final cervical vertebrae (C5, C6, and C7) one can observe the presence of Schmorl Nodules, both on the upper and lower surfaces, while *osteophytes can be noted on the thoracic and lumbar vertebrae, on the anterior side of the articular margins* (Fig. 4). These might indicate a disc herniation that causes the space between the intervertebral discs to narrow. The degenerative pathology on the level of the spine is among the most common lesions discovered on skeletons from the past. Unfortunately, the dimensions of the space between the intervertebral discs cannot be measured accurately since, in such cases, the spine is disarticulated¹³.

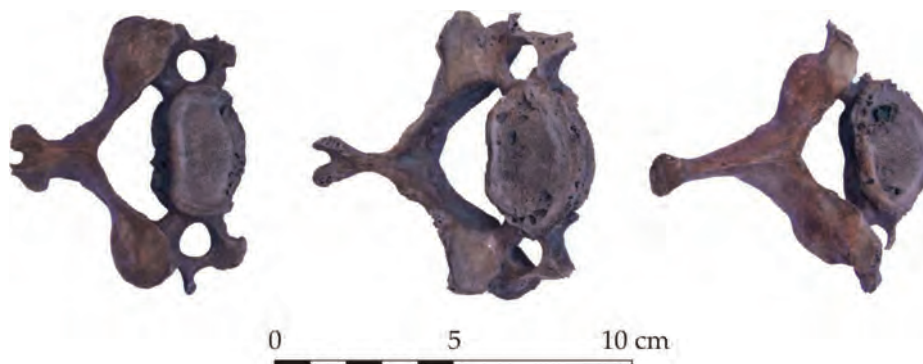


Fig. 4. Cervical vertebrae with signs of degenerative pathology

¹⁰ Saunders 1978.

¹¹ Mafart 2005, 208–215.

¹² Aufderheide 1998, 105.

¹³ Aufderheide 1998, 96–97.

Disc herniation can be the result of physical exercise that forces the spine to flex and bend, but it can also onset during trauma caused by lifting weights or falling from a significant height¹⁴.

Arthrosic modifications can be observed on the level of the distal epiphysis of metatarsus I and II on the right side (Fig. 5), possibly caused by mechanical stress exerted on the foot; for a significant period the individual only leaned on the right leg while walking.



Fig. 5. Metatarsus I and II with arthrosic modifications on the distal epiphyses

Conclusions

Very often, the detailed anatomical analysis of a single skeleton can bring to light a series of data on that person's history. In the present case, the pattern of these traumas, i.e. the fractures of the shank bones, of the clavicle, and the pathology of the spine indicate that these lesions could have only been caused by a traumatic event. Fractures on the level of the clavicle and of the bones of the lower limbs are associated with falling from heights since the individual usually lands on his shoulder or lower limbs¹⁵. Such fractures are, for example, frequent among riders¹⁶. This statement is supported by the funerary inventory of this individual. A trapezoidal-shaped saddle stirrup and an iron articulated bit were recovered from the area of his legs¹⁷.

The traumas can be related to this man's daily activities. During the Early Middle Ages, but not only, men were responsible with performing hard labor and were thus more prone to accidents.

An abnormal mechanic of the lower limbs has forced the individual to walk with a limp, and this had consequences since the skeleton displays modifications on the level of certain articulation on the right side of the body (on the coxofemoral and the acromio-clavicular articulations).

The formation of callus on the level of the fractures suggests that the individual survived the traumatic event. Nevertheless, the fracture has healed with certain complications, leaving behind traces of an infection of the callus. This is very frequent in the case of open fractures, when one of the ends of the broken bone pierces the skin. Another factor that favors the onset of infection is precarious living conditions.

Luminița Andreica

"Francisc Rainer" Anthropological Institute Bucharest

Bucharest, ROU

hera_suzuki@yahoo.com

¹⁴ Gonzalez, Concepcion 2005, 250.

¹⁵ Judd, Roberts 1999, 240.

¹⁶ Prokopec, Halman 1999, 355.

¹⁷ Mărginean, Huszarik 2007.

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The Medieval Church in the Village of Secaş (Arad County) and its Vestiges*

Florin Mărginean, George P. Hurezan, Augustin Mureşan

Abstract: The present paper aims to bring a contribution to the repertoire of ecclesiastic monuments in the mountainous region of Zărand. This would not have been possible if a decorated stone block hadn't been discovered in the summer of 2008, etched with a Christian inscription and Christian symbols. The stone block allowed us to identify the exact location of the medieval church in the village of Secaş. This paper also aims to analyze a stone block and to decipher its message and decoration.

Keywords: medieval church, funerary stone, roadside crucifix, Zărand.

The village of Secaş (in the municipality of Brazi, Arad County) is located in the southern part of Gurahonţ Depression, at the feet of Zărand Mountains. Nowadays, the village may be accessed by following a road that branches off from Road DJ 708, the one that connects the Crişul Alb and Mureş Valleys (Fig. 1).

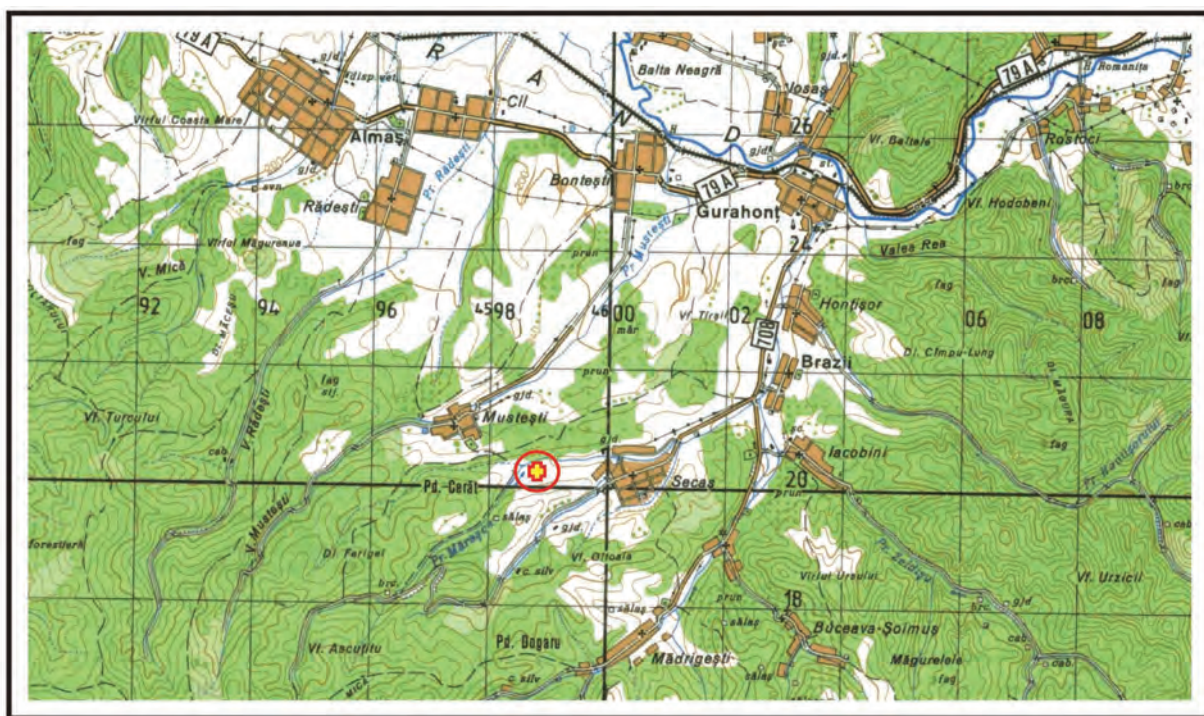


Fig. 1. The location of the village of Secaş

Written sources do not provide much data on the past of this settlement and on the people who inhabited it during the Middle Ages. The few mentions spread over several centuries are insufficient for any reconstruction of the medieval period realities¹.

It is known that in the end of the fourteenth century the domain of Şiria included six Romanian districts², while in 1439, when the domain was transferred to Gheorghe Brancovici, seven such districts

* English translation: Ana M. Gruia.

¹ Roz, Kovách 1997, 218–219.

² Caciara, Glück 1980, 160; Borcea 1989, 186.

were mentioned³. At least for the period of the fifteenth-sixteenth centuries, it is known that Upper Secaş and Lower Secaş⁴ are mentioned among the 45 villages and 5 deserted settlements in the district of Căpâlna (*Kapolna*). The settlement was not deemed notable by the era's written sources, except for data extracted from the *urbarium* of the fortification in Șiria that mentions the fact that a certain voivode, Petru More, resided there⁵.



Fig. 2. The location of the ruin after the third Austrian military topographical survey

The present study attempts to show how a stray discovery allowed us to locate the medieval church of the village of Secaş. Today, the site does not preserve ruins that might indicate the existence of a church from the medieval period. The only indications for it are stone fragments with traces of mortar on the spot where the old village church once stood. The place is marked on the third Austrian military topographical survey (Fig. 2).

Mentioned by nineteenth-century historians⁶, the medieval church was forgotten once the village center moved and the ruins, visible until the middle of the twentieth century, were spoiled⁷. Most of the structures that were still visible in 1942, when one photograph of the area was taken (see Pl. 1/2), were reused in the construction of the C.A.P.⁸ in the settlement⁹.

Despite the fact that certain authors were interested in the ecclesiastical edifices in the area of Arad, the scarcity of written sources and the limited number of medieval monuments in the mountainous area of Zărand were not attractive enough to trigger more detailed researches. According to data available so far on the medieval churches in this area, one can estimate that the number of stone-built ecclesiastical monuments was relatively small in comparison to those in the surrounding

³ Borcea 1989, 188.

⁴ Eskenasy 1975, 81; Borcea 1989, 195.

⁵ Prodan 1960, 83.

⁶ Fábíán 1834; Marki II, 753.

⁷ Popa 1942, 50–51.

⁸ Cooperativă Agricolă de Producție (Agricultural Production Cooperative).

⁹ Information kindly provided by priest Petcuț Tuțu, whom we hereby thank.

areas. There are various causes for this, thus we shall not dwell on them here. They were mentioned in a relatively recent analysis of a medieval religious buildings inventory from this area¹⁰. The present approach aims to contribute to the repertoire of stone-built ecclesiastical edifices, besides the already well researched churches in Hălmaşiu, Ribiţa, and Criscior.

In 2008, after we were contacted by the Town Hall of Brazi on the discovery of a stone block with “Christian marks” on the spot of *Biserica turcească*¹¹ or *Satu Bătrân*, we went on site to verify the information¹².

The place where the stone was discovered led us to the ancient location of the medieval church in Secaş, upstream the confluence of the valleys of *Măraşca* (*Maraska*) and *Ferice* (Pl. 1/1). It seems that the church served the faithful from the Cârjeşti, Secaşul de Jos, Secaul de Sus, Mărişreşti and Ferice villages¹³. On site we could notice, on one end of a hilltop shaped like a mamelon, located on the right side of the confluence of the two valleys, that several traces could still be seen on the surface (“forest stones” as the local language refers to extremely friable sandstone blocks, showing traces of mortar) that indicated the obvious existence of a stone building. The western end of the earth mound still preserves traces of stone blocks connected with mortar that might have been part of the foundations of the western tower, photographed in 1942 (Pl. 1/2). Unfortunately, some of the landscape has been modified, especially the part towards the valley where the foundations of the parish house were indicated. Interventions were stopped in time, so that the possible negative impact on the integrity of the monument and on local stratigraphy has been kept to a minimum.

Written sources are not very generous on the medieval church in the village of Secaş, just as in the case of other ecclesiastical edifices in the area under discussion. Thus, the *urbarium* of the fortification in Şiria only mentions the village priests¹⁴. No other written source contains subsequent mentions of this church. Its ruin is mentioned by historian Márki S., who calls it *Biserica turcească* (The Turkish Church), with three-four-meter-tall walls. He also notes that the church once had a porch and a semi-circular apse¹⁵. One knows that in 1786 the old church was still used occasionally, since it was probably in disrepair¹⁶.

Even today, the spot is known in local folklore under the toponym of *Biserica turcească* (The Turkish Church)¹⁷ or *Biserica Bătrână* (The Ancient Church)¹⁸. Human bone remains have been recovered periodically, very probably from the cemetery around the church. Another toponym, *Dealul Crucii* (Cross’ Hill)¹⁹ (located on a hill south of the spot of *Biserica turcească*), might indicate another religious building or a cemetery.

Unfortunately, nothing has been preserved from what priest Dr. Roman Popa saw and presented in a short article in 1942²⁰. The image published by the aforementioned author reveals a bell tower (P+2) in an advanced state of degradation (Pl. 1/2). The same author mentions that the church was used by the faithful from seven villages²¹ spread along the surrounding valleys. He also mentions, and the fact is partially confirmed by what has been preserved on the surface, that the church was built from “stones broken off the rock and built with hydraulic lime”, but does not indicate the existence of any architectural components. The author dates the church to the same period as the churches in Ribiţa, Criscior, Hălmaşiu, and Căpâlna (unidentified exact site). The same author claims that the church was used until 1837 when the present-day church in Secaş was built. Notably he also mentions the traces of a building’s foundation that can no longer be seen on site, which, he reports, was part of a parish house built of large blocks of cut stone.

¹⁰ Rusu, Hurezan 2000, 20–23.

¹¹ See Marki II, 753.

¹² The team included Peter Hügel, Florin Mărginean (Museum Complex in Arad), Adrian A. Rusu (Archaeology and Art History Institute Cluj-Napoca) and Ileana Burnichioiu (“1 Decembrie” Univ. Alba Iulia).

¹³ Vesa 2006, 438.

¹⁴ Prodan 1960, 81.

¹⁵ Marki I, 443; See Rusu, Hurezan 2000, 130–131, erroneously localized in the village of Secaci (municipality of Beliu).

¹⁶ Marki II, 751.

¹⁷ See Marki II, 751.

¹⁸ Vesa 2006, 438.

¹⁹ Vesa 2000, 68; Vesa 2006, 444.

²⁰ Popa 1942, 50–51.

²¹ Data taken from G. Fabian, 221.

The absence of written sources might be, in this case, supplemented by archaeological excavations. Otherwise, one can only mention and place this church in a rather poor and insufficiently researched context of ecclesiastical medieval buildings. The archaeological research of the site would certainly enrich available knowledge on medieval churches built and used by Romanians in this area.

In connection to the discovery that indicated the location of the medieval church of the village of Secaș, we will subsequently attempt to determine the function of this stone block with Christian decorations, marks, and messages in the structure of the ecclesiastical building. The stone block, irregular in shape, measures 95 cm in length, an average of 26 cm in width, and 18 cm in thickness. It is currently preserved inside the Orthodox church dedicated to the “Descent of the Holy Ghost”²² in the village of Secaș.

Several depictions have been preserved on the surface of the stone (a more resistant sandstone): one cross, solar decorative (geometrical) motifs, and an inscription²³. It is very likely that the hardness of the sandstone did not allow the stonemason to carve these elements very precisely.

One cross (of the roadside crucifix type) is placed in the center of the upper part; under the horizontal arm one can see the short variant of the name Jesus Christ, to the right side of the arm initials **ΙΣ** (Jesus) and to the left **Χ** (Christ); lower, the vertical arm of the cross is flanked by two solar motifs. Under the cross and under the two symbols one can read the following inscription: **НИ-ХА** (probably NIKHA). A disk is placed above the cross and another solar motif can be seen under the cross and under the word **НИ-ХА**. In fact the letters are not Cyrillic (excepting the C in XC where C maybe very well be Sigma) but Greek²⁴. Such solar motifs are a recurrent feature in Romanian folk art, from embroidery to sculptures in wood and stone²⁵. A similar decoration, with a rosette, can also be traced in Hungary (Veszprem county, on the north shore of Balaton Lake) where, in a Calvin cemetery one could see hundreds of tomb stones with this motif, though different in drawing and muster²⁶. Considering the fact that the stone’s discovery context remains unknown, as it was found in a secondary position, its probable role and meaning could be of that marking a tomb or, probably, a crossroad crucifix.

The discovery is not unique in the area under discussion, though it is known that such finds are rather rare. In one of his recent articles, Pál Lóvei analyzes the issues connected to the introduction and use of funerary markings in cemeteries during the medieval period in the Hungarian Kingdom²⁷.

Funerary *stelae* or tomb stones are mentioned in Țebea, Baia de Criș, Conop, and Zăbrani²⁸, and one such item seems to have been built in the wall of the church in Dezna²⁹. One only knows that the item in Conop was discovered in an archaeological context, placed on top of tomb no. 14. The authors of the discovery have provided two possible datings of the stone under discussion: one to the Neolithic and one to the twelfth-fourteenth century, using as argument the context in which the other discoveries in the cemetery researched on the spot of “Cotârci” were made³⁰. A stone with a similar inscription to the one on the item from Secaș is preserved in the storage rooms of the museum in Arad. Its place of origin remains, unfortunately, unknown. It seems to include, besides Jesus Christ’s initials, the year 1748.

Very little is known on the funerary practices during the period when the village and implicitly the church in Secaș are mentioned, and even less on markings employed as tomb signs or indicators of prayer places. This is partly due to the scarcity of written mentions, but there are also too few

²² The noble coat of arms of Cyro Nicolici is depicted on the western wall in the Orthodox church in Secaș, built in 1837. Cyro (Cyrill) Nicolici was a Romanian of South-Danubian origin, land owner with properties in the settlements of Secaș and Mădrigești, in the *comitatus* of Arad. Cyro Nicolici, an important merchant from Vienna, received as donation the settlements of Secaș and Mădrigești on December 30th 1819, while on May 30th 1821 he also obtained Slatina (present-day Slatina de Mureș); soon afterwards he made his noble title public (see Mureșan 2012, pp.215–219).

²³ The stone block was recovered from the site of the old medieval church in the village of Secaș and was transported in 2008 to the new village church by priest Petcuț Tuțu.

²⁴ We would like to give special thanks to Dr Ioan Albu, who gave us pertinent suggestions regarding our researches.

²⁵ Opreșan 2003, XLIII.

²⁶ We would also like to give special thanks to Dr Pál Lóvei for his remarks and suggestions.

²⁷ Lóvei 2005.

²⁸ Boroneanț, Demșea 2005, 46–47.

²⁹ Greceanu, Munteanu-Trucă 1980, 184.

³⁰ Boroneanț, Demșea 2005, 44.

discoveries of the sort. In their case, it is very possible that the markings were made of wood and thus decayed in time, and only the rich could afford such stones inscribed with Christian signs and posthumous messages made from durable materials.

It is very likely that the discovery under discussion was part of a roadside crucifix aimed at marking the ancient spot of the village church in Secaş. Besides, one knows that towards the end of the eighteenth century and in the beginning of the nineteenth century the old church was gradually abandoned, and this is the probable chronological interval when the stone was carved.

Florin Mărginean

Museum Arad
Arad, ROU
finnlands@yahoo.com

George P. Hurezan

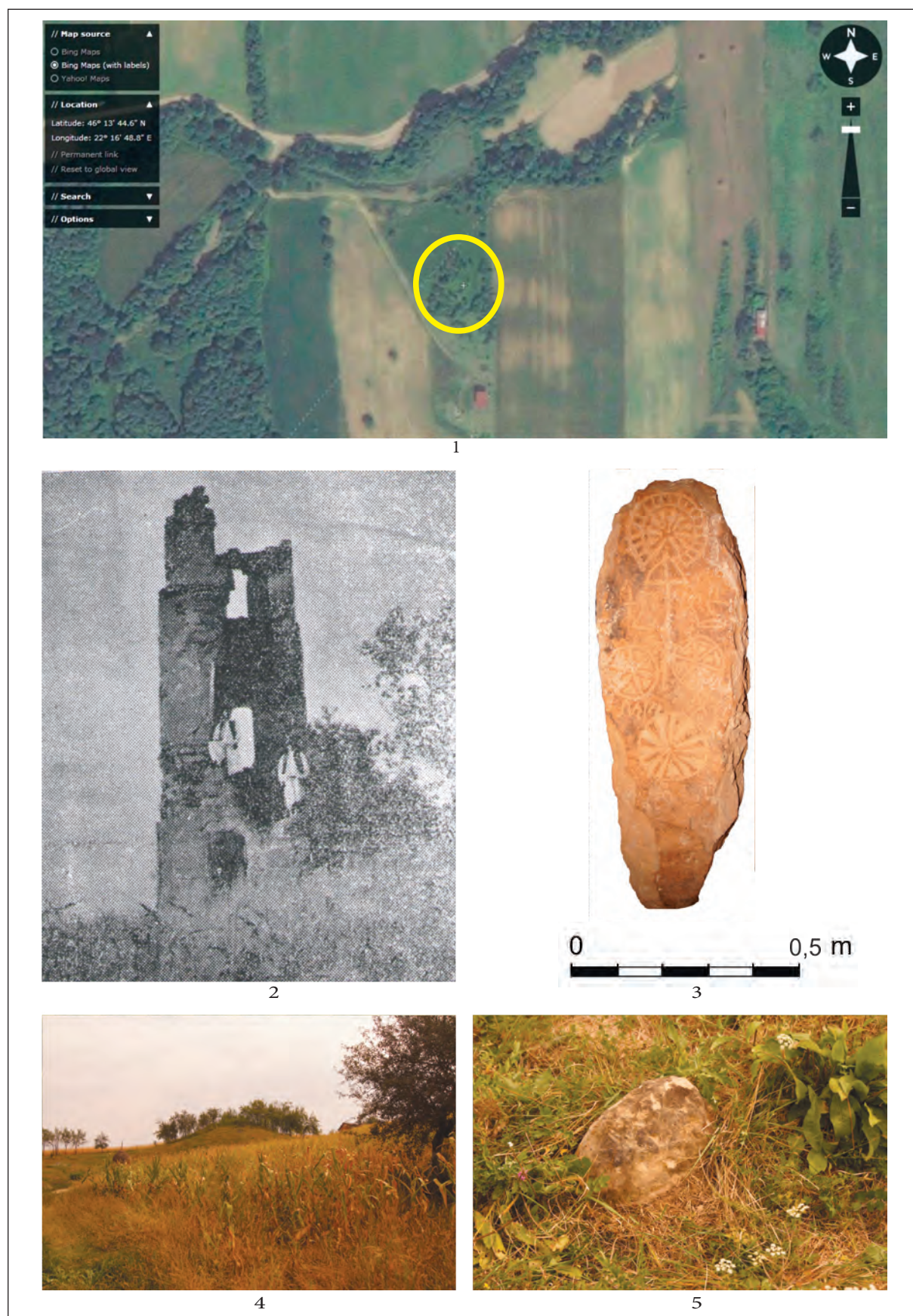
Museum Arad
Arad, ROU
gphurezan@yahoo.com

Augustin Mureşan

Museum Arad
Arad, ROU
augmuresan@gmail.com

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Planșa 1. Secaș: 1. Localizarea amplasamentului bisericii medievale; 2. Imagine cu ruinele turnului de vest al bisericii (1942); 3. Piatră cu decor, inscripție și însemne creștine descoperită pe vechiul amplasament al bisericii; 4. Imagine dinspre SV cu amplasamentul fostei biserici; 5. Detaliu cu o piatră de la baza promontoriului, posibil marcaj de mormânt sau rămasă în urma spolierii monumentului.

The Monetary Reform of Vladislav II of Walachia (1447–1448; 1448–1456). Survey of research*

Florin Ciulavu

Abstract: The present study is a detailed analysis of the monetary reform and activity initiated by Vladislav II of Walachia in the middle of the fifteenth century (1452–1456). During this period the ruler has reformed the metrological parameters of the coins and, taking into consideration the discoveries, one can say that the reform materialized through the issuing of more coins than during the reign of other voivodes of the fifteenth century. The article also analyzes the arguments in favor of a possible intense monetary activity under this ruler, that some of the researchers support. Among available discoveries, rather few coins issued by Vladislav II are known; most such items are preserved in private collections and their place of discovery remains unknown.

Keywords: Vladislav II, Walachia, monetary reform, ducat, ban¹, intense monetary activity.

Vladislav II's monetary reform was and still is a topic of interest in Romanian and foreign specialized literature, even if it has not always been appropriately addressed. I believe it is now time to establish a survey of research on the topic and, in general, on the monetary activity of the Walachian ruler. Therefore, the present study analyzes Vladislav II's monetary activity and aims at establishing if Walachia did or did not undergo a period of intense monetary activity during his rule. This research completes a previous article, published in Romanian in 2012², with data from works published by foreign numismatists during the nineteenth century that I had been as yet unable to consult and with the update of the newest monetary discoveries.

Despite the fact that the interval under analysis is relatively short (1452–1456)³, it marks a significant period in the development of monetary economy on the territory of Walachia. A monetary reform was implemented during this period, leading to the ducat gaining in weight and in the quality of precious metal⁴, an increase in transactions completed by Walachian merchants in the area, and a higher level reached by relations with merchants from the neighboring states; foreigners enjoyed several facilities in Walachia and were able to transit the country easier, while customs taxes were paid in Walachian coin.

In the present study I will analyze, from several perspectives, the issue of the monetary reform during the rule of Vladislav II, as most researchers claim that such a reform was indeed implemented. Then, I will focus on the monetary economy during this period and, finally, I shall dwell on the introduction and circulation of Ottoman aspers in the principality of Walachia, as the asper became the main coin in circulation for a rather long period.

The monetary activity of the voivodes of Walachia has a rich bibliography, but there are few contributions on the mint of the above mentioned ruler, so that some issues remain, inevitably, open to discussion. One must state that not all coins attributed to this voivode were in fact issued by him (some were erroneously attributed to him).

Several authors have approached the topic in Romanian historiography: Constantin Moisil⁵ and Octavian Iliescu⁶, but also others such as Costin Kirițescu⁷, Paraschiva Stancu⁸, Aurel Vilcu

* English translation: Ana M. Gruia.

¹ Rare Walachian denomination.

² Ciulavu 2012a, 289–316.

³ Vladislav II ruled twice, first between 1447 (after December 4th) and 1448 (end of September) and then between November 1448 and 1456. See Cazacu 1971, 139.

⁴ Iliescu 1970, 22. For a typology of the ducats minted under Vladislav II, see Ciulavu 2010, 15–24.

⁵ Moisil 1911, 17–18; Moisil 1913, 194–229; Moisil 1921a, 40–41; Moisil 1924–1925, 107–159.

⁶ Iliescu 1975, 147–148; Iliescu 1983–1985, 257–289.

⁷ Kirițescu 1964, 90.

⁸ Stancu 1996, 169–174.

and Steluța Gramaticu⁹, Bogdan Costin¹⁰ etc. New items discovered in Ukraine have recently been published¹¹. Some of the authors who published coins minted during this period briefly addressed marginal aspects of the issue, while some of the items published several years ago were erroneously attributed to Vladislav II or those issued by him were incorrectly attributed to other issuers.

Over the subsequent paragraphs I will present the historiography of the chosen topic, with a critical analysis wherever I believe such is necessary.

It seems that a coin issued by Vladislav II was first published in 1841¹² by Bernhard Karl von Koehne, alongside other Walachian coins attributed to Peter I, Iliaș, Stephen III the Great, and Stephen IV¹³, published both in 1841 and in 1842¹⁴.

Later on, in 1872, Dimitrie A. Sturdza published his much debated work entitled *Uebersicht der Münzen und Medaillen des Fürtenstums Romaniei (Moldau und Wallachei)*¹⁵ where he presented a small number of Moldavian and Walachian coins (53 items), some of which he erroneously attributed to certain rulers¹⁶. I shall focus on two coins attributed to Vlad II Dracul¹⁷. that, according to their iconography, legend, and metrological aspects were in fact issued by Vladislav II. The two published coins were part of the author's personal collection¹⁸ and the imperial coin collection in Vienna (Kaiserliche Münzsammlung in Wien)¹⁹.

In 1893, the same Dimitrie A. Sturdza published a ban (subsequently called "with comet") that he attributed to Vlad the Young²⁰. Later on, Constantin Moisil attributed this ban to Radu II Prasnaglava²¹, while Octavian Iliescu attributed it to Vladislav II²². In 1979, Octavian Iliescu published this coin again and this time he attributed it to Vlad II Țepeș²³. Bogdan Costin²⁴ has relatively recently taken up again the discussion on this coin that is a silver ban measuring 11 mm in diameter and weighing 0.38 g.²⁵

Monetary emissions from Walachia were published in an article from 1908²⁶, and George Manolescu attributed them to voivodes Vladislav I, Radu I, Radu II Prasnaglava, Vladislav II, and Radu III the Handsome. After analyzing their legend and description, Aurel Vilcu and Steluța Gramaticu have noted that the coins attributed to Radu II Prasnaglava and Radu III the Handsome were in fact issued by Radu I, while those attributed to Vladislav II were issued by Vladislav I²⁷. Thus, this work is another of those that contain several coins wrongly attributed to Vladislav II, but also to other rulers.

In 1911, Constantin Moisil published eleven items that he interpreted as having been issued by Vladislav II²⁸, among them including the coins published by George Manolescu. According to the description, these were later attributed to Vladislav I²⁹.

⁹ Vilcu, Gramaticu 2002, 181–188.

¹⁰ Costin 2006–2007, 311–319.

¹¹ Petrov, Dergačeva 2012, 126–131.

¹² Koehne 1841, 339–340, Pl. IX, no. 2, *apud* Oberländer-Târnoveanu 2009, 727.

¹³ Oberländer-Târnoveanu 2009, 727. I was unfortunately unable to gain access to von Koehne's works. For the first Romanian coins published, with critical analyses of the first studies of numismatics published by Romanian researchers, see Oberländer-Târnoveanu 2009, 721–781.

¹⁴ Koehne 1842, 365–368, *apud* Oberländer-Târnoveanu 2009, 727.

¹⁵ Sturdza 1872, 44–129. See also Moisil 1914a, 42–48.

¹⁶ Iliescu 1956, 289. Another work, among the first to be published on the Romanian medieval coins, was also written by Dimitrie A. Sturdza (Sturdza 1893), as a short introductory study on Romanian medieval coins. The author described 56 coins from Walachia (17) and Moldavia (39), that he incorrectly attributed to some rulers.

¹⁷ Sturdza 1872, 99–101.

¹⁸ Sturdza 1872, 101, no. 47.

¹⁹ Sturdza 1872, 101, no. 48.

²⁰ Sturdza 1893, col. 2445.

²¹ Moisil 1921b, 32–41; Moisil 1938, 109.

²² Iliescu 1958, 337–338.

²³ Iliescu 1979, 107–131.

²⁴ Costin 2008, 431–432.

²⁵ Costin 2008, 445, fig. 2.

²⁶ Manolescu 1908, 40–43.

²⁷ Vilcu, Gramaticu 2002, 182.

²⁸ Moisil 1911, 17–18.

²⁹ Vilcu, Gramaticu 2002, 182.

In 1913, Constantin Moisil published nine more coins³⁰ that he attributed to a certain, unspecified Vladislav. Two of them were issued by Vladislav I³¹, but the subsequent seven have been attributed, according to the description and the legend, to Vladislav II³². One year later, the same author attributed, this time correctly, to Vladislav II one coin from the Dimitrie A. Sturdza collection³³.

The same Constantin Moisil discussed in 1921 Basard II's and Vladislav II's monetary emissions, calling them "attempts of minting national coins"³⁴. The author also mentioned that these "attempts" failed due to the economical situation of the state and the small number of preserved coins³⁵. Indeed, at the time the article was published, very few coins issued by Vladislav II were known and Constantin Moisil was entitled to believe that the coins issued by the two above mentioned voivodes were just attempts of issuing new national coins. More items attributed to Vladislav II are now available and I shall focus on them over the subsequent pages.

Later on, Constantin Moisil wrote a monograph work on mints in Walachia³⁶, analyzing issues related to the organization and activity of the Walachian mint between the rule of Vladislav I and that of Vladislav II. I will analyze data provided in this work on Vladislav II's monetary activity subsequently, at the appropriate time.

In a general work on numismatics, Corneliu C. Secășanu mentioned the ducats issued by the Walachian ruler, of which he noted very briefly that they were rare emissions and that the coins under discussion, like those issued by Basarab the Elder, were the last Romanian monetary emissions³⁷. Secășanu's suppositions were of course based on discoveries made in the Romanian area and did not take into consideration items issued by Vladislav II known from discoveries outside the country.

Walachian ducats minted between 1452 and 1456 were again described by Constantin Moisil in 1938, as having on the obverse a split shield, with a crescent moon turned to the right in the first quarter and a "sun with six rays" under it, while the second quarter was fasciated³⁸. The author made a simple presentation, with a very brief description of a type of ducat attributed to Vladislav II. His conclusions on coins issued by the above mentioned ruler coincide with his conclusions published in 1925, i.e. that items issued after the monetary reform "did not succeed in re-establishing national coinage"³⁹.

Coins minted after the end of Mircea the Elder's rule were made of an alloy containing silver in gradually smaller proportion⁴⁰. This fact determined Costin Kirițescu to evaluate by comparison the phenomenon mentioned above as "economical recovery". His arguments in support of such a statement are of metrologic nature: the increased fineness, as compared to that of similar emissions issued by his predecessors, and the weight of 0.60 g, according to a ratio of 350 pieces for a mark of 210 g⁴¹. In the same paper, the author talks about the fact that the monetary reform was short lived, as Walachia ceased to mint separate coin under the rule of Radu the Handsome⁴².

In a study published in 1975⁴³, Octavian Iliescu analyzed two of John of Hunedoara's letters that aid in the chronological identification of coins issued by Vladislav II. Thus, Iliescu stated that "the new coin was certainly minted between 1448 and 1452, as indicated by two letters that John of Hunedoara wrote to the inhabitants of Brașov"⁴⁴. In the first letter, dated March 7th 1448, written in Timișoara,

³⁰ Moisil 1913, 205–206, nos. 100–108.

³¹ Moisil 1913, 205, no. 100–101; Vilcu, Gramaticu 2002, 182.

³² Moisil 1913, 205–206, no. 102–108; Vilcu, Gramaticu 2002, 182.

³³ Moisil 1914b, 8.

³⁴ Moisil 1921a, 40.

³⁵ Moisil 1921a, 41.

³⁶ Moisil 1924–1925, 107–159.

³⁷ Secășanu 1934, 46.

³⁸ Moisil 1938, 111.

³⁹ Moisil 1938, 111.

⁴⁰ Kirițescu 1964, 90.

⁴¹ Kirițescu 1964, 90. For this, see also Iliescu 1970, 15; Iliescu 1975, 147, footnote 99, and the synoptic table – *Schema emisiunilor monetare ale Țării Românești de la 1365 la 1481* (Iliescu 1983–1985, 279). The ponderal value of 350 ducats minted from a mark weighing 210 g. had not been reached by the coin of Walachia since the end of Radu I's rule (Iliescu 1975, 147–148).

⁴² Kirițescu 1964, 90. For the weight of Vladislav II's ducats, see Table 1.

⁴³ Iliescu 1975, 139–152.

⁴⁴ Iliescu 1975, 147.

John of Hunedoara declared to have taken the decision that Hungarian coins⁴⁵ should circulate in Walachia; thus, he asked the merchants to perform all transactions in such coin and forbade them to employ florins or aspers⁴⁶, but Walachian coins are not mentioned. In the second letter, dated October 24th 1452⁴⁷, John of Hunedoara stated his wish to introduce a new type of coin that would circulate in the entire kingdom, in Țara Bârsei and all the Hungarian parts. On that occasion, he asked the merchants from Brașov to stop using aspers, the coins issued by the Walachian voivode, and all older coins. Walachian coins are mentioned in this letter, but this does not mean that Vladislav II issued his new ducats between 1448 and 1452. The fact that the coinage issued by the Walachian ruler is not mentioned in other documents after 1452, when aspers were employed in recorded transactions⁴⁸ and the fact that Ottoman aspers increasingly permeated monetary circulation in Walachia do not allow one to presume that after 1452 Vladislav II did not issue new coin.

The catalogue entitled *Monede și bancnote românești* [Romanian Coins and Banknotes] was published in 1977⁴⁹. On that occasion, the authors presented eight ducats issued by Vladislav II, among which seven were identified as part of type I⁵⁰, that in the first quarter of the shield on the obverse included the crescent moon placed above a star, and one ducat was included in type II⁵¹, that in the first quarter of the shield had the star above the crescent moon. Due to the last monetary discoveries and to items published from personal collections, the classification of ducats issued by Vladislav II in this catalog has become outdated; new typologies have been suggested since⁵².

Octavian Iliescu also stated that the Walachian ruler maintained a very intense economic activity⁵³, materialized through the minting of three types of ducats, the items being the “most massive after 1420.” We shall see that Iliescu’s statement is true, even if it was only based on items known from Romanian collections and did not take into consideration the hoards outside the country known at the time⁵⁴.

In a study published in 1996⁵⁵, Paraschiva Stancu believes that Vladislav II issued his new ducats after the Treaty of Adrianople, signed in 1452 by the Kingdom of Hungary and the Ottoman Empire, ratified in Szeged, treaty for the accomplishment of which Vladislav II also aided as mediator. The author believes that from that time onwards the ruler of Walachia enjoyed political freedom of action and this allowed him the opportunity to pay more attention to the economical situation of his country⁵⁶. New types of ducats were thus minted, of better quality than those of his predecessor Dan II, and the arguments in support of this are also of metrological nature. Therefore, the author believes that the monetary reform has materialized through the minting of three successive emissions in the period 1448–1452⁵⁷, probably by adopting Octavian Iliescu’s idea of 1975⁵⁸.

It is hard to believe that after the Treaty of Adrianople the Walachian ruler was given political freedom, since he had to act according to his status as vassal of the Hungarian Kingdom and had to pay the regular haraș⁵⁹ to Ottoman Empire. Then, the author dates these coins to the period between 1448 and 1452; it is true that Vladislav II issued coins during his second rule, between 1448 and 1456, but the date of the first monetary issue is 1452, after the Treaty of Adrianople, thus they are dated to the chronological interval 1452–1456⁶⁰.

⁴⁵ It seems they are obols coined in the mint of Brașov (Iliescu 1975, 147, footnote 94). On the obols minted in Brașov during this period, see CNH, no. 159.

⁴⁶ Iliescu 1975, 147, who cites Docan 1909–1910, 524–526.

⁴⁷ Hurmuzaki 1891, 15, doc. 11.

⁴⁸ DRH, B, I, 132, doc. 112; DRH, D, I, 431–432, doc. 315.

⁴⁹ MBR 1977.

⁵⁰ MBR 1977, 31–32, nos. 256–261a.

⁵¹ MBR 1977, 32, no. 262.

⁵² Vilcu, Gramaticu 2002, 181–188; Ciulavu 2010, 15–24; Ciulavu 2012a, 289–316; Petrov, Dergačeva 2012, 126–131.

⁵³ Iliescu 1983–1985, 271.

⁵⁴ Oberländer-Târnoveanu 2009, 738.

⁵⁵ Stancu 1996, 169–174.

⁵⁶ Stancu 1996, 170.

⁵⁷ Stancu 1996, 170.

⁵⁸ Iliescu 1975, 147.

⁵⁹ A tax levied from all Ottoman possessions in Europe (according to Sachelarie, Stoicescu 1988, 214–215); on the payment of the haraș, see Berza 1957, 7–47.

⁶⁰ For the beginning of Vladislav II’s monetary reform, see Costin 2006–2007, 311.

Bogdan Murgescu also dealt with Vladislav II's monetary reform, though briefly⁶¹. Since Walachia was the first among the Romanian states to enter the politic and economic sphere of influence of the Ottoman Empire, Turkish domination was stronger there than in Moldavia and Transylvania, and this had an obvious monetary side⁶².

Matei Cazacu also approached the topic⁶³. Despite the fact that the ducats issued by Vladislav II were minted according to the system established by Vladislav I in 1365⁶⁴, the author stresses the fact that the monetary reform marked a brake with the monetary system of the Hungarian Kingdom and the alignment with the Ottoman monetary system. Nevertheless, such an alignment is debatable, since one of Vladislav II's ducats only valued 1/2 of an asper issued in the same period by Murad II⁶⁵, or, according to other studies, even 2/3 of an asper⁶⁶. Bogdan Murgescu also claims that in 1452, Walachian ducats valued less than 2/3 of an asper⁶⁷.

Aurel Vilcu and Steluța Gramaticu also supported the idea of a monetary reform⁶⁸ that they attributed to the fact that the Ottoman Empire strengthened its position towards Walachia, from a political and economical perspective⁶⁹. Thus, they claimed that Vladislav II's monetary issues were significantly different from those of his antecessors of the fifteenth-century, both typologically and metrologically⁷⁰. Vladislav II's monetary reform was implemented against the background of a „poorly monetized” economy⁷¹. Also, in this study the authors performed a correct classification of the ducats issued by Vladislav II, on the basis of items known at the time.

In a relatively recent study of coins issued by Stephen the Great, Ernest Oberländer-Târnoveanu states that the monetary reorganizations in South-Eastern and East-Central Europe started in Walachia, with Vladislav II's monetary reform of 1452 that had as a consequence the re-establishment of the good-quality silver ducat⁷². After this date and until the end of Walachian independent issues during the rule of Basarab Laiotă⁷³, Walachian coins have preserved the stability of their monetary drawing and part of their metrological parameters⁷⁴.

Relatively recently, Bogdan Costin has published two coins that he attributed to Vladislav II⁷⁵. a ducat⁷⁶ of the new type and the only known ban issued by this ruler.

Analyzing two hoards dated to the nineteenth century, Ernest Oberländer-Târnoveanu published in 2009 an important study⁷⁷ on the early period of study of Romanian medieval coins, in which he also discusses Vladislav II's ducats. The author starts with a critical analysis of nineteenth-century

⁶¹ Murgescu 1996, 44.

⁶² Murgescu 1996, 44; see also Inalcik 1960, 411; Inalcik 1994, 271–314.

⁶³ Cazacu 1973, 170–180.

⁶⁴ The first ducats of the Walachian principality were minted after the model of the Viennese ducats that were issued starting with 1202 (according to Iliescu 1970, 14; Iliescu 1948–1972, 83–89).

⁶⁵ Aurel Vilcu and Steluța Gramaticu share this idea and I believe it is convincing (Vilcu, Gramaticu 2002, 185).

⁶⁶ The ratio between the Walachian ducat and Ottoman asper was intensely debated in Romanian specialized literature. Octavian Iliescu claimed that the Walachian coin equaled 2/3 of a contemporary Ottoman asper, while the weight and fineness of Mehmet II's aspers was much higher than that of Vladislav II's reformed coins (Iliescu 1975, 148; see also Oberländer-Târnoveanu 2003–2005, 320). Another discussion on the ratio between ducat and asper, in Costin 2006–2007, 317. I believe that new, very careful metallographic analyses of the ducats and aspers circulating during this period might reveal new data on the ratio between the two types of coins.

⁶⁷ Murgescu 1996, 44.

⁶⁸ Vilcu, Gramaticu 2002, 184–185.

⁶⁹ Vilcu, Gramaticu 2002, 185.

⁷⁰ Vilcu, Gramaticu 2002, 184. The authors discuss in detail the issue of monetary emissions issued by Vladislav II's predecessors.

⁷¹ Vilcu, Gramaticu 2002, 184.

⁷² Oberländer-Târnoveanu 2003–2005, 333.

⁷³ Basarab Laiotă (Basarab III the Old) ruled between Nov.-Dec. 1473, 1474, Jan. 1475–Oct. 1476, Dec. 1476–Nov. 1477.

⁷⁴ Oberländer-Târnoveanu 2003–2005, 332. For the ducats issued by Radu III the Handsome and Basarab Laiotă, according to the system instituted by Vladislav II, see Iliescu 1970, 22.

⁷⁵ Costin 2006–2007, 311–319.

⁷⁶ The duct was presented as being discovered in 2005 in Bulgaria, east of the city of Ruse (Costin 2006–2007, 312). Recently I found out that this item was put up for auction on an international website in 2004. Therefore, Mr. Bogdan Costin bought it on eBay, from a user in Florida (United States of America), before 2005, when he notes that the coin was presumably discovered. I do not exclude the possible finding of the coin in Bulgaria, but there are enough indications to suggest the idea that Mr. Bogdan Costin invented the year and place of discovery of this ducat. I intend to analyze the issue in a subsequent article focusing on the topic.

⁷⁷ Oberländer-Târnoveanu 2009, 721–781.

bibliography (foreign and Romanian) that included coins from the Romanian countries and insists on the hoard discovered in Podolia that seems to have included Walachian and Moldavian coins. It seems that the ducats issued by Vladislav II, presumably from a dispersed hoard, “very similar in structure to the one from Podolia” were included in private collections from Germany and Russia⁷⁸. Ernest Oberländer-Târnoveanu takes up again the discussion of Romanian coins from the hoard in Podolia and in a first stage dwells on the 80 ducats issued by Vladislav II⁷⁹.

In 2010 I published a study on the ducats issued by the Walachian ruler⁸⁰ where I analyzed especially the groups of ducats he issued, the circulation of foreign coin during that period, and the distribution area of local coin. As for the monetary reform, at that time I drew attention to the fact that there was insufficient data to maintain the fact that it ever took place⁸¹. After having analyzed the issue in more detail, I noted the existence of the monetary reform, visible through the metrological parameters of the coins and their number.

Monetary discoveries recently attributed to Vladislav II have been recorded in Ukraine, in the village of Stizhok, where an important hoard was found, consisting of ca. 2500 items, among which there seem to have been ca. 50 Walachian ducats issued by Vladislav II⁸². The first author of the study (A. Petrov), a collector from Norway, bought six Walachian ducats in 2011. A first ducat was published together with coins with Asprokastro countermarks from the same hoard⁸³; later on, in 2012, other five Walachian coins issued by the above mentioned ruler were published, besides the already published ducat⁸⁴. All six coins are known from specialized literature⁸⁵, but the authors of the study suggest a new sub-type of type B, that they labeled II C⁸⁶. Also in 2012, the same authors published again the coins from the hoard in Stizhok, this time in Russian⁸⁷, and thus the material was accessible with more difficulty, while in 2013 A. Petrov published a short abstract of the same hoard⁸⁸.

Returning to the discussion of Vladislav II's monetary reform, I believe that it was implemented during a short period, since the monetary issues of his successors⁸⁹ to the throne did not enjoy the economical significance of the ducats issued by the reformer ruler and were issued in smaller numbers. From the perspective of economical significance, in this case, I refer to the fact that coins issued

⁷⁸ Oberländer-Târnoveanu 2009, 730. Their number is not mentioned.

⁷⁹ Oberländer-Târnoveanu 2009, 730, 736.

⁸⁰ Ciulavu 2010, 15–24.

⁸¹ Ciulavu 2010, 22.

⁸² Petrov, Dergaciova 2012, 147; Petrov, Dergačeva 2012, 126.

⁸³ Petrov, Dergaciova 2012, 147–152.

⁸⁴ Petrov, Dergačeva 2012, 126–131.

⁸⁵ Vilcu, Gramaticu 2002, 181–188; Ciulavu 2010, 15–24.

⁸⁶ The typology suggested by A. Vilcu and S. Gramaticu in 2002 was redefined on this occasion by A. Petrov and L. Dergačeva: types A and B were labeled I and II, while the sub-types of type B (II) were labeled II A, II B and, eventually, II C (if the ducat suggested for this sub-type is indeed different from the others and indeed forms another sub-type). I believe that this new classification is unnecessary since it does not change the one designed in 2002, except for the names of the monetary types. I shall thus employ A. Vilcu and S. Gramaticu's typology, adding the ducat included in the third type (C) (Ciulavu 2010, 19). The ducat presented as part of a new sub-type (II C according to the classification suggested by A. Petrov and L. Dergačeva) has a single heraldic element (the star) in the first quarter of the shield on the obverse, as the crescent moon is missing; this made the authors of the study to include the coin in a new sub-type of type B, that they defined as II C (Petrov, Dergačeva 2012, 127). Since the star is placed in the lower part of the first quarter of the shield and there is space for the crescent moon as well, I believe that the mint master forgot to strike this element or it became effaced due to the wearing out of the die, but he did not leave it out intentionally (Fig. 4). Therefore, this ducat was certainly part of type B, though its inclusion in one of the two subtypes is still a problem (Ba or Bb); nevertheless, this is not possible as long as no fragment of the crescent moon is visible and one cannot state if it was turned to the right or to the left. The possibility of including the presented ducat in a possible sub-type Bc (II C according to A. Petrov and L. Dergačeva) is not plausible since, in such case, the mint master would have certainly placed the star in the middle of the quarter and not in its lower part. As for coins included in sub-type II C (Bc?), the author of the study claim that they were minted in the same time as those in sub-type Bb (II B) (Petrov, Dergačeva 2012, 128), according to arguments based on the manner in which the legend was written. One can presume that if the legend of this ducat matches that of the ducats in sub-type Bb, then the crescent moon would have been positioned turned to the right, which means that the ducat under discussion is part of sub-type Bb. Another argument against the idea that the ducat under discussion is part of a new sub-type refers to the fact that other such ducats, missing the crescent moon or the star, are known (<http://moned-eromanesti.cimec.ro/gentlewind/vladislav2/vladislav2.htm>). By analyzing the images, one can note that the heraldic elements were effaced due to wearing out through use.

⁸⁷ Петров, Дергачева 2012, 183–198.

⁸⁸ Petrov 2013, 22–24.

⁸⁹ Ocheșanu 1997, 193–199; Costin 2008, 427–445.

between 1452 and 1456 were the last in the series of local coins used for paying customs taxes, since after this period foreign coins strongly permeated all fields of the economy.

As for the coins issued during the reign of Vladislav II, I have designed a typology in a previous study⁹⁰ and thus I shall not dwell on the issue here. But I will briefly describe the three types of ducats and the only type of ban issued by the Walachian ruler⁹¹. The first type includes on the obverse the crescent moon superposed by a star in the first quarter of the shield, while the second quarter includes three fascia (Fig. 1); the second type has the crescent moon above the star, in one variant the crescent moon is turned to the right (Fig. 2), while in another variant, to the left (Fig. 3); the third type includes three fascia in the first quarter, and a lily flower in the second (Fig. 5). The ban⁹² issued by Vladislav II is iconographically similar to the third type of ducat, with fascia in the first quarter of the shield, while the second quarter is full. On the reverse one can see the Walachian eagle, but, unlike the ducat, the ban is unepigraphic (Fig. 6).

The following table presents all monetary discoveries and coins in public and private collections, known from specialized literature, attributed to Vladislav II. I must mention that besides these, I will also present coins issued during the rule of this voivode that were sold during internet auctions (source: www.eBay.com⁹³), since I believe mentioning them is important and useful since a complete list of known items can only be made by corroborating existing data with information gathered from online auction websites.

<i>Place of discovery</i>	<i>Type</i>	<i>No. items</i>	<i>Weight (g)</i>	<i>Diameter (mm)</i>	<i>Observations</i>
Podolia (unknown locality) ¹	ducat	1	-	-	
Podolia ²	ducats	80	-	-	
Cârpiți ³	ducat	1	-	-	
Piua Pietrii ⁴	ducat	1	0.64	13.5 × 14	
Ruse ⁵ (Bulgaria)?	ducat	1	0.74	14	
Bulgaria? (unknown locality) ⁶	ban	1	0.28	11	
Croatia (unknown locality)	ducat	1	-	-	previously unpublished
Stizhok (Ukraine) ⁷	ducat	1	0.75	15 × 15.5	
Stizhok (Ukraine) ⁸	ducat	1	0.60	14	
Stizhok (Ukraine) ⁹	ducat	1	0.71	15	
Stizhok (Ukraine) ¹⁰	ducat	1	0.52	14 × 14.8	
Stizhok (Ukraine) ¹¹	ducat	1	0.44	14.5 × 15	
Stizhok (Ukraine) ¹²	ducat	1	0.55	14 × 14.5	
Hungary-National History Museum Budapest	ban	1	-	-	previously unpublished ¹³
D. A. Sturdza Collection ¹⁴	ducat	1	0.568	-	
Kaiserliche Münzsammlung in Wien ¹⁵	ducat	1	0.535	-	
D. A. Sturdza Collection ¹⁶	ducat	1	-	-	
G. Severeanu Collection ¹⁷	ducat	1	0.62	14.4	
Ibidem ¹⁸	ducat	1	0.57	14	
Ibidem ¹⁹	ducat	1	0.49	12.8 × 14.2	
Ibidem ²⁰	ducat	1	0.57	14.3	

⁹⁰ Ciulavu 2010, 15–24. See also footnote 74.

⁹¹ The first classification of ducats issued by Vladislav II was published by Octavian Iliescu in 1956 (Iliescu 1956, 308). See also, more recently, Vilcu, Gramaticu 2002, 182.

⁹² For the origin of the word *ban*, see Moisil 1920, 27–34.

⁹³ They are currently unavailable on eBay, but the same items can be found at <http://monederomanesti.cimec.ro/gentlewind/vladislav2/vladislav2.htm>. One must mention the fact that the authenticity of these ducats is not beyond doubt, since they are known from online auctions, but through their iconography, legend, and metrological data, they can be included in the monetary types attributed to Vladislav II.

Ibidem ²¹	ducat	1	0.47	14.2	
BAR ²²	ducat	1	0.55	15	
Ibidem ²³	ducat	1	-	15	poorly preserved
Ibidem ²⁴	ducat	1	-	14	poorly preserved
Ibidem ²⁵	ducat	1	0.57	14	
Ibidem ²⁶	ducat	1	-	14	poorly preserved
Ibidem ²⁷	ducat	1	0.655	14	
Ibidem ²⁸	ducat	1	-	14	poorly preserved
unknown ²⁹	ducat	1	-	-	
-	ducat	1	0.50	14	eBay
-	ducat	1	0.40	13.5 × 14.5	eBay
-	ducat	1	0.60	14.5	eBay
-	ducat	1	0.50	14.5 × 15	eBay
-	ducat	1	0.50	14	eBay
-	ducat	1	0.50	14 × 15	eBay
-	ducat	1	0.50	14 × 15	eBay
-	ducat	1	0.65	14.5 × 15	eBay
-	ducat	1	0.50	14	eBay
-	ducat	1	-	-	Cimec ³⁰
-	ducat	1	0.60	-	Transylvanian-Numismatics ³¹
-	ducat	1	0.63	-	Transylvanian-Numismatics ³²
-	ducat	1	-	-	vcoins ³³
MBR ³⁴	ducat	1	0.58	14,5	
Ibidem ³⁵	ducat	1	0.54	15	
Ibidem ³⁶	ducat	1	-	14.5	fragmentary
Ibidem ³⁷	ducat	1	0.50	14.5	
Ibidem ³⁸	ducat	1	-	14	fragmentary
Ibidem ³⁹	ducat	1	0.52	14	
Ibidem ⁴⁰	ducat	1	-	14	fragmentary
Ibidem ⁴¹	ducat	1	0.65	14	

Table 1. List of coins attributed to Vladislav II⁹⁴

Table footnotes:

¹ Discussions on the attribution of this ducat to Vladislav II, in Oberländer-Târnoveanu 2003–2005, 348. It is very possible that this item is part of the larger lot, consisting of 80 coins, issued by Vladislav II, that were part of the Podolian hoard. For the latter, see Sturdza 1878, 153 and 157.

² Discussions on the hoard discovered during the nineteenth century (1862) in Podolia, see Oberländer-Târnoveanu 2009, 730–746.

³ Iliescu, Marin 1957, 342–345; coins in the hoard from Cârpîți were reanalyzed by Ernest Oberländer-Târnoveanu (Oberländer-Târnoveanu 2003–2005, 334, footnote 129).

⁴ Stancu 1996, 171.

⁵ Costin 2006–2007, 312.

⁶ Costin 2006–2007, 312–313.

⁹⁴ For the known variants of legends on the obverse and reverse, see Anexa 1 and Anexa 2. It seems that Octavian Iliescu mentioned the existence of more than 80 variants of ducats and this suggests the existence of a significant number of items (according to Vilcu, Gramaticu 2002, 186, footnote 7). Bogdan Costin takes up again the discussion of these ducats, mentioning a manuscript that Octavian Iliescu wrote in 1974 (*Corpus Nummorum Valachorum*), talks about 105 ducats issued by Vladislav II, among which fifteen were fragmentarily preserved and worn out. Thus, we are left with 90 well preserved items that can be identified with certainty (Costin 2006–2007, 318, footnote 30). I wonder if these are the same items mentioned by Aurel Vilcu and Steluța Gramaticu, or others. As previously mentioned, it seems that a significant lot consisting of ca. 50 ducats issued by the same ruler were part of an important hoard discovered relatively recently in the village of Stizhok in Ukraine (Petrov, Dergacova 2012, 147; Petrov, Dergačeva 2012, 126). The question that comes to mind is *why so few coins issued by Vladislav II have been published if so many of them exist?* Mr. Bogdan Costin has informed me that specialists intend to publish the coins attributed to Vladislav II preserved in the collection of the National History Museum of Romania.

- ⁷ Petrov, Dergačeva 2012, 129, no. 1.
- ⁸ Petrov, Dergačeva 2012, 151; Petrov, Dergačeva 2012, 129, no. 2; Petrov 2013, 23, fig. 2.
- ⁹ Petrov, Dergačeva 2012, 129, no. 3.
- ¹⁰ Petrov, Dergačeva 2012, 129, no. 4.
- ¹¹ Petrov, Dergačeva 2012, 130, no. 5.
- ¹² Petrov, Dergačeva 2012, 130, no. 6.
- ¹³ Costin 2006–2007, 318, footnote 33.
- ¹⁴ Sturdza 1872, 101, no. 47.
- ¹⁵ Sturdza 1872, 101, no. 48. The two coins published by Dimitrie A. Sturdza were erroneously attributed to Vlad II Dracul.
- ¹⁶ Moisil 1914, 8.
- ¹⁷ Vilcu, Gramaticu 2002, 182, no. 1; 183, fig. 2/1. One must mention that the place of discovery of the ducats in the George Severeanu collection remains unknown.
- ¹⁸ Vilcu, Gramaticu 2002, 182, no. 2; 183, fig. 2/2.
- ¹⁹ Vilcu, Gramaticu 2002, 182, no. 3; 183, fig. 2/3.
- ²⁰ Vilcu, Gramaticu 2002, 183, no. 4, fig. 2/4.
- ²¹ Vilcu, Gramaticu 2002, 183, no. 5, fig. 2/5.
- ²² Nine coins were published, two of them wrongly attributed to Vladislav II (Moisil 1913, 205–206); see also Vilcu, Gramaticu 2002, 182. In the table I included the seven items issued by the above mentioned ruler.
- ²³ Moisil 1913, 205, no. 103.
- ²⁴ Moisil 1913, 205, no. 104.
- ²⁵ Moisil 1913, 206, no. 105.
- ²⁶ Moisil 1913, 206, no. 106.
- ²⁷ Moisil 1913, 206, no. 107.
- ²⁸ Moisil 1913, 206, no. 108.
- ²⁹ The ducat features in Octavian Iliescu's study that focuses on the coins issued by Mircea the Elder – *Monetele lui Mircea cel Bătrân, under the heading Monedele urmașilor lui Mircea cel Bătrân*. This item is not described, thus one does not know its weight, diameter, place of discovery and context. Taking into consideration its iconography, the item is part of the second group of ducats issued by Vladislav II (Iliescu 2008, 356, fig. 78).
- ³⁰ <http://monederomanesti.cimec.ro/gentlewinds/vladislav2/SREDNIOWIECZNA%20MOLDAWIA%20%28127823025%29%20-%20Allegro.jpg>.
- ³¹ <http://transylvanian-numismatics.com/portal/modules/myalbum/photo.php?lid=7797>.
- ³² <http://transylvanian-numismatics.com/portal/modules/myalbum/photo.php?lid=7796>.
- ³³ http://www.vcoins.com/en/stores/tony_fein/60/product/wallachia_ar_ducat_144756_vladislav_ii_fine_family_of_dracula_the_impaler/395362/Default.aspx.
- ³⁴ MBR 1977, 31, no. 256.
- ³⁵ MBR 1977, 31, no. 257.
- ³⁶ MBR 1977, 32, no. 258.
- ³⁷ MBR 1977, 32, no. 259.
- ³⁸ MBR 1977, 32, no. 260.
- ³⁹ MBR 1977, 32, no. 261.
- ⁴⁰ MBR 1977, 32, no. 261a.
- ⁴¹ MBR 1977, 32, no. 262.

The list of coins issued by Vladislav II might be extended at any time, through the publication of new items. It is possible that coins issued by this ruler should be found in various auctions. In the future, in order to create a complete list of this ruler's monetary issues, one will have to add to the present list the items preserved in museum collections and possible "discoveries" made on the internet or at various auctions in Romania and abroad.

Analyzing the above table, one notes that coins issued by Vladislav II are known from both archaeological discoveries and public or private collections. The items under discussion can be grouped thus: 128 ducats and two bani. If one were to add the other ducats from the hoard in Stizhok, reportedly some 50 items, and the 105 ducats mentioned by Octavian Iliescu⁹⁵, then the total number of ducats issued by Vladislav II would be of 283 items. The maximum weight of a ducat is of 0.75 g, while the minimum weight is of 0.40 g; the average weight of ducats on which such data is known is of 0.565 g. The only ban published so far weighs 0.28 g, thus equal to ca. 1/2 of a ducat, on the basis of the quantity of metal it contains. One notes that the ban issued by Vladislav II is much lighter than the one issued later by Vlad II Țepeș that weighs 0.38 g and was issued according to the same system. The weight of the latter is close to that of the lighter ducat issued by Vladislav II (0.40 g). I must also mention my doubts on the exact weight of coins presented on the internet, as long as it is calculated with a single decimal. Therefore, the average weight of the ducats can be higher or lower according to the second digit in the weight of each coin. One notes that the heavier coin (0.75 g) also has the largest diameter (15 × 15.5 mm). The smallest diameter measures 12.8 × 14.2 mm and corresponds to the ducat weighing 0.49 g. The ducat with the smallest weight (0.40 g) measures 13.5 × 14.5 mm in diameter, thus being closer to the average diameter of the ducats issued by Vladislav II. This indicates that there is no strict rule regarding the weight and diameter of the coins, or, if one existed, it was not respected: some coins were thicker, others were thinner, and their diameter also varies.

At that time, as Walachia was under Hungarian influence, coins issued in the Kingdom of Hungary were used. After the conflicts between the Ottoman Empire and Hungary⁹⁶, between 1443 and 1448, after the Ottoman victory against the Hungarians in 1448, the Turks re-conquered Giurgiu

⁹⁵ MBR 1977, 32, no. 262.

⁹⁶ Inalcik 1994, 271–314.

and Vladislav II became a vassal of the empire. This meant for the Ottomans one step further in their attempt to control the Danubian area⁹⁷.

In thus conditions, the Ottoman asper permeated the market of Walachia⁹⁸ in parallel to local coins, but in increasing proportion due to the political and economical supremacy of the Ottoman Empire, but also due to differences in quantity and quality⁹⁹ (Fig. 7). Aspers were the Ottoman coin of the era, weighing in the beginning 1.2 g, but gradually changing both their weigh and silver content, from 900 ‰, typical to the first issues, to 350 ‰ towards the end of the fifteenth century¹⁰⁰.

From the second half of this century, after the end of Vladislav II's rule, Walachia issued a very small quantity of coins¹⁰¹ (Fig. 8), so that the Ottoman asper became predominant in the monetary circulation of the period, being used in all economical fields¹⁰²; its predomination in the Walachian principality lasted until the middle of the sixteenth century, when it lost ground in favor of other Ottoman coins. Regarding this state of facts, Costin Kirițescu stated that in the end of the fifteenth century Ottoman coins were imposed on the monetary circulation in Walachia¹⁰³, but this became obvious due to the fact that the silver was of better quality and they circulated in very large quantity.

As compared to the rules of previous voivodes, the selling of domains developed during this period, but the unit coin was still Ottoman. The price of villages was established in aspers. Fourteen villages were sold between 1451 and 1480, at an approximately equal price¹⁰⁴.

During the fifteenth century, Walachia did not enjoy commercial privileges from the Ottoman Empire. Through the treatise between Hungary and the Ottoman Empire, signed on November 20th 1451, Walachia was placed under the double dependence of the two powers¹⁰⁵. In the middle of the fifteenth century, attempts were made to align the Romanian monetary system to the Ottoman one, and this indicates changes in the country's economical and political orientations.

Over the subsequent paragraphs I will define, through examples, the meaning of intense monetary activity. Therefore, one can talk of such an activity when a voivode issues coins in large quantity and especially in enough quantity to cover the need for coin on the internal market. In thus conditions, smaller quantity of foreign coin would have entered the Walachian principality. As it is known, the main transactions, as those regarding estates, were closed in Ottoman aspers¹⁰⁶.

Internal diplomatic sources provide data on the coins employed in transactions that involved large sums of money¹⁰⁷. Buying-selling contracts preserved and published from medieval document collections, though few in numbers, can provide the basis for some analyses on the types of coins in circulation that were used in transactions. On September 30th 1454, Vladislav II confirmed the village of Negoști, bought with the sum of 680 aspers¹⁰⁸. The selling document of this village is the first document from the rule of Vladislav II to include the price established in Ottoman aspers. In that year the asper became the coin employed in the selling of estates¹⁰⁹ and, one might say, the main coin the commerce of Walachia.

Aspers are also mentioned in another document, dated December 17th 1452, through which Vladislav II addressed the inhabitants of Brașov in relation to some stolen pigs and he promised to pay the 4000 aspers to the damaged parties on condition nothing would transpire from what has happened ("and nothing further should be mentioned about those pigs")¹¹⁰. For the first time, aspers are mentioned in a document dated February 9th 1433, when Alexandru Aldea (1431–1436) endowed

⁹⁷ Inalcik 1960, 411.

⁹⁸ Vilcu 2004, 42.

⁹⁹ Ciulavu 2010, 19.

¹⁰⁰ Murgescu 1996, 74–78; Ciulavu 2010, 19–20.

¹⁰¹ Iliescu 1970, 22; Costin 2008, 427–445.

¹⁰² The ascension of aspers in the monetary circulation in Walachia took place between 1456 and 1473 and continued during the rule of voivodes Basarab III Laiotă and Basarab the Young, while during the rule of Vlad the Monk, „coin issued, especially aspers, are increasingly numerous, reflecting a more intense penetration of Ottoman issues” (Vilcu, Gramaticu 2002, 184).

¹⁰³ Kirițescu 1964, 93.

¹⁰⁴ Mioc 1980, 319; Iliescu 1995, 7–30.

¹⁰⁵ Rizescu 2003, 299.

¹⁰⁶ On the penetration and domination of aspers in Walachia, see Condurachi 1943, 63–70.

¹⁰⁷ DRH, B, I, 195–196, doc. 112.

¹⁰⁸ DRH, B, I, 132, doc. 112.

¹⁰⁹ Kirițescu 1964, 93.

¹¹⁰ DRH, D, I, 431–432, doc. 315.

the Zograf Monastery in Mount Athos with an annual “obroc” (donation) of 3000 aspers¹¹¹. It is known that the important transactions were closed in aspers, thus I believe such coins were obtained in the making of donations since it is hard to believe that at that time a large quantity of aspers was in the monetary circulation in Walachia.

Regarding the significant quantity of foreign coins in the commerce of Walachia, Bogdan Costin states that “it surpasses by far the entire stock of local cash”¹¹². The question that comes to mind is whether, in such conditions, one can still talk of intense monetary activity during the rule of Vladislav II. Besides the fact that at that time Walachia was politically and economically dependent on the Ottoman Empire and the Kingdom of Hungary, and could not issue coin in large quantity since it did not have the necessary primary material, as silver was most probably bought from Transylvania. I believe that an intense monetary activity, in the case of Walachia, can be proved first of all for the reign of Vladislav I¹¹³ (1364–1377), Radu I¹¹⁴ (1377–1383) and Mircea the Elder¹¹⁵ (1386–1418), when ducats and bani were issued in several variants and in large quantities. The first ruler issued three types of coins, each grouped in several sub-types (a total of 32 sub-types)¹¹⁶. Radu I issued 42 sub-types¹¹⁷, while Mircea the Elder issued 133 sub-types of ducats and bani¹¹⁸. As previously mentioned, according to the latest discoveries, to which one can add coins in museum collections, 283 ducats (minted in three variants) and two bani were issued by Vladislav II, and this entitles one to state that the Walachian ruler had a rather intense monetary activity.

In order to obtain a more extensive view of the issue, we can also exemplify through the reform in Moldavia, initiated by Petru III Aron¹¹⁹ and continued by Stephen the Great¹²⁰. Besides the coins reformed from the perspective of their metrological parameters, Stephen the Great issued more than 150 types of groats and half-groats. The average weight of Petru Aron’s reformed groats was of 0.61 g, while that of the half-groats coins was of 0.36 g. The silver content was of 534.50 ‰ for the groats and of 725.75 ‰ for the half-groats¹²¹. One notes that the weight of Moldavian coins in this period was almost equal to that of Vladislav II’s ducats and bani. Costin Kirițescu claimed that Petru Aron’s monetary reform, continued by Stephen the Great, was “an attempt to align the Moldavian monetary system to that in use in neighboring Walachia”¹²². Later on, this idea was taken over and perpetuated by Ernest Oberländer-Târnoveanu¹²³.

In an older study¹²⁴, Constantin Moisil also analyzed the new ducats issued by Vladislav II, about which he stated that were made better than the ones before them, but did not manage to re-establish the Walachian coin¹²⁵; the very low number of items known at that time made Moisil talk about a poor monetary activity. Numismatic discoveries are very important for the medieval period, especially since few literary sources are known, so that coins can be extremely significant sources in the understanding of the manner in which economic life developed.

Other authors have stated that Vladislav II was the single Walachian ruler, after 1420, who issued coin in significant quantity¹²⁶. This statement is partially correct, since Radu II Praznaglava and Alexandru Aldea did not issue coin, while Dan II and Vlad Dracul issued very few¹²⁷. Dan II ruled between

¹¹¹ DRH, B, I, 136–137, doc. 74.

¹¹² Costin 2006–2007, 317.

¹¹³ Iliescu 1948–1972, 83–89; Mititelu, Iliescu 1957, 439–440; Iliescu 1985, 209–216.

¹¹⁴ Mititelu, Iliescu 1957, 439–440.

¹¹⁵ Iliescu 1945, 25–27; Mateescu 1960, 279–286; Iliescu 1970, 20–21; Grigoruță 1971, 247–252; Iliescu 1978, 29–31; Iliescu 1984, 85–87; Stângă 1985, 145–151; Știrbu, Stancu 1987, 97–118; Iliescu 1985–1989, 179–188; Iliescu 2008, 41–279; Oberländer-Târnoveanu 2009, 721–781; Nicolae 2010, 69–83; Ciulavu 2012b, 239–242.

¹¹⁶ MBR 1977, 7–12, nos. 1–39.

¹¹⁷ MBR 1977, 12–16, nos. 40–78b.

¹¹⁸ MBR 1977, 18–28, nos. 98–220.

¹¹⁹ For Petru Aron’s monetary reform, see Iliescu 1964, 189; Kirițescu 1964, 92.

¹²⁰ Iliescu 1964, 181–234; Oberländer-Târnoveanu 2003–2005, 293–399; Oberländer-Târnoveanu 2004, 63–85; Pinzar 2006–2007, 321–367.

¹²¹ Oberländer-Târnoveanu 2003–2005, 312.

¹²² Kirițescu 1997, 87.

¹²³ Oberländer-Târnoveanu 2003–2005, 320.

¹²⁴ Moisil 1924–1925, 107–159.

¹²⁵ Moisil 1924–1925, 158.

¹²⁶ Costin 2006–2007, 311.

¹²⁷ Iliescu 1956, 308; Iliescu 1960, 501–505; Iliescu 1980, 111.

1420 and 1431, but his rule was interrupted several times by Radu II Praznaglava, who enjoyed Turkish support. According to the standard catalog of Romanian medieval coins, Dan II issued a single type of ducat¹²⁸, which according to the design of the shield on the reverse can be divided in two categories; the weight of these coins was of 0.255 g, and their diameter measured 13 mm¹²⁹. Vlad II Dracul's rule was marked by his fights for the throne with Alexandru Aldea; thus, the first ruled between 1436 and 1447 with certain interruptions. The monetary issues attributed to this ruler are unepigraphic bani. Their weight varies between 0.17 g and 0.41 g¹³⁰, while in diameter they measure 11 mm.

On the basis of known monetary discoveries and coins in public and private collections, it can be said that Vladislav II issued coins in larger quantity than the other rulers of the fifteenth century. Bogdan Costin states that local coins were issued for the payment of customs taxes¹³¹. Such coins could be obtained from custom points, in exchange for foreign coins. In such a situation, the rate was established by the Walachian ruler who "thus obtained certain gains that justified the issuing of local coin"¹³².

Adina Berciu Drăghicescu also dwells on customs taxes during the rule of Vladislav II¹³³. Commercial activity intensified in the Walachian principality during this period. The new coins issued by Vladislav II, due to the large quantity of silver they contained, were accepted in Balkan commerce¹³⁴, so that Walachian merchants turned more towards the Ottoman Empire¹³⁵.

One of the consequences of Vladislav II's monetary reform and the country's status, that of a state under "double suzerainty", was that the country became integrated into the Balkan economic trends much more intensely than before and that, at the same time, Walachian merchants obtained the right to travel freely through the Ottoman Empire¹³⁶.

I mention the fact that the monetary reform was implemented between 1452 and 1456, and discussions on the topic and on its economical implications during this period remain open. My hypothesis can be strengthened or infirmed by new monetary discoveries or by the publication of items in museum and private collections. In conclusion, we can talk of the Walachian ruler's monetary reform, but we should reject the idea of an intense monetary and economic activity, as have specialists often claimed, and still do.

This can also be explained by the high production cost. A small mint, such as the one in Walachia, could not afford to mint silver coin in large quantity due to the rather steep cost of production; one should take into account the fact that silver was bought from the Kingdom of Hungary, that at some times blocked the export of precious metal to the neighboring countries.

If one were to compare Vladislav II's monetary activity to that of voivodes Vladislav I, Dan I, or Mircea the Elder, it could be said that the first issued coin in small quantities, but that, nevertheless, Walachia reached during his rule a period in which the Walachian mint developed rather a great deal. Despite the fact his rule was rather short, lasting for only nine years, of which he only issued coin for five years, at the present state of research a rather large number of coins issued by this prince are known. I should mention that no hoard is yet known to contain just coins issued by Vladislav II. Nevertheless, he is the ruler with the "richest" monetary activity during fifteenth-century Walachia.

Appendix 1

Known legends on the obverse¹³⁷

1. + Іω ВЛЯДНСЛЯ ВОИД¹³⁸

¹²⁸ MBR 1977, 29, nos. 228–229.

¹²⁹ Iliescu 1983–1985, 259–261.

¹³⁰ MBR 1977, 31, nos. 253–255.

¹³¹ Costin 2006–2007, 318.

¹³² Costin 2006–2007, 318.

¹³³ Berciu Drăghicescu 1979, 129–148.

¹³⁴ Berciu Drăghicescu 1979, 134.

¹³⁵ Condurachi 1943, 63–70.

¹³⁶ Rizescu 2003, 299.

¹³⁷ When one letter was missing from the legend, I considered that legend as a separate variant and I mentioned it as such; this applies also to legends on the reverse of coins.

¹³⁸ Sturdza 1872, 101, nos. 47 and 48.

2. + Iω ВЛАДНСЛА РОНВОДГНЬ¹³⁹
3. + Iω ВЛАДНСЛЯ ВОНВОДГНЬ¹⁴⁰
4. + Iω ВЛЯДНСЛЯ РОНВОДГНЬ¹⁴¹
5. + Iω ВЛЯДІСЛЯ () НВОДГНЬ¹⁴²
6. + Iω ВЛЯДІСЛЯ ВОНВД ()¹⁴³
7. Iω ВЛЯДИСЛЯ ВОИВОД¹⁴⁴
8. + Iω ВЛЯДНСЛЯ ВОНВОДАГНЬ¹⁴⁵
9. + Iω ВЛЯДИСЛЯ ВОИВОДЯГНЬ¹⁴⁶
10. + Iω ВЛЯДНСЛЯ ВОНВОДГНЬ¹⁴⁷
11. + Iω ВЛЯДНСЛЯ ВОНВОДЯГНЬ¹⁴⁸
12. + Iω ВЛЯДНСЛЯ ВОНВОДГНЬ¹⁴⁹
13. + Iω ВЛАДНСЛЯ ВОНВОДГНЬ¹⁵⁰
14. + Iω ВЛЯДНСЛЯ ВОНВДЯГНЬ¹⁵¹
15. + Iω ВЛЯДНСЛЯ ВОНВДГНЬ¹⁵²
16. + Iω ВЛЯДН(?)СЛЯ ВОНВДГНЬ¹⁵³
17. + Iω ВЛЯДНСЛЯ ВОНВД(?)Ь¹⁵⁴
18. + Iω ВЛЯДНСЛЯ ВОИВДГНЬ¹⁵⁵
19. Iω ВЛЯД[...]СЛЯ ВОНВД¹⁵⁶
20. + Iω ВЛЯДНСЛЯ ВОН[...]¹⁵⁷
21. + Iω ВЛЯДНСЛЯ ВОНВД¹⁵⁸
22. + Iω ВЛЯ[...] ВОИВД¹⁵⁹
23. + Iω ВЛАДІСЛЯ ВОІ ()¹⁶⁰
24. + Iω ВЛ[...] ОДІ¹⁶¹

Appendix 2

Known legends on the reverse

1. + Iω ВЛЯДІСЛЯ ВОИВОДГНЬ¹⁶²
2. + Iω ВЛЯДНСЛЯ ВОНВОД¹⁶³

¹³⁹ MBR 1977, 31, no. 256.

¹⁴⁰ Moisil 1938, 111; MBR 1977, 31, no. 257.

¹⁴¹ MBR 1977, 32, no. 258.

¹⁴² The coin is part of the collection of the “Vasile Pârvan” Institute of Archaeology in Bucharest. See also Vilcu, Gramaticu 2002, 183, I.

¹⁴³ MBR 1977, 32, no. 259.

¹⁴⁴ Moisil 1913, 205, no. 102.

¹⁴⁵ MBR 1977, 32, no. 261a.

¹⁴⁶ Vilcu, Gramaticu 2002, 182, no. 1.

¹⁴⁷ Moisil 1913, 206, nos. 105–106 and 108; Moisil 1914, no. 63; Stancu 1996, 170; Vilcu, Gramaticu 2002, 182, nos. 2, 183, nos. 3–5; Petrov, Dergăciova 2012, 151; Petrov, Dergăceva 2012, 130, nos. 6 and 131, fig. 1/6.

¹⁴⁸ Petrov, Dergăceva 2012, 129, nos. 1 and 131, fig. 1/1.

¹⁴⁹ MBR 1977, 32, no. 260.

¹⁵⁰ MBR 1977, 32, no. 261.

¹⁵¹ Moisil 1913, 102–103.

¹⁵² Aurel Vilcu and Șteluța Gramaticu indicate that this legend belongs to coin no. 107 in Moisil 1913 (Vilcu, Gramaticu 2002, 183, V), but it differs from the indicated legend. See legend no. 6 in our appendix; Petrov, Dergăceva 2012, 129, nos. 2 and 131, fig. 1/2.

¹⁵³ Petrov, Dergăceva 2012, 129, nos. 4 and 131, fig. 1/4.

¹⁵⁴ Petrov, Dergăceva 2012, 129, nos. 3 and 131, fig. 1/3.

¹⁵⁵ Petrov, Dergăceva 2012, 130, nos. 5 and 131, fig. 1/5.

¹⁵⁶ Moisil 1913, 205, no. 104.

¹⁵⁷ Moisil 1913, 206, no. 105.

¹⁵⁸ Moisil 1913, 206, no. 107.

¹⁵⁹ Moisil 1913, 206, no. 108.

¹⁶⁰ MBR 1977, 32, no. 262.

¹⁶¹ Costin 2006–2007, 312.

¹⁶² Sturdza 1872, 101, nos. 47–48 and Plate III, Fig. 4–5.

¹⁶³ Moisil 1913, 205, nos. 102–103; Stancu 1996, 170.

3. + Iω ВЛЯДНСЛЯ ВОИВД¹⁶⁴
4. + Iω ВЛЯДНСЛЯ ВОИВД¹⁶⁵
5. + Iω ВЛЯДН – СЛЯ ВОИВД¹⁶⁶
6. + Iω ВЛЯДНСЛЯ ВОИД¹⁶⁷
7. + Iω ВЛЯДИСЛЯ ВОИД¹⁶⁸
8. Iω РЛЯДН – СЛЯ РОИВОД¹⁶⁹
9. + Iω ВЛЯД – НСЛЯ ВОИВД¹⁷⁰
10. + Iω ВЛЯДН – СЛЯ В ()¹⁷¹
11. + Iω ВЛЯДН – () ОИВД¹⁷²
12. + Iω ВЛЯДН – СЛЯ ВОИД ()¹⁷³
13. + Iω ВЛЯДН – СЛЯ ВОД¹⁷⁴
14. + Iω ВЛЯДН – СЛЯ ГОИД¹⁷⁵
15. + Iω ВЛЯДНСЛЯ ДНСЯ В¹⁷⁶
16. + Iω ВЯ□ВД – () ВОД¹⁷⁷
17. + Iω ВЛЯДНСЛЯ ВОД¹⁷⁸
18. Iω В-[?+ЛA] ДСЛ¹⁷⁹

Florin Ciulavu

Institute of Archaeology „Vasile Pârvan” Bucharest
 Bucharest, ROU
 florinciulavu@yahoo.com

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¹⁶⁴ Moisil 1913, 205, nos. 104, 206, nos. 106–108; Moisil 1914, no. 63; Vilcu, Gramaticu 2002, 182–183, nos. 1–3, 5; Petrov, Dergăciova 2012, 151; Petrov, Dergăceva 2012, 129, nos. 1–2 and 131, fig. 1/1–2, 130, nos. 5 and 131, fig. 1/5.

¹⁶⁵ http://www.vcoins.com/en/stores/tony_fein/60/product/wallachia_ar_ducat_144756_vladislav_ii_fine_family_of_dracula_the_impaler/395362/Default.aspx.

¹⁶⁶ Petrov, Dergăceva 2012, 129, nos. 3; 131, fig. 1/3.

¹⁶⁷ Vilcu, Gramaticu 2002, 183, no. 4; a coin with this legend is preserved in the collection of the “Vasile Pârvan” Institute of Archaeology in Bucharest.

¹⁶⁸ Moisil 1938, 111.

¹⁶⁹ MBR 1977, 31, no. 256.

¹⁷⁰ MBR 1977, 31, no. 257.

¹⁷¹ MBR 1977, 32, no. 258.

¹⁷² MBR 1977, 32, no. 259.

¹⁷³ MBR 1977, 32, no. 260.

¹⁷⁴ Petrov, Dergăceva 2012, 129, nos. 4; 131, fig. 1/4.

¹⁷⁵ MBR 1977, 32, no. 261; Petrov, Dergăceva 2012, 130, nos. 6 and 131, fig. 1/6; this type of legend can be a variant of the legend at no. 7 (Appendix 2).

¹⁷⁶ MBR 1977, 32, no. 261a.

¹⁷⁷ MBR 1977, 32, no. 262.

¹⁷⁸ <http://transylvanian-numismatics.com/portal/modules/myalbum/photo.php?lid=7797>.

¹⁷⁹ Costin 2006–2007, 312.

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Fig. 1. Ducat minted by Vladislav II, type A (taken from: <http://monederomanesti.cimec.ro/vladislav2.htm>, Collection of the Numismatics Cabinet of the Romanian Academy Library)



Fig. 2. Ducat minted by Vladislav II, type Ba (taken from: Петров, Дергачева 2012, 194, fig.3/22)



Fig. 3. Ducat minted by Vladislav II, type Bb (taken from: <http://monederomanesti.cimec.ro/gentlewinds/vladislav2/vladislav2.htm>)



Fig. 4. Ducat minted by Vladislav II, missing the crescent moon from the first quarter of the shield on the obverse (taken from: Petrov, Dergačeva 2012, 131, fig. 1/6)



Fig. 5. Ducat minted by Vladislav II, type C (taken from: Costin 2006–2007, fig. 1)



Fig. 6. Ban from the time of Vladislav II (taken from: Costin 2006–2007, fig. 3)



Fig. 7. Asper issued by Mehmed II (taken from: <http://www.forumancientcoins.com/gallery/displayimage.php?album=search&cat=0&pos=4>)



Fig. 8. Ducat issued by Vlad III Țepeș (taken from: Costin 2008, 445, fig. 5)

A Monetary Hoard Discovered in the Settlement of Cristur (Bihor County). Aspects on the Monetary Circulation of Thalers in Crișana during the Second Half of the Sixteenth Century*

Corina Toma

Abstract: In 1973 a hoard consisting of 68 coins, found near Cristur/Apátkeresztúr (Bihor County), was inventoried in the registers of the museum in Oradea. The majority of these coins are of the three-groats type issued in the Polish Kingdom (34 items), the Great Duchy of Lithuania (6 items), Transylvania (3 items) and the city of Riga (10 items). The rest of the hoard consists of large coins of great value – thalers – minted in Central and Western Europe (the German and Austrian lands, the Spanish Netherlands, and the United Provinces of the Netherlands). The earliest date of the find is set by a Saxon thaler (Johann Friedrich and Moritz) minted in 1547, while the closing date is 1600 (a Polish three-groats).

Keywords: Partium, hoard, coins, 16th century, thalers, three-groats.

The numismatics collection of the museum in Oradea includes a monetary hoard discovered in the settlement of Cristur (Bihor County), but no supplementary data is available on the find. According to its present structure, the hoard from Cristur belongs to the series of treasures consisting of thalers cast in mints from Western and Central Europe (the German and Austrian lands, the Spanish Netherlands, and the United Provinces of the Netherlands) and three-groats minted according to the Polish monetary standards (the Polish-Lithuanian Commonwealth, Riga, Transylvania); both categories were issued, *grosso modo*, during the second half of the sixteenth century (1547–1600).

Coins catalog

Lower Austria (Niederösterreich)

1. Ferdinand (1526–1564)

Thaler, n. d., Vienna

Av: FERDINAND:D:G:ROM:HUNG:BOHEM:REX·

Rv:INF·HISP·ARCHID·AVST·DUX·BURG·MA·Mo

Markl 1896, 159, Davenport 1977, 8010 var.

Ag; 10; 28.46 (gr.); 40.7 × 40.6 (mm); double minting;

MȚCO, inv. no. 10/4

Bohemia

2. Rudolf (1576–1608)

Thaler, 1594, Prague, Lazar Erker von Schreckenfels (1583–1594)

Ov: RVDOLPHVS·II·D·G·R·I·S·A·G·HV·BO·REX·

Rv:ARCHI·DVX·AVSTRI·DVX·BUR·MA·MO·1594

Donebauer 1889, 1462 var.; Davenport 1977, 8075 var.

Ag; 8; 29.11; 41.3 × 41; MȚCO, inv. no. 10/5

Tyrol

3. Archduke Ferdinand (1564–1595)

Thaler, n. d., Hall

Ov: FERDINAND:D:G:ARCHID:AUSTRIÆ·

Rv:DUX·BURGUNDIE·COMES·TIROLIS

Pohl 1973, 49; Davenport 1977, reverse 8097

Ag; 12; 28.61; 40.4 × 40.7; MȚCO, inv. no. 10/1

4. Archduke Ferdinand (1564–1595)

Thaler, n. d., Hall

Ov: FERDINAND:D:G:ARCHID:AUSTRIÆ·

Rv:DVX·BVRGVNDIE·COMESTIROLIS

Pohl 1973, 60 var.; Davenport 1977, 8097 var.

Ag; 12; 28.54; 40.1 × 40; MȚCO, inv. no. 10/2

5. Archduke Ferdinand (1564–1595)

Thaler, n. d., Hall

Ov: FERDINANDVS:D:G:ARCHIDVX:AVSTRIÆ·

Rv:DVXBVRGVNDIÆ·COMESTIROLIS

Ag; 12; 28.56; 40 × 40.1; MȚCO, inv. no. 10/11

Alsace

6. Archduke Ferdinand (1564–1595)

Thaler, Ensisheim

Ov: FERDINANDVS:D:G:ARCHIDVX:AUSTRIÆ·

Rv: DUX·BU·RG·LAND·ALSA·COM·PHIRT·

* English translation: Ana M. Gruia.

Davenport 1977: obverse 8091, reverse 8088
Ag; 12; 27.99; 40 × 39.4; M_TCO, inv. no. 10/3

Saxony

7. Johann Friedrich von Sachsen (1503–1554) and Moritz von Sachsen (1547–1553)

Thaler, 1547, Buchholz, Sebastian Funcke(T)

Ov: IOHANF-ELE·DUX-SAX·BV-R·MAG·Z

Rv: MAURI·D-VX-SAX·FI·IVS·15-47·BVC_HT

Keilitz 2002, 194

Ag; 8; 29.20; 40.2 × 40.8; M_TCO, inv. no. 10/8

8. Augustus (1553–1586)

Thaler, 1561, Dresden, Hans Biener (HB)

Ov: AVGVSTVS·D·G·DVX·SAXONIE·SA·ROMA·IM

Rv: ARCHIMARS·CHAL·ET·ELEC

Mey 1975, 994

Ag; 8; 28.67; 40.6 × 40.5; M_TCO, inv. no. 10/12

9. Augustus (1553–1586)

Thaler, 1565, Dresden, Hans Biener (HB)

Ov: AVGVSTVS·D·G·DVX·SAXONIE·SA·ROMA·IM

Rv: ARCHIMARS·CHAL·ET·ELEC

Mey 1975, 994

Ag; 3; 28.80; 40.7 × 40.5; M_TCO, inv. no. 10/9

Braunschweig-Wolfenbüttel

10. Julius (1568–1589)

Thaler (*Sterbetal*), 1589, Goslar

Ov: IVLI9DBRELVNOMAANCIC·IC·LXXXIX·P·DEF

Rv: LV·CTV PVBlico, in câmp VIXIT·AN/
LX·MEN·X·DIES·VIII·/1589

Mey 1975, 186

Ag; 12; 29.06; 41.2 × 41.3; M_TCO, inv. no. 10/14

11. Heinrich Julius (1589–1613)

Thaler, 1593, Goslar

Ov: HENR·IVL·D·G·POST·EPS·HAL·E·D·BRVNE·LVN

Rv: HONESTVM·PRO·PATRIA

Mey 1975, 187

Ag; 11; 29.16; 40.1 × 39.9; M_TCO, inv. no. 10/10

Jülich-Kleve-Berg

12. Wilhelm V (1539–1592)

Thaler, n. d., Wessel

Ov: GVILHELMVS·D·G·IN·DEO·SPES·MEA

Rv: DUX·IVL·CLIV·ET·BERG·COM·MAR·RA

Mey 1975, 433

Ag; 12; 28.69; 40.9 × 40.5; M_TCO, inv. no. 10/13

Imperial cities of Deventer, Kampen, Zwolle (Overijssel Province)

13. Charles V (1519–1556)

Union thaler (Ecu, Daalder), 1555, Deventer, Balthasar Wijnckens

Ov: ·MONE·NOVA·TRIVM·CIVITA·IMPERIALIVM·

Rv: 3WOLLENSIS·DAVENTRIENSIS·CAMPENSIS·

Delmonte 1967, 673

Ag; 2; 28.49; 40.5 × 41.1; M_TCO, inv. no. 10/6

United Provinces – West-Friesland

14. Thaler (Westfrisian Rijksdaalder), 1587

Ov: DEVS·FOTRITVDO·ET·SPES·NOSTRA

Rv: ·MONE·NO·ARG·DOMI·WESTFRISLÆ

Catalogus 1981, p. 16–17, Delmonte 1967, 925;

Ag; 12; 28.91; 40.2 × 40.3; M_TCO, inv. no. 10/7

Transylvania

15. Sigismund Báthory (1581–1597, 1598–1599, 1601–1602)

Three-groats

Ov: SIG·D·G·TRAN·MOL·WAL·S·R·I·P·

Rv: *I·I·I*·/·15·--96·/GRO·-ARG·/TRIP·PRIN·/
TRANSYL·/VANI·/·**

Buzdugan *et alii* 1977, 555; Resch 1901, 214

Ag; 12; 2.47; 20.4; M_TCO, inv. no. 10/66

16. Sigismund Báthory (1581–1597, 1598–1599, 1601–1602)

Three-groats

Ov: SIG·D·G·TRAN·MOL·WAL·S·R·I·P·

Rv: *I·I·I*·/·1·5·--9·7·/GRO·-ARG·/TRIP·PRIN·/
TRANSYL·/VANLÆ·/·**

Buzdugan *et alii* 1977, 580, Resch 1901, 236

Ag; 12; 2.46; 20.5 × 20.8; M_TCO, inv. no. 10/67

17. Sigismund Báthory (1581–1597, 1598–1599, 1601–1602)

Three-groats

Ov: SIG·D·G·TRAN·MOL·WAL·S·R·I·P·

Rv: *I·I·I*·/·1·5·--9·7·/GRO·-ARG·/TRIP·PRIN·/
TRANSYL·/VANLÆ·/·**

Buzdugan *et alii* 1977, 580, Resch 1901, 236

Ag; 12; 2.22; 21 × 21.2; M_TCO, inv. no. 10/68

Poland

18. *István* Báthory (1576–1586)

Three-groats

Ov: ·STEPHAN·D·G·REX·POL·M·D·L·

Rv: III·/GROS·ARG·TRIP·REG·/POLONLÆ·/15-82

Hutten-Czapski 1957, 684, Gumowski 1960, 704

Ag; 9; 2.30; 20.8 × 20.6; M_TCO, inv. no. 10/15

19. Sigismund III (1587–1632)

Three-groats

Ov: SIG·III·D·G·REX·PO·M·D·L·

Rv: ·III·/GROS·ARG·TRIP·REG·/POLONLÆ·/✠--90·

Hutten-Czapski 1957, 816, Gumowski 1960, 994

Ag; 4; 2.18; 20.4 × 20.8; M_TCO, inv. no. 10/16

20. Sigismund III (1587–1632)

Three-groats

Ov: SIG·3·D·G·REX·PO·M·D·L·

Rv: ·III·/GROS·ARG·TRIP·REG·/POLONLÆ·/✠--91·

Hutten-Czapski 1957, 837, Gumowski 1960, 998

Ag; 2; 2.32; 20.5; M_TCO, inv. no. 10/18

21. Sigismund III (1587–1632)
Three-groats
Ov: SIGI·3·DG·REX·PO·M·D·L·
Rv: ·III·/·GROS·ARG·/·TRIP·REG·/POLONIAE/·X·-92·
Hutten-Czapski 1957 -, Gumowski 1960, 1003 var.
Ag; 11; 2.30; 20; M_TCO, inv. no. 10/19
22. Sigismund III (1587–1632)
Three-groats
Ov: SIGI·3·DG·REX·PO·M·D·L·
Rv: ·III·/·GROS·ARG·/·TRIP·REG·/POLONIAE/·93·-X
Hutten-Czapski 1957, 884, Gumowski 1960, 1010
Ag; 12; 2.08; 19.8 × 20.1; M_TCO, inv. no. 10/20
23. Sigismund III (1587–1632)
Three-groats
Ov: SIGI·3·DG·REX·PO·M·D·L·
Rv: ·III·/·GROS·ARG·/·TRIP·REG·/POLONIAE/·93·-X
Hutten-Czapski 1957, 884, Gumowski 1960, 1010
Ag; 7; 2.65; 19.9; M_TCO, inv. no. 10/21
24. Sigismund III (1587–1632)
Three-groats
Ov: SIGIII DGREXPOLMDLIT+
Rv: III/GROS♦ARG/TRIP♦REG/POLONIAE/15–91
Hutten-Czapski 1957, 834, Gumowski 1960, 996
Ag; 1; 2.24; 21.2; M_TCO, inv. no. 10/17
25. Sigismund III (1587–1632)
Three-groats
Ov: SIG·III·DG·REX·POLON·M·DL·
Rv: *III*/GROS*ARG/·T·R·POLON/·IÆ–93
Hutten-Czapski 1957, 887, Gumowski 1960, 1006
Ag; 12; 2.33; 20.3; M_TCO, inv. no. 10/22
26. Sigismund III (1587–1632)
Three-groats
Ov: SIGIIIDGREXPOLONIMDL
Rv: ·III·/GROS·ARGT/RI·RE·/POLON/IÆ–94
Hutten-Czapski 1957, 918 var., Gumowski 1960, 1015
Ag; 12; 2.08; 19.8 × 20.1; M_TCO, inv. no. 10/23
27. Sigismund III (1587–1632)
Three-groats
Ov: SIG·III·DGR·-(siglă indescifrabilă)POLON·M·D·L·
Rv: III·/GROSARG/TRRPOLO/NI–94/I-F·
Hutten-Czapski 1957, 910 var., Gumowski 1960, 1017
Ag; 5; 2.43; 19.8; M_TCO, inv. no. 10/24
28. Sigismund III (1587–1632)
Three-groats
Ov: SIGIIIDGREXPOLMDL
Rv: III·/GROS·ARG/TRIP·RE·/POLONIAE/9·5·-V-I/.../·I-F
Hutten-Czapski 1957, 937 var., Gumowski 1960, 1024
Ag; 2; 2.36; 20.1 × 20.6; M_TCO, inv. no. 10/25
29. Sigismund III (1587–1632)
Three-groats
Ov: SIG·III·DG·R·POLON·I·M·D·L·
Rv: ·III·/GROS·ARG/TR·R·POLO/NI–95/·I-F·
Hutten-Czapski 1957, 938 var., Gumowski 1960, 1022?
Ag; 10; 2.37; 20.1 × 20; M_TCO, inv. no. 10/26
30. Sigismund III (1587–1632)
Three-groats
Ov: SIGI3DGREXPOMDL×95
Rv: III/GROS·ARG/TRIP·REG·/POLONIA
Hutten-Czapski 1957, 942 var., Gumowski 1960, 1029
Ag; 2; 2.36; 20.3 × 19.9; M_TCO, inv. no. 10/27
31. Sigismund III (1587–1632)
Three-groats
Ov: ·SIG3DG·REX·POL·M·D·L·
Rv: ·III·/GROS·ARG/TRIP·REG/POLONIAE/·I-F/9–5
Hutten-Czapski 1957, 955var., Gumowski 1960, 1034
Ag; 2; 2.22 × 21.1; 19.8 × 20.1; M_TCO, inv. no. 10/28
32. Sigismund III (1587–1632)
Three-groats
Ov: SIG·3·D·G·REX·POL·M·D·L·
Rv: III/GROS·ARG/TRIPREG/POLONI/I-F/–96
Hutten-Czapski 1957, 981 var., Gumowski 1960, 1052
Ag; 10; 2.38; 20.2 × 19.7; M_TCO, inv. no. 10/29
33. Sigismund III (1587–1632)
Three-groats
Ov: SIGIIIDGR·POLONIMDL
Rv: III·/GROS·ARG/TR·R·POLO/NI–96·/·I-F·
Hutten-Czapski 1957, 974, Gumowski 1960, 1035
Ag; 12; 2.38; 20.4 × 19.8; M_TCO, inv. no. 10/30
34. Sigismund III (1587–1632)
Three-groats
Ov: SIGIIIDGR·POLONIMDL
Rv: ·III·/GROS·ARG/TR·R·POLO/·NI–96·/·I-F
Hutten-Czapski 1957, 975, Gumowski 1960, 1035
Ag; 12; 2.35; 21.1 × 20.1; M_TCO, inv. no. 10/31
35. Sigismund III (1587–1632)
Three-groats
Ov: SIGIIIDGR·POLON·M·D·L·
Rv: ·III·/GROS·ARG/TR·R·POLO/NI–96·/·I-F·
Hutten-Czapski 1957, var 975, Gumowski 1960, 1035
Ag; 11; 2.35; 20.6 × 21.3; M_TCO, inv. no. 10/32
36. Sigismund III (1587–1632)
Three-groats
Ov: SIG3DG·REXPOMDL
Rv: III/GROSARGE/TRIPR/POLONIE/97/·I-F
Hutten-Czapski 1957, 1022 var., Gumowski 1960, 1054
Ag; 6; 2.60; 20.7 × 21.1; M_TCO, inv. no. 10/33
37. Sigismund III (1587–1632)
Three-groats

Ov: SIGIIIDGR.....POLONMDL

Rv: ·III·/GROS·ARG/TR·R·POLO·/·NI·-97/·I-F·

Hutten-Czapski 1957, 1017 var., Gumowski 1960, 1054

Ag; 5; 2.40; 20 × 20.6; MȚCO, inv. no. 10/34

38. Sigismund II (1587–1632)

Three-groats

Ov: SIGIIIDGR.....POLONIMDL

Rv: ·III·/GROS·ARG/TR·R·POLO·/·NI·-97

Hutten-Czapski 1957, 1014, Gumowski 1960, 1054

Ag; 6; 2.30; 19.6 × 20.5; MȚCO, inv. no. 10/35

39. Sigismund III (1587–1632)

Three-groats

Ov: SIGIII·D·G·-oREX·PO·M·D·L

Rv: oIIIo/GROS·ARG/TRI·R·PO·97/I·FoS·C/H·R

Hutten-Czapski 1957, 1046, Gumowski 1960, 1060

Ag; 12; 2.52; 19.8 × 19.7; MȚCO, inv. no. 10/36

40. Sigismund III (1587–1632)

Three-groats

Ov: SIGIIIDGREXPOMDL

Rv: ·III·/GROSARG/TRIP·REG:/POLONIÆ/I·F
H·R/9-7

Hutten-Czapski 1957, 1036; Gumowski 1960, 1059
(legend on three rows)

Ag; 9; 2.08; 20.8 × 20.6; MȚCO, inv. no. 10/37

41. Sigismund III (1587–1632)

Three-groats

Ov: SIGIIIDGR---POLONMDL·

Rv: ·III·/GROS·ARG/TR·R·POLO/·NI·-98·/·I-F·

Hutten-Czapski 1957, 1070; Gumowski 1960, 1076

Ag; 10; 2.42; 20.1 × 20.2; MȚCO, inv. no. 10/38

42. Sigismund III (1587–1632)

Three-groats

Av: ·SIGIIIDGR---POLONIMDL·

Rv: III·/GROS·ARG/TR·R·POLO/NI·-98·/·I-F·

Hutten-Czapski 1957, 1069; Gumowski 1960, 1076

Ag; 5; 2.15; 19.6 × 19.7; MȚCO, inv. no. 10/39

43. Sigismund III (1587–1632)

Three-groats

Ov: SIGIIIDGR-POLONMDL·

Rv: ·III·/GROS·ARG/TR·R·POLO/NI·-98·/·I-F·

Hutten-Czapski 1957, 1068; Gumowski 1960, 1076

Ag; 3; 2.23; 19.7 × 20.8; MȚCO, inv. no. 10/40

44. Sigismund III (1587–1632)

Three-groats

Ov: SIGIIIDG-REXPMDL

Rv: III/GROS·ARG/TRIPREG/POLONI/1598

Hutten-Czapski 1957, 1082 (ov.) and 1080 (rv.);
Gumowski 1960, 1092

Ag; 5; 2.36; 20 × 20.1; MȚCO, inv. no. 10/41

45. Sigismund III (1587–1632)

Three-groats

Ov: SIG·III·D·G·REX·PO·M·D·L·

Rv: III·/GROS·ARG/·TRIP·R·PO/·98-B·

Hutten-Czapski 1957, 1092; Gumowski 1960, 1083

Ag; 8; 2.11; 20.4 × 19.6; MȚCO, inv. no. 10/42

46. Sigismund III (1587–1632)

Three-groats

Ov: ·SIG·3·DG·REX·PO·M·D·L·

Rv: ·III·/GROS·ARG/TRI·R·PO/·F·-99·

Hutten-Czapski 1957, 1117; Gumowski 1960, 1095

Fraustadt

Ag; 5; 2.76; 19.8 × 20.4; MȚCO, inv. no. 10/43

47. Sigismund III (1587–1632)

Three-groats

Ov: SIGIIIDG--REX·PO·M·DL·

Rv: III·/GROS·ARG/TRI·R·PO/·F·-99

Hutten-Czapski 1957, 1118; Gumowski 1960, 1095

Ag; 4; 2.17; 21 × 20.8; MȚCO, inv. no. 10/44

48. Sigismund III (1587–1632)

Three-groats

Ov: SIGIIIDGR---POLONMDL

Rv: III·/GROS·ARG/·TR·R·POLO·/·NI·/-99/·I·-F

Hutten-Czapski 1957, 1112 var.; Gumowski 1960, 1093

Ag; 4; 2.34; 20.2 × 20.3; MȚCO, inv. no. 10/45

49. Sigismund III (1587–1632)

Three-groats

Ov: SIGIII·D·-G·REX·PO·M·D·L·

Rv: III·/GROS·ARG/TRIP·R·PO/·P·-99·

Hutten-Czapski 1957, 1125; Gumowski 1960, 1094

Ag; 2; 2.16; 20.3 × 20.1; MȚCO, inv. no. 10/46

50. Sigismund III (1587–1632)

Three-groats

Ov: ·SIG·III·D·-G·REX·P·M·D·L·

Rv: ·III·/GROS·ARG/·III·RE·PO·L·/·I-F·/16-00

Hutten-Czapski 1957, 1143; Gumowski 1960, 1100

Ag; 3; 2.02; 19.8 × 19.9; MȚCO, inv. no. 10/47

51. Sigismund III (1587–1632)

Dreipölker, 1624

Ov: SIGIS3DG (3)REX·PMDL

Rv: MONE·NO·REG·POLO

Gumowski 1960, 974

Ag; 8; 0.97; 19.3 × 19.5; MȚCO, inv. no. 10/48

Lithuania

52. Sigismund II August (1547–1572)

Polish groat

Ov: SIGIS¹·AVG(...), in e × ergue POLO²·MAG·DVX·L·

Rv: MONETA³·MAG(...)CA⁴·LIT⁵·⁶, in field 15–67

Hutten-Czapski 1957, 556; Gumowski 1960, 610

Ag; 7; 1.54; 22.2 × 22; MȚCO, inv. no. 10/49

53. István Báthory (1576–1586)

Three-groats

Ov: STEP·D·G·REX·PO·M·D·L·

Rv: III/15–86/GROS·ARG/TRIP·M·D/✠LIT✠

Hutten-Czapski1957, 767; Gumowski 1960, 764

Ag; 2; 2.29; 19 × 19.3; MTCO, inv. no. 10/50

54. István Báthory (1576–1586)

Three-groats

Ov: STEP·D·G·REX·PO·M·D·L·

Rv: III/15–86/GROS·ARG/TRIP·M·D/✠LIT✠

Hutten-Czapski1957, 767; Gumowski 1960, 764

Ag; 10; 2.40; 19.9 × 19.4; MTCO, inv. no. 10/51

55. Sigismund III (1587–1632)

Three-groats

Ov: SIG·III·D·G·REX·PO·M·D·L·

Rv: III/15–92/GROS·ARG/TRIPMDL/✠↓✠

Hutten-Czapski1957, 875; Gumowski 1960, 1333

Ag; 2; 2.35; 20.5 × 20.9; MTCO, inv. no. 10/52

56. Sigismund III (1587–1632)

Three-groats

Ov: SIG·III·D·G·REX·PO·M·D·L·

Rv: *III*/GROS·ARG/TRIP·M·D·L/15↓95

Hutten-Czapski1957, 962; Gumowski 1960, 1336

Ag; 5; 2.44; 21.1; MTCO, inv. no. 10/53

57. Sigismund III (1587–1632)

Three-groats

Ov: SIG·III·D·G·REX·PO·M·D·L·

Rv: III·/GROS·ARG/TRIP·M·D·L/15↓95

Hutten-Czapski1957, 963; Gumowski 1960, 1336

Ag; 9; 2.08; 21.7; MTCO, inv. no. 10/54

58. Sigismund III (1587–1632)

Three-groats

Ov: SIG·III·D·G·REX·PO·M·D·L·

Rv: III·/GROS·ARG/TRIP·M·D·L/15↓95

Hutten-Czapski1957, 963; Gumowski 1960, 1336

Ag; 11; 2.39; 21.2 × 21; MTCO, inv. no. 10/55

Riga

59. István Báthory (1576–1586)

Three-groats

Ov: ·STEPoD^oG·REXoPO^oD^oL·

Rv: *III*/15–83·/GR·OS/ARG·TRIP/CIVI·RI/GEN·

Hutten-Czapski 1957, 712 var.; Gumowski 1960, 813

Ag; 9; 2.29; 20.4; MTCO, inv. no. 10/56

60. István Báthory (1576–1586)

Three-groats

Ov: STE♦DG♦REX♦P♦M♦D♦L

Rv: ✠III✠/15–86/GR·OS/ARG♦TRIP/CIVI♦RI♦/+GE+

Hutten-Czapski 1957–; Gumowski 1960, 814

Ag; 3; 1.77; 19.9 × 19.8; MTCO, inv. no. 10/57

61. Sigismund III (1587–1632)

Three-groats

Ov: SIG×III×D·G·REX×PO×D×LI

Rv: ×15–92×/GR·OS/ARG×TRIP/CIVI×RI/GE✠

Hutten-Czapski1957, 880; Gumowski 1960, 1451

Ag; 3; 2.28; 21.8 × 21.7; MTCO, inv. no. 10/58

62. Sigismund III (1587–1632)

Three-groats

Ov: SIG·III·D·G·REX·PO·D·LIV

Rv: ×15–93×/GR·OS/ARG×TRIP/CIVI×RI/GE✠

Hutten-Czapski1957, 899; Gumowski 1960, 1452

Ag; 3; 2.35; 21.4 × 21.7; MTCO, inv. no. 10/59

63. Sigismund III (1587–1632)

Three-groats

Ov: SIG×III×D×G×REX×PO×D×LIV:

Rv: ×III×/15–93/GR·OS/ARG×TRIP/CIVI×RI/×GE✠

Hutten-Czapski1957, 898; Gumowski 1960, 1452

Ag; 3; 2.07; 21.2; MTCO, inv. no. 10/60

64. Sigismund III (1587–1632)

Three-groats

Ov: SIG·III·D·G×REX×PO×D·LI

Rv: ×III×/15–94/GR·OS/ARG·TRIP/CIVI×RI·/GE✠

Hutten-Czapski1957, 932; Gumowski 1960, 1453

Ag; 3; 2.38; 21.7 × 22; MTCO, inv. no. 10/61

65. Sigismund III (1587–1632)

Three-groats

Ov: SIG×III×D×G×REX×PO×D×LI

Rv: ×III×/15–94/GR·OS/ARG×TRIP/CIVI×RI/×GE✠

Hutten-Czapski1957, 931; Gumowski 1960, 1453

Ag; 4; 2.12; 21.5 × 21.6; MTCO, inv. no. 10/62

66. Sigismund III (1587–1632)

Three-groats

Ov: SIG×III×D×G×REX×PO×D×LI

Rv: ×III×/15–94/GR·OS/ARG×TRIP/CIVI×RI/×GE✠

Hutten-Czapski1957, 931; Gumowski 1960, 1453

Ag; 3; 2.36; 21.8 × 21.7; MTCO, inv. no. 10/63

67. Sigismund III (1587–1632)

Three-groats

Ov: SIG×III×D·G×REX×PO×D×LI·

Rv: ×III×/15–95/GR·OS/ARG×TRIP/CIVI×RI/×GE✠

Hutten-Czapski1957, 967; Gumowski 1960, 1454

Ag; 3; 2.46; 21.7 × 21.5; MTCO, inv. no. 10/64

68. Sigismund III (1587–1632)

Three-groats

Ov: SIG×III·D·G×REX×PO×D×LI

Rv: ×III×/15–97/GR·OS/ARG×TRIP/CIVI×RI/×GE✠

Hutten-Czapski1957, 1065; Gumowski 1960, 1454

Ag; 3; 2.18; 21.3 × 21; MTCO, inv. no. 10/65

Data on the coins included in the hoard

The hoard discovered in Cristur is among the few in Transylvania that were buried in the end of the sixteenth century and that included thalers, all but one minted in the imperial mints (*Münzkreise*)¹.

A first category consists of imperial thalers minted in the hereditary territories of the Habsburgs (Lower Austria and Tyrol), included in the monetary circle of Austria. One of the thalers was issued by *Lower Austria* in the name of Emperor Ferdinand I (1526–1564), in the mint of Vienna (no. 1). The thaler lacks a millesim, but Ferdinand's titulature is an indication for the dating of the emission to the period between 1531 and 1558².

The other three Austrian thalers are emissions of Archduke Ferdinand, son of Emperor Ferdinand I, owner of the county of *Tyrol* since 1566. Tyrolean thalers (nos. 3, 4, 5) were minted without a millesim in the mints of Hall³, inaugurated by Archduke Sigismund in 1450, after the discovery of a silver mine in Schwatz. These coins display a unitary iconography⁴, with slight variations of the legend that renders the archduke's titulature.

In 1564 Archduke Ferdinand also inherited the landgraviate of *Alsace* together with the county of Pfirdt (Ferrette), possessions of the Habsburg Family that were included in the monetary circle of the Upper Rhine. The early years of the Alsatian mint are connected to Archduke Ferdinand's monetary emissions. He issued thalers in the mint of Ensisheim (no. 6)⁵, inaugurated in 1584.

One thaler issued in 1594 in the name of Rudolf II in the mint of Prague⁶ can be included in the monetary circle of Bohemia created by Ferdinand I (no. 2). Unlike the classical iconography of Bohemian thalers, established under the reign of Ferdinand I, the thalers issued in Prague between 1587 and 1597 and between 1599 and 1600 display on the obverse the depiction of the emperor standing, holding the scepter and the orb, flanked by shields with crests consisting of the crown of the kingdoms of Bohemia and Hungary.

A distinct category includes thalers emitted by German princes according to different monetary standards, typical to each region; most of the thalers in the hoard under discussion were minted in the Saxon monetary circles (Upper and Lower Saxony).

After the division of 1485, the monetary history of the *Duchy of Upper Saxony* became more complicated since Friedrich II's heirs Ernest (1464–1486) and Albert (1464–1500) divided between them both the duchy's territory and the mines and the right to mint coin⁷. The electoral function passed on to Ernest's line of the House of Wettin that would preserve it until 1547, when Johann Friedrich gave up the title of elector in favor of his cousin on the Albertian line, Duke Moritz⁸. Initially, Duke Moritz

¹ Engel, Serrure 1897, 119, 118–365. The area of the ten monetary regions, that reunited political entities that enjoyed the *jus monetae*, was fixed even since the time of Wenceslas and Albert II; they were rigorously set by Emperor Maximilian I (1486, 1493, 1508–1519): The Lower Rhine, The Upper Rhine, Westphalia, Lower Saxony, Upper Saxony, Franconia, Bavaria, Swabia, Burgundy, and Austria. Each of these regions had particular traits as for the monetary types and minting standards and the official monetary correspondences were established through imperial ordinances with little relevance for Transylvania.

² Ferdinand I successively gained the titles of Archduke of Austria (1521), King of Hungary and Bohemia (1527), Roman king (1531) and emperor (1556). The title of *Infans Hispaniarum* is also his, as son of King Philip I and Queen Johanna of Spain, while the title of *Dux Burgundiae* is attributed to the archdukes of Austria after Maximilian I's marriage to Mary, the daughter of the king of Burgundy, Charles the Bold (1477). Engel, Serrure 1897, 354, 359, 366, 371, 488.

³ Pohl 1973, 15, 60–61. The frequent inclusion of Tyrolean thalers in hoards is due to the intense activity of the mint in Hall; production gained new impetus after the introduction of the hydraulic machine drum in 1567.

⁴ For a description of both obverse and reverse see Bratu, Vestale 1971, 38.

⁵ Similar to the Tyrolean thalers, the Alsatian thaler displays the same iconography on the obverse, but the main differences can be found on the reverse that includes the coats of arms of the counties of Pfirdt and of Alsace (Rentzmann 1876, Taf. 11/11, 30/212).

⁶ Ferdinand I kept the mint in Prague active; he only issued gold coins there. During the reign of Maximilian II, the mint was moved from Prague to Budweis due to an outbreak of plague. It was reopened under the reign of Emperor Rudolf II (Engel, Serrure 1897, 367).

⁷ Krug 1974, 91.

⁸ In 1531 Johann Friedrich, together with Philip, landgrave of Hesse, The Schmalkalden League (Thuringia), in the attempt to defend his political and religious interests against Emperor Charles V. In April 1547, after the battle of Mühlberg, the emperor captured the two princes. In order to escape the death penalty, Johann Friedrich accepted, in May 1547, according to the Treaty of Wittenberg, to renounce his title of elector that was taken over, together with some of the Saxon territories of the Ernestine Branch, by Duke Moritz of Saxony, leader of the Albertine Branch of the House of Wettin (since 1541), ally of the imperial policy. TRE 1994, 303–305.

joined the league of the Protestant princes Johann Friedrich and Philip, Landgrave of Hesse, issuing together with them, starting with 1542, a series of thalers in the mints of Annaberg, Freiberg, and Buchholz⁹. The series ended after the 1547 events. The hoard from Cristur includes a thaler issued in 1547 in the mint of Buchholz, marked with the sign *T* of mint-master Sebastian Funcke (no. 7). The legend on the reverse is interrupted by Moritz's coats of arms as Duke of Saxony, Margrave of Meissen, Count Palatine of Saxony, and Landgrave of Thuringia. Starting with 1547, Moritz held the title of Elector of Saxony that his brother Augustus inherited after his death (1553).

At first, the new elector minted coin in the old mints of Freiberg, Annaberg, and Schneeberg, which he gradually closed, under various pretexts, between 1556 and 1570. In fact, the activity of these mints was merged into the new mint opened in 1556 in Dresden, where Augustus appointed Hans Biener (1556–1604) as chief mint-master¹⁰. The latter's initials feature on the reverse of the two thalers preserved in the hoard (nos. 8, 9).

The monetary region of Lower Saxony is represented by thalers issued by the Duchy of *Braunschweig-Wolfenbüttel* that had an intense monetary activity due to the rich silver mines in Harz. From the original emissions, the hoard under discussion preserves a "mortuary" ducat (no. 10), called *Sterbetheraler*¹¹, rarely found in hoards¹², issued in the mint in Goslar by Duke Heinrich Julius (1589–1613) in order to commemorate his father's death (Duke Julius: 1568–1589)¹³; the legend on the reverse and the elements in field announce the public mourning period (LVCTV PVBILICO). One thaler issued by the mint in Goslar in 1593 renders on the obverse the titulature of Duke Heinrich Julius¹⁴ (no. 11); two thalers of this type were also identified in the hoard from Oradea-Dealul Viilor¹⁵.

Other thalers originated in the monetary region of the Lower Rhine and Westphalia, more precisely in one of the mints in the *Jülich-Cleve-Berg Duchies*, a personal union with complicated monetary history. Despite its territorial dimensions¹⁶, this political entity did not have a unified monetary system during the sixteenth century; each of the component territories had its own mints¹⁷ and monetary typologies. The thaler in our hoard, a first of its kind in the already published material¹⁸, was issued by the Duchy of Kleve¹⁹ in the mint from Vessel, in the name of Wilhelm V (no. 12).

A special category is represented by the union thaler (*daalder*) issued in the name of Charles V in 1555 by the cities of *Deventer*, *Kampen*, and *Zwolle* in the province of Overijssel, placed under the monetary jurisdiction of the region of Westphalia (no. 13). The three cities under the authority of the Spanish Crown issued thalers and their sub-divisions between 1534 and 1586 exclusively in the mint of Deventer²⁰.

After having escaped Spanish jurisdiction (1581), the seven provinces of the United Provinces Federation continued to issue coin under their own authority. The first attempts at regulating the activity of their workshops and at establishing the types they used were made in 1586²¹ when the

⁹ Keilitz 2002, 171–185.

¹⁰ Haupt 1978, 120–121.

¹¹ Frey 1917, 33.

¹² Butnariu *et al.* 1994, 40–42, 78; Velter, Știrbu 2002, 285, 296.

¹³ Parkes Weber 1918, 505; Engel, Serrure 1897, 263.

¹⁴ Rentzmann 1978, 74.

¹⁵ Bratu, Vestale 1971, 50–51. The thalers were minted in 1591 and 1592.

¹⁶ The unification of the territories took place after the marriage between Johann III, Duke of Kleve and Mark, with Mary, heiress of the Duchies of Jülich and Berg (united in 1423) and of the County of Ravensberg; the latter units became his after the death of his father-in-law (1511), and the other two territories after the death of his father, Johann II (1521). Engel, Serrure 1897, 227–228.

¹⁷ The thalers were coined in the mints of Jülich (Jülich), Mülheim, Rodenkirchen and, probably, Bielefeld (Berg), Herford (Ravensberg) and Kleve and Wessel (Kleve). Mey 1975, 124.

¹⁸ One thaler, emitted in the name of Wilhelm V, undated, has been noted in the hoard from Dimitrovka (Ukraine). Velter, Știrbu 2002, 285.

¹⁹ The Duchy of Kleve received the right to mint coin even since 1298, while Johann II (1481–1437), Wilhelm V's grandfather, initiated the emission of thalers (Engel, Serrure 1894, 1196–1197).

²⁰ The cities of Deventer, Zwolle, and Kampen decided to mint coin together ever since 1488, right after Emperor Friedrich III granted them this right (Engel, Serrure 1897, 254–255).

²¹ Attempts of regulating the monetary activity of "Netherlandish" workshops were made in 1586, by establishing the obligation of having only one workshop in each province. In the province of West-Friesland, in the absence of private workshops, the chosen solution was a mobile workshop located, successively, in Hoorn, Enkhuisen, and Medemblik, at first for a period of three years, then for seven years, and in the end for then. Engel, Serrure 1897, 88–89.

iconography of the thaler was also established (*écu* or *rijksdaalder*): the staathouder's bust (on the obverse) and the coats of arms of the provinces that have accepted English governing (on the reverse). Despite the official regulations, provincial workshops continued to mint their own monetary types, such as the *Westfrisian Rijksdaalder* issued by the province of *West-Friesland* in 1587 in one of its mobile workshops (no. 14)²².




Beyond the details, the distribution of the thalers in the hoard from Cristur according to years and can be synthetically presented in the table below that also includes coins of small to average value:




	Issuing state		Issuing sovereign		Nominal												Total					
	Transylvania		Sigismund Báthory		3-groats																	
	Poland		István Báthory		3-groats																	
	Lithuania		Sigismund III		3-groats																	
			Sigismund August		groat																	
			István Báthory		3-groats																	
	Riga		István Báthory		3-groats																	
	Austria		Ferdinand		thaler																	
			Rudolf		thaler																	
	Tyrol		Archduke Ferdinand		thaler																	
	Alsace		Archduke Ferdinand		thaler																	
	Oversyssel		Charles V		thaler																	
	West Friesland				thaler																	
	Saxony		Johann Friedrich and Moritz		thaler																	
			Augustus		thaler																	
	Braunschweig-Wolfenbüttel		Julius		thaler																	
			Heinrich Julius		thaler																	
	Jülich-Cleve-Berg		Wilhelm V		thaler																	
1547																	1					
1548–1554																						
1555																	1					
1556–1560																						
1561																	1					
1562–1564																						
1565																	1					
1566																						
1567			1														1					
1582			1														1					
1583					1												1					
1584–1585																						
1586					2		1												3			
1587																	1					
1588																						
1589																	1					
1590			1														1					
1591			2														2					
1592			1		1		1												3			
1593			3				2												6			
1594			2				3		1												6	
1595			4		3		1												8			
1596	3		4														7					
1597			5				1												6			
1598			5														5					
1599			4														4					
1600			1														1					
Total	3	1	32	1	6	10	+1	1	+3	+1	1	1	1	2	1	1	+1	63+5				






Table 1. Distribution of the coins in the hoard from Cristur according to date and issuer


²² Related to the thalers of the *gehelmdede rijksdaalders* type minted in the province of Holland in 1583–1584, the *Westfrisian Rijksdaalder*-type thaler replaces, on the obverse, the bust of Wilhelm of Orania with the depiction of a layman wearing a bonnet, while on the reverse it features the coat of arms of the province of West-Friesland surmounted by a crowned crest and decorated with lambrequins; on the crest one finds again the two lions depicted on the shield. Rentzmann 1876, Taf. 22/102.

From the perspective of their nominal distribution, one notes the three-groats that predominate in the structure of the hoard (77.9%), plus one *Polish groat* issued by Sigismund II Augustus in 1567 in one of the Lithuanian mints (no. 52)²³. The groat in this hoard, minted before the enactment of the monetary union by the sejm of Lublin (in 1569), follows the Polish standards (2.05 g and a fineness of 5½ loţi, with 0.710 g of fine silver), being smaller than the Lithuanian groat (ca. 2.52 g and a fineness of 5½ loţi, but with 0.868 g of fine silver)²⁴. The responsibility of enacting the Polish-Lithuanian monetary unification fell to *István Báthory* (1576–1586), who, in April 1578, through a first ordinance, established that the three-groats should weight 2.42 g and have a fineness of 14 loţi (2.12 g of fine silver); these specifications were reduced through a new ordinance, in January 1580, to 2.37 g and a fineness of 13 ½ loţi (2.05 g of fine silver)²⁵.

The series of Polish three-groats preserved in the hoard starts with a coin issued in 1582 in the name of *István Báthory*, the mark  on the reverse belonging to the new treasurer Johann Dulski (no. 18). The same mark can be found on the three-groats issued in the name of Sigismund III in 1590 (no. 19). Besides the treasurer's mark one can find the mark of Dietrich/Theodor Busch () , tenant of the mint in Posen. Busch illegally opened a mint in the city of Fraustadt, where he employed the same mark used in the mint of Posen, thus one cannot separate his emissions according to workshop. The mark of tenant Busch also features on a three-groats issued in 1591 (no. 20), besides the coat of arms  and the initials of the new treasurer Johannn Firlej (1590).

After Busch's death (1592), the mints were rented by his brother in law, Valentin Jahns. The three-groats issued in 1592 (no. 21) bears a mark  significantly different to that of Busch, which I attribute to the new tenant, Jahns, also taking into consideration the die of the obverse. One can easily distinguish the mark of mint-master Jahns () on the reverse of three-groats coins issued in the subsequent year (nos. 22, 23), due to the adding of certain new elements and its location in the area of the reverse. For year 1595, Jahns's mark is flanked by his initials  (no. 28).


After Jahns's departure (1595), the mints in Posen and Fraustadt were rented and reorganized by Herman Rüdiger, whose mark  features on the reverse of a three-groats issued in 1595, besides the mark of master Andreas Lauffert  and the signs of treasurer Firlej (no. 39). Herman Rüdiger's mark, accompanied by the signs of the new master Johann Dittmar , appears again on a three-groats issued in 1597 (no. 40). As in the case of Busch and Jahns, the identification of coins minted in Posen and Fraustadt remains problematic since they had the same tenant and, in most cases, the same masters. After Jahns left, Herman Rüdiger also took over the mint in Bromberg, opened in 1594 by Stanislaw Cikowski, provisions master of Krakow. The reverse of three-groats coin minted there in 1597 (no. 39) features the coats of arms and the initials of the treasurer, Stanislaw Cikowski  and those of the mint tenant . The difficulty in identifying the coins issued in the three workshops only disappears in 1598, when the initial of the issuing mint was included on the reverse: B for Bromberg (no. 45), F for Fraustadt (nos. 46, 47), P for Posen (no. 49).




A series of three-groats, bearing only the mark of treasurer Johannn Firlej are minted in the mint of Olkusz. In the case of a three-groats emitted in 1591 there is but a single indication () , on the obverse, for attributing it to the mint in Olkusz (no. 24). One knows that starting with 1592 the mint in Olkusz was under Kaspar Rytliers's leadership, but the three-groats issued in 1593 bears no distinctive sign, neither on the obverse nor on the reverse (no. 25). The three-groats issued in 1594 displays on the obverse one monetary mark that M. Gumowski attributes to an unknown mint-master that was active in Olkusz between 1593 and 1594 (no. 26). The three-groats issued in 1594 (no. 27), 1595 (no. 29), 1596 (nos. 33, 34, 35), 1597 (nos. 36, 37, 38), 1598 (nos. 41, 42, 43), 1599 (no. 48), and 1600 (no. 50) can only be hypothetically attributed to the mint in Olkusz, since on the reverse they only display the coat of arms and initials of treasurer Firlej.


²³ Sigismund II Augustus' monetary policy, that aimed at unifying Poland and Lithuania from a monetary perspective, proved unsuccessful; the mint in Krakow was closed, and the Lithuanian mints (Vilnius, Tykocin) and the urban ones (Danzig, Elbing, and Fraustadt) reduced their activity (Gumowski 1960, 37).

²⁴ Gumowski 1960, 206, 207.

²⁵ Information on the Polish monetary system and on the activity of mints and mint-masters is taken from Gumowski 1960, 40, 46–50, 124, 195–197, 208.

The mint in Lublin opened in 1595, under the control of treasurer Firlej. The three-groats coin issued there during the first year of activity has on the reverse the mark of the treasurer and of the mint's first tenant, Daniel Koste  (no. 31). The same mark also features on the three-groats issued in 1596 (no. 32); in that year tenant Koste moved to the mint in Vilna and was replaced in Lublin by Hans Eck. The three-groats coins issued in 1598, lacking monetary marks, were attributed by M. Gumowski to the mint in Lublin (no. 44).

The mint in Vilna followed the new monetary regulations implemented by the treasurer of Lithuania. For the Lithuanian three-groats issued in 1586 in the name of *István* Báthory, one only finds a general mark of the mint in Vilna ; the coins were issued after the death of treasurer Johann Hlebowicz, probably during the period when vice-councilor Leo Sapieha took control over the Lithuanian mint (nos. 39, 40). The Lithuanian mint in Vilna continued to issue three-groats during the reign of Sigismund; the coins from 1592 (no. 55) and 1595 (no. 56–58), displayed on the reverse the mark  of Dimitri Chalecki, treasurer of Lithuania. On the reverse of three-groats issued in 1595, one notes under the treasurer's coat of arms another mark, , presumably belonging to his second in command during the period when Chalecki traveled to Moscow.

In 1581 the city of Riga submitted to *István* Báthory who imposed the introduction of the Polish monetary system in the detriment of the Livonian one. A series of three-groats coins were issued in the town's mint, rented to Herman Wulf and Otto von Meppen, during the reign of *István* Báthory (nos. 59, 60) and Sigismund III (nos. 61–68). The marks cast on the reverse of these coins are rare and stereotypical; they usually feature just the fleur-de-lys , interpreted as either the mark of tenant Wulf, or as the mark of the mint.

Transylvania three-groats were issued by prince Sigismund Báthory, who attempted to cover the increasing need for coin by issuing coins cast according to the Polish system (shillings and three-groats). The three-groats from the hoard in Cristur were issued in 1596 (no. 15) and 1597 (nos. 16, 17), in the mint from Baia Mare, that the Transylvanian prince received after the death of *István* Báthory²⁶. The mint worked for Sigismund Báthory between 1586 and 1598; the prince extended Felician de Herberstein's rent contract until December 1590²⁷, when the mint was rented out to Raimund Herbersteinnek.²⁸

Analysis of the hoard's structure

Hoards that include coins relatively recently introduced on the market – three-groats²⁹ and thalers³⁰ – provide a nuanced image of monetary circulation in the second half of the sixteenth century³¹. There are surprisingly few sixteenth-century Transylvanian hoards to include thalers, at least to the present state of research, and their structure is diverse: hoards consisting of thalers (Caraşova, Richişdorf), hoards in which thalers are associated with coins from the groat system (Oradea, Cristur),

²⁶ In 1585 *István* Báthory received the city and the mint of Baia Mare after a territorial exchange with Emperor Maximilian II who had taken over the mint in 1570 from Báthory's predecessor, John II Sigismund. In 1598, Sigismund lost the city to Emperor Rudolf II (Țabrea 1938, 3, 6).

²⁷ Maximilian II entrusted the mint to Herberstein in 1580 (Țabrea 1938, 4. For data on Herberstein's activity in Transylvania see Veress 1931, 58–65; *Călători* 1971, 186–197).

²⁸ Huszár 1995, 23.

²⁹ The first Transylvanian hoard to include three-groats was found in Hotoan; a three-groats coin minted in 1590 provides the *terminus post quem* for the hiding of the coins, thus indicating the rapid distribution of Polish coins (Chirilă, Némethi 1968, 62, 76), that can be connected to the intensification of the Polish-Transylvanian commercial traffic (Dan 1974, 151–168).

³⁰ Specialists disagree on when the thalers were introduced: A. M. Velter believes that the early thalers entered the actual circulation in the Romanian countries earlier than the end date of the hoards that include them (Velter, Știrbu 2002, 274), while B. Murgescu supports the idea that they only became available during the second half of the sixteenth century (Murgescu 1996, 138, 168). Beyond such hypotheses, thalers feature at the earliest in hoards hidden in/after 1564 in Moldavia, 1565 in Transylvania, 1577 in Banat and 1594 in Walachia (See those hoards in Velter, Știrbu 2002, 283–284; Pap 2002, 120).

³¹ Besides the hoards that include thalers, one also finds a series of hoards consisting of various combinations of Hungarian and Polish coins: (1) Hoards that only include Hungarian coins of little value: Lechința de Mureș, Radna, Zau de Câmpie (Pap 2002, 99, 131, 193). (2) Coins that include Hungarian and Polish coins of little value: Răstolțul Mare, Semlac, Sâniacob, Mănău (Pap 2002, 104, 132, 143, 148). (3) Hoards that include small-value coins and divisions of the thaler: Petrinzel, Moldovenești (Pap 2002, 110, 127).

with Hungarian denarii (Oroi), or with multiples/submultiples of groats and denarii (Sintești, Bod, Slătinița)³².

An initial calculation of the number of thalers in the ten repertoried hoards indicate a slightly higher number than that enounced by Fr. Pap over a decade and a half ago³³, but the restricted lot of hoards renders the result relative; I am aware of the fact that there is as yet no complete image on the role of thalers in monetary circulation and that the only pertinent observation is that the number of hoards that include thalers has increased over the last decade, even if the number of thalers in each hoard varies:

No. crt.	Hoards	Period of accumulation	No. of thalers	%
1	Oroi/Mureș	1514–1565	1	0,02%
2	Carașova/Caraș Severin	1549–1577	18	100%
3	Bod/Brașov	1526–1591	1	1,16%
4	Richșdorf/Sibiu	1549–1591	30	96,7%
5	Apateu/Arad	(1440–1444)–1592	1	0,06%
6	Sintești/Timiș	1527–1592	2	0,99%
7	Slătinița/Bistrița	(1458–1490)–1595	3	0,77%
8	Oradea/Bihor	1536–1598	30	12,39%
9	Cristur/Bihor	1547–1600	14	20,58%
10	Abrud/Alba	1531–1601	2	0,41%
Total no. of thalers			102	

Table 2. List of sixteenth-century hoards from Transylvania, Crișana, and Banat that include thalers

As for the origin of the thalers in the repertoried hoards, one can note their diversity according to the activity of mints and the political and economical context. There are few issuers during the 1530s and 1540s (Saxony, Stolberg-Königstein, the Palatinate), but their number significantly increases during the subsequent decade (Saxony, Austria, Hamburg, Nijmegen, Lüttich, Overijssel); the diversity of issuers seems to decrease until 1580 (Saxony, Thoren, Lübeck), but the origin of thalers becomes once again heterogeneous during the final two decades of the sixteenth century in the context of the Fifteen Years War (Saxony, Austria, Bohemia, Hungary, Transylvania, Geldern, Braunschweig, West-Friesland, Hohenlohe, Halberstadt)³⁴.

	Oroi	Carașova	Apateu	Bod	Richșdorf	Sintești	Slătinița	Oradea	Cristur	Abrud	Total
Tyrol		8				1	1	11	3		24
Saxony	1	2		1	5			3	3		15
Austria					2	1		1	2		6
Geldern			1		3			1			5
Hungary					3		1	1			5
Overijssel					3				1		4
Bohemia		1			2			1			4
Berg or Julich-Kleve-Berg		1						1	1		3
Lübeck					2			1			3
Transylvania					2						2

³² Chirilă, Dănilă 1976, 195–205; Pap 2002, 28, 42, 49, 110, 116, 120, 136.

³³ Pap 1994, 68, footnote 14. At that time, out of a number of 606+x thalers inventoried by Fr. Pap in Transylvanian hoards, just 53+x thalers were dated to the sixteenth century.

³⁴ The restricted lot of published hoards (Oradea, Cristur, Slătinița) included in the analysis and the fact that a number of thalers lack the millesim, thus dated to a wider period, renders the observations relative and hypothetical.

Moravia	2									2
Alsace							1	1		2
Salzburg		1					1			2
Halberstadt							2			2
Lüttich				1			1			2
Nijmegen				1			1			2
Mansfeld		1		1						2
Nürnberg									2	2
Braunschweig Wolfenbüttel								2		2
Braunschweig Lüneburg		1								1
Stolberg-Königstein							1			1
Hamburg							1			1
Thoren							1			1
Hohenlohe							1			1
West-Friesland								1		1
Brabant				1						1
Magdeburg				1						1
Brandenburg		1								1
The Palatinate						1				1
Sweden				1						1
Utrecht				1						1
Neuss				1						1

Table 3. The origin of thalers in sixteenth-century hoards from Transylvania, Crișana and Banat

The table detailing the distribution of thalers according to their issuers indicates that the 202 thalers from the ten inventoried hoards were minted by 32 issuers, some present in two or more hoards, other being unique (37.5%). Recurrent issuers (featuring in at least three hoards: Tyrol, Saxony, Austria, Bohemia, Geldern) represent 9.37% of the total number of issuers and their coins represent 52.9% of the total number of thalers. The clear prevalence of Tyrolese and Saxon thalers is not unique to Transylvanian hoards; their supremacy was also noted in the case of hoards from Walachia³⁵ and Eastern Hungary³⁶. In the given situation, the geographical location of the issuers and their distance to where the hoards were discovered seem not to influence the structure of the hoards; this can be explained through the direction of commercial routes and also the economic³⁷ and political relations between the different regions³⁸.

On the other hand, one does not know to what degree where the owners interested in the origin of the thalers; in a world in which small coins continuously lost in value, people were interested in the quantity of silver in coins and their buying power; the principle was known and applied by the owner of the hoard in Cristur. At a first glance, one can presume that the owner of the coins enjoyed a privileged economic status since he/she managed to accumulate and hide only good coins, excluding small-value coins (half-groats, groats, weisspfennigs and denarii); in fact „it is only rich people who use or keep gold and silver coins, while common people only touch billon or brass money”³⁹. One cannot know how rich was the owner of the hoard since the coins probably did not represent his/her entire fortune⁴⁰, but, by calculating the value of the hoard one can form an idea on the monetary capital available at a certain point to the owner of these coins.

³⁵ Știrbu *et al.* 1991, 165–167; Velter, Știrbu 2002, 275; Murgescu 1996, 170–171.

³⁶ Székely György 1998, 20.

³⁷ Iorga 1925, 195–196. *Westerners from the German parts* were among those traveling to Moldavia for the commerce in oxen; thus, Andrei Papa, who lent money to Petru-Vodă when requested, was “German from the territories of the city of Hamburg”.

³⁸ Pohl 1973, 15, 61. The thalers found after the archduke’s death (1595) were used, as the imperial decision stated, to finance the fights against the Ottomans; this explains the large number of such discoveries made on the territory of Hungary and Transylvania.

³⁹ Braudel 1985, 71.

⁴⁰ Pap1978, 93–98.

During the second half of the sixteenth century, the value of one thaler, indifferent of the issuer⁴¹, constantly increased from 90–95 to 100 denarii, thus reaching the value of the cameralist florin, in order to reach, in the end of the century, in the context of the modified ratio between gold and silver and the de-valorization of the denarii, an exchange value of 100–120 denarii, while one gold florin equaled 160–180 denarii⁴². In order to complete the estimative value of the hoard one must also take into consideration the exchange rate of 10 denarii in the case of three-groat coins⁴³. In theory, the equivalent of the hoard reaches 18.44–19.33 thalers or 10.6–13.8 gold florins (1,933–2,213 denarii).

Returning to the owner of the hoard, though it has been believed that the accumulation of big and middle-value coins was restricted to inhabitants of the cities⁴⁴, the estimated value of the hoard in Cristur nuances the previous observation. By comparison to other hoards from Bihor hidden in the end of the sixteenth century⁴⁵, the hoard in Cristur indicates a relatively small capital but preserved in good-value coins; this makes me exclude the possibility that the owner of the hoard was some merchant placed on the lower ranks of guild hierarchy. One can presume that the small money capital was the result of some commercial transaction, that might have also been concluded by a wealthy peasant⁴⁶, who was able to sell at some point, considering the prices in 1600 on the market of Cluj, 80–90 sheep or one ox and two calves⁴⁷, or who might have been engaged in commercial or crafts activities that allowed him to accumulate this small capital.

Beyond the social and economic status of the hoard's owner, I admit that he/she might have been an individual transiting the area who was forced to hide his small capital due to military activities that took place in the area; in July 1601 the troops of Mihai Viteazul and general Basta were stationed east of Carei (Moftinu Mic), and the Transylvanian troops under the command of generals Sigismund Báthory, István Csáki, and Moise Secuiul, were stationed in Șimleu⁴⁸. As harassment expeditions took place in Moftin⁴⁹ and then the imperial troops moved to Guruslău, the roads in northern Bihor⁵⁰ had become unsafe and thus one can hypothetically explain the hiding of the coins in the close proximity of the road that connected the settlements of Marghita and Săcuieni, more precisely the segment that connected the Oradea-Sătmar road and the "salt road", that came from Porțile Meseșului.

Corina Toma

Țării Crișurilor Museum Oradea
Oradea, ROU
corinatoma00@yahoo.com

⁴¹ It is possible that during the sixteenth century, when there were less thalers on the market and the differences in their weight and quality of contained metal were less rigorously perceived, people believed that the value of the different emissions was identical (Huszár 1975, 49). Differences in the calculation of thaler value start during the seventeenth century, when it has been noted that the era's documents record certain local terms for thalers, related to their monetary iconography or aspect; there were small differences among the exchange rates of certain types of thalers. In the same time, it has been noted that thalers with the same name were exchanged differently and variably. The practice of certain exchange rate differences for thalers cannot be taken out of context nor generalized (Buza 1977, 78–80).

⁴² With the observation that coin exchange is a particular issue, with local variations that can only be hypothetically generalized; the calculation of the hoard's value is based, in the absence of local documents, on exchange rates employed on the territory of Hungary: Horváth 1961–1962, 29–30; Huszár 1975, 48–50; Pap 1978, 94, footnote 2.

⁴³ Huszár 1969–1970, 59.

⁴⁴ Hoards consisting of average and large-value coins were described as urban hoards or hoards accumulated in urban contexts (Chirilă, Dănilă 1976, 202–204; Chirilă 1981, 349). As for the issue of urban or rural monetary circulation, one must take into consideration the question of how to define a city, of what differentiates a town from a rural settlement beyond its juridical status and demographic size, since the supposition that only the urban population engaged in non-agricultural activities proved unfounded as urban dwellers were (also) involved in agriculture and the inhabitants of the rural areas were also involved in non-agricultural activities (Murgescu 2010, 57–60, footnote 145).

⁴⁵ See the estimated value of the hoards discovered in Oradea-Dealul Viilor (8,875 denarii), Marghita (2,894 denarii), Oradea-Ioșia (1,584 denarii). Bratu, Vestale 1971, 55; Toma, Lakatos 2009, 103; Toma 2010, 242.

⁴⁶ The idea remains hypothetical, since one talks, in general, of the precarious economic and social situation of the peasantry and it is unclear to what degree some of them managed to own money capital, accumulated or exchanged later on in large-value coins, in the era's "foreign currency".

⁴⁷ See those prices in Goldenberg 1958, 322–324, 358.

⁴⁸ Borcea 2005, 247–248.

⁴⁹ The raids might have envisaged even the lands of Mihai's, István Csáki's, and István Bocskai's enemies, located close to where the coins were hidden (Lukinich 1918, 145; Borcea 2005, 237).

⁵⁰ Borcea 2005, 51–53.

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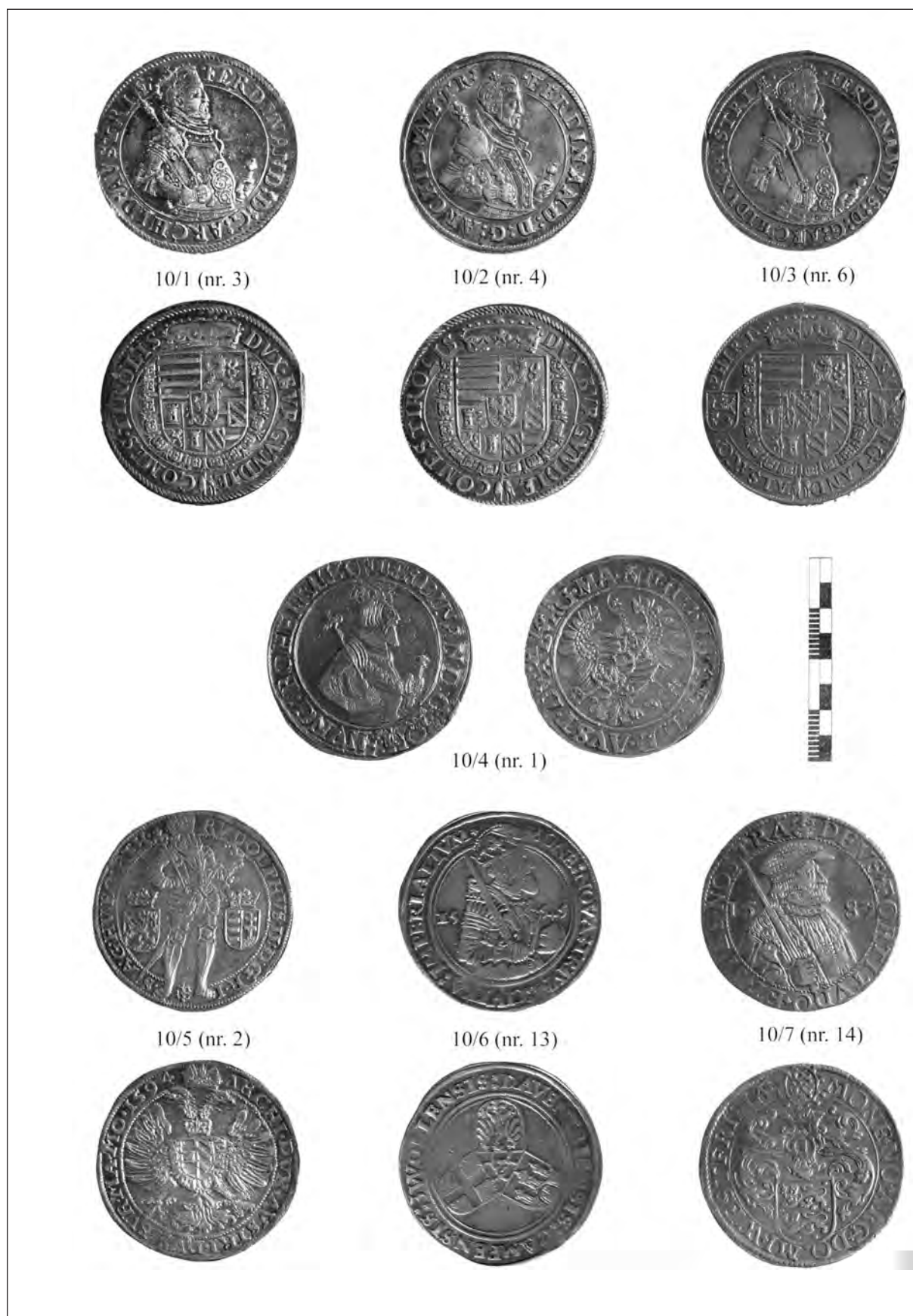


Plate 1. Thalers from the hoard in Cristur (inv. nos. 10/1–7). Photo: Ovidiu Pascu.

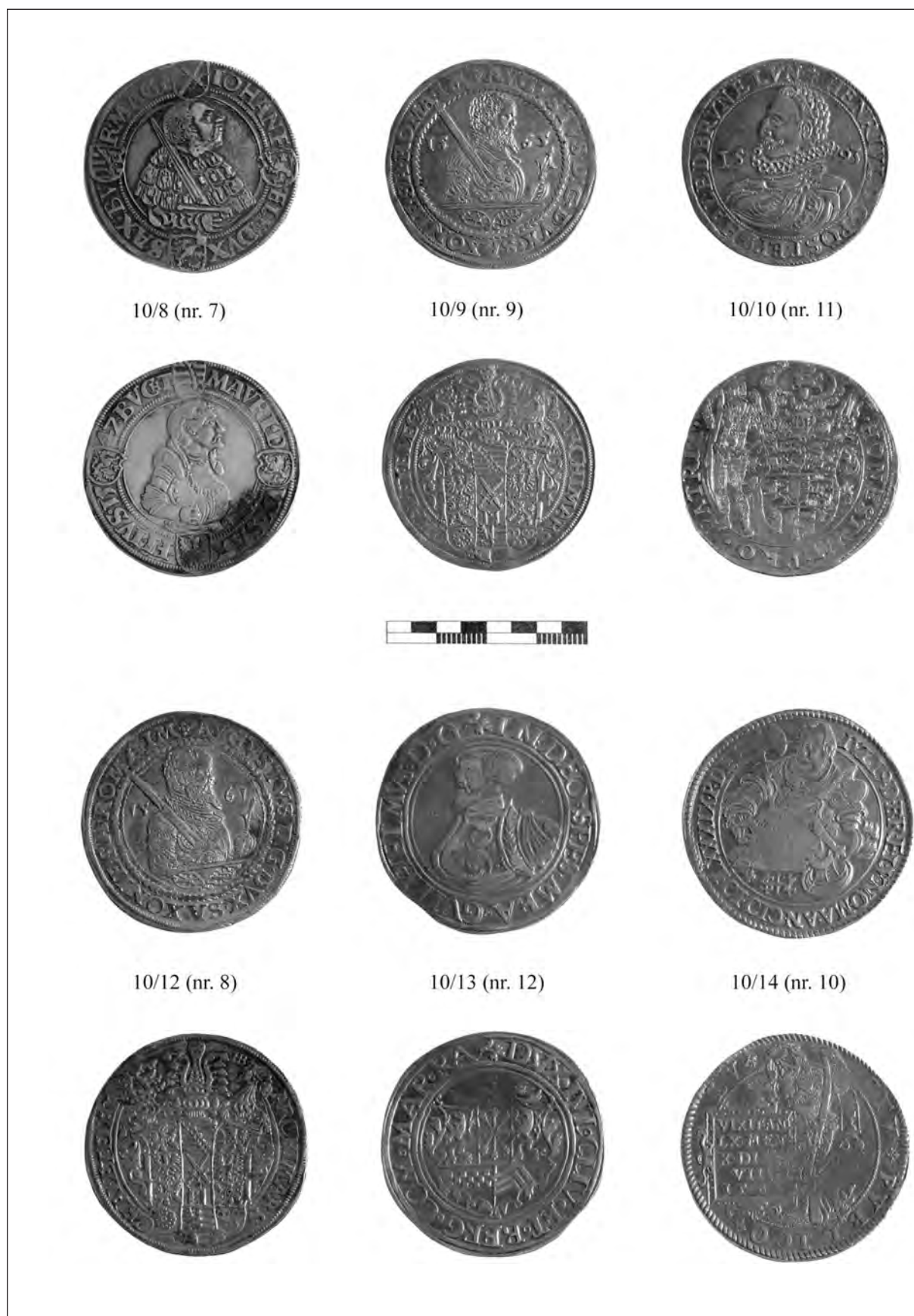


Plate 2. Thalers from the hoard in Cristur (inv. nos. 10/8–10, 12–14). Photo: Ovidiu Pascu.

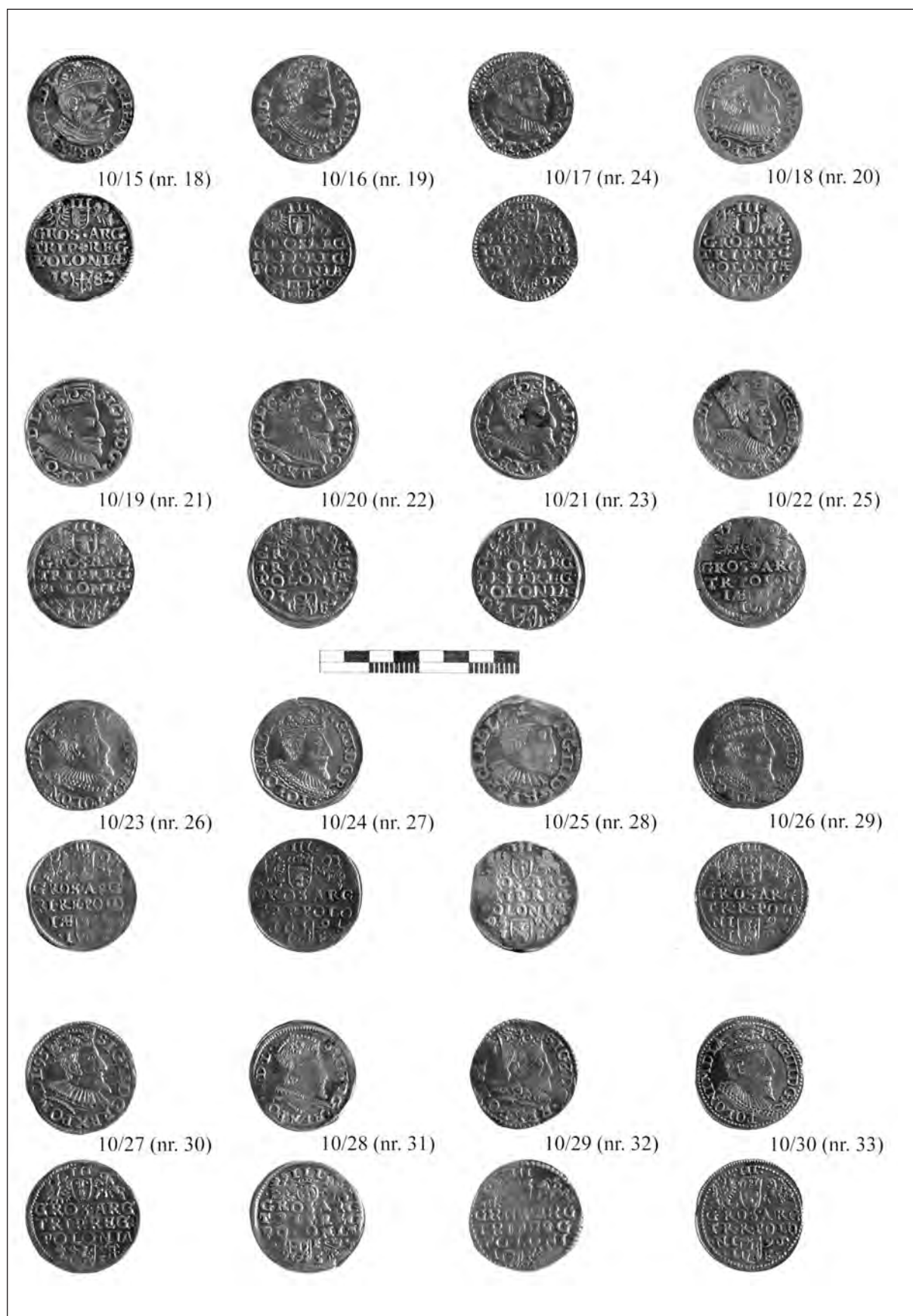


Plate 3. Three-groats from the hoard in Cristur (inv. nos. 10/15–30). Photo: Ovidiu Pascu.

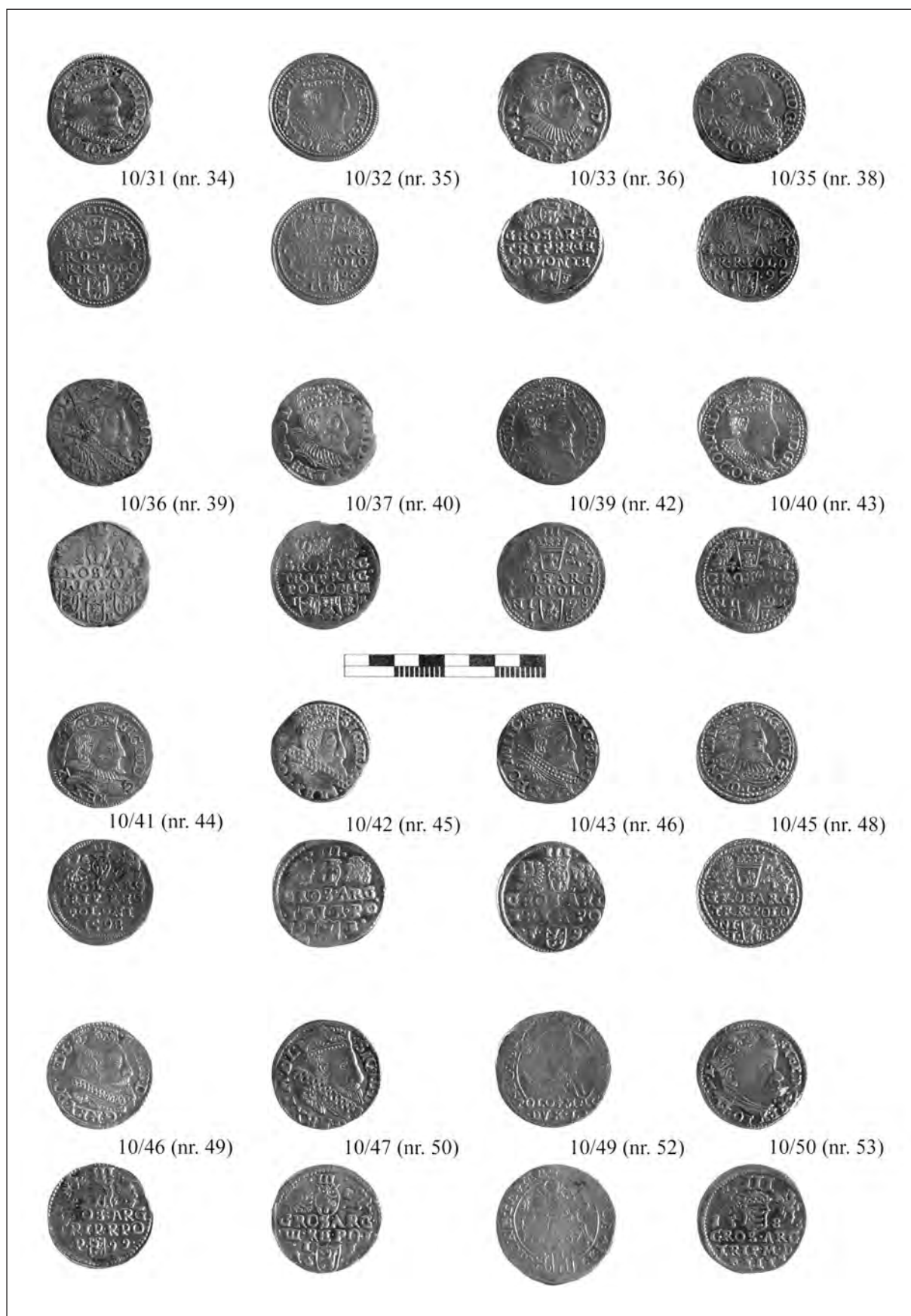


Plate 4. Three-groats from the hoard in Cristur (inv. nos. 10/31–33, 35–37, 39–43, 45–47, 49–50). Photo: Ovidiu Pascu.

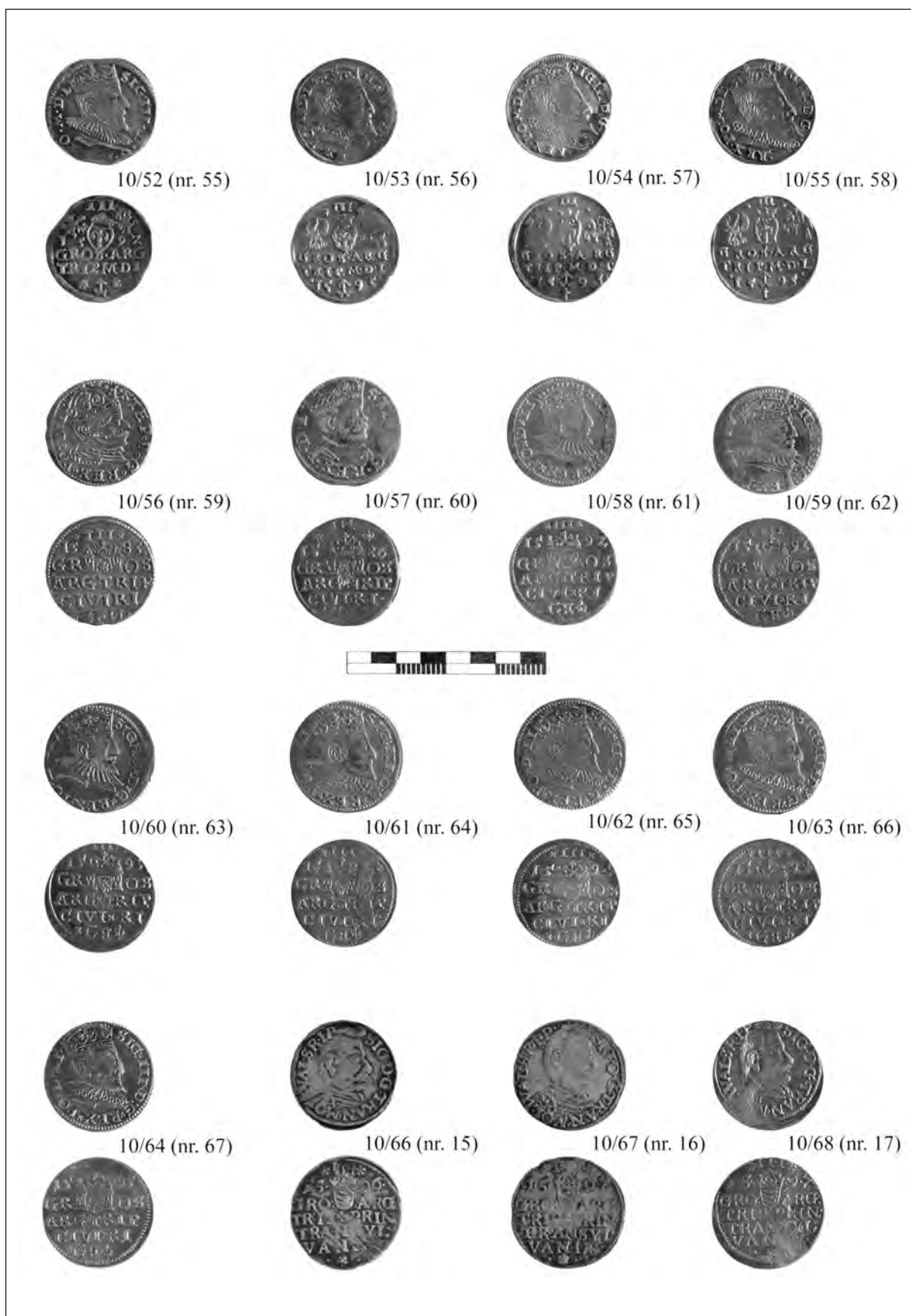


Plate 5. Three-groats from the hoard in Cristur (inv. nos. 10/52–64, 66–68). Photo: Ovidiu Pascu.

Abbreviations

AAC	Acta Archaeologica Carpathica. Cracovia.
AARMSI	Analele Academiei Române. Memoriile Secțiunii Istorice. București.
ACSSTU	Annals. Computer Science Series Tibiscus University. Timișoara.
ActaArchHung	Acta Archaeologica Academiae Scientiarum Hungaricae. Budapest.
AÉ	Archaeologiai Értesítő. Budapest.
AGGH	Acta Geodaetica et Geophysica Hungarica. Budapest.
AIINC	Anuarul Institutului de Istorie Națională Cluj. Cluj-Napoca.
AISC	Anuarul Institutului de Studii Clasice. Sibiu.
AJPA	American Journal of Physical Anthropology. New York.
Alba Regia	Alba Regia. Annales Musei Stephani Regis. Az István Király Múzeum Közleményei. Székesfehérvár.
AMN	Acta Musei Napocensis. Cluj-Napoca.
AMP	Acta Musei Porolissensis. Muzeul Județean de Istorie și Artă Zalău. Zalău.
AnB S.N.	Analele Banatului, Serie nouă. Timișoara.
Analele ANTIM	Analele Asociației Naționale ale Tinerilor Istorici din Moldova. Chișinău.
Apulum	Apulum. Alba-Iulia.
ArchKorrbl	Archäologisches Korrespondenzblatt. Urgeschichte, Römerzeit, Frühmittelalter. Mainz.
ArhMed	Arheologia Medievală. Brăila, Reșița, Cluj-Napoca.
AS	Acta Siculica. Sepsiszentgyörgy/Sfântu Gheorghe.
ATS	Acta Terrae Septencastrensis. Sibiu.
AUVT	Annales d'Université Valahia Targoviste, Section d'Archéologie et d'Histoire. Târgoviște.
BAM	Brvkenthal Acta Mvsei. Sibiu.
BAR International Series	British Archaeological Reports, International Series. Oxford.
Banatica	Banatica. Muzeul Banatului Montan. Reșița.
BĂMÉ	A Béri Balogh Ádám Múzeum Évkönyve. Szekszárd.
BCȘS	Buletinul Cercurilor Științifice Studentești. Istorie-Arheologie-Muzeologie. Alba Iulia.
BerRGK	Bericht der Römisch-Germanischen Kommission des Deutschen Archäologischen Instituts, Frankfurt a. M. - Berlin.
BHAB	Bibliotheca Historica et Archaeologica Banatica. Timișoara.
BSNR	Buletinul Societății Numismatice Române. Societatea Numismatică Română. București.
Caietele CIVA	Caietele CIVA. Cercul de Istorie Veche și Arheologie. Alba Iulia.
CCA	Cronica cercetărilor arheologice. București.
CCDJ	Cultură și civilizație la Dunărea de Jos. Muzeul Dunării de Jos. Călărași.
CN	Cercetări Numismatice. Muzeul Național de Istorie a României. București.
CNA	Cronica Numismatică și Arheologică, Societatea Numismatică Română. București.
Corviniana	Corviniana. Acta Musei Corvinensis. Hunedoara.
Crisia	Crisia, Muzeul Țării Crișurilor, Oradea.
Cumania	Cumania. A Bács-Kiskun Megyei Önkormányzat Múzeumi Szervezetének Évkönyve. Kecskemét.
Dacia N.S.	Dacia. Recherches et Découvertes Archéologiques en Roumanie, București; seria nouă (N.S.): Dacia. Revue d'Archéologie et d'Histoire Ancienne. București.
DMÉ	A Debreceni Déri Múzeum Évkönyve. Debrecen.
DolgKolozsvar	Dolgozatok az Erdély Nemzeti Múzeum Érem- és Régiségtárából (Travaux de la section numismatique et archéologique du Musée National de Transylvanie). Kolozsvár/Cluj-Napoca.

DolgSzeged	Dolgozatok a Szegedi Tudományegyetem Régiségtudományi Intézetéből. Szeged.
Drobeta	Drobeta. Muzeul Regiunii Porților de Fier. Drobeta Turnu-Severin.
EME	Erdélyi Múzeum Egyesület. Cluj-Napoca.
EphNap	Ephemeris Napocensis. Cluj-Napoca.
ETF	Erdélyi Tudományos Füzetek – Erdélyi Múzeum Egyesület. Kolozsvár/Cluj-Napoca.
Fdi	File de istorie, Muzeul de Istorie. Bistrița.
FolArch	Folia Archaeologica. A Magyar Nemzeti Múzeum Évkönyve. Annales Musei Nationalis Hungarici. Budapest.
Germania	Germania. Anzeiger der Römisch-Germanischen Kommission des Deutschen Archäologischen Instituts. Berlin.
História	História – történelmi folyóirat. Budapest.
HK	Hadtörténelmi Közlemények. Budapest.
HOMÉ	A Herman Ottó Múzeum Évkönyve. Miskolc.
Istros	Istros. Muzeul Brăilei. Brăila.
JAHC	Journal for the Association of History and Computing. Michigan University.
JahrbRGZM	Jahrbuch des Römisch-Germanischen Zentralmuseums zu Mainz, Mainz.
JAMÉ	Janus Pannonius Múzeum Évkönyve. Pécs.
KL	Kartografické listy. Bratislava.
Korall	<i>Korall Társadalomtörténeti Folyóirat</i> . Budapest.
Közl	Közlemények az Erdélyi Nemzeti Múzeum Érem- és Régiségtárából. Kolozsvár/Cluj-Napoca.
Lucrări	Lucrări Științifice. Istorie-Științe-Pedagogie, Institutul Pedagogic. Oradea.
GT	Geographia Technica. International Journal of Technical Geography. Cluj-Napoca.
Marisia	Marisia. Marisia. Studii și materiale. Arheologie – Istorie – Etnografie. Târgu-Mureș.
MCA	Materiale și Cercetări Arheologice. București.
MEKSB	A Miskolci Egyetem Közleménye. A sorozat, Bányászat. Miskolc.
MFMÉ StudArch	A Móra Ferenc Múzeum Évkönyve. Studia Archaeologica. Szeged.
MFMÉ MonArch	A Móra Ferenc Múzeum Évkönyve. Monumenta Archaeologica. Szeged.
MHB	Monumenta Historica Budapestinensia. Budapest.
MIM	Materiale de Istorie și Muzeografie, Muzeul de Istorie a Municipiului București. București.
MSW	Materialy Starozytne Wczesnosredniowieczne. Kraków.
MW	Materialy Wczesnośredniowieczne. Kraków-Wrocław-Warsawa.
NK	Numizmatikai Közlöny, Magyar Numizmatikai Társulat. Budapest.
NNT	Norsk Numismatisk Tidsskrift.
NZ	Numismatische Zeitschrift, herausgegeben von der numismatischen Gesellschaft in Wien. Wien.
OJA	Oxford Journal of Archaeology, Oxford.
OpHung	Opuscula Hungarica. Budapest.
PBF	Praehistorische Bronzefunde.
Potaissa	Potaissa. Studii și comunicări. Turda.
PZ	Prähistorische Zeitschrift. Berlin.
Régészeti Füzetek	Régészeti Füzetek. Magyar Nemzeti Múzeum. Budapest.
RÉSÉE	Revue des Études Sud-Est Européennes. l'Institut d'Études Sud-Est Européennes de l'Académie Roumaine. București.
RI	Revista de Istorie, Institutul de Istorie „Nicolae Iorga”. București.
RM	Revista Muzeelor. Centrul pentru Formare, Educație Permanentă și Management în Domeniul Culturii. București.
RRH	Revue Roumaine d'Histoire, Academia Română. București.
Sargetia	Sargetia, Muzeul Civilizației Dacice și Romane Deva.

Savaria	Savaria – a Vas megyei múzeumok értesítője. Pars historico-naturalis. Szombathely.
SCIIVA	Studii și Cercetări de Istorie Veche (și Arheologie). București.
SCN	Studii și Cercetări Numismatice. Institutul de Arheologie „Vasile Pârvan”. București.
SCȘI	Studii și Cercetări Științifice. Istorie.
SIB	Studii de Istorie a Banatului. Universitatea de Vest Timișoara.
SlovArch	Slovenská Archeológia. Bratislava.
SMIM	Studii și Materiale de Istorie Medie. Institutul de Istorie „Nicolae Iorga”. București.
SMK	Somogyi Múzeumok Közleményei. Kaposvár.
SSCR	<i>Social Science Computer Review. North Carolina State University.</i>
Speculum	Speculum. Cambridge Journals Online. Cambridge.
StComCaransebeș	Studii și Comunicări. Etnografie. Istorie. Caransebeș.
StComSatuMare	Studii și Comunicări. Satu Mare.
Stratum plus	Stratum plus Journal. High Anthropological School University. Cultural Anthropology & Archaeology.
Studia Caroliensia	Studia Caroliensia. A Károli Gáspár Református Egyetem szakfolyóirata. Budapest.
Studia Comitatus	Studia Comitatus. Tanulmányok Pest Megye Múzeumaiból. Szentendre.
Századok	Századok. A Magyar Történelmi Társulat Folyóirata. Budapest.
Terra Sebus	Terra Sebus. Acta Musei Sabasiensis. Sebeș.
Thraco-Dacia	Thraco-Dacia. București.
Transilvanian Review	Transilvanian Review/Revue de Transylvanie. Cluj-Napoca.
TS	Történelmi Szemle. A Magyar Tudományos Akadémia Történettudományi Intézetének Értesítője. Budapest.
UPA	Universitätsforschungen zur Prähistorische Archäologie. Bonn.
VAH	Varia Archaeologica Hungarica. Budapest.
VMMK	Veszprémi Megyei Múzeumok Közleményei. Veszprém.
World Archaeology	World Archaeology. London.
ZfA	Zeitschrift für Archäologie. Berlin.
Ziridava	Ziridava, Complexul Muzeal Arad. Arad.
ZMSW	Zeitschrift für Münz-, Siegel- und Wappenkunde. Berlin.

