Categoria A

REVISTA ARHEOLOGICĂ

serie nouă _ vol. XXI _ nr. 2

Indexată în bazele de date:

SCOPUS, ERIH PLUS, DOAJ, CEEOL, ROAD, ISIFI, CiteFactor

CHIŞINĂU 2025

ISSN 1857-016X
E-ISSN 2537-6144

INSTITUTUL PATRIMONIULUI CULTURAL
SECȚIA PATRIMONIU ARHEOLOGIC

REVISTA ARHEOLOGICĂ

Manuscrisele, cărţile şi revistele pentru schimb, precum şi orice alte materiale se vor trimite pe adresa: Colegiul de redacţie al „Revistei Arheologice", Secţia Patrimoniu Arheologic, Institutul Patrimoniului Cultural, bd. Ştefan cel Mare şi Sfânt 1, MD-2001, Chişinău, Republica Moldova

Рукописи, книги и журналы для обмена, а также другие материалы необходимо посылать по адресу: редакция «Археологического Журнала», Секция археологического наследия, Институт культурного наследия, бул. Штефан чел Маре ши Сфынт 1, MD-2001 Кишинэу, Республика Молдова

Manuscripts, books and reviews for exchange, as well as other papers are to be sent to the editorship of the "Archaeological Magazine", Section of Archaeological Heritage, Institute of Cultural Heritage, 1 Stefan cel Mare si Sfant bd., MD-2001 Chisinau, Republic of Moldova

Toate lucrările publicate în revistă sunt recenzate de specialişti în domeniu după modelul *double blind peer-review*
Все опубликованные материалы рецензируются специалистами по модели *double blind peer-review*
All the papers to be published will be reviewed by experts according the *double blind peer-review* model

CUPRINS – СОДЕРЖАНИЕ – CONTENTS

STUDII – ИССЛЕДОВАНИЯ – RESEARCHES

MATERIALE ŞI CERCETĂRI DE TEREN – МАТЕРИАЛЫ И ПОЛЕВЫЕ ИССЛЕДОВАНИЯ – PAPERS AND SURVEYS

DISCUŢII – ДИСКУССИИ – DISCUSSIONS

CERCETĂRI INTERDISCIPLINARE – МЕЖДИСЦИПЛИНАРНЫЕ ИССЛЕДОВАНИЯ – INTERDISCIPLINARY SURVEYS

RECENZII ŞI PREZENTĂRI DE CARTE – РЕЦЕНЗИИ И КНИЖНОЕ ОБОЗРЕНИЕ – PAPER AND BOOK REVIEW

IN MEMOREM

Irina Rusu, Sorin Ignătescu

New data on the Second Iron Age fortified settlement from Ibănești "Cetatea Măgurei"

Key words: East Carpathian area, Siret Ridge, fortified settlement, Ibănești, dwelling, 5th-3rd centuries BC.
Cuvinte cheie: spațiu est-carpatic, Culmea Siretului, așezare fortificată, Ibănești, locuință, sec. V-III î.Hr.

Irina Rusu, Sorin Ignătescu
New data on the Second Iron Age fortified settlement from Ibănești "Cetatea Măgurei"

This article presents the results of partial research on a dwelling identified within the fortified settlement of Ibănești (Botoșani County, Romania). The importance of the dwelling stems from the fact that it is the first habitat structure identified on the territory of this site. In terms of shape and inventory, this dwelling finds analogies in other settlements dating from the beginning of the second Iron Age. In addition, the authors highlight the most important moments in the history of research on the settlement at Ibănești, providing some new details about the shape and components of the defensive system.

Irina Rusu, Sorin Ignătescu
Noi date despre așezarea fortificată din epoca târzie a fierului de la Ibănești „Cetatea Măgurei"

În articolul de față sunt prezentate rezultatele cercetării parțiale ale unei locuințe identificate în incinta așezării fortificate de la Ibănești (jud. Botoșani, România). Importanța publicării locuinței derivă din faptul că este prima structură de habitat identificată pe suprafața acestui sit. După formă și inventar, această locuință își găsește analogii în alte așezări datate la începutul celei de-a doua epoci a fierului. Pe lângă aceasta, autorii subliniază cele mai importante momente din istoria cercetării așezării de la Ibănești, aducând câteva noi precizări despre forma și elementele componente ale sistemului defensiv.

Introduction

For understanding human habitation from the beginning of the Second Iron Age, fortified settlements play an important role. On the one hand, this category of sites impresses through their location, shape, and size; on the other hand, they pose a real challenge to archaeological research, since time, manpower, and financial resources are often limited. For this very reason, in the case of many fortified sites, archaeological investigations have focused only on the defensive system, as its dating allows for a cultural and chronological framing of the entire settlement. This situation also applies, at least in part, to the fortified settlement at Ibănești "Cetate" (Botoșani County, Romania), where the level of research has also been influenced by the advanced state of degradation caused by massive stone extractions from the plateau on which it stands.

The fortified settlement at Ibănești is well known in the archaeological literature dedicated to the Second Iron Age. The reason for bringing it back into discussion in this article is a series of field surveys carried out in the spring of 2024, during which we discovered the foundations of a modern building inside the settlement. The construction cut through the profile of an ancient dwelling, making its limits visible. Since the modern building was under construction, we only had time to clean the profile of the construction pit and collect the archaeological material.

In the following pages, we aim to present new data about the settlement in light of this newly identified dwelling. At the same time, we wish to offer a brief overview of the history of research at Ibănești, as well as the main characteristics of its defensive system, supplemented with our own observations.

Natural environment

The toponym "Măgura" associated with the Ibănești settlement suggests its location on a large, isolated hill situated on a watershed[1]. Indeed, the settlement is positioned on a plateau (geographic coordinates: Lat. 48°3'43.61"N; Long. 26°21'26.86"E), with a maximum altitude of 384 m, on the northern part of the Siret Ridge, a subunit of the Northern Moldavian Plateau [Boboc, Donisă 2023, 17] (fig. 1). Because it is located on the watershed, the site offers visibility over the Prut basin in all four cardinal directions. The nearest water source, a small unnamed stream, lies at a distance of about 140 m.

1. Definition of the term "Măgura" https://dexonline.ro/definitie/m%C4%83gur%C4%83, accesat pe 23/09/2025.

Revista Arheologică, serie nouă, vol. XXI, nr. 2, 2025, p. 64-74
http://doi.org/10.52603/RA.XXI.2.2025_06

History of research

Among all the fortified settlements located within the present-day borders of Botoşani County, the site at Ibăneşti has been the most consistently mentioned and researched across different historical periods, starting from the second half of the 19th century. It was visited not only by archaeologists but also by various cultural figures. This interest is due primarily to the fact that the settlement is located at "Ibăneşti, which is the highest point in the whole county", as described by Alexandru Odobescu [Odobescu 1908, 124].

As the earliest known source suggests, the site seems to have been discovered by chance. Engineer Nicu Filipescu Dubău, who was studying the geography of Dorohoi County (today part of Botoşani), produced a geomorphological description of the Măgura Hill on the Ibăneşti estate. In his published work, he also provided a brief description of the settlement's shape and defensive system, initially attributing it to the Tatars [Filipescu-Dubău 1891, 213]. Later, he communicated his observations on the settlement to Alexandru Odobescu, who included them in his responses to the Archaeological Questionnaire addressed to the intellectuals of Dorohoi County [Odobescu 1908, 123, 128-129].

During the interwar period, the fortified settlement on Măgura Hill was visited by painter Paul Verona, who published some information on its form and defensive system, classifying it, together with other sites, among medieval fortifications [Verona 1935-1936, 663-637]. Around the same time, at Verona's suggestion, the site was surveyed by archaeologist Ceslav Ambrojevici together with biologist Radu Popovici, who offered a similar cultural attribution [Ambrojevici, Popovici 1945, 118-119].

After the Second World War, interest in the Ibăneşti settlement shifted to the academic center in Iaşi, through researchers such as Neculai Zaharia and Dan Teodor, who carried out fieldwork there [Şovan 2013, 255]. Finally, in 1986-1987, Paul Şadurschi and Emil Moscalu conducted the first archaeological excavation at the site, with the goal of documenting and salvaging what remained of the defensive system, damaged, like much of the interior, by stone quarrying [Şadurschi, Moscalu 1989, 183-184].

Characteristics of the Defensive System

From the perspective of its position on the structural relief [Rădoane *et all.* 2000, 186-189], the fortified settlement at Ibăneşti belongs to the category of sites located on the reverse slopes of cuestas near the ridge. Such settlements typically have two sides formed by steep escarpments,in this case, the northeast and northwest sides, while one side has a gentler slope, here the southern side.

Nicu Filipescu-Dubău noted that the settlement has a "round-oval" shape, bordered on the southeast by a ditch approximately 3 m deep. The entrance to the settlement was presumably on the southeast side, where the defensive system is inter-

Fig. 1. Photograph of the fortified settlement at Ibăneşti, taken from the southwest.

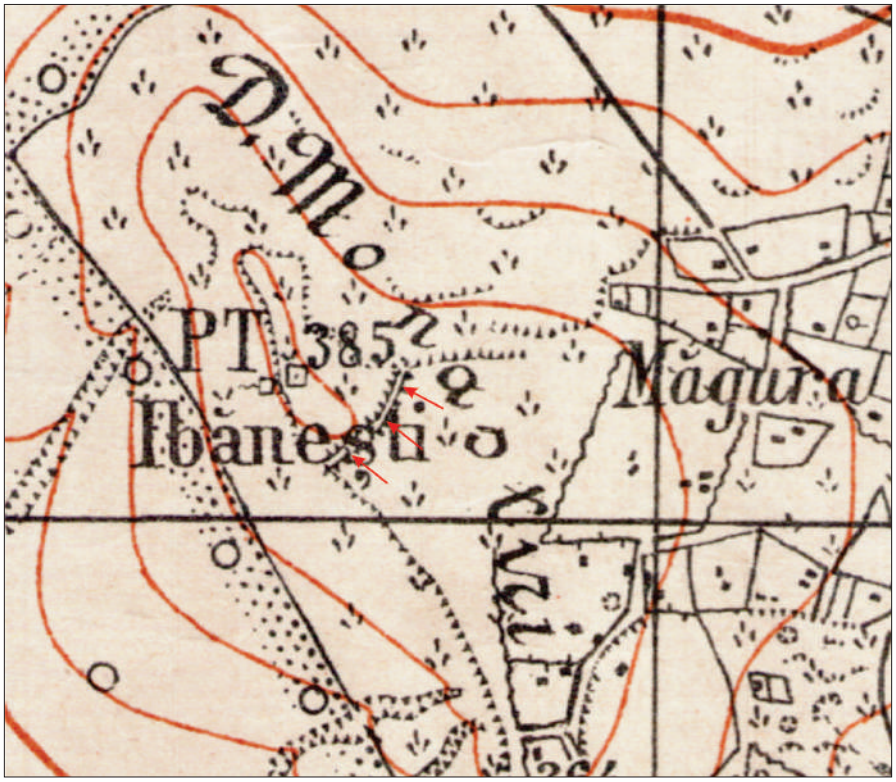

Fig. 2. The defensive system of the Ibăneşti settlement as represented on a military topographic map, scale 1:20,000, produced in 1927.

rupted by a country road [Filipescu-Dubău 1891, 213], which has survived to the present day. This information is also confirmed by a 1:20,000 military topographic map created in 1927 (fig. 2), where two hatched lines indicate the defensive system on the southern side of the settlement, a fact corroborated by excavations conducted in 1986-1987.

The authors of the diggings indicate that at the base of the rampart, in sections II and III and in test pit I, a layer 0.35-0.40 m thick composed of burned soil mixed with charcoal, bones, and pottery was found. Above this, another yellow-brown soil layer was deposited, bringing the total height to 0.75 m. Based on these findings, it has been suggested that the defensive system was constructed in two phases. In the first phase, only a wooden palisade and a ditch were installed. In the second phase, a rampart was added next to the ditch, and a new palisade was built over the old one as a superstructure [Şadurschi, Moscalu 1989, 186] (fig. 3,1-3).

From our perspective, the compacted layer observed in the rampart represents its core rather than an independent fortification element. Regarding the ditch documented in section IV, which is 2.80 m deep, it was noted that the northern part, closest to the rampart, was paved with stone, including a large flat stone on its lower surface [Şadurschi, Moscalu 1989, 185] (fig. 3,4-5). Currently, this type of ditch construction is clearly documented only at this settlement.

Therefore, the excavated defensive system consists of a rampart and a ditch, with the palisade being only inferred. According to the typology of fortified settlements' defensive components in the extra-Carpathian region proposed by Aurel Zanoci [Zanoci 1998, 36-41], the Ibăneşti system falls into Type V, along with sites such as Cotu [Şovan, Ignat 2005, 30], Feteşti [Ignătescu *et all.* 2024, 137], Mereşti [Popovici, Ignat 1981, 547-549], and Stânceşti [Florescu, Florescu 2005, 131-142], among others excavated in the nearby area.

In more recent field research, archaeologist Alexandru Berzovan proposed the existence of a second defensive line, consisting of a rampart and a ditch located outside the excavated area [Berzovan 2022, 117-118]. Our field observations confirm the presence of this second line, of which only the rampart remains visible. Overlaying satellite imagery of surviving rampart sections with Berzovan's published plan [Berzovan 2022, Fig.

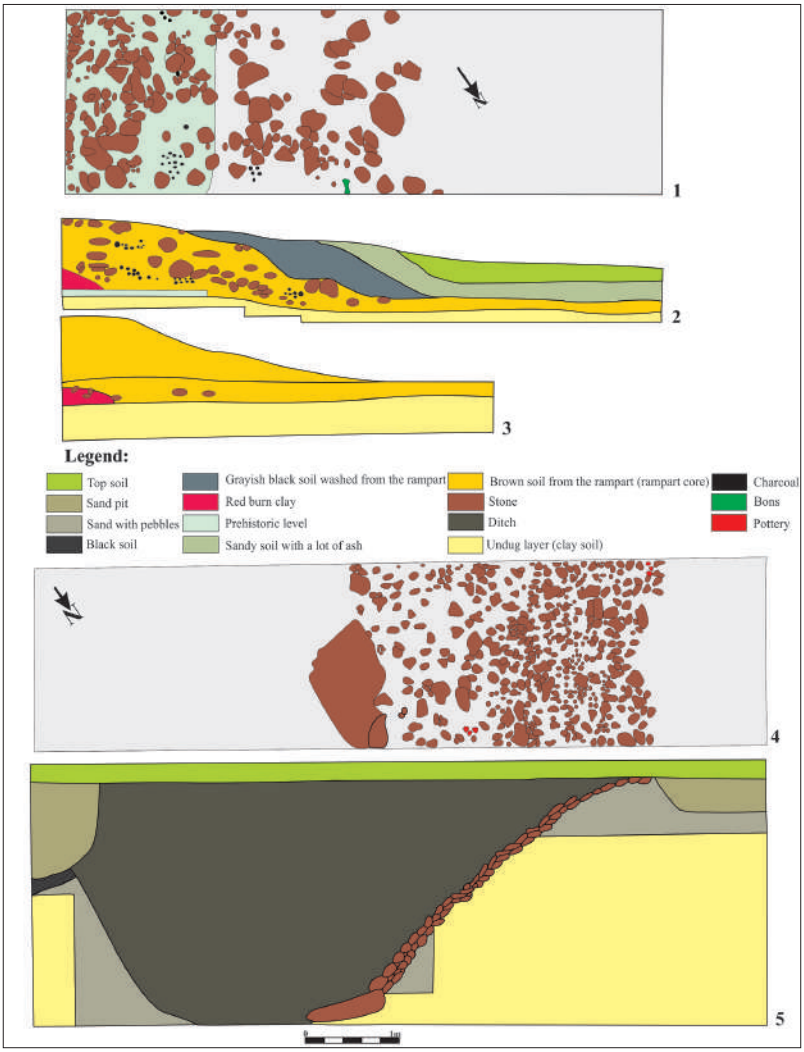

Fig. 3. Plan and western profile of Section II (1-2); Profile of Section III (3); Plan and profile of Section IV (4-5), adapted from [Moscalu, Şadurschi 1989, Fig. 3-4].

83] shows that the second defensive line lies several tens of meters further north. On the ground, the rampart's shape, although heavily degraded, can be seen near the garden of the third house on the plateau, numbered from north to south. To the east, the rampart appears more flattened, having been shifted southward due to a road built across its surface (fig. 5,1-2).

Correlating our observations with the data above, the fortified settlement at Ibăneşti, architecturally, comprises two enclosures: the first is triangular, the second square, covering a total area of approximately 7.63 ha. The defensive system consists of two rampart-and-ditch structures, placed about 100 m apart in a straight line, both adapted to the topography (fig. 4,1).

Architecture of the Dwelling

As mentioned in the introduction, in the spring of 2024, a dwelling was observed within the settlement, specifically part of its southwest profile, on one side of the foundation for a modern building, from the surface to a depth of –1.20 m (fig. 6). We have labeled it as Dwelling 1, as it is the first structure of this type documented in the settlement. The dwelling is located near the first defensive line, approximately 70 m north. The criteria used to identify it as a habitation structure include its shape, the presence of a heating installation, wall remnants, charcoal, and, not least, the inventory found inside.

Regarding the architecture of the dwelling, very few details can be deduced from the profile. It can be stated with certainty that it belongs to

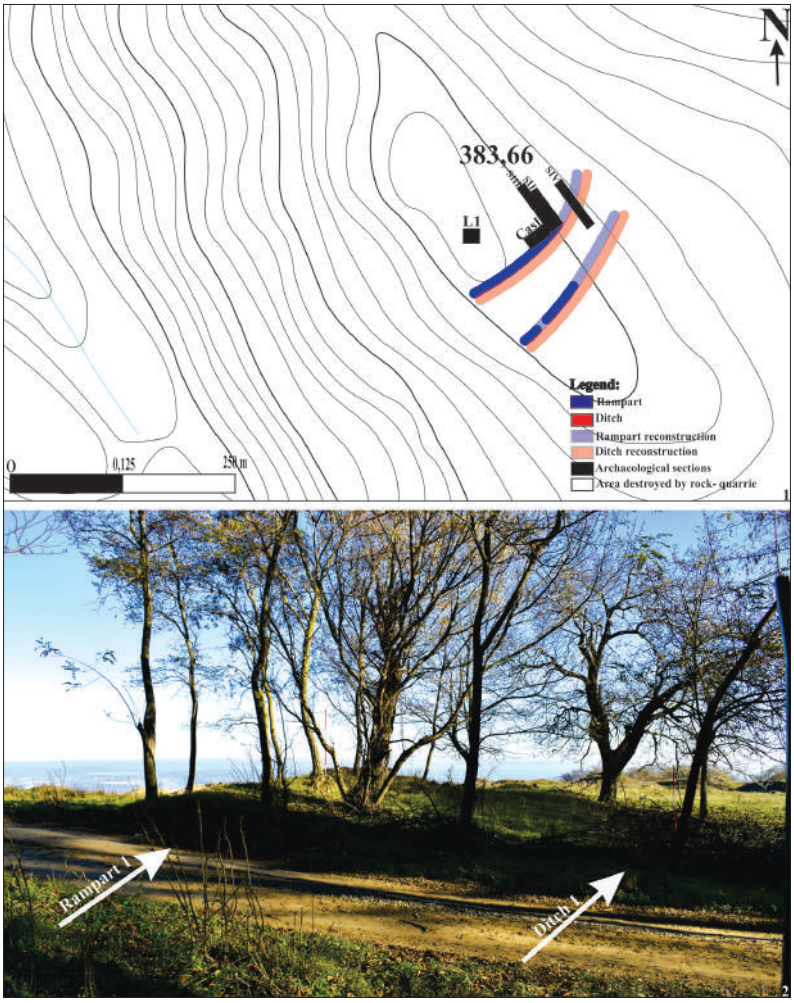

Fig. 4. Plan of the fortified settlement at Ibănești (1), adapted from [Berzovan 2022, Fig. 83]; Photograph of the defensive system (rampart and ditch 1) from the west (2) (photo by Irina Rusu 2024).

the category of pit dwellings, approximately 1 m below the ancient surface. Its shape is oval, measuring at least 3.80 m along the long axis. The presence of clay fragments with wooden impressions indicates that these materials were used in its construction. The floor was unprepared. The large quantity of ash suggests that the heating system was rudimentary, consisting of a simple hearth built on the floor. The dwelling's inventory indicates that this area was most likely used for cooking (fig. 7).

The dwelling at Ibănești finds its closest analogies in the fortified settlement at Stânceşti, Enclosure I, where dwellings Lsbd1, Lsbd5, Lsbd7-Lsbd8, Lsbd11-Lsbd14 on the first occupation level and dwellings Lsbd17-Lsbd30 on the third occupation level share the same oval shape [Florescu, Florescu 2005, 30-35, 42-47]. The same type of heating installation was discovered in dwellings Lsbd7-Lsbd8 and Lsbd24 at the same site [Florescu, Florescu 2005, 32-33, 45], as well as in dwellings L13-L14 in the fortified settlement from Cotu [Şovan, Ignat 2005, 22-23].

Inventory of the Dwelling

Inside the dwelling, a knife blade and 154 ceramic fragments were discovered. However, for most of the fragments, it was not possible to reconstruct the original shape of the vessel.

From a technological standpoint, most of the ceramic fragments are hand-modeled. We distinguish fragments made from a semi-coarse clay paste with lithoclast and silt inclusions, 1-2 mm thick, as seen in fragments 6 and 16-17 from fig. 10, with sand and ceramic inclusions often added, usually in combination with lithoclasts. Fine ce-

Fig. 5. Photographs of the defensive system (rampart and ditch 2) from the east (1) and of the area affected by stone extraction from the southeast (2).

ramics are less numerous (fig. 10,4) but contain similar inclusions. The color of the fragments is not uniform, ranging from yellow-red to yellow-gray and gray-black within the same piece. Some fragments have a yellow exterior and a black interior, indicating that the vessels were fired in a reducing atmosphere. Most surfaces are rough, suggesting that finishing was not a priority. Some vessels retain traces of slip in the form of a thin clay layer about 3 mm thick applied over the semi-coarse paste with ceramic inclusions (fig. 9,1).

Morphologically, several vessel forms are distinguished. The first belongs to the globular category, or vessels with a rounded body. One partially reconstructed vessel fits this type, with a straight neck and flat, flared rim (h = 44 cm; md = 38 cm; nd = 11.8 cm; bd = 12 cm; wt = 7-8 mm) (fig. 9,1). Based on the shape of the neck and body, we can find analogies for it in the Stânceşti settlement, specifically dwelling Lsbd3 on the first occupation level (6th-5th century BC) and dwelling LII on the second level (4th century BC) [Florescu, Florescu 2005, Fig. 70/1, 71/6]. These vessels are undecorated but feature four flattened conical handles at the maximum diameter.

A second reconstructed vessel, also globular but with an elongated body and a short, flared neck, measures h = 53 cm; md = 34.5 cm; nd = 24.7 cm; bd = 12 cm; wt = 8 mm. A similar example was found in tomb 2 of the necropolis from Bosanci (Suceava County), dated to the 4th century BC [Ignat 1973, Fig. 2/4].

Another form belongs to bowls. One such example, found in the dwelling, has a straight upper section and rounded midsection (fig. 10,4). Similar bowls were discovered near the settlement's defensive system [Şadurschi, Moscalu 1989, Fig. 7/2-3]. This form, in its various subtypes, is common in settlements from the beginning of the Second Iron Age. For example, the Ibăneşti specimen is similar to one found in dwelling LSbd15, enclosure I, at Stânceşti [Florescu, Florescu 2005, Fig. 76/6].

Another category includes bell-shaped vessels or vessels decorated with an alveolar band, as classified by the excavators at Ibăneşti [Şadurschi, Moscalu 1989, 187]. Three such examples were

Fig. 6. Photograph of the profile of the modern construction in which the dwelling (L1) of the fortified settlement at Ibăneşti is visible.

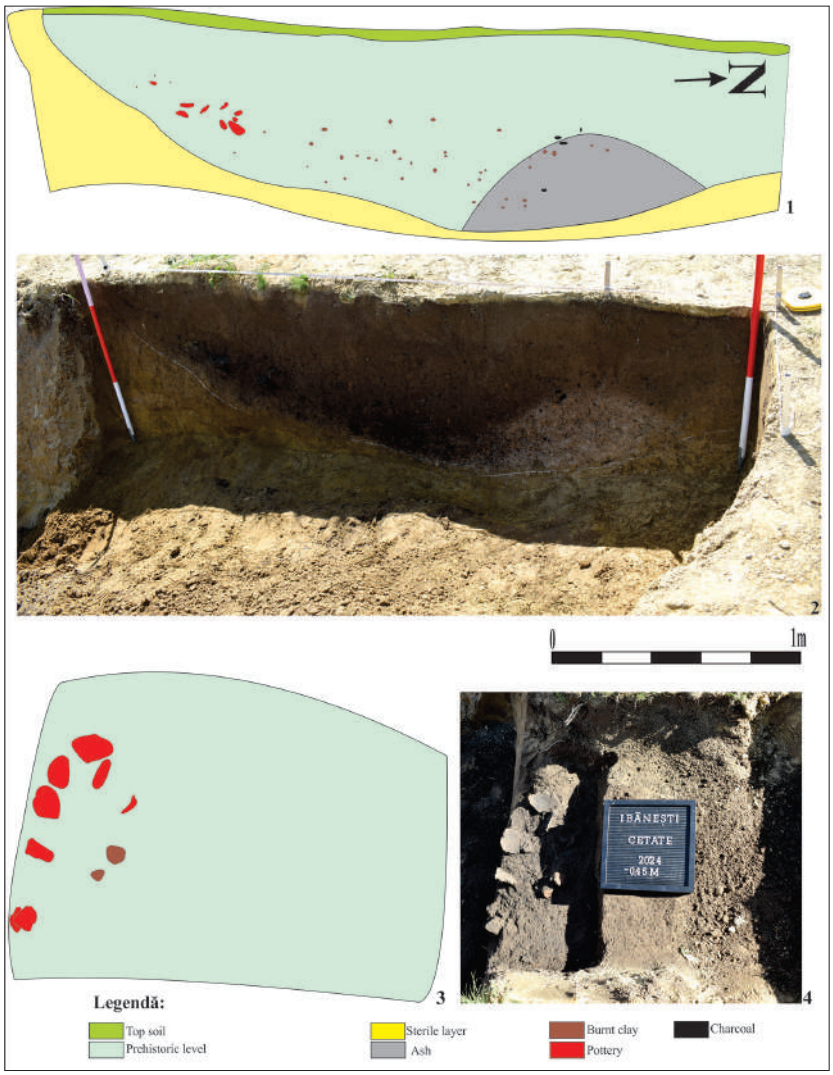

Fig. 7. Profile (1), plan (3), and photographs (2, 4) of Dwelling 1 (L1) from the fortified settlement at Ibănești (drawings and photographs by Irina Rusu, 2024).

found in the dwelling (fig. 10,1-3), though other fragments with banded decoration may also belong to this type (fig. 10,9-11,13,15-17). Some were also found near the defensive system [Șadurschi, Moscalu 1989, Fig. 5/1-3]. Similar forms, with various subtypes and decorations, appear at the nearby fortified settlement at Cotu [Șovan, Ignat 2005, Fig. 12]. Flattened handles were also found in this dwelling (fig. 10,7-8).

Another form is that of bell-shaped vessels or vessels decorated with alveolar bands, as the authors of the excavations at Ibănești called them [Șadurschi, Moscalu, 1989, 187]. Three such specimens were discovered in the dwelling (fig. 10,1-3), but it is not excluded that other fragments decorated with bands belong to this type of vessels (fig. 10,9-11,13; 15,17). Such specimens, some also provided with conical handles, were also discovered in the vicinity of the defensive system of the settlement [Șadurschi, Moscalu 1989, Fig. 5/1-3]. In the proximal area, they are found in different subtypes and with different decorations and in the fortified settlement at Cotu [Șovan, Ignat 2005, Fig. 12]. We mention that flattened handles were also found in the dwelling discussed (fig. 10,7-8). Regarding decoration, most vessels feature only bands, executed in different ways. On some (fig. 10,1,9-10,13), the bands are simple, appearing as thickened lines above the midsection. On others, the bands are interrupted by straight or oblique alveolations (fig. 10,2-3,11,16). Only one fragment is decorated with grooves (fig. 10,17). This type of

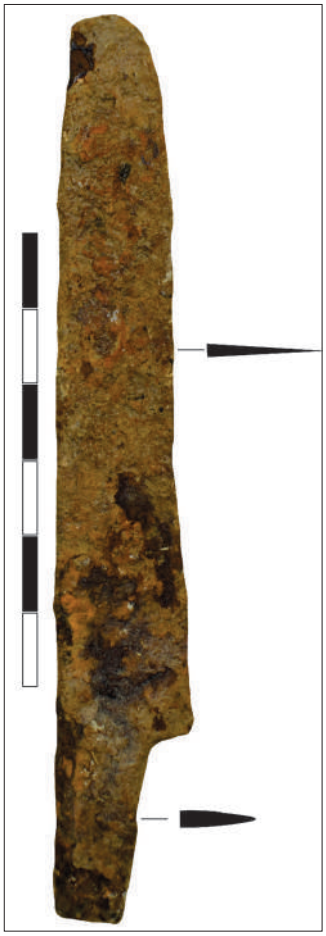

Fig. 8. Photograph of the knife discovered in Dwelling L1.

decoration is rare in both fortified and unfortified settlements of the early Second Iron Age, with one comparable fragment recorded in the Stânceşti monograph [Florescu, Florescu 2005, Fig. 96/1]. Although the dwelling and enclosure were this fragment was found are not specified, it is likely hand-modeled pottery, especially since another complete bowl decorated in the same manner comes from the same site and will be published separately in the future. Grooved decoration is more characteristic of First Iron Age vessels, the Chişinău-Corlăteni culture (e.g., Mihălăşeni settlement [Iconomu, Şovan 1997, Fig. 5/1-2; Fig. 7/1-5,]) and, to a lesser extent, the Western Podolian group of the Late Hallstatt, as shown by findings at Trinca "Izvorul lui Luca" [Levițchi 2010, Fig. 6/1] and Lipcani "La Rabii" [Levițchi *et all.* 2010, Fig. 3/9], within the same area as Ibăneşti.

The knife discovered in the dwelling is heavily corroded but largely intact, with the blade and part of the handle preserved (fig. 8). Its dimensions are L = 12 cm; w = 1.6 cm; t = 2–3 mm. The blade is straight, narrow, and has a rounded tip. Similar, though fragmented, knives were found in the fortified settlement at Stânceşti [Florescu, Florescu 2005, Fig. 55/7, 10].

To find out more about the object we analyze its surface in three spots, that seemed less afected by corrosion, using an XRF Niton XL3t GOLDD+ (Table 1).

The analyzed knife is predominantly composed of iron (Fe ~97–99%), with consistent natural impurities, including cobalt (Co ~0.38–0.50%), manganese (Mn ~0.08–0.17%), titanium (Ti ~0.08–0.3%), and trace amounts of molybdenum (Mo) and niobium (Nb). This chemical profile strongly suggests that the metal was produced from a local cobaltic iron ore rather than imported or artificially alloyed material. The reproducibility of Co and Mn across multiple measurement spots points to their origin as inherent components of the ore rather than post-depositional contamination or surface corrosion.

The presence of titanium, together with cobalt and manganese, indicates that the source ore likely included magnetite or hematite with accessory cobaltic spinels, such as jacobsite ($MnFe_2O_4$), which are known to occur naturally in the northern and extra-Carpathian iron-rich deposits. Minor variations in Sn and Cu among the measured spots may reflect localized inclusions in the ore or minor contamination during the smelting and forging process, rather than deliberate alloying.

%	Fe	Mn	Co	Ti	Cr	V	Sn	Cu	Zn	Zr	Mo	Nb
Area A	97.4729	0.1729	0.5048	0.2935	0.0504	0.0479	0.0579	0.0531	0.0255	0.0360	-	-
Area B	99.3216	0.0777	0.3871	0.1135	-	-	0.0294	0.0296	0.0138	0.0228	0.0019	0.0010
Area C	99.0839	0.0925	0.4210	0.0845	-	-	0.0717	0.2137	0.0114	0.0147	0.0036	0.0014

Table 1. The results analyzes using XRF Niton XL3tGOLD+.

Geochemically, the distribution of Co, Mn, Ti, and trace Mo/Nb is consistent with iron ores from

Fig. 9. Ceramic vessels identified in Dwelling L1.

Northern Romania or adjacent extra-Carpathian regions [Hîrtopanu 2024, 26]. This fingerprint aligns well with the known mineralogical characteristics of these deposits, supporting a local or regional origin for the raw material. Such data provide valuable insights into the procurement strategies, technological capabilities, and trade networks of early Iron Age communities in this part of Eastern Europe.

Conclusions

The site from Ibănești provides important insights into the organization of fortified settlements in the early Second Iron Age. Its strategic hilltop location, two-tier defensive system, and adaptive engineering illustrate careful planning. The identified dwelling reveals domestic life, including cooking and tool use, and ceramics show

Fig. 10. Ceramic vessels identified in Dwelling L1.

both functional and decorative variation. The features of the pottery and tools suggest that this archaeological structure belongs to the first centuries (5-3 BC) of the Second Iron Age. Continued field research, particularly in unexcavated areas, promises to further illuminate the complexity of the settlement and its role within the broader cultural landscape of northeastern Romania.

Bibliography

Berzovan 2022: Al. Berzovan, At the borders of the great steppe, Late Iron Age Hillforts between the Eastern Carpathian and Prut (5th-3rd centuries BC). (Cluj-Napoca 2022).

Filipescu-Dubău 1981: N. Filipescu-Dubău, Dicţionar geografic al judeţului Dorohoi. (Iaşi 1981).
Florescu, Florescu 2005: A.C. Florescu, M. Florescu, Cetăţile traco-getice din secolele VI-III a. Chr de la Stânceşti (jud. Botoşani). (Târgovişte 2005).
Hîrtopanu 2024: P. Hîrtopanu, Geochimistry and origin of banded ore of manganese belt, eastern Carpathians, Romania. Revue Roumaine de Géologie, 66-67, (2022-2023), 2024, 19-37.
Iconomu, Șovan 1997: C. Iconomu, O.L. Șovan, Noi descoperiri arheologice ale culturii Chișinău-Corlăteni la Mihălășeni, jud. Botoșani. Arheologia Moldovei, XX, 1997, 13-25.
Ignat 1973: M. Ignat, Descoperirile din Latène-ul timpuriu de la Bosanci (Jud. Suceava). Studii și Cercetări de Istorie Veche și Arheologie, 24, nr. 3, 1973, 534-537.
Ignătescu *et all.* 2024: S. Ignătescu, D. Boghian, I. Rusu, G. Florescu, I.-A. Cristea, B.-P. Niculică, A. Pascariu, N.-A. Coroamă, N.-A. Gheorghiță, G. Gălățanu, P.A. Grigoraș, I.-A., Guia, E.-A. Iluc, M.-I. Tiron, A. Chitic, F.-B. Ivaniuc, L.-A. Andrei, C. Curcan, A.-M. Mărănduca, Fetești, com Adâncata, jud. Suceava. Cronica cercetărilor arheologice din România. Campania 2023, 2024, 137-139.
Levițchi 2010: O. Levițchi, Complexe hallstattiene târzii cu ceramică lucrată la roată din așezarea Trinca „Izvorul lui Luca". Arheologia Moldovei, XXXIII, 2010, 69-114.
Levițchi *et all.* 2010: O. Levițchi, Gh. Sîrbu, A. Babii, Lipcani „La Rabii" – un nou sit arheologic cu nivel de locuire Hallstattian târziu în zona Podișului Moldovei de Nord. Revista Arheologică, serie nouă, vol. V, nr.1, 2010, 142-150.
Popovici, Ignat 1981: D. Popovici, M. Ignat, Cercetări arheologice din „Cetăţuia" de la Mereşti (com. Vultureşti, Jud. Suceava). Suceava. Anuarul Muzeului Județean, 1981, 545-551.
Rădoane *et all.* 2000: M. Rădoane, D. Dumitru, I. Ichim, Geomorfologia. Vol. I. (Suceava 2000).
Șadurschi, Moscalu 1989: P. Șadurschi, E. Moscalu, O nouă cetate getică aparţinând aspectului cultural Canlia de la Ibănești (județul Botoșani). Hierasus,VII-VIII, 1989, 183-199.
Șovan, Ignat 2005: O. L. Șovan, M. Ignat, Așezarea getică fortificată de la Cotu-Copălău Jud. Botoșani. (Târgovişte 2005).
Zanoci 1998: A. Zanoci, Fortificaţiile geto-dacice din spaţiul extracarpatic în secolele VI-III a. Chr. (Bucureşti 1998).

Abreviations used in text
h – height
md – maximum diameter
nd – neck diameter
bd – base diameter
wt – wall thikness
L – lenght
w – wide
t – thikness

Irina Rusu, PhD student, "Ştefan cel Mare" University of Suceava, 13 Universităţii Street, e-mail: irinarusu.1998moon@gmail.com, ORCID: 0000-0003-3381-8514.

Sorin Ignătescu, PhD, "Ștefan cel Mare" University of Suceava, 13 Universităţii Street, e-mail: soring@atlas.usv.ro, ORCID: 0000-0002-6269-7718.