# ZIRIDAVA STUDIA ARCHAEOLOGICA

31 2017

## MUSEUM OF ARAD



# ZIRIDAVA STUDIA ARCHAEOLOGICA

31 2017

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In Romania, the periodical can be obtained through subscription or exchange, sent as post shipment, from Museum of Arad, Arad, Piata G. Enescu 1, 310131, Romania. Tel. 0040-257-281847.

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Layout: Francisc Baja, Florin Mărginean, Victor Sava

ISSN 2392-8786



Editura Mega | www.edituramega.ro e-mail: mega@edituramega.ro

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### The Eneolithic Cemetery in Pecica "Est" (Arad County)\*

#### Victor Sava, Florin Mărginean, Adrian Ursuțiu

**Abstract:** The present article consists of a brief presentation of the preventive archaeological excavations performed in 2015 and 2016 on the site of Pecica "Est". The excavations have led to the uncovering of a multistratum site with a large number of chronological horizons. The most spectacular discoveries by far belong to the Early Eneolithic cemetery. 143 graves dated to this era were discovered over an excavated area of ca. 9100  $m^2$ ; these features are the topic of the present article. Through its inventory items and the manner in which the deceased were treated the cemetery matches the other contemporary funerary discoveries from the distribution area of the Tiszapolgár and Bodrogkeresztúr pottery types.

**Keywords:** Lower Mureşului Basin, Eneolithic, Tiszapolgár, Bodrogkeresztúr, cemetery.

#### Introduction

The Eneolithic cemetery uncovered in 2015 and 2016 in Pecica is the largest site of this kind in the entire Lower Mureş Basin. Through its 143 excavated graves the cemetery is a good chronological benchmark for the entire region and also a good indicator in the reconstruction of that era's society<sup>1</sup>.

The settlement of Pecica is located 25 km west of the city of Arad, on the right bank of River Mureş (Fig. 1–2). The site that we have labeled Pecica "Est" includes two areas, "Est/Smart Diesel" and "Est/Lucaş", after the name of the respective investors, and can be easily identified in the field. It is located along national road DN 7 leading from Arad to Pecica, ca. 1.7 km before entering Pecica, near the eastern A1 highway ramp. As noted during the performed excavations and according to the locals² the site extends on both sides of the road.

The first mention of any archaeological discoveries in close proximity of the Pecica "Est" site is to be found in a report of the excavation in Pecica "Forgaci"<sup>3</sup>. On the occasion of that excavation S. A. Luca has performed a series of surveys and has identified several archaeological objectives along Forgaci Valley<sup>4</sup>. Subsequently, during 2011, the team of archaeologists from the Museum of Arad performed an intrusive archaeological diagnosis in order to identify and delimitate the sites along the future Arad-Pecica highway sector. The diagnosis has led to the identification of the site labeled Pecica "Sit 15", located at the intersection of highway A1 with DN 7. Site 15 extends from Forgaci Valley to the intersection under discussion, west of Pecica "Est". From the perspective of the archaeological reality, Site 15 and Pecica "Est" are probably the same site. Still, based on administrative considerations we have decided to thus label the two areas of the terrace (the western side became Sit 15 and the eastern side Pecica "Est" – subsequently completed with the names of the investors, e.g. Pecica "Est/Smart Diesel", Pecica "Est/Lucaș"). During the same year, i.e. 2011, the area of the site that was about to be affected by the highway has been archaeologically investigated. The excavation has uncovered 469 archaeological features dated to different chronological stages. The 31 archaeological features that contained Bodrogkeresztúr pottery<sup>5</sup> are of interest here.

The following lines are dedicated to the excavations performed in 2015 and 2016 aiming at providing archaeological discharge papers for 9100 m<sup>2</sup> of the site of Pecica "Est". Though its horizontal

<sup>\*</sup> English translation: Ana M. Gruia.

A new preventive excavation was performed in 2017 focusing on the cemetery. 136 more graves were discovered on this occasion.

According to some locals, human skeletons were discovered during the excavation of the culverts flanking DN 7. They likely belonged to the Eneolithic cemetery under discussion here.

<sup>&</sup>lt;sup>3</sup> Luca 1993, ground plan 1.

This valley is located ca. 500 m south of the site Pecica "Est".

<sup>&</sup>lt;sup>5</sup> Marta *et al.* 2012; Virag 2013.

stratigraphy was effervescent, with no less than six chronological stages, the most spectacular discoveries were made in the Early Eneolithic cemetery. Despite the fact that the analysis of this cemetery is still in its initial stages, we have decided to publish a preliminary report in order to introduce to the academia a representative archaeological objective.

#### Description of the excavations

An intrusive archaeological diagnostic was performed in the summer of 2015 in order to identify and delimitate possible sites<sup>6</sup>. The archaeological research was determined by the need to perform the diagnostic on a piece of land where a gas station would be built over an area of ca. 5 ha. Thus, 19 trenches measuring  $7/10 \times 2$  m were mechanically excavated. Specialists were able to note that numerous archaeological features, dating to different periods, were uncovered in the northern area of the plot. On that occasion the research team has investigated 12 archaeological features. They thus discovered an Eneolithic cemetery, a Avar period grave, a settlement dating to the 8th-9th centuries A.D., and part of an 11<sup>th</sup>-13<sup>th</sup> centuries A.D. settlement<sup>7</sup>.



Fig. 1. Location of the site Pecica "Est" on the map of Romania.

We have noted that the entire site developed in close proximity of a former water course. The majority of the archaeological features were located in the high area of the terrace. In the low area we observed that the level of natural depositions was specific to an area of wetland for the largest part of the year. In that part the soil was black and compact while the yellow clay was at the depth of more than 1.5 m. On the second Josephine topographic survey one can easily note that the site is located on the high bank of a water course, still running at that time, the former bed of which – now completely dry – is still visible. As proof of the good positioning of the archaeological traces, the excavation performed during the spring of 2016 has revealed the fact that phreatic water was located towards the surface in the former river bed and the uncovered area was rapidly flooded unlike the higher area where archaeological traces were found. One should note that the inhabited area was never flooded, no matter the quantity of precipitations8.

The research team consisted of Victor Sava, Florin Mărginean, Luminița Szilagyi, and Peter Hügel.

Hügel et al. 2015a.

Mărginean 2017, 143-145.

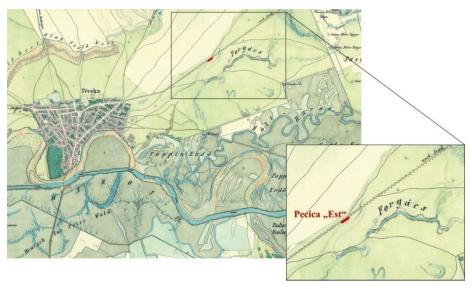


Fig. 2. The site of Pecica "Est" on the second Josephine topographic survey (1819–1869).

Preventive excavation was initiated after the intrusive archaeological diagnostic (still in 2015)9. The future investment project was to affect an area of ca. 7400 m<sup>2</sup>. According to the project, the team opened three trenches (4690 m², 1616 m², and 1060 m² respectively) (Fig. 3). 165 archaeological features were excavated and documented in these uncovered areas (Fig. 4–5).



Fig. 3. Ground plan of the excavations performed on the site of Pecica "Est" on a 2017 satellite image. In red: the 2015 excavation; in yellow: the 2016 excavation.

Thus, the site's first chronological horizon included four archaeological features that belong to the Early Neolithic Period. During research, these features have revealed numerous Starčevo-Criş pottery fragments. Among these features, all of them pits, one notes the one labeled Cx. 157 that was a large pit inside which archaeologists discovered an impressive quantity of pottery material. Among the identified features one notes two pits with the fill containing several pottery fragments dated to the

The research team consisted of Victor Sava, Florin Mărginean, Luminița Szilagyi, Zlatoie Ţmor, Agnes Szekely, Alexandru Berzovan, Raluca Matei, and Bogdan Sorinca.

Middle Neolithic Era<sup>10</sup>. The most numerous traces on the site were the 141 inhumation graves from the Early Eneolithic Period. The majority had been dug into the culture level of the Neolithic settlement and thus the pits could not always be delimited. A consistent number of pits were identified at shallow depths, ca. 0.20 - 0.40 m, and had thus been affected by agricultural works. A consistent part of the graves contained a rich funerary inventory, in most cases consisting of pots. Some of the inventories also contained items made of copper (pins, beads, bracelets, rings etc.), of gold (pendants), bone artifacts (especially beads), and stone items (blades of obsidian or arrowheads, beads). There was also one pit that contained an impressive quantity of pottery that can be dated to the Late Bronze Age (Ha. A2-Ha. B1). Besides the features mentioned above, one also notes the few features attributed to the Late Avar Period (8th-9th centuries). They consisted of dwellings, household annexes, household refuse pits, and ditches. In this context we believe that some of these ditches were possibly part of the settlement's structure, according to their planimetric position and to their analogies. The features in question are contemporary to some of the discoveries made on Site 15 along the Pecica-Arad Highway, representing a Late Avar horizon<sup>11</sup>. Another chronological horizon is also represented by the few pits where 11th-13th centuries pottery was discovered. These pits were found in the north-eastern extremity of the excavated area, a spot that was very likely the edge of a household<sup>12</sup>. 12 other alveoli features in the culture layer were discovered and included in the numbering of the features<sup>13</sup>.

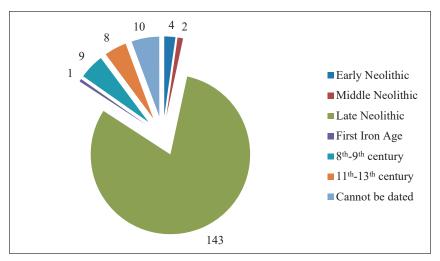


Fig. 4. Chronological distribution of the features identified through the 2015 diagnostic and preventive excavation<sup>14</sup>.

Another preventive excavation was performed in 2016<sup>15</sup>. This time, the team has investigated the eastern margin of the site. The uncovering of 1700 m<sup>2</sup> has led to the documentation of 19 archaeological features (Fig. 3, 6). Among them, seven belonged to the Early Eneolithic, one to the Late Bronze Age, and one to the Early Medieval Period. Other 11 features could not be dated precisely either due to the lack of an inventory or to the absence of typical pottery fragments.

As previously mentioned, the 2016 excavation has revealed the eastern margin of the site. At the same time this coincided with the eastern maximum extension of the Eneolithic cemetery. One should note the fact that besides the funerary features we have also identified other pits that belong to a settlement that was partially contemporary to the cemetery. Five of the pits also contained a significant number of Tiszapolgár pottery fragments<sup>16</sup>.

The Neolithic discoveries were published in Sava 2015. On that occasion the author has described in detail all the features and has illustrated all the discovered artifacts.

<sup>11</sup> Mărginean 2017, 143-153.

Mărginean 2017, 153-156.

<sup>13</sup> Hügel et al. 2015b.

Out of the 143 Eneolithic archaeological features, 141 were inhumation graves and two were agglomerations of Early Eneolithic pots (the deceased not identified) and could be interpreted as cenotaphs.

This excavation was coordinated by the following team: Adrian Ursuțiu, Victor Sava, Florin Mărginean, and Malvinka

<sup>&</sup>lt;sup>16</sup> Ursuțiu et al. 2016; Ursuțiu et al. 2017.

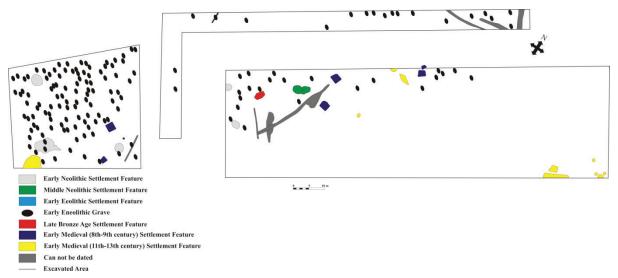


Fig. 5. Ground plan of the 2015 excavation.

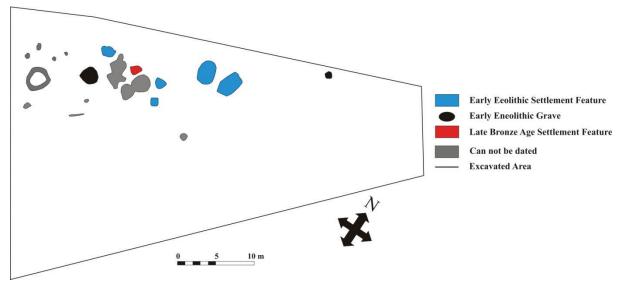


Fig. 6. Ground plan of the 2016 excavation.

#### Preliminary data on the Early Eneolithic cemetery

The majority of the funerary complexes were identified in the archaeological stratum that belonged to the Early Neolithic settlement and to the Middle Neolithic settlement, thus the borders of the pits were seldom identified. A considerable number of skeletons had been deposited at shallow depths, calculated from the current ground level, *i.e.* at ca. -0.20-0.40 m. Considering this factor and the intensive agricultural works, the graves in question had been strongly disturbed. We thus believe that mentioning the state of preservation of the skeletons is relevant. We noted that only a small number of them were in a good state of conservation (25 cases), the majority being in an average or poor state (Fig. 7).

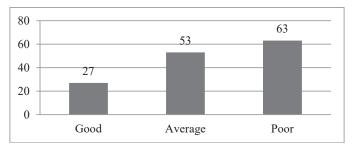


Fig. 7. State of preservation of the deceased.

At the same time one must state the fact that all of the graves are of the inhumation type and that the majority of the deceased had been deposited in a crouching position (Fig. 8). Over time it has been noted that inside the Early Eneolithic cemeteries from the intra-Carpathian area the majority of male deceased were deposited lying on their right side and the majority of the female ones on their left. In the case of the cemetery under discussion 49 bodies had been deposited lying on their right side, 45 on their left side, while the position could not be determined in the rest of the cases (Fig. 9). Before confirming or infirming the gender deduction made according to the criterion mentioned above, one must wait for the anthropological analysis.

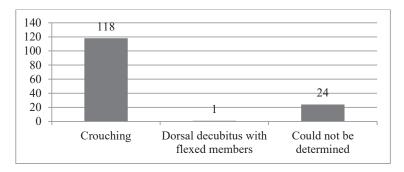


Fig. 8. Types of burials.

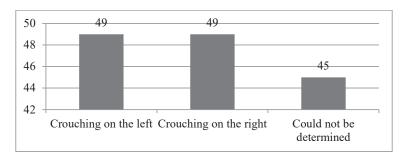


Fig. 9. Side on which the crouching skeletons had been deposited.

We have also noticed that the majority of the deceased had been oriented along the south-east – north-west axis. Few graves deviated from this "norm" (Fig. 10).

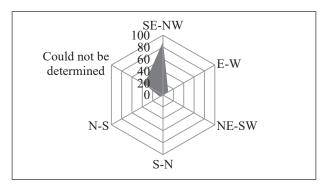


Fig. 10. Orientation of the graves.

It is worth mentioning that five of the graves are double, with pairs of bodies deposited one near the other (Cx. 74/Cx. 75; Cx. 78/Cx. 79; Cx. 84/Cx. 89; Cx. 92; Cx. 109). One should also note one of the most interesting contexts of the cemetery, *i.e.* a circular pit (Cx. 7/Lucaș) the fill of which contained three human skeletons (Fig. 11). Only part of the limbs and the skull, facing obliquely down, were preserved from deceased no. 1. Deceased no. 2 had been deposited with the lower body under the members of deceased no. 1, in the edge of the pit. Skeleton no. 2 was entirely preserved, deposited in crouching position, on its left side, facing south, with the upper members brought up to the level of the skull. Deceased no. 3 had been deposited diametrically opposite from deceased no. 2, in the southern

margin of the pit. The lower members of skeleton no. 3 were strongly bent under the pelvis and the upper body was in dorsal decubitus; the skull and the upper members were not found in anatomical position. The inventory of these deceased was rich, consisting of a large number of pots, among which only four had been deposited almost entirely, the rest being found in a strong state of fragmentation, scattered inside the pits. Besides pottery, the team has also identified numerous fragments of adobe, some large in size and displaying wattle or beam imprints; the fragments were scattered over the entire pit. Part of a deer antler was found in the north-western area of the pelvis belonging to body no. 3; an axe made of deer antler was also documented above the skull and near the upper members of the same deceased. Besides the already mentioned inventory items one must also mention the impressive quantity of river shells discovered there. The shells were deposited especially in the median area of the pit, but also among the bodily remains. After removing the shells and the inventory, archaeologists noted a compact layer of burning, pieces of adobe, and ashes on the bottom of the pit.



Fig. 11. Feature Cx. 7/Lucaş.

Taking the discussion further, we have noted that the majority of the deceased had a funerary inventory; 114 out of the 143 graves did contain such an inventory. Among the most common items one can mention ceramic pots, often discovered around the skeletons. They varied in numbers between one and 17, but most graves contained between one and four pots (Fig. 12). One should observe that the graves containing numerous pots were double graves. Inside grave Cx. 84/Cx. 89 for example archaeologists found 17 pots deposited, grave Cx. 78/Cx. 79 contained 11 pots, while 9 pots were recovered from Cx. 78/Cx. 79. The total number of ceramic pots deposited beside the deceased discovered inside the 143 graves is 337.

Number of pots discovered in the graves	Number of graves	
Graves with one pot	20	
Graves with two pots	35	
Graves with three pots	21	
Graves with four pots	16	
Graves with five pots	5	
Graves with six pots	4	
Graves with seven pots	3	
Graves with nine pots	1	
Graves with eleven pots	1	
Graves with seventeen pots	1	

Fig. 12. Table with the distribution of the number of ceramic pots in the graves.



Fig. 13. 1. Grave Cx. 8; 2. Grave Cx. 28; 3. Grave Cx. 31; 4. Grave Cx. 51; 5. Grave Cx. 65; 6. Grave Cx. 71.

The funerary inventory of some of the deceased contained, besides the usual ceramic pots, seven items made of gold (Fig. 14). The artifacts in question were a pair of earrings (Cx. 84/Cx. 89), two saltaleoni (Cx. 97), two cones (Cx 49; Cx. 142), and one pendant (Cx. 101). The items made of copper were more numerous, i.e. 45 artifacts (Fig. 15). The majority were beads, with 32 such artifacts discovered; among them, 9 items were found in grave Cx. 33, two beads were discovered in Cx. 84/Cx. 89 and 21 in Cx. 97. Besides these artifacts made of copper one can also mention three pins (Cx. 13; Cx. 97; Cx. 111), three bracelets (Cx. 50; Cx. 97: two bracelets), a small-size plate (Cx. 51), a fishing hook (Cx. 70), an owl with bone handle (Cx. 92), two rings (Cx. 97), one axe (Cx. 142), and an item of unknown function (Cx. 142).



Fig. 14. Photographs of some of the gold items, in situ.1-2. Grave Cx. 49; 3. Grave Cx. 84/Cx. 89.

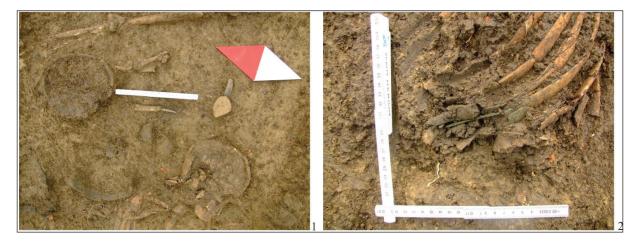


Fig. 15. Photographs of some copper items, in situ.1. Grave Cx. 92; 2. Grave Cx. 111.

Numerous lithic items were also discovered near some of the deceased (Fig. 16). There were a total of 1479 such artifacts of various types, the great majority of them beads. There were 1449 beads, distributed in the following graves: Cx. 13: 22 beads; Cx. 16: five beads; Cx. 31: 254 beads; Cx. 33: 158 beads; Cx. 62: 176 beads; Cx. 81: 29 beads; Cx. 84/Cx. 89: 286 beads; Cx. 92: 264 beads; Cx. 97: 11 beads; Cx. 101: 135 beads; Cx. 102: one bead; Cx. 103: 101 beads; Cx. 129: seven beads. One can also mention 24 blades discovered in the following graves: Cx. 13; Cx. 15; Cx. 18; Cx. 19; Cx. 27; Cx. 51; Cx. 52; Cx. 70; Cx. 92; Cx. 93; Cx. 97: two blades; Cx. 98: four blades; Cx. 99; Cx. 109; Cx. 111; Cx. 132; Cx. 142: two blades; Cx. 159; Cx. 175. From the perspective of their dimensions, the blades can be grouped thus: six items up to 5 cm, nine items measure between 5 and 10 cm, while eight blades measure more than 10 cm. At the same time one can mention two arrowheads (Cx. 15; Cx. 142), two grinding stones (Cx. 58), an axe (Cx. 142), and several other items of unknown function.

Some of the graves preserved bone processed artifacts (Fig. 17). There were three axes (Cx. 7/ Lucaş; Cx. 100; Cx. 160), two pins/piercers? (Cx. 68; Cx. 95), three arrowheads (Cx. 78/Cx. 79; Cx. 98; Cx. 111), 48 beads (Cx. 84/Cx. 89: 15 beads; Cx. 91: three beads; Cx. 92: two beads; Cx. 97: 28 beads), one bracelet (Cx. 84/Cx. 89), and two bones the function of which remains unknown.

Besides the already mentioned inventory items one can also note the 41 graves where the team discovered animal bones, rarely shells. At the same time, there was one grave that contained pieces of ochre (Cx. 97) and another that preserved large fragments of adobe with wattle imprints (Cx. 7/ Lucas).

Among the graves excavated so far two standout from the perspective of the number of items deposited near the bodies and the rarity of some of them. The first is Cx. 97, with the bones of the skeleton well preserved. The deceased had been deposited in crouching position, on its left side (Fig. 18). The funerary inventory consists of seven ceramic pots deposited around the deceased, beads made of copper, stone, and bone, two massive spiral bracelets made of copper, placed on the forearms, two other copper finger rings placed on the phalanges of the right hand, one pin made of the same material, a small obsidian blade, while a row made of several copper and gold beads was identified under the jaw. Several animal bones were also documented under the tibias.



Fig. 16. Photographs of several lithic items, in situ.1. Grave Cx. 15; 2. Grave Cx. 19; 3. Grave Cx. 142; 4. Grave Cx. 31.



Fig.~17.~Photographs~of~several~bone~items, in~situ.~1.~Grave~Cx.~84/Cx.~89; 2.~Grave~Cx.~100; 3.~Grave~Cx.~7/Lucaş.~100; 3.~Grave~Cx.~100; 3.~Grave~Cx.~1



Fig. 18. Photographs of grave Cx. 97.

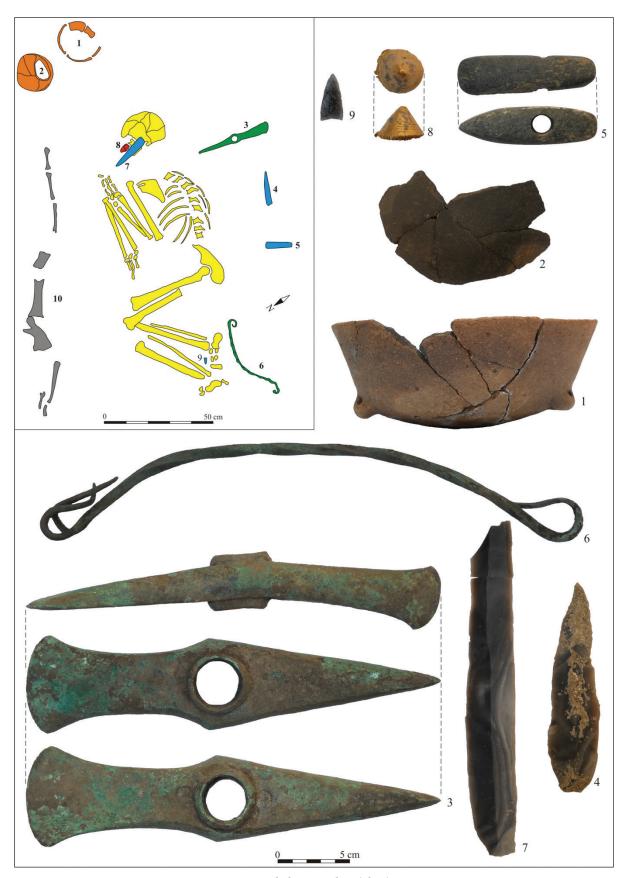


Fig. 19. Grave Cx. 142 and photographs of the funerary inventory.

Besides the already described grave we wish to also mention the funerary inventory of Cx. 142 (Fig. 19). The bones of the deceased were also very well preserved and the body had been deposited crouching on the right side. The funerary inventory consisted of two pots placed in the area of the skull; a Jaszladany-type copper axe, a stone blade, and a small polished stone axe were identified in the dorsal area; a copper item of yet unknown use and an arrowhead were discovered in the continuation of the leg bones. A large stone blade had been located above the skull and the mandible and a gold item was found near the jaw. Several animal bones were positioned in the ventral area of the deceased.

#### **Conclusions**

The preventive archaeological excavations performed in 2015 and 2016 in the Eneolithic cemetery in Pecica "Est" has led to the identification of one of the most interesting archaeological objectives in the region. The 143 graves discovered there are more numerous than all of the Tiszapolgár and Bodrogkeresztúr graves together from the Lower Mureş Basin, and form the largest necropolis researched by far.

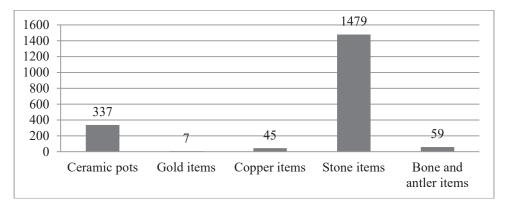


Fig. 20. Distribution of the funerary inventories according to the material they are made of.

As one notes, the inventory items buried with the deceased have analogies in the Tiszapolgár and Bodrogkeresztúr environment<sup>17</sup>. The graph in figure 20 shows that the most numerous pieces of funerary inventory of the deceased in Pecica "Est" were made of stone, mentioning that the overwhelming majority were small circular beads. Still, the metal items were present in relatively large numbers for the period under discussion.



Fig. 21. Location of the contemporary sites in the proximity of the cemetery in Pecica "Est".

See in Sava 2015, 183-194, 204-209 a discussion of the funerary Tiszapolgár and Bodrogkeresztúr discoveries made in the Lower Mureş Basin.

Despite that the analysis of the cemetery is only in the beginning and no radiocarbon data are available so far, one can say with certainty that the cemetery had been used for a long period of time. From this perspective we should mention that the most numerous ceramic pots display the characteristics of the Tiszapolgár style. At the same time some of the deceased were accompanied, as funerary inventory, by pots specific to the Bodrogkeresztúr pottery, especially "milk pots".

Several contemporary sites have been found over time near this cemetery, in its neighboring area. One must first stress that several pits containing pottery fragments typical to the Tiszapolgár style were discovered in the north-eastern end of the cemetery and of the archaeological excavations. These pits seem to represent the edge of a settlement. Mention must be made of that the cemetery did not overlap, except for very few cases, the pits with Tiszapolgár pottery. Even more, a well-known settlement, Pecica "Forgaci", where Bodrogkeresztúr pottery was discovered, is located ca. 350 m east of the cemetery and another settlement, labeled Pecica "Situl 15", was excavated less than 100 m to the west (Fig. 21).

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Hügel <i>et al</i> . 2015b	P. Hügel, F. Mărginean, V. Sava, Sit Pecica Est/Smart Diesel (orașul Pecica, județul Arad). Raport de cercetare arheologică preventivă. Arad 2015 (manuscript).
Luca 1993	S. A. Luca, Observații privind faza clasică a culturii Bodrogkeresztúr în România. Așezarea de la Pecica-Forgaci (jud. Arad). AnB N.S. II, 1993, 49–84.
Marta <i>et al</i> . 2012	L. Marta, C. Astaloş, C. Virag, A. N. Hágó, Z. Kádas, D. Iegar, <i>Pecica, jud. Arad. Punct: Sit 15, km 28+600 – 29+100</i> . In: Cronica cercetărilor arheologice. Campania 2011. XLVI-a Sesiune Națională de rapoarte arheologice, Târgu Mureș, 23–26 mai 2012. București 2012, 288–290.
Mărginean 2017	F. Mărginean, <i>O așezare din perioada avară târzie și urme de locuire din vremea arpadienilor la Mureșul de Jos. Descoperirile arheologice de la Pecica "Est/Smart Diesel", jud. Arad.</i> In: F. Mărginean, I. Stanciu, D. Băcueț-Crișan (Eds.), Locuirea medievală timpurie din Transilvania și vecinătăți/Early Medieval Habitation from Transylvania and its surroundings. OM I. Arad 2017, 141–184.
Sava 2015	V. Sava, Neolithic and Eneolithic in the Lower Mureş Basin. Cluj-Napoca 2015.
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Ursuțiu <i>et al</i> . 2017	A. Ursuţiu, F. Mărginean, V. Sava, M. Urák, <i>Pecica, jud. Arad. Punct: Est/Luca</i> ş. Cronica Cercetărilor Arheologice din România. Campania 2016. Bucureşti 2017, 209–210.
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#### **Abbreviations**

AAASH Acta Archaeologica Academiae Scientarum Hungaricae. Budapest.

Acta Ant et Arch Suppl Acta Antiqua et Archaeologica Supplementum. Szeged.

AAC Acta Archaeologica Carpathica. Krakow.

ACMIT Anuarul Comisiunii monumentelor istorice. Secția pentru Transilvania. Cluj.

ARA Annual Review of Anthropology. Stanford.

ActaArchHung Acta Archaeologica Academiae Scientiarum Hungaricae. Budapest. AEM Archäeologische Epigraphische Mitteilungen aus Österreich-Ungarn. Heidelberg.

AIIA Cluj Anuarul Institutului de Istorie și Arheologie. Cluj-Napoca.
AISC Anuarul Institutului de Studii Clasice. Cluj-Napoca.

AMP Acta Musei Porolissensis. Zalău.
ATF Acta Terrae Fogarasiensis. Făgăraș.
ATS Acta Terrae Septemcastrenses. Sibiu.

Agria Agria. Annales Musei Agriensis. Az egri Dobó István Vármúzeum évkönyve. Eger.

AnB S.N. Analele Banatului. Timişoara.

AMS.CEU Annual of Medieval Studies at CEU. Budapest.
ACN Archaeological Computing Newsletter. Florence.

ArchÉrt Archaelogiai Értesítő. A Magyar Régészeti és Művészettörténeti Társulat tudo-

mányos folyóirata. Budapest.

ArchJug Archaeologia Iugoslavica. Beograd.

Arheregled Arheološki Pregled. Arheološko Društvo Jugoslavije. Beograd.

ArchSlovCat Archaeologia Slovaca Catalogi. Bratislava.

Archaeológiai Archaeológiai Közlemények. A hazai Műemlékek Ismeretének Előmozdítására.

Közlemények Budapest.

ArchKorr Archaölogisches Korrespondenzblatt. Mainz.

ArhMold Arheologia Moldovei. Iași.

AMN Acta Musei Napocensis. Cluj-Napoca.

AMP Acta Musei Porolissensis. Zalău.

ArchRozhl Archeologické Rozhledy. Praga.

ArhMed Arheologia Medievală. Cluj-Napoca, Brăila, Reșița.
ASMB Arheologia Satului Medieval din Banat. Reșița 1996.

AVSL Auftrage des Vereins für siebenbürgische Landeskunde, Wien.

Banatica Banatica. Resița.

BAM Brvkenthal Acta Mvsei. Sibiu.

BAR Int. Ser. British Archaeological Reports. International Series. Oxford. BCMI Buletinul Comisiunii Monumentelor Istorice. București.

BCŞS Buletinul Cercurilor Ştiinţifice Studenţeşti. Arheologie – Istorie – Muzeologie. Alba

Iulia.

BG Botanical Guidebooks. Kraków.

BerRGK Bericht der RömischGermanischen Kommission. Frankfurt a. Main.

BHAB Bibliotheca Historica et Archaeologica Banatica. Timișoara.

BHAUT Bibliotheca Historica et Archaeologica Universitatis Timisiensis. Timișoara.

BMB. SH Biblioteca Muzeului Bistriţa. Seria Historica. Bistriţa Năsăud.

BMÉ Bihari Múzeum Évkönyve. Berettyóújfalu.
BMI Buletinul Monumentelor Istorice. Bucureşti.
BMN Bibliotheca Musei Napocensis. Cluj-Napoca.

BMMK A Békés Megyei Múzeumok Közleményei. Békéscsaba. BMMN Buletinul Muzeului Militar Naţional. Bucureşti.

BThr Bibliotheca Thracologica. Institutul Român de Tracologie. București.

CAB Cercetări Arheologice în București. București.

CAH Communicationes Archaeologicae Hungariae. Budapest.
Carpica Carpica. Muzeul Județean de Istorie și Arheologie, Bacău.

CAMNI Cercetări Arheologice. Muzeul de Istorie al R. S. România/Muzeul Național de

Istorie. București.

CIL Corpus Inscriptionum Latinarum. Berlin.

CCA Cronica cercetărilor arheologice (din România), 1983-1992 sqq. (și în variantă

electronică pe http://www.cimec.ro/scripts/arh/cronica/cercetariarh.asp).

Classica et Christiana Classica et Christiana. Iasi.

CRSCRCR Coins from Roman sites and collections of Roman coins from Romania. Cluj-Napoca.

Crisia Crisia. Muzeul Țării Crișurilor, Oradea.

Dacia N.S. Dacia. Revue d'archéologie et d'histoire ancienne. Nouvelle serie. București.

Danubius - Revista Muzeului de Istorie Galati. Galați. DDME A Debreceni Déri Múzeum Évkönyve. Debrecen.

DolgCluj Dolgozatok az Erdélyi Nemzeti Érem- és Régiségtárából, Klozsvár (Cluj).

DolgSzeg Dolgozatok. Arbeiten des Archäologischen Instituts der Universität. Szeged.

EphNap Ephemeris Napocensis. Cluj-Napoca.

EMEÉ Az Erdélyi Múzeum-Egyesület Évkönyve. Cluj-Napoca.

EMÉ Erdélyi Múzeum Évkönyve. Cluj-Napoca.

EAZ Ethnographisch-Archäologische Zeitschrift. Berlin.

FADDP/GMADP Führer zu archäologischen Denkmälern in Dacia Porolissensis/Ghid al monumen-

telor arheologice din Dacia Porolissensis. Zalău.

File de Istorie File de Istorie. Bistrița.

FolArch Folia Archaeologica. Budapest.

Forsch. u. Ber. z. Vor- u.

Frühgesch. BW

Forschungen und Berichte zur Vor- und Frühgeschichte in Baden-Württemberg.

GPSKV Gradja za proučavanje spomenika kulture Vojvodine. Novi Sad.

GSAD Glasnik Srpskog Arheološkog Društva. Beograd. HOMÉ A Herman Ottó Múzeum Évkönyve. Miskolc.

HTRTÉ Hunyadvármegye Történelmi és Régészeti Társulat Évkönyve. Déva (Deva).

JAMÉ A nyíregyházi Jósa András Múzeum Évkönyve. Nyíregyháza.

JahrbuchRGZM Jahrbuch des RömischGermanischen Zentralmuseums Mainz.

JAHA Journal of Ancient History and Archaeology. Cluj-Napoca.

Lohanul Lohanul. Revistă cultutal științifică. Huși. MCA Materiale și Cercetări Arheologice. București.

MCA-S.N. Materiale și Cercetări Arheologice-Serie Nouă. București.

MA / MemAnt Memoria Antiqvitatis. Piatra Neamţ.
MFMÉ A Móra Ferenc Múz. Évkönyve. Szeged.

MFMÉ StudArch A Móra Ferenc Múzeum Évkönyve, Studia Archaelogica. Szeged.

MN / MuzNat Muzeul Național. București.

NumAntCl Numismatica e antichitàclassiche. Milano.

Opitz Archaeologica Opitz Archaeologica. Budapest.
Opuscula Hungarica Opuscula Hungarica. Budapest.
OM Orbis Mediaevalis. Arad, Cluj-Napoca.

OTÉ Orvos- Természettudományi Értesitő, a Kolozsvári Orvos-Természettudományi

Társulat és az Erdélyi Múzeum-Egylet Természettudományi Szakosztálya.

Palaeohistorica Acta et Communicationes Instituti Archaeologici Universitatis Groninganae.

PamArch Památky Archeologické. Praha. Past *and* Present Past *and* Present. Oxford.

PIKS/PISC Die Publikationen des Institutes für klassische Studien/ Publicațiile Institutului de

studii clasice. Cluj-Napoca.

PBF Praehistorische Bronzefunde. Berlin.

PMÉ Acta Musei Papensis – Pápai Múzeumi Értesítő.

PZ Prähistorische Zeitschrift. Berlin.

ReDIVA Revista Doctoranzilor în Istorie Veche și Arheologie. Cluj-Napoca.

Revista Bistriței Revista Bistriței. Bistrița.
RevMuz Revista Muzeelor. București.
RIR Revista Istorică Română.

RMM-MIA Revista Muzeelor și Monumentelor. Seria Monumente istorice și de artă. București.

RMMN Revista Muzeului Militar Național. București.
RESEE Revue des Études Sud-Est Européennes. București.
Ruralia Ruralia. Památky Archeologické – Supplementum. Praha.

RVM Rad Vojvodjanskih Muzeja. Novi Sad.

Sargeția. Muzeul Civilizației Dacice și Romane, Deva. Savaria Savaria. A Vas megyei Múzeumok Értesítője. Szombathely.

SCIV(A) Studii și Cercetări de Istorie Veche. București. SCN Studii și Cercetări Numismatice. București.

SlovArch Slovenská Archeológia. Nitra.
SIA Studii de Istoria Artei. Cluj Napoca.
SIB Studii de istorie a Banatului. Timișoara.

SKMÉ A Szántó Kovács János Múzeum Évkönyve. Orosháza.

SMIM Studii și Materiale de Istorie Medie. București. SMMA Szolnok Megyei Múzeumi Adattár. Szolnok.

SMMIM Studii și Materiale de Muzeografie și Istorie Militară. București.

Starinar Starinar. Arheološki Institut. Beograd.

Stratum plus Stratum plus. Archaeology and Cultural Anthropology. Kishinev.

StCl Studii Clasice. București.
StComBrukenthal Studii și comunicări. Sibiu.
StudArch Studia Archaeologica. Budapest.
StudCom Studia Comitatensia. Szentendre.
Studii și Comunicări Studii și Comunicări. Arad.

StudUnivCib Studia Universitatis Cibiniensis. Sibiu.

StudCom – Vrancea Studii și Comunicări. Muzeul Județean de Istorie și Etnografie Vrancea. Focșani.

StudŽvest Študijne Zvesti Arheologického Ústavu Slovenskej Akademie Vied. Nitra.

Symp. Thrac. Symposia Thracologica. București.

Századok Századok. A Magyar Történelmi Társulat Folyóirata. Budapest.

TIR L34 D. Tudor, *Tabula Imperii Romani*. București 1965.

Tempora Obscura Tempora Obscura. Békéscsaba 2012.

Tibiscus. Timișoara.

VAH Varia Archaeologica Hungarica. Budapest.

VIA Visnik Institutu arkheolohii. L'viv.

Ziridava. Arad.

ZSA Ziridava Studia Archaeologica. Arad.

w.a. without author