

ZIRIDAVA  
STUDIA ARCHAEOLOGICA

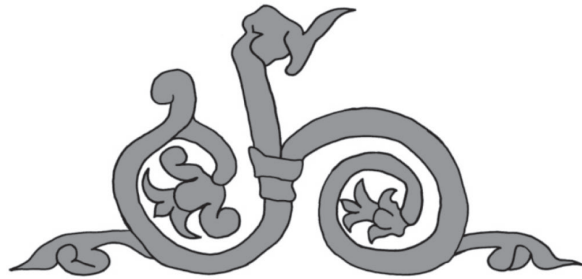
27

2013



MUSEUM ARAD

---



ZIRIDAVA  
STUDIA ARCHAEOLOGICA

---

27  
2013

**Editura MEGA**  
Cluj-Napoca  
2013

## MUSEUM ARAD

### EDITORIAL BOARD

Editor-in-chief: Peter Hügel.

Editorial Assistants: Florin Mărginean, Victor Sava, George P. Hurezan.

### EDITORIAL ADVISORY BOARD

M. Cârciumaru (Târgoviște, Romania), S. Cociș (Cluj-Napoca, Romania), F. Gogâltan (Cluj-Napoca, Romania), S. A. Luca (Sibiu, Romania), V. Kulcsár (Szeged, Hungary), J. O'Shea (Michigan, USA), K. Z. Pinter (Sibiu, Romania), I. Stanciu (Cluj-Napoca, Romania), I. Szatmári (Békéscsaba, Hungary).

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

### ZIRIDAVA STUDIA ARCHAEOLOGICA

Any correspondence will be sent to the editor:

Museum Arad

Piata George Enescu 1, 310131 Arad, RO

e-mail: ziridava2012@gmail.com

The content of the papers totally involve the responsibility of the authors.

Layout: Francisc Baja, Florin Mărginean, Victor Sava

ISSN: 1224-7316



EDITURA MEGA | [www.edituramega.ro](http://www.edituramega.ro)

e-mail: [mega@edituramega.ro](mailto:mega@edituramega.ro)

# Contents

<b>Radu Pop, Călin Ghemiș</b> Contributions to the Knowledge of Parietal Art in North-Western Transylvania. the Discoveries from Ileanda (Sălaj County).....	7
<b>Florin Gogâltan, Victor Sava, Lucian Mercea</b> Sântana “Cetatea Veche”. Metal and power.....	21
<b>Péter Polgár</b> Anzeichen der Metallbearbeitung bei einer Fundstelle in der Gemarkung von Sopron.....	73
<b>Cristian Ioan Popa</b> A Bronze-Age Hoard Discovered in Ampoița (Alba County).....	81
<b>Victor Sava, Dan Matei</b> Prehistoric and Second-fourth-century Discoveries on the Present-day Territory of Aradu Nou District, in the City of Arad.....	89
<b>Cosmin Mihail Coatu, Adrian Socaci</b> Des monnaies antiques appartenant a une collection privee.....	123
<b>Iosif Vasile Ferencz</b> Dacian Objects from Ardeu in the Collection of the MNIR.....	135
<b>Cristian Constantin Roman</b> Landmarks in the Development of Carthographic Representations of the Dacian Settlement in Ardeu (Municipality of Balșa, Hunedoara County).....	145
<b>Alexandru Berzovan</b> Considerations on “Troianul” in Țara Zarandului.....	161
<b>Petru Ureche</b> The Bow and Arrow during the Roman Era.....	183
<b>Erwin Gáll</b> Two 10–11 <sup>th</sup> century arrow-heads from the environs of Kotori/Cattaro – Herceg Novi/Castelnuovo. Archaeology (?) and art-dealing in the Balkans.....	197
<b>Erwin Gáll</b> 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. ....	203
<b>Luminița Andreica</b> Implications of a tibia and fibula fracture in the secondary adaptation of the skeleton of an individual discovered in Nădlac “Lutărie” (Arad County).....	247
<b>Florin Mărginean, George P. Hurezan, Augustin Mureșan</b> The Medieval Church in the Village of Secaș (Arad County) and its Vestiges.....	253

**Florin Ciulavu**

The Monetary Reform of Vladislav II of Walachia (1447–1448; 1448–1456). Survey of research.....259

**Corina Toma**

A Monetary Hoard Discovered in the Settlement of Cristur (Bihor County). Aspects on the Monetary circulation of Thalers in Crişana during the Second Half of the Sixteenth Century.....279

**Abbreviations**.....299

# 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)<sup>1</sup>, or “Iarcul” (The Ditch)<sup>2</sup>. 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 Dumitrașcu<sup>3</sup> who formulated three hypotheses on its chronology and function<sup>4</sup>. 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 Dacia<sup>5</sup>.

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 study<sup>6</sup>.

\* English translation: Ana M. Gruia.

<sup>1</sup> 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).

<sup>2</sup> 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”.

<sup>3</sup> 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.

<sup>4</sup> Dumitrașcu 1969, 483–481; Dumitrașcu 2007, 187–194.

<sup>5</sup> Dumitrașcu 1993, 82.

<sup>6</sup> 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 Sándor<sup>7</sup>, 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 Zarand<sup>8</sup>, using as source the notes of another scholar of that era, Fábíán Gábor<sup>9</sup>. 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)<sup>10</sup> 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.

<sup>7</sup> 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).

<sup>8</sup> Márki 1892, 29–30. See also Dumitraşcu 2007, 188, n. 8.

<sup>9</sup> Márki 1892, 31.

<sup>10</sup> Available online at [http://archivportal.arcanum.hu/maps/html/katfelm2b\\_google.html](http://archivportal.arcanum.hu/maps/html/katfelm2b_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).

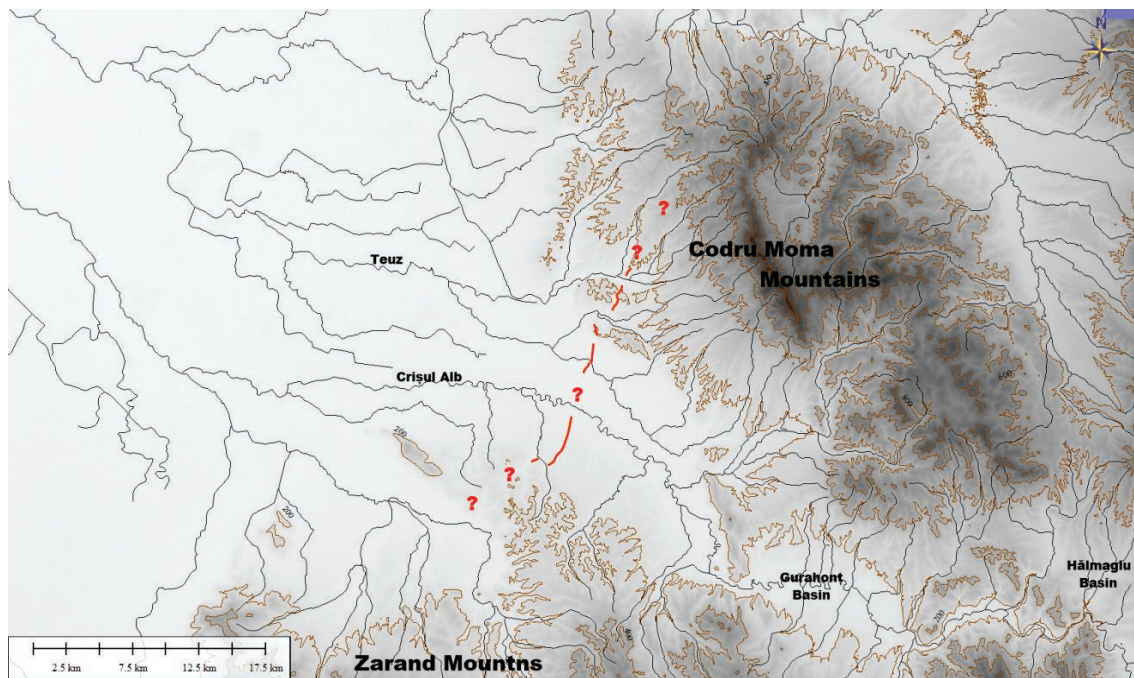


Fig. 2. Map of Țara Zarandului with the preserved segments of the “Troian” and its hypothetical extensions

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 1:5000<sup>11</sup>. 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 plans<sup>12</sup>. I was surprised to notice that most of the “Troian” (though with significant

<sup>11</sup> The images can be accessed at <http://geoportal.ancpi.ro/geoportal/viewer/index.html> (accessed 15.03.2013).

<sup>12</sup> 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)<sup>13</sup>.

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*”<sup>14</sup>. 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 confusing<sup>15</sup>. 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”<sup>16</sup>; 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.

<sup>13</sup> 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>).

<sup>14</sup> Dumitraşcu 2007, 190.

<sup>15</sup> Thus, some of the locals interpret the massive ditch as the result of a tunnel’s vault collapsing.

<sup>16</sup> 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.

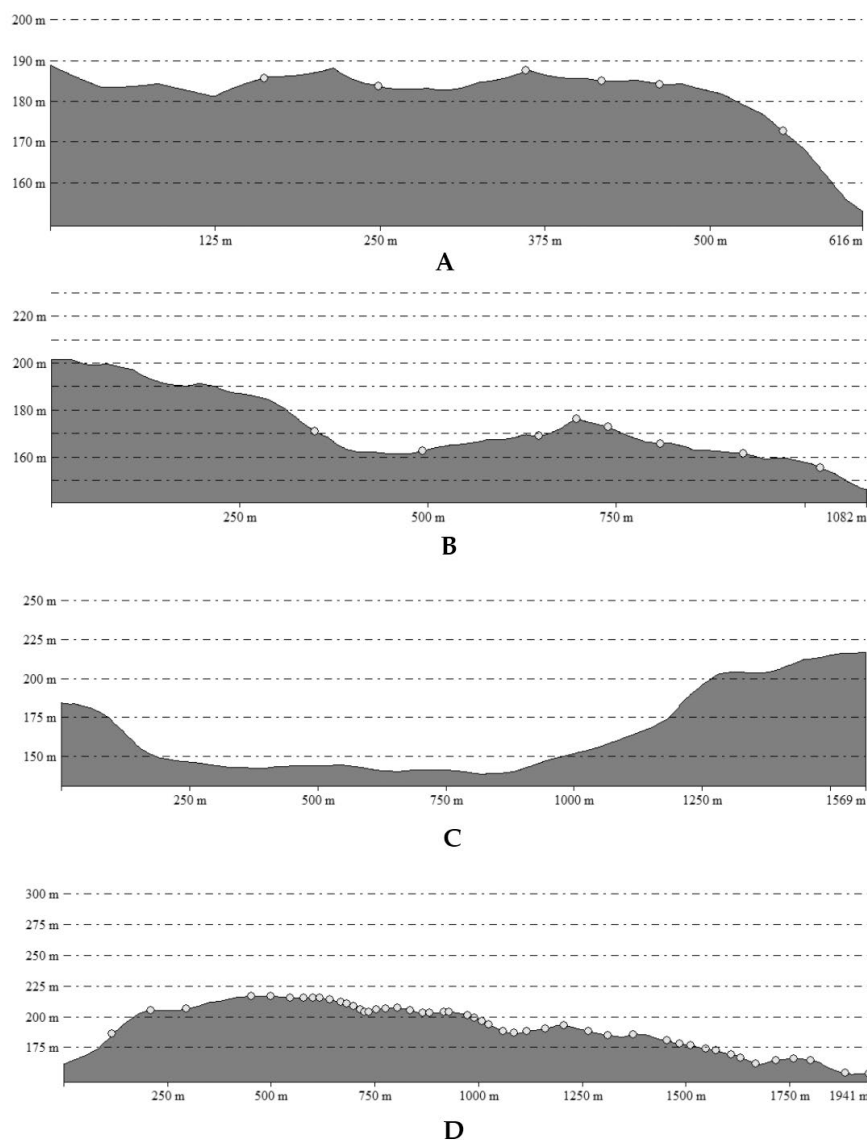


Fig. 3. Altimetric profiles: A. Segment I; B. Western peak of Segment I; C. Longitudinal profile The Valley of Beliu (N-S); D: Segment II

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 mentioned<sup>17</sup>, 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

<sup>17</sup> 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 observations<sup>18</sup> 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.<sup>19</sup>

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 maps<sup>20</sup>, 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.

<sup>18</sup> Dumitrașcu 2007, 190.

<sup>19</sup> 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).

<sup>20</sup> 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 – Răpsig<sup>21</sup> (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 Mare<sup>22</sup>. 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 researches<sup>23</sup>.

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 segments<sup>24</sup>.

### 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"<sup>25</sup> (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-west<sup>26</sup>! 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.

<sup>21</sup> Márki 1892, 29.

<sup>22</sup> Pădurean 1972, 3.

<sup>23</sup> 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.

<sup>24</sup> 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.

<sup>25</sup> Dumitrașcu 2007, 191, fig. 3.

<sup>26</sup> 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.

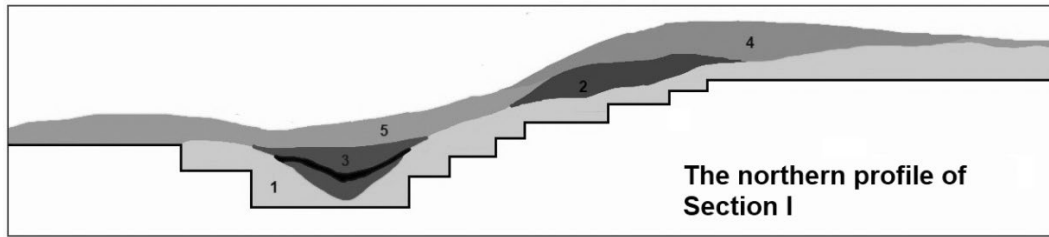


Fig. 4. Profile of the northern wall of Section I, taken from S. Dumitrașcu (adapted by A. Berzovan) 1. undisturbed brick-red clay, with concretions (sterile); 2. Light grey clay with traces of coal and vegetal remains (the ancient humus maybe together with works performed before the erection of the 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.

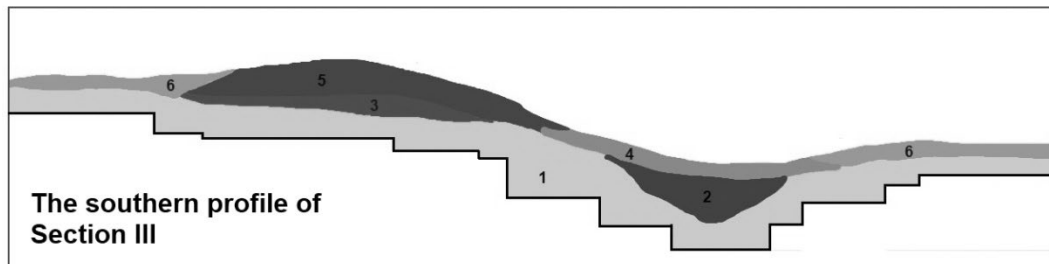


Fig. 5. Profile of the southern wall of Section III, taken from S. Dumitrașcu (adapted by A. Berzovan) 1. Brick-red clay pigmented with grey clay, undisturbed, with concretions (sterile); 2. Grey clay, with as hand coal, used for filling; 3. Grey-yellowish clay with traces of coal and vegetal remains; 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 m<sup>3</sup> / 14 working hours per person<sup>27</sup>. 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 execution<sup>28</sup> (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.

<sup>27</sup> 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.

<sup>28</sup> 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

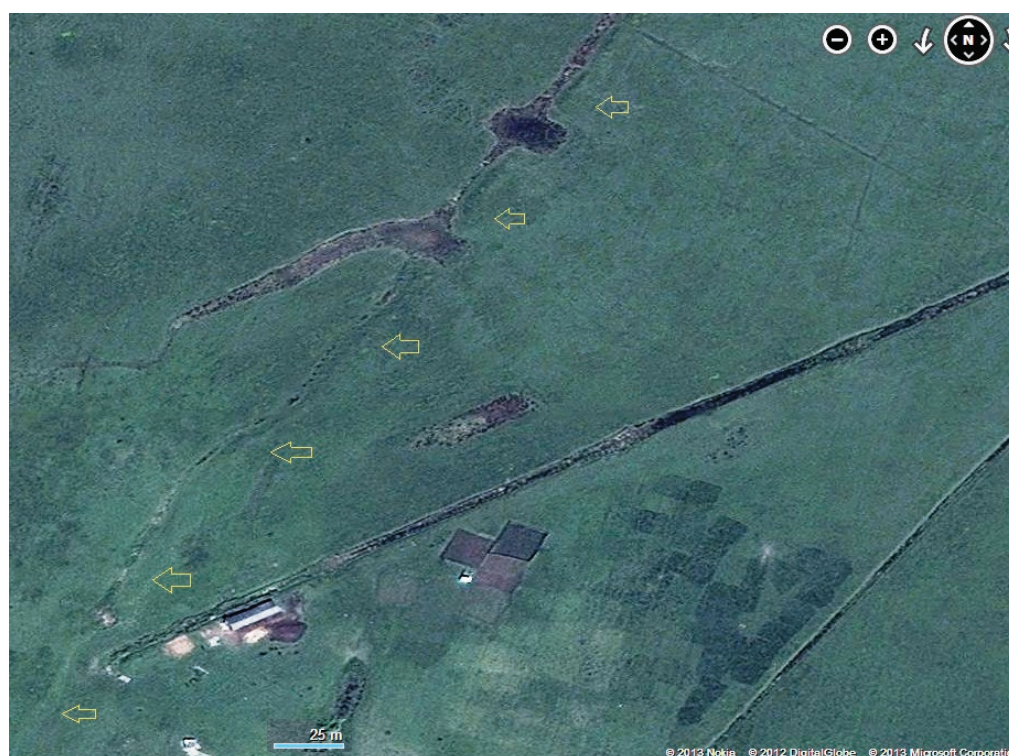


Fig. 7. Part of Segment V (image BingMaps)



## 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 probable<sup>29</sup>.

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”<sup>30</sup> 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”<sup>31</sup> and Groșeni – “Jidovina”<sup>32</sup> 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 Plain<sup>33</sup>. 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 construction<sup>34</sup>, which, as previously noted, required significant efforts<sup>35</sup>; 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 finds<sup>36</sup> east of the attested (and

<sup>29</sup> 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.

<sup>30</sup> RAJ Arad 1999, 46

<sup>31</sup> Dumitrașcu 1970, 142–160; Dumitrașcu 1972, 120–149

<sup>32</sup> RAJ Arad 1999, 73; Pădureanu 2000, 13–24

<sup>33</sup> 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).

<sup>34</sup> Even if one admits that, directly or indirectly, they were under the suzerainty of other powers of that era, such as the Bulgarian Tsardom.

<sup>35</sup> 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).

<sup>36</sup> 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.

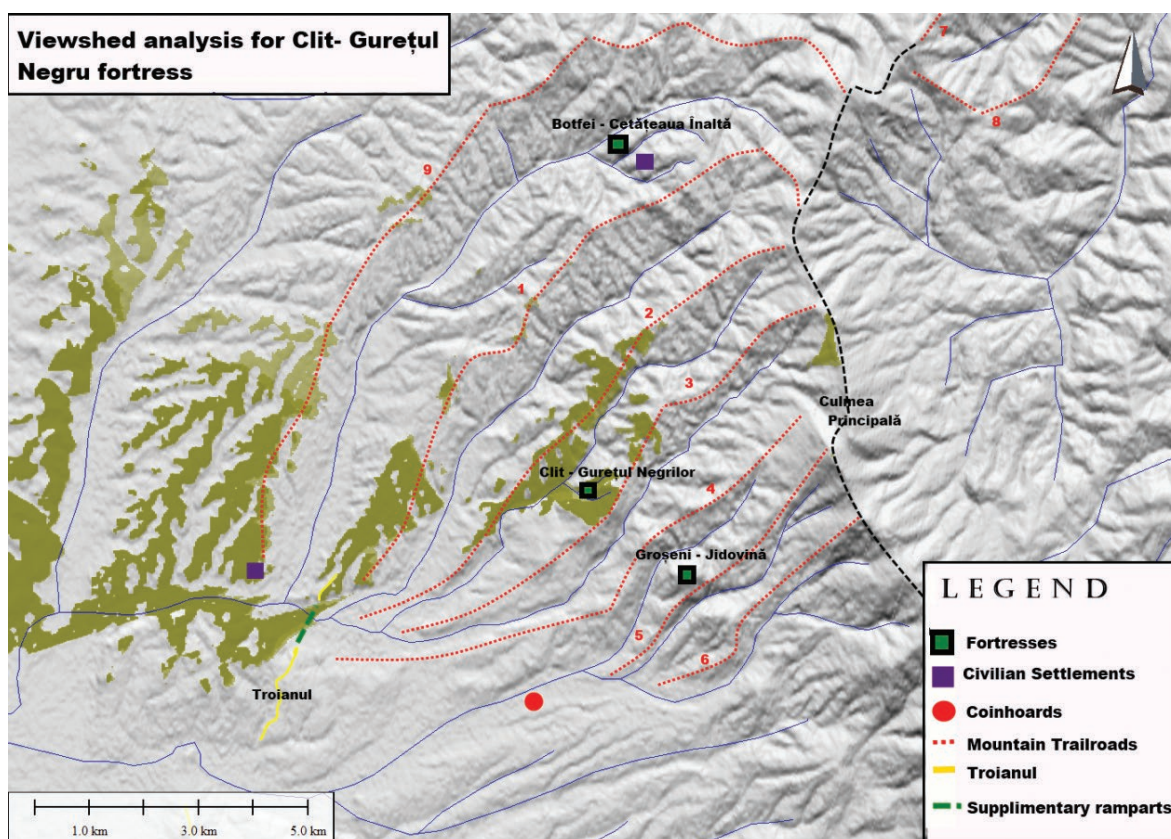


Fig. 8. Viewshed analysis for the Dacian and early medieval fortification in Clit- “GurețulNegrilor”

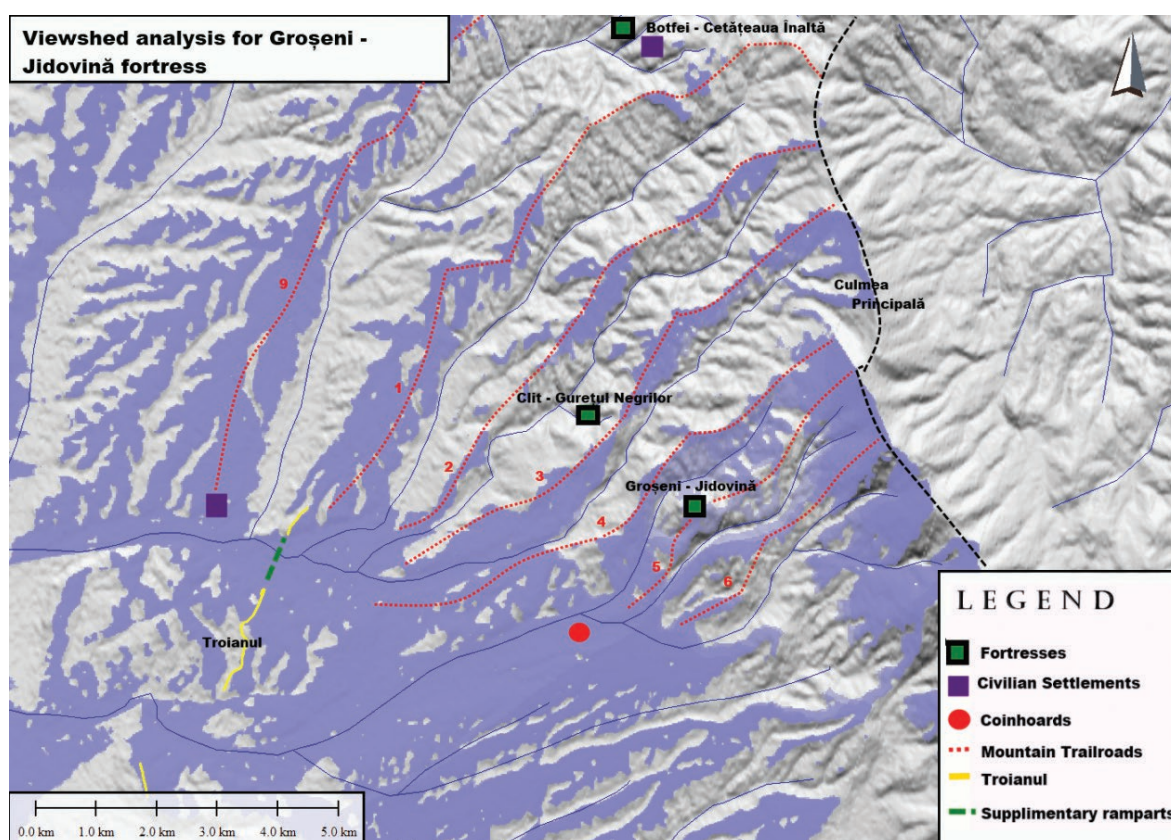


Fig. 9. Viewshed analysis for the Dacian and early medieval fortification in Groșeni – “Jidovină”



presumed) line of the “Troian”, in Almaș<sup>37</sup>, Bârsa<sup>38</sup>, Bârzești<sup>39</sup>, Feniș<sup>40</sup>, Dieci<sup>41</sup>, Gurahonț<sup>42</sup>, Dezna<sup>43</sup>, GuraVăii<sup>44</sup>, Zimbru<sup>45</sup>, as compared to those to the west are, besides the above mentioned elements, another argument supporting this hypothesis. There are rather few<sup>46</sup> 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 Ineu<sup>47</sup>; 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 defensive<sup>48</sup>. 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.<sup>49</sup>; from the very beginning they entered into conflicts with the Dacians which according to Plinius Maior they forced to retreat east of River Tisa<sup>50</sup>. 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.”<sup>51</sup> 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 horsemen<sup>52</sup>. 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 entourage<sup>53</sup>.

### 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 Peninsula<sup>54</sup>. In other cases though, such earthen barriers were built in order to mark

<sup>37</sup> Hoard (Chirilă, Chidioșan 1965, 118–119).

<sup>38</sup> Hoard (RAJARad 1999, 43). Though it might have been confused with the hoard in Bârsa.

<sup>39</sup> Hoard (Barbu, Hügel 1993, 68/3).

<sup>40</sup> Hoard and isolated monetary discovery (Barbu, Chirilă 1987, 55–59).

<sup>41</sup> Four distinct hoards discovered inside the settlement's perimeter (Dudaș 1975, 136; RAJARad 1999, 65–66).

<sup>42</sup> Isolated discovery (Dudaș 1975, 135–136; RAJARad 1999, 74).

<sup>43</sup> Hoard with silver coins and isolated monetary discoveries (RAJARad, 65).

<sup>44</sup> Hoard and isolated monetary discoveries (RAJARad 1999, 75–76).

<sup>45</sup> Isolated discovery (Preda 1986–1991, 294–295).

<sup>46</sup> Only in Chereuș 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.

<sup>47</sup> Berzovan 2012, 78–83.

<sup>48</sup> Dumitrașcu 2007, 193.

<sup>49</sup> Muscalu 2008–2009.

<sup>50</sup> Plinius Maior, *Historia Naturalis*, IV, 2 (apud Fontes, I, 408).

<sup>51</sup> Dumitrașcu 1993, 110.

<sup>52</sup> 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.

<sup>53</sup> “... 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.

<sup>54</sup> 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 Cherusci<sup>55</sup>. Archaeology also provides several examples of linear fortifications, in areas such as pre-Roman Britain – Beech Bottom Dyke<sup>56</sup>, Devil's Dyke<sup>57</sup>, Cleave Dyke<sup>58</sup>, Scott's Dyke<sup>59</sup>, Grimm's Ditch<sup>60</sup> 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 Age<sup>61</sup>.

In its turn, the Dacian Kingdom also built such fortifications, of variable size: Porțile de Fier – Tapae<sup>62</sup>, Ponorici – Cioclovina<sup>63</sup>, and Poiana Omului<sup>64</sup>, 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 functions<sup>65</sup>. 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

## BIBLIOGRAPHY

- |                                       |   |
|---------------------------------------|---|
| The Monk in St. Gall<br>Cunliffe 2010 | <i>Vita Caroli Magni</i> (ed. A.J Grant), Chatto and Windus, London 1926.<br>B. Cunliffe, <i>Iron Age Communities in Britain: An Account of England, Scotland and Wales</i> , (ed. III) Routledge, New York 2000. |
| Barbu, Chirilă 1987                   | M. Barbu, E. Chirilă, <i>Tezaurul dacic de la Feniș (Cronologie și semnificație istorică)</i> . Ziridava XV-XVI, 1987, 55–59.   |
| Barbu, Hügel 1993                     | M. Barbu, P. Hügel, <i>Monede imperiale romane descoperite în zona arădeană</i> . Ziridava XVIII, 1993, 63–77.  |
| Berzovan, Pădurean 2010               | A. Berzovan, E. Pădurean, <i>A clay pot with tamga signs discovered at Șiria (Arad county)</i> . AUVTXII, 2, 2010, 57–66.   |
| Berzovan 2012                         | A. Berzovan, <i>Artefacte din a doua epocă a fierului păstrate în muzee școlare arădene</i> . In A. Pețan, R. Bătrânoiu (Eds.), <i>Arheologie și Studii Clasice</i> , vol. II. București 2012, 72–83.             |

<sup>55</sup> Tacitus, *Annales*, II, 19(412).

<sup>56</sup> Cunliffe 2010.

<sup>57</sup> Cunliffe 2010.

<sup>58</sup> Harding 2004, 38.

<sup>59</sup> Muir 1997, 71.

<sup>60</sup> Bradley 1968, 1–14.

<sup>61</sup> Cunliffe 2010.

<sup>62</sup> Oltean 2012, 426–432.

<sup>63</sup> 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.

<sup>64</sup> 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.

<sup>65</sup> Or even economical, as possible customs point (suggestion kindly provided by Dr. Christian Schuster).

- Bradley 1968 R. Bradley, *The South Oxfordshire Grim's Ditch and its Significance*. Oxoniensia XXXIII, 1968, 1–14.
- Chirilă, Chidioșan 1965 E. Chirilă, N. Chidioșan, *Tezaurul de monede dace de la Almaș*. AMN II, 1965, 118–119.
- Dudaș 1975 F. Dudaș, *Descoperiri monetare antice în Țara Zărandului*. AMN XII, 1975, 129–136.
- Dumitrașcu 1969 S. Dumitrașcu, *Contribuții la cunoașterea graniței de vest a Daciei romane*. AMN VI, 1969, 483–491.
- Dumitrașcu 1993 S. Dumitrașcu, *Dacia Apuseană*. Oradea 1993.
- Dumitrașcu 2007 S. Dumitrașcu, *Contribuții la cunoașterea graniței de vest a Daciei romane*. In: L. Ardelean, F. Sfrengeu (Eds.) *Scrieri arheologice privind istoria Daciei apusene*, Oradea 2007, 187–195.
- Fiedler 1986 U. Fiedler, *Zur Datierung der Langwalleen der mittleren und unteren Donau*. *Archaeologische Korrespondenzblatt* 16, 1986, 457–465.
- Fiedler 2008 U. Fiedler, *Bulgars in the lower Danube region. A survey of the archaeological evidence and of the state of current research*. In: F. Curta, R. Kovalev (Eds.) *The Other Europe in the Middle Ages. Avars, Bulgars, Khazars and Cumans*, vol. II. Leiden-Boston 2008, 151–236.
- Fodorean 2006 F. Fodorean, *Drumurile în Dacia Traiana*. Cluj-Napoca 2006.
- Fontes I *Fontes ad Historiam Daco romaniae pertinentes* (eds. Vl. Iliescu, V. Popescu, Gh. Ștefan), București 1964.
- Harding 2004 D. W. Harding, *The Iron Age in Northern Britain: Celts and Romans, Natives and Invaders*. Routledge, New York 2004.
- Herodotus, *Histories* *The History of Herodotus*, Talboys and Wheeler, Oxford, 1824.
- Hügel et al. 2010 P. Hügel, P. Hurezean, F. Mărginean, V. Sava, *Cercetarea arheologică în zona arădeană. Un scurt istoric*. *Ziridava* XXV, 1, 2010, 7–24.
- Madgearu 2010 A. Madgearu, *Geneza unei legende. "Traian și Dochia"*. *Quaderni di Studi Italiani e Romeni* 5, 2010, 109–120.
- Márki 1892 S. Márki, *Arad vármegyeés Arad szabadkirály város története* (I). Arad 1892.
- Márki 1895 S. Márki, *Arad vármegyeés Arad szabadkirály város története* (II). Arad 1895.
- Muir 1997 R. Muir, *The Yorkshire Countryside: A Landscape History*. Edinburgh 1997.
- Muscalu 2008–2009 B. Muscalu, *Problema pătrunderii sarmaților iazigi în spațiul dintre Dunăre și Tisa în lumina noilor cercetări*. *SIB* XXXII–XXXIII, 2008–2009, 5–13.
- Oltean 2012 D. Oltean, *Regii dacilor și războaiele cu romanii*. Deva 2012.
- Pădurean 1972 E. Pădurean, *Itinerar arheologic în Țara Zarandului*. Flacăra Roșie, January 22<sup>nd</sup> 1972, 3.
- Pădurean 2000 E. Pădurean, *Cu privire la așezarea fortificată de la Groșeni-Jidovina (jud. Arad)*. *Ziridava* XXII, 2000, 13–24.
- Petolescu 1994 C. C. Petolescu, *Troianus dans l'épigraphie latine. Onomastique romaine et évolution étymologique. L'Afrique, la Gaule, la religion à l'époque romaine*. *Mélanges à la mémoire de Marcel Le Glay*, Bruxelles, 1994, 723–729.
- Preda 1986–1981 C. Preda, *Descoperiri inedite de monede antice și bizantine*. *BSNR* LXXX–LXXXV, 134–139, 1986–1991, 289–297.
- RAJArad 1999 *Repertoriul arheologic al Mureșului Inferior. Județul Arad*. Timișoara 1999.
- Rusu 1977 M. Rusu, *Transilvania și Banatul în secolele VI–IX*. *Banatica* IV, 169–213.
- Sășianu 1980 A. Sășianu, *Moneda antică în vestul și nord-vestul României*. Oradea 1980.
- Squatriti 2002 P. Squatriti, *Digging Ditches in Early Medieval Europe*. *Past and Present* 176, 1, 2002, 11–65.
- Tacitus, *Annales Annales* (ed. J. Jackson), Ed. Loeb, Harvard University Press, 1925.
- Tatu, Moraru 1982–1983 H. Tatu, V. Moraru, *Dispozitivul defensiv dacic de la Ponoricu (jud. Hunedoara)*. *Sargeția* XVI–XVII, 1982–1983, 151–164.
- Winkler 1955 I. Winkler, *Contribuții numismatice la istoria Daciei*. *Studii și Cercetări Științifice Cluj*, 1955, 92–93.



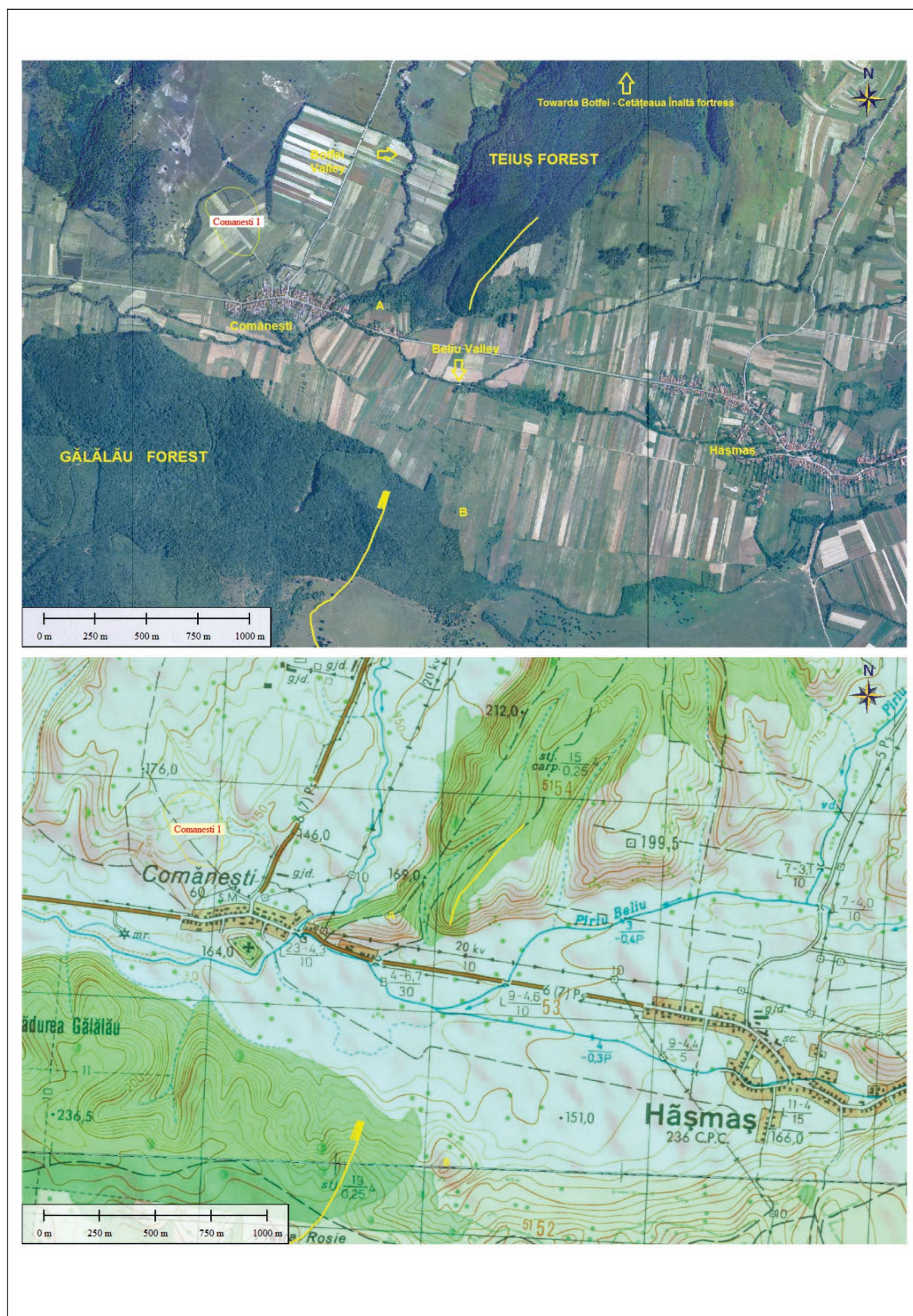


Plate 1. Segment I, orthophoto plan and topographic map 1:25 000; A and B: strategically favorable points. Comănești 1: Dacian settlement on “Dealul Mămăligii”.



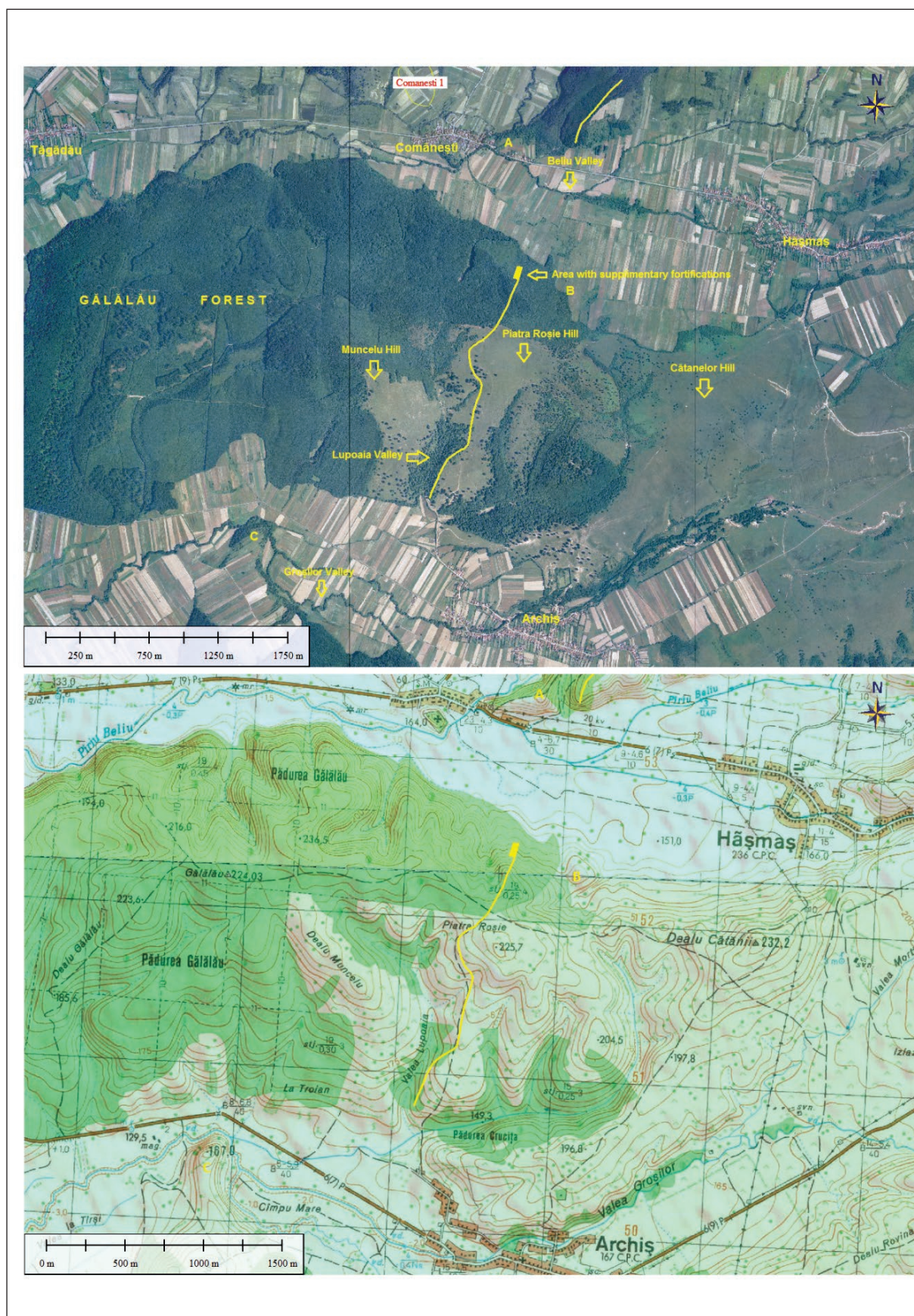


Plate 2. Segment II, orthophoto plan and topographic map 1:25 000; A, B, C: strategically favorable points. Comănești 1: Dacian settlement on “Dealul Mămăligii”.



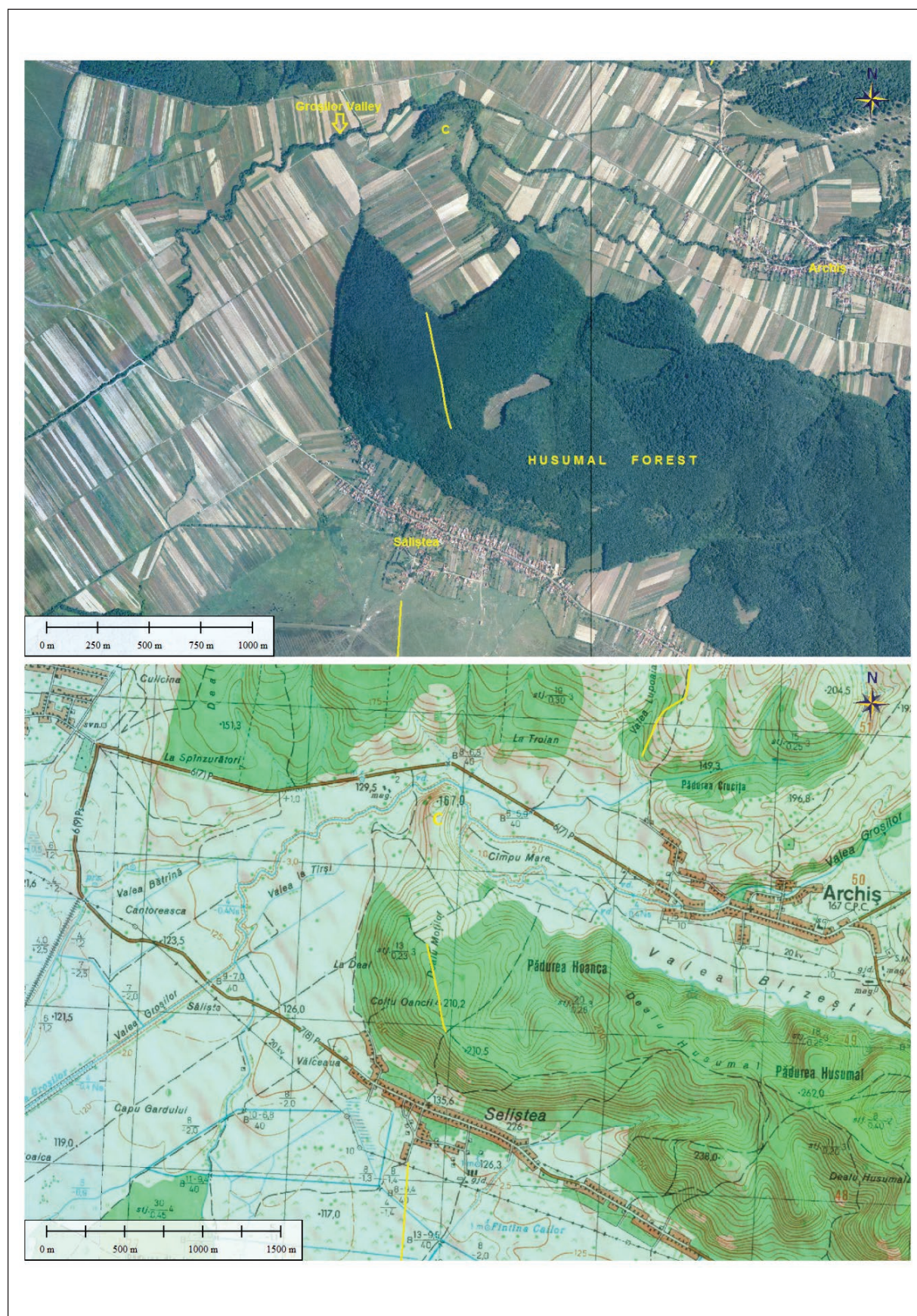


Plate 3. Segment III, orthophoto plan and topographic map 1:25 000; C: strategically favorable point.



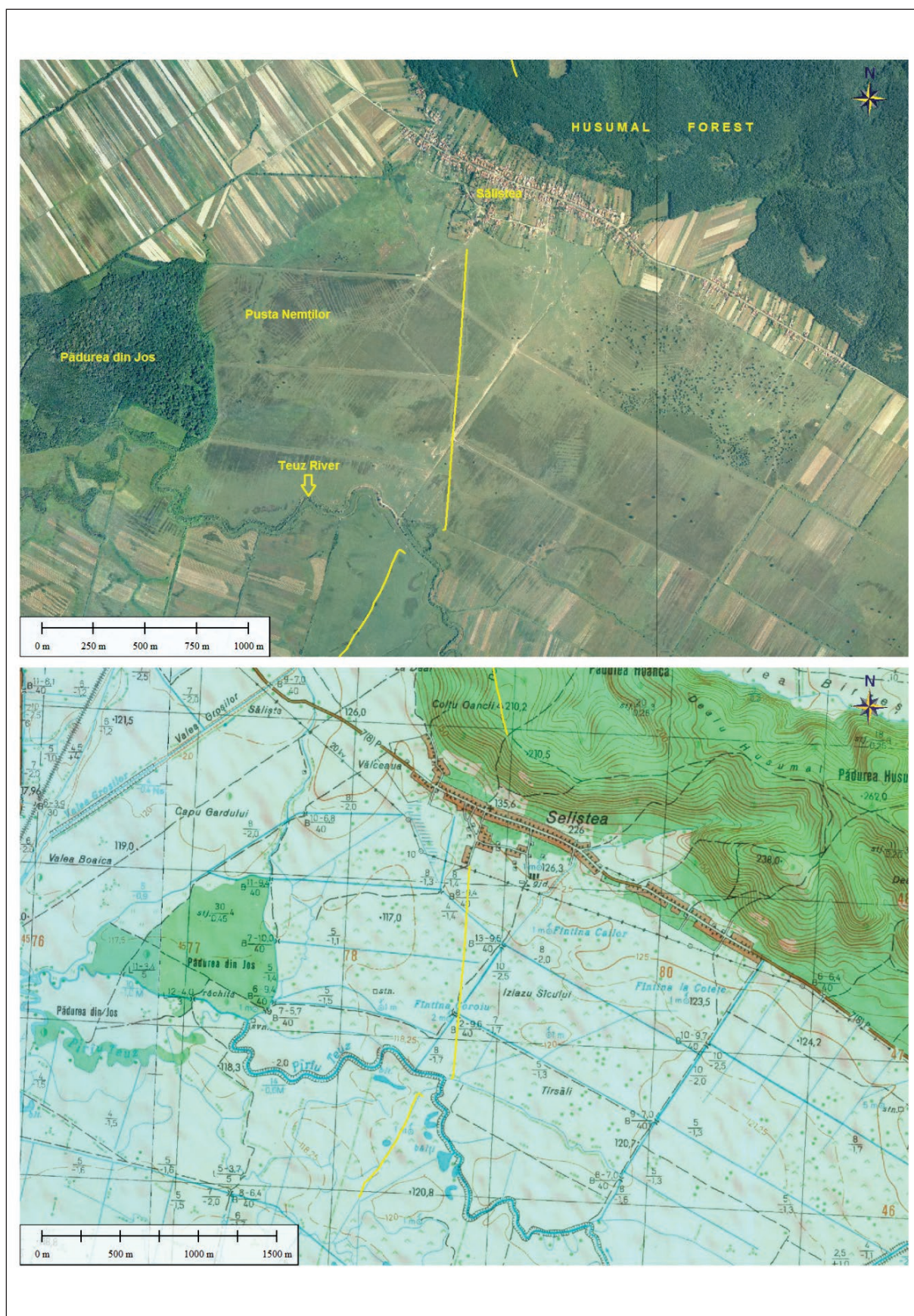


Plate 4. Segment IV, orthophoto plan and topographic map 1:25 000.



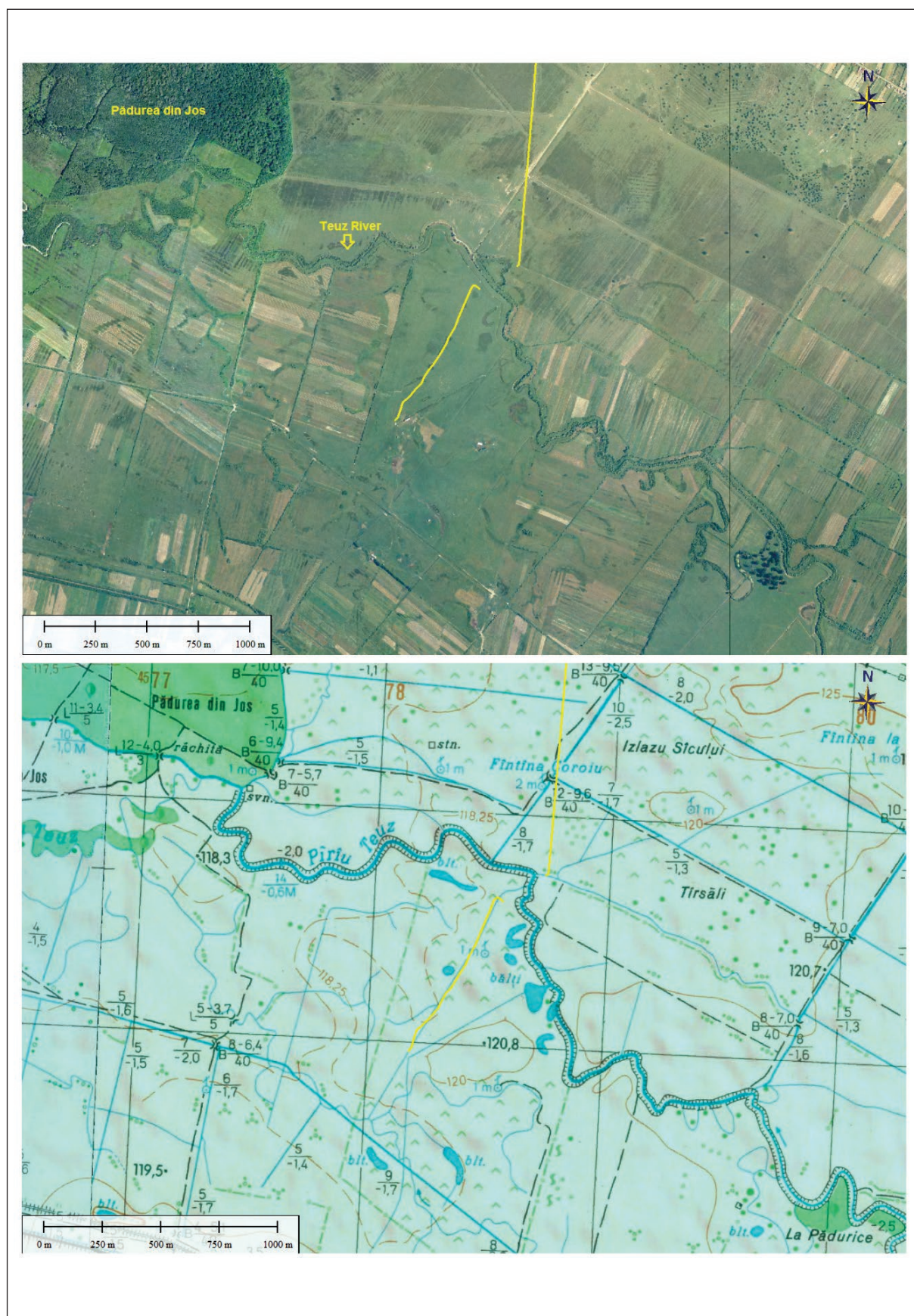


Plate 5. Segment V, orthophoto plan and topographic map 1:25 000.





Plate 6. Segment VI, orthophoto plan and topographic map 1:25 000; Răpsig 1, traces of Dacian habitation (?).



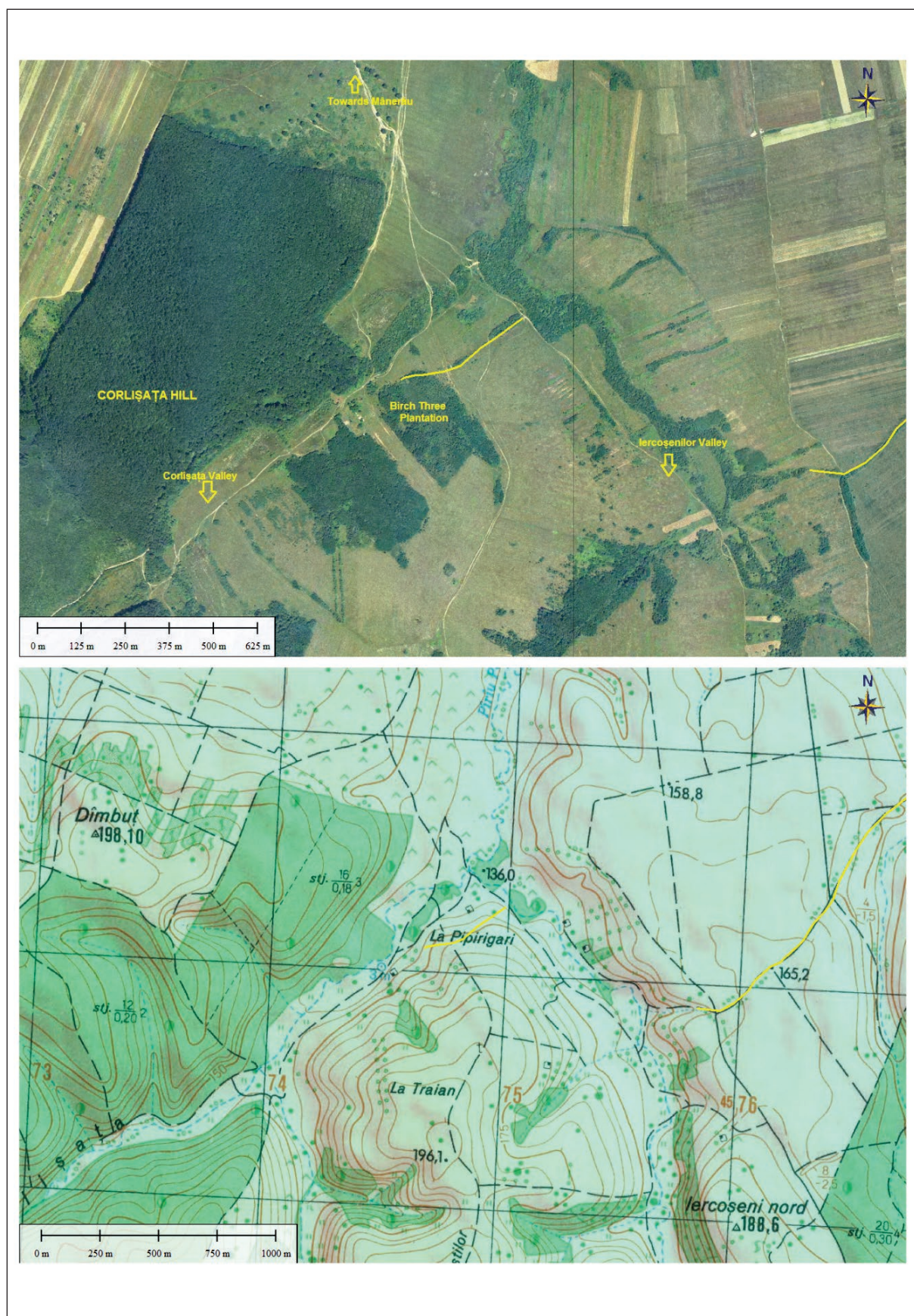


Plate 7. Segment VII, orthophoto plan and topographic map 1:25 000.

# 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.
BÁMÉ	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.

