

Recent Archaeological Research on the Bronze Age Fortified Settlements of the Ier Valley, North-Western Romania

This paper is a preliminary report on collaborative archaeological fieldwork of the Muzeul Județean Satu Mare and the Institut für Archäologische Wissenschaften, Ruhr-Universität Bochum that is carried out in Bronze Age settlements of Ier valley in north-western Romania¹. In three survey campaigns, so far, the fortified settlements of Andrid-Dealul Taurilor (or Bika domb in Hungarian, i. e. Bull's Hill), that belongs to the Early Bronze Age III, as well Andrid-Corlat (Korlát in Hungarian) and Căuaș-Sighetu (Sziget in Hungarian) from the younger phases of the Urnfield period were examined. The three sites were only superficially known from previous archaeolo-

gical surveys. The current archaeological research is based – in its initial stages – on aerial photography, topographic measurements and magnetometer survey. By these methods new information on their fortification system as well as on the extent and the intensity of habitation in the settlements has been obtained. In a long-term perspective the joint work that has been begun aims at a better understanding of the dynamics and the development of Bronze Age settlement patterns in Ier valley by extending the intensive survey programme to neighbouring sites of this microregion including their wider ‘off-site’ surroundings.

Fig. 1: The position of the Ier valley in north-western Romania.



¹ The Hungarian name of the Ier valley is Ér; the Romanian name also sometimes appears as Eriu.



Fig. 2: The Early Bronze Age settlement of Andrid-Dealul Taurilor seen from the south.

Natural environment

The Ier valley is approximately 80 km long and is situated between the Someş and Criş rivers, which are tributaries of the Tisa river (fig. 1). Although the discharge of the river is currently low, the stream flows through a wide valley (8–15 km) which actually is an old tectonic ditch. The valley used to be very swampy, and before the extensive works of water drainage from 1963 to 1965 it could only be crossed along a few routes. The valley is bounded by terraces of ca. 30–70 m in height that communicate to the southern Tăşnadului hills and the plateau of Carei to the north respectively. Pollen analyses have provided important information about the swampy character of the valley during prehistory as well².

The Ier valley itself has a record of typically rather low habitation density for most of its history. Human settlement, such as the sites presented here, existed but on a few islands that were inhabited during certain periods in prehistory only. On the other hand, the borders of the valley throughout prehistory and history were densely inhabited, and human settlement concentrated especially along the fringes of high terraces³. The number of settlements located in this zone by far exceeds that from the wider surroundings to the south and north, i. e. on the Tăşnadului hills and on the plateau of Carei. Comparable numbers of settlements can be found at the border of the Ecedea marsh or along some other river valleys (Someş, Barcău). No doubt, the intense habitation along the Ier valley was influenced by the variety of resources, that people could draw upon from the interface area between the marsh ecosystem and the neighbouring

plateau and hilly areas. The favourable conditions to agriculture, which parts of the open lowlands provided, in particular for plough agriculture on the softer soil along the border of the marshes, were accompanied by those favourable to animal husbandry. Water plants from the marsh provided good conditions for grazing during hot summers – when grass went dry on higher lands –, and especially in winter when the animals had the possibility to graze the tall grass that was preserved under the snow⁴. The hilly area and the high plain with forested or steppe zones also offered good conditions for the practise of cattle and pig husbandry. The contact area between the different topographic formations supplied materials such as reed, twigs and soft timber (poplar, osier) for building and construction as well as for the practice of various crafts such as the production of wattle, containers, fish and animal traps or fences. It also provided the possibility of hunting various animal species and fishing⁵. The possibility to take advantage of different ecosystems seems to be the reason for intense habitation in the border area of the Ier Valley over time. Using a wide range of resources provided not only a diversified diet and prosperity to the communities in the area, but also the possibility to overcome (or sometimes survive) catastrophic events or natural phenomena that could affect either one of the food resources: drought or rainy periods, insect invasions, diseases that affected animals.

⁴ Even nowadays flocks of sheep are still driven to the Ier valley from southern Transylvania for grazing in winter.

⁵ Archaeozoological studies were carried out on the Early and Middle Bronze Age bone material from three tell sites in the Ier valley and one at the confluence of the Ier valley with the Crasna valley (Carei-Bobald). The proportion of wild animals/game is as follows: 35.74 % at Săcuieu-Cetatea Boului, 13.78 % at Otomani-Cetatea de pământ, 26.25 % at Sălacea-Dealul Vida and 21.6 % at Carei-Bobald. Cf. Bader 1978, 111; El Susi 2002, 252.

² Bader 1978, 12.

³ Cf. the archaeological survey and collection of this area by J. Németh 1999.

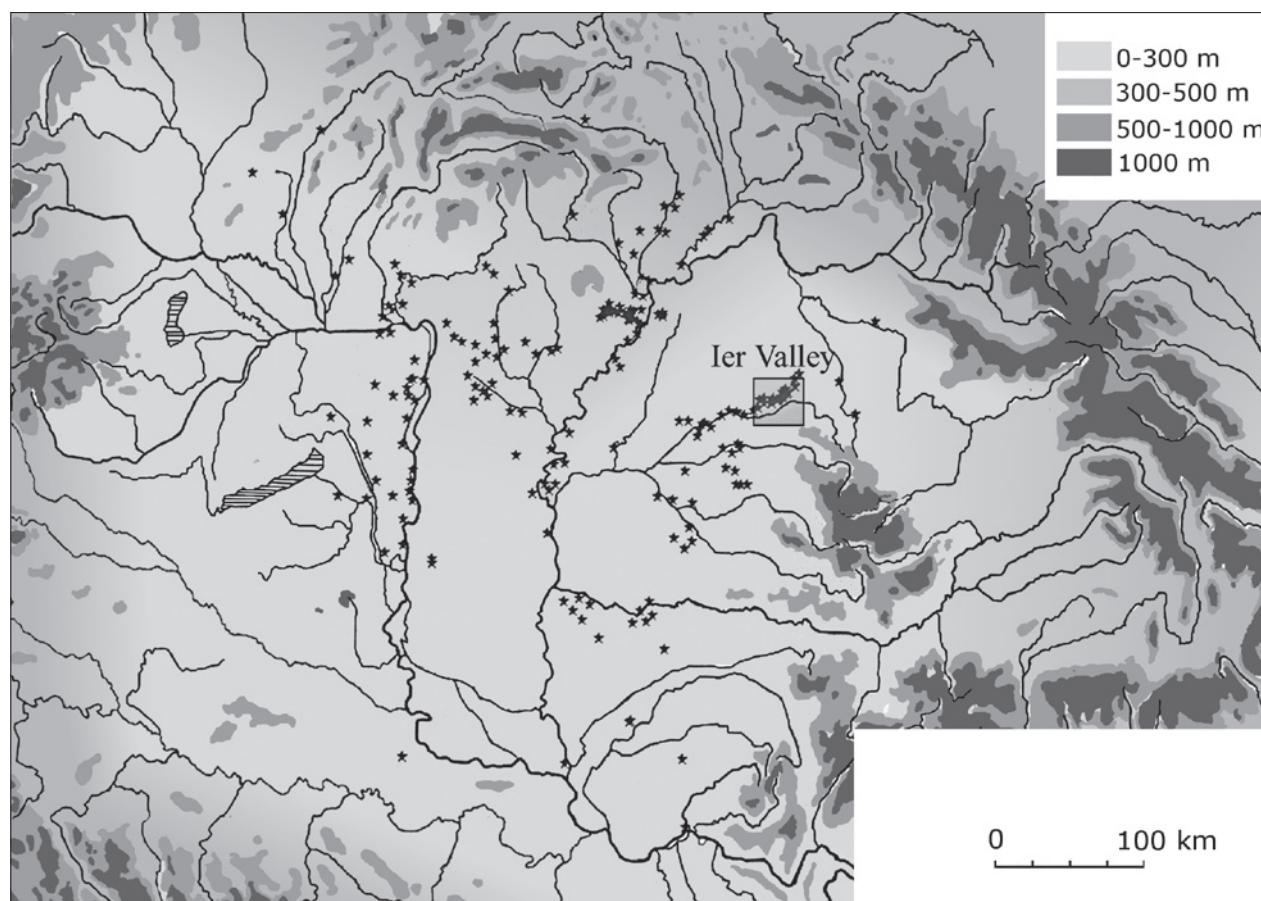


Fig. 3: Bronze Age tells and tell-like settlements in the Carpathian Basin (after F. Gogâltan)

The subject of this paper are three fortified settlements, that we hope upon closer archaeological examination will illustrate the ways in which communities in the area were trying to take advantage of the favourable conditions provided by this natural setting. By locating their fortifications on islands surrounded by water and marshes, topography also provided protection in situations of conflict, or it may have emphasized a sense of identity vis-à-vis communities on neighbouring terraces.

The Early Bronze Age settlement at Andrid-Dealul Taurilor

Dealul Taurilor is a mound located on a former island at a distance of 900 m from the terrace of the valley. Before the levees were built in 1963–1965, the area had been dominated by marshes and water, a situation that is well illustrated by old maps from the mid-19th century AD. The island and mound rise to about 5 m above the swampy land around it (fig. 2). So far no drillings could be carried out, but judging from the contours of the island the settlement layers reach a height of 1–2 m. We are therefore talking about a tell-like settlement, which are quite characteristic

for the Bronze Age communities of the Carpathian Basin (fig. 3)⁶.

The Bronze Age settlement of Dealul Taurilor has previously appeared in the archaeological literature in passing mentions in the context of some reviews of the Otomani culture (and Suciu de Sus)⁷, and it was noted in the archaeological survey of the Carei area⁸. In these reports the site was assigned to different archaeological cultures both because of the lack of stratigraphic data and the different meanings given to the term ‘Otomani culture’. The first data with reference to the settlement at Andrid-Dealul Taurilor was provided by the doctor Ernö Andrásy, who carried out a small survey in the first half of the 20th century⁹. The pottery fragments recovered, which are currently hosted in the collection of the Museum of Săcuieni-Bihor, initially were assigned to the Otomani culture, others (with excised decoration) were thought to represent the Suciu de Sus culture. When J. Németi carried out several surveys in the last three decades,

⁶ See also Gogâltan this volume.

⁷ Ordentlich 1971, 20; Bader 1972, 511; Bader 1978, 34. 119; Fazecaş 1997, 53; Németi – Molnár 2002, 105.

⁸ Németi 1999, 27.

⁹ See Bader 1978, 119 with information on the site which he obtained from a manuscript written by E. Andrásy in 1954 ('Dr. Andrásy E. Múzeum').

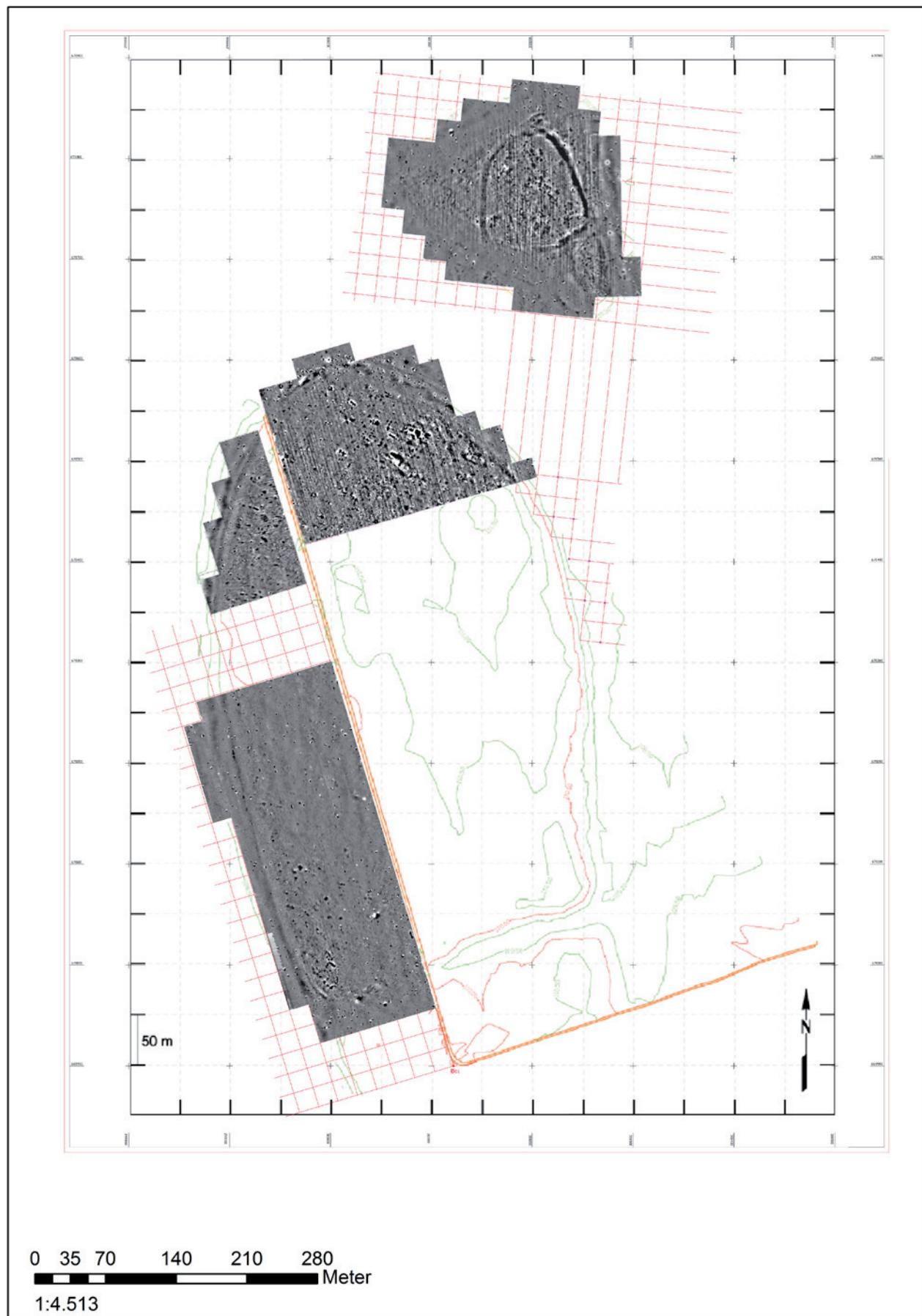


Fig. 4: The adjacent sites of Andrid-Dealul Taurilor and Andrid-Corlat from the Early and Late Bronze Age.

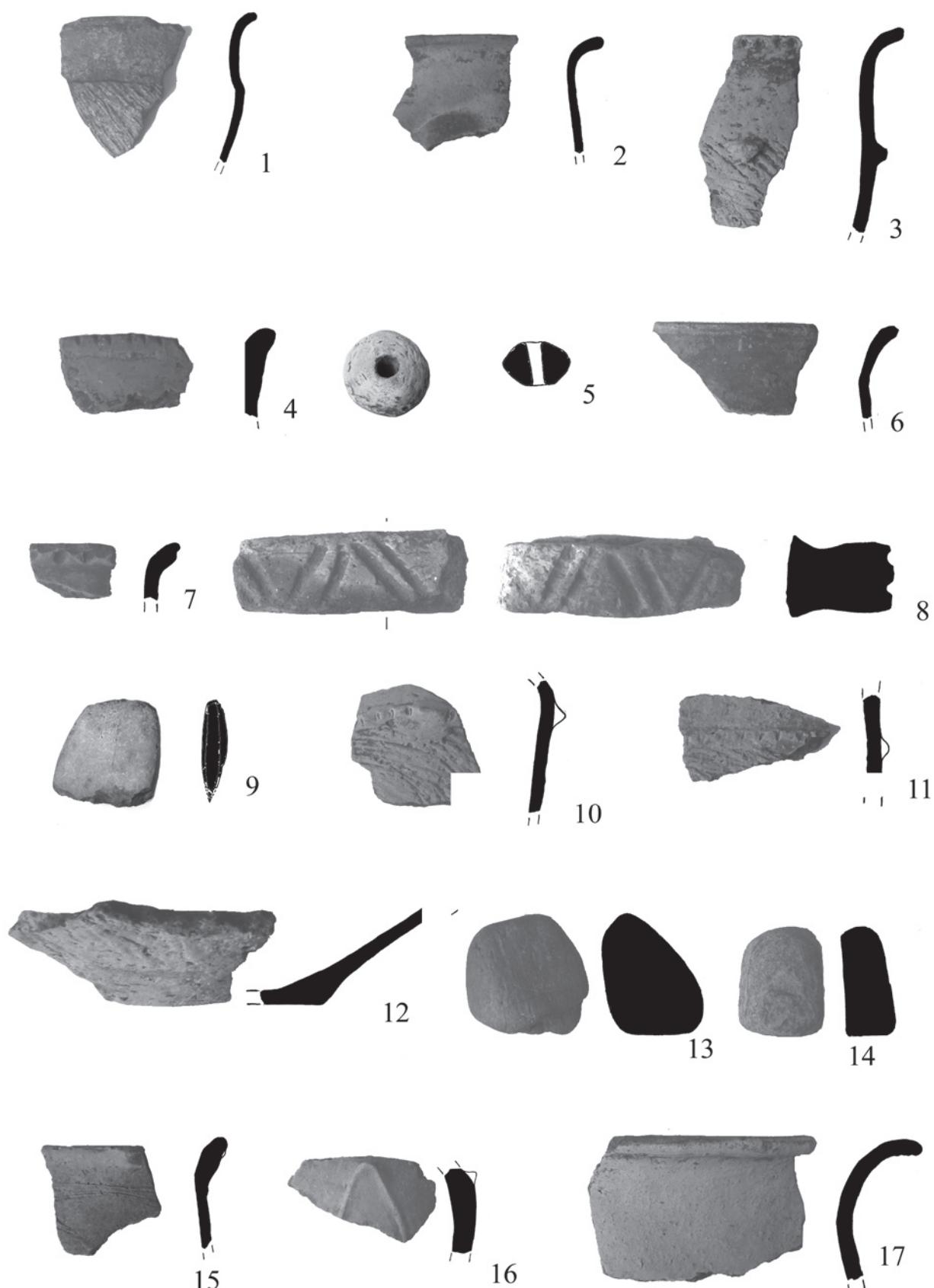


Fig. 5: Archaeological finds from the surface of the Early Bronze Age settlement of Andriș-Dealul Taurilor. 1-8, 10-12, 15-17 pottery; 9, 13, 14 stone. Scale 1:3.



Fig. 6: Aerial photograph of the fortified settlement of Andrid-Dealul Taurilor.

he observed a high density of Early Bronze Age pottery on the surface of the site. As a result of the re-evaluation of the Early Bronze Age in north-western Romania by J. Németi and P. Roman, the material from Andrid was assigned to the Sanislău group from the beginnings of the Early Bronze Age III¹⁰. J. Németi also discovered materials dating from subsequent periods of the Late Bronze Age. Reportedly, these finds were made on the north-eastern side of the tell-like settlement. The field research, which we carried out in 2009, has revealed that fragments of Late Bronze Age pottery occur only at the base of the tell, but on its western side, and they may in fact stem from the neighbouring Late Bronze Age site of Andrid-Corlat (fig. 4). Early Bronze Age material, on the other hand, is present on the entire surface of both the tell and the original island, on which the site is located, both inside the fortified area (see below) and outside it. The Early Bronze Age material is represented by fragments of pots and bowls decorated by deeply scored lines either on one side (fig. 5/1, 3, 10, 11) or on the

entire body (fig. 5/12). The sockets and notched lines decorate the lip of some vessels (fig. 5/3, 4, 7) or some prominent belts applied on their body (fig. 5/10, 11). J. Németi has argued that such shapes and decorations are characteristic of the Sanislău group, based on the vessels decorated by incised triangles¹¹. The presence of a pottery fragment with incised decoration (fig. 5/15) suggests an occupation from the beginning of the Sanislău group of the Early Bronze Age III. So far there is little characteristic material of the Otomani I culture, i. e. from the beginnings of the Middle Bronze Age I, and the precise duration of the occupation into that period is as yet unclear. The fieldwork carried out in 2009 also revealed fragments of a decorated hearth(?) (fig. 5/8), spindle whorl (fig. 5/5), a stone axe (fig. 5/9) and grinding stones (fig. 5/13, 14).

A new and important feature of the settlement at Andrid-Dealul Taurilor is the presence of a fortification system. Previously unknown and not visible on the surface, it has been identified on the occasion of a flight by Zoltán Czajlik (ELTE University, Budapest),

10 Németi – Roman 1995, 25–32.

11 Németi 1999, 27.

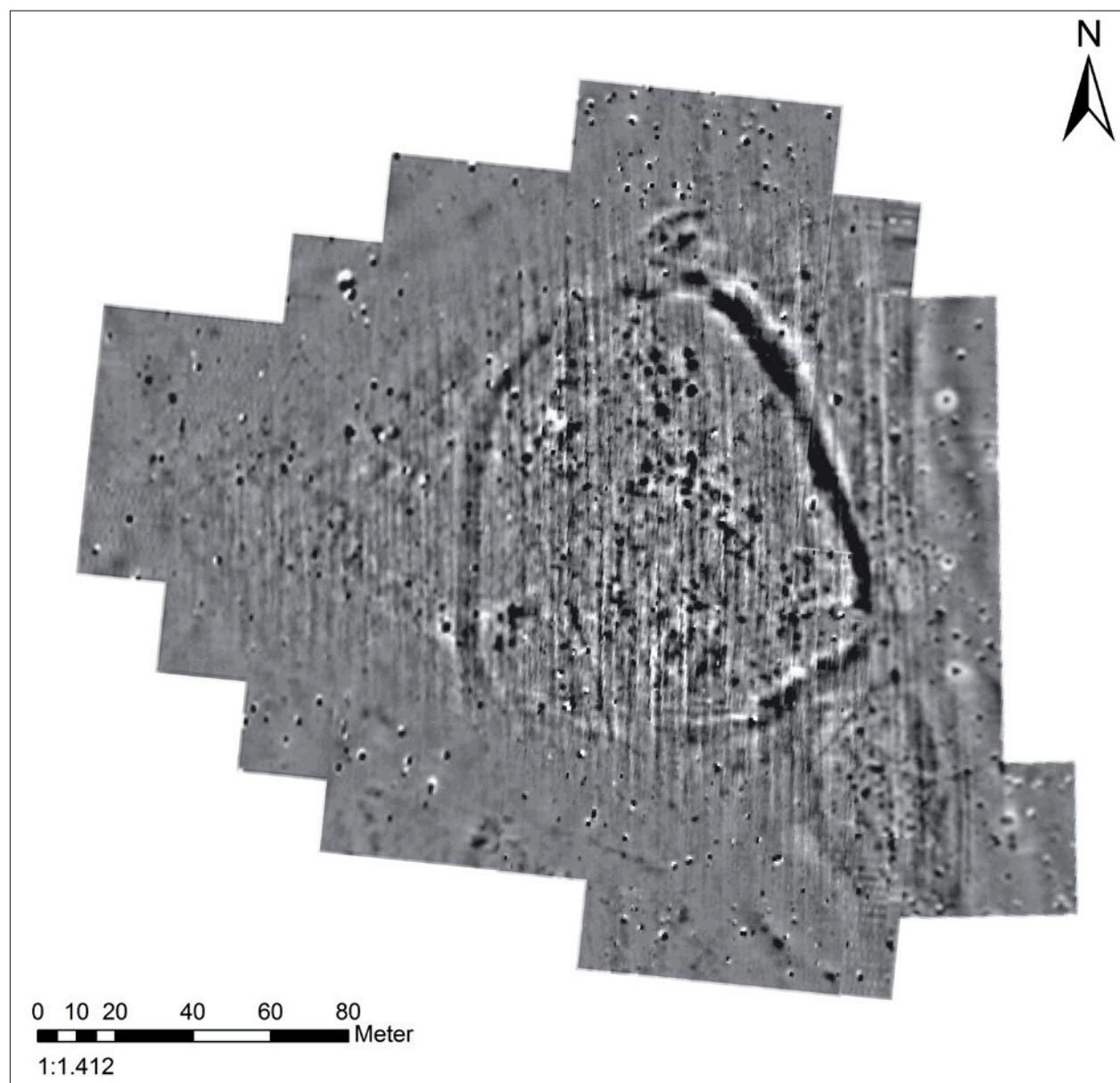


Fig. 7: Magnetometer survey of the fortified settlement of Andrid-Dealul Taurilor.

Diana Iager and Liviu Marta (both County Museum, Satu Mare)¹². In the aerial photograph from June 2009 the fortification of roughly trapezoid shape with rounded corners is visible in the wheat field, which at that time covered the greatest part of the site (fig. 6). In addition, old riverbeds can be discerned indicating that at some time in the past arms of the river Ier passed through the swampy lowlands close to, and actually surrounded, the island of Dealul Taurilor. More detailed information was provided by the subsequent magnetometer survey in August 2009 and May 2010. In the greyscale plot of the magnetometer results the fortification, most likely a trench, can be seen to be approximately 4–6 m in width (fig. 7). It is visible as a dark (i. e. positive) magnetic anomaly or feature of

trapezoid shape with roughly linear sections running in broadly north-south and east-west direction and with rounded ‘corners’. Both on the narrow western tip of the island and on its broader eastern side a part of the elevation remained outside the fortification. From north to south, on the other hand, the trench stretches across the complete elevation of Dealul Taurilor. This does not necessarily reflect the Bronze Age situation, since on the southern side, in particular, the anomaly caused by the trench gets much weaker. It is likely that there was some erosion caused by either the river at some time in the past and/or by modern agriculture. So it is possible that the island or the elevation on which the settlement was located was somewhat larger during the Bronze Age, and/or the surrounding swamp – in part – temporarily fell dry and provided an apron to the fortified settlement itself. It is thought unlikely, on the other hand, that

¹² The flight was carried out within a project of the County Museum of Satu Mare funded by the European Community.

the situation was completely different from today's impression, since the magnetometer results clearly show the differences in underlying geology (i. e. island vs. floodplain). The settlement occupied an elevation or island, which most likely was deliberately chosen for its elevated position above the surrounding swamp or otherwise lowland prone to frequent flooding by the river Ier. A more precise image of the underlying geology and the dynamics of the floodplain in the past has to be provided by a drilling programme and environmental reconstruction in the next years.

The same holds true for the Bronze Age settlement activities which at the moment can only be described in broadest terms. Given that the terrace accompanying the Ier valley is located about 900 m to the north of Dealul Taurilor it is likely that access to the settlement was from this direction. Indeed, the magnetometer results may suggest that close to the northern-most 'corner' of the fortification there was a gate. The anomaly of the trench gets weaker and in part is interrupted without a perfect match of the trench's ends. In front of this section there is another feature. So here might have been an intermission of the trench for some meters and some kind of protective construction or gate. But this area too is affected by erosion (see above), and we clearly need further information from an excavation to be precise on the question of a possible entrance or gate area, and how the settlement was connected across the swamp to the near terrace.

The fortified settlement area of Andrid-Dealul Taurilor is rather small (about 0.63 ha), and there are no house structures visible in the shade plot of the magnetometer results. However, the magnetometer results, as well as the high frequency of pottery on the surface, clearly point towards a relatively intense settlement activity in this area during the Early Bronze Age. The features most likely indicate the presence of pit structures, some of which were apparently filled with (burned) settlement debris. Since this is potentially a multi-layer tell-like settlement, and the pottery so far collected from the surface already indicates a longer duration of the occupation (see above), it is unlikely or at least uncertain that all anomalies refer to contemporaneous settlement activities, i. e. houses etc. standing at precisely the same time. On closer examination the assumption that this is a multi-phase site is also suggested by the magnetogram: Above parts of the western trench, in particular, which gives a weaker signal, there are a number of additional anomalies or features. Quite obviously these relate to settlement activities (pits etc.) that took place after the fortified phase of the settlement, i. e. after the trench was refilled. Since this may be an effect of differential preservation, infill and/or erosion, it is hypothesising that the stronger signal of the eastern trench – by comparison – points to a more

substantial nature of this section of the fortification or to its a longer lifetime and repeated repair. To the west, at least, one gets the impression, that at some later stage the settlement activities extended beyond the limits of the previously fortified area. Possibly, the same applies to the eastern part of the island where a smaller number of anomalies can be observed outside the fortification as well, both running along the eastern trench and somewhat more concentrated on a small extension that projects from the south-eastern part of the island. Neglecting the possibility of erosion etc., from the infrequent anomalies/features and the smaller number of surface finds it is likely that these activities were less intense than in the 'core' area of the settlement, which over time accumulated into a tell-like structure of about 1–2 m thickness. The development of this site and its fortification most likely was complex, and some of the chronological problems involved in the precise relation of its parts will remain the subject for future drilling programmes and excavation.

The fortification of Andrid-Dealul Taurilor is thought to belong to the Sanislău group of the Early Bronze Age III. In a wider context, it fits in with the spread of such fortified sites in the Carpathian Basin after c. 2300 cal BC¹³. Above the original surface of the island settlement layers reach a thickness of approximately 1–2 m, and Dealul Taurilor therefore belongs to the broader category of Bronze Age tell or rather tell-like settlements in the Carpathian Basin (fig. 3)¹⁴. The latter category, in particular, is still not well known and renders Andrid-Dealul Taurilor a promising aim of future research – focusing in particular on the question of its relation to neighbouring sites of possibly somewhat younger date, its situation on an island in the swamp rather than on the terrace, and why some such sites through time developed in true tell settlements while others were abandoned. It is likely that both the access to resources from different ecosystems – i. e. the marsh and hills/plateau – and the protection provided by the island setting had a role to play in the choice of this place. A similar situation is encountered in a series of other settlements from the end of the Early Bronze Age and the Middle Bronze Age, that are situated on islands surrounded by marshes¹⁵ and apparently took advantage of their protective role. It is interesting to note that in addition to its island setting the inhabitants of Andrid-Dealul Taurilor had to rely on a fortification – or else, what other reasons were involved in this need of demarcation, which is evident from quite a number but

¹³ Gogâltan 2008, 86.

¹⁴ These terms have been introduced by F. Gogâltan to denote different types of settlements, in accordance with their number of habitation levels and the thickness of the cultural layers. Cf. Gogâltan 2003, 62–63.

¹⁵ Bader 1978, 33–34; Bader 1982, 51. 64–65.

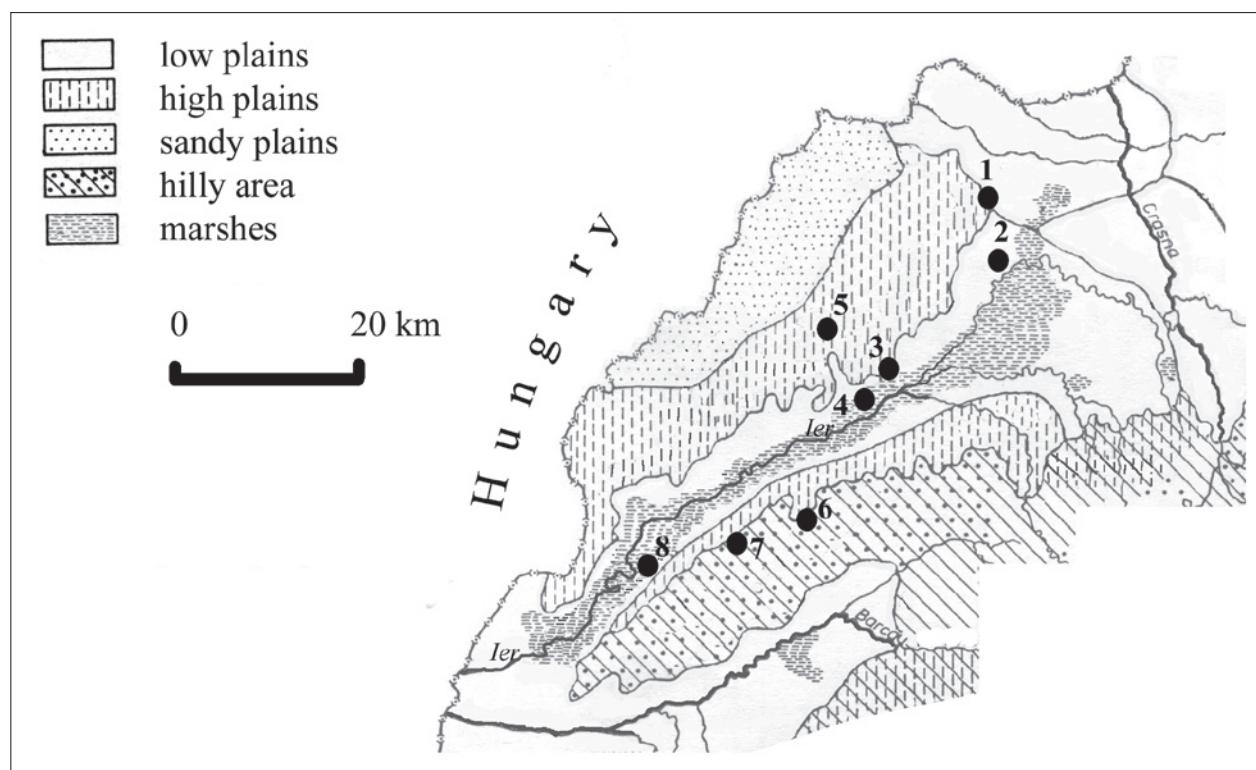


Fig. 8: Fortified settlements in the Ier valley dated from the Early Bronze Age III. 1. Carei-Bobald, 2. Tiream-Movila Cânepii, 3. Dindești-Cetate, 4. Andrid-Dealul taurilor, 5. Pișcolt-Zogat, 6. Sălacea-Dealul Vida, 7. Otomani-Cetățuie, 8. Săcuieni-Cetatea boului.

by no means all Bronze Age tell sites of the Carpathians Basin.

The broadly circular shape with rounded ‘corners’ of the trenches at Dealul Taurilor is a feature frequently met in those settlements¹⁶. However, so far out of a list of 188 tell or tell-like sites recorded by F. Gogăltan just 26 were surely provided with defensive elements. For a number of settlements their existence can only be assumed, and for 50 sites there is no information available¹⁷. For some tells, on the other hand, where excavations have been carried out in their periphery, the lack of a fortification system is proven¹⁸. The area delimited by the defensive system in Andrid is rather small, but it compares well with some other fortified tell sites of the Ier valley: Săcuieni-Cetatea Boului (150 x 60 m), Tiream-Movila Cânepii (60–70 x 20–30 m), Sălacea-Dealul Vida (maximum dimensions of 110 x 90 m) (fig. 8)¹⁹. In a wider context of the fortified tell sites of the Carpathian Basin, one can observe both the presence of some smaller fortifications than the one at Andrid, as well as some with much larger dimensions²⁰. The defensive system at Andrid with its one trench is of the simplest type. Its width of c. 4–6 m is modest compared to the substantial trenches

protecting some other tell sites of the Carpathian Basin²¹.

Finally, on other sites as well there is evidence that the settled area extended beyond the fortification, even though at a lower density. This is often taken to imply the existence of some kind of ‘acropolises’ or residential area of an elite opposite the common population within Otomani culture sites²². However, at Andrid at least such an interpretation, that originates from commonly held meta-narratives on Bronze Age social differentiation, clearly means stretching the evidence. The relationship between the fortified part of the site and its immediate surroundings is still unclear. But the magnetometer survey strongly implies that we are actually dealing with different phases of settlement activity (fig. 7). In its western part, at least, the trench seems to be overlaid with traces of a somewhat younger settlement phase (see above). Hence it is possible that the settlement simply grew beyond the original boundaries delimited by the older trench – a process devoid of immediate socio-political implications. Eventually, this may have resulted in the abandonment of the site at Andrid-Dealul Taurilor and a move towards the neighbouring terrace. Andrid-Dealul Taurilor seems to date to the beginnings of the Early Bronze Age III (Sanislău group). Suppo-

16 Gogăltan 2008, 84

17 Gogăltan 2008, 86.

18 Gogăltan 2008, 81

19 Bader 1978, 34.

20 For example, the fortified area at Tiszapolgár is very small (0.22 ha), while the settlement at Bolcska is very large (16–20 ha). Cf. Gogăltan 2008, 85.

21 The trench surrounding the settlement at Tiszaug is only 4 m wide; on other sites the width of the trench ranges between 13 m and 27 m. Cf. Gogăltan 2008, 85.

22 Gogăltan 2008, 86.

sedily, it started earlier than the neighbouring (open) settlement at Andrid-CAP Stables, which is situated towards the north-west on the nearby terrace (most likely unfortified; hence not marked in fig. 8) and has Otomani I type material still with profound Sanislău group influences indicative of an early phase of Otomani I. However, a more fine-grained chronology is necessary to answer such questions than is hitherto available from surface finds alone, and it is not yet clear if and for what period of time these sites overlap in chronological terms or if they form a succession.

Clearly, in order to provide a solution to such problems excavations and radiocarbon dates are required in future to be more precise about the date and the development of Andrid-Dealul Taurilor itself. At the same time, Andrid has to be seen in the wider context of Early to Middle Bronze Age settlement of the Ier valley. An attempt is required to describe the development of this micro-region and identify possible ‘central places’, which in time may have developed into focal points for the local population – be in terms of economy, politics or identity²³. Among the settlements of the Sanislău group, the site of Andrid-Dealul Taurilor is located in a central position, at a distance of 22 km from Carei-Bobald and 23 km from Săcuieni-Cetatarea Boului (fig. 8). Another five fortified settlements are situated at distances of less than 15 km: Dindeşti-Cetate (3.5 km), Sălacea-Dealul Vida (6.5 km), Pişcolt-Zogat/Ógát (8 km)²⁴, Otomani-Cetătie (12 km), Tiream-Movila Cânepii (14 km). With the exception of Pişcolt, for which there is no reliable data, small-scale archaeological excavations have shown that all of them started during the Early Bronze Age III (Sanislău group) and were occupied at least until the turn to the Otomani II phase. By comparison, the settlement at Andrid-Dealul Taurilor apparently came to an end rather early, because so far the latest evidence of occupation dates to Otomani I if this phase was reached at all (see above). The dynamics of this system are still poorly understood and will be subject of future work. This clearly has to take into consideration processes of settlement re-location on a rather small scale: For example, the above-mentioned settlement at Andrid-CAP Stables, which is thought to be one of the earliest manifestations of the Otomani culture in the Ier Valley with



Fig. 9: Satellite image of the Late Bronze Age fortified settlement of Căuaş-Sighetu (source: Google Earth).

many elements still of the Sanislău group²⁵, is located on the Ier terrace, at a distance of 1.5 km only from Dealul Taurilor. Similarly, a new fortified settlement, that came into existence at Pir-Cetate in the Otomani II phase, is located at a distance of just 2.5 km far from Andrid-Dealul Taurilor²⁶.

The fortified settlements at Andrid-Corlat and Căuaş-Sighetu from the Urnfield period

Andrid-Corlat and Căuaş-Sighetu are fortified sites of the Gáva culture. They enrich our knowledge of the settlement preferences of this period. Throughout the developed and late Urnfield period fortified settlements of the Gáva or Kyjatice culture are known in greater numbers on the steep heights of the entire Carpathian range²⁷. Much less well known is the presence of fortified settlements in the lowlands²⁸. There is an obvious disproportion: while the mountains and hilly areas in the northern and eastern parts of this culture’s area are particularly rich in fortified settlements, the plains and lowlands in its western area of distribution hitherto seemed unfavorable to the emergence of this type of settlement. Now, with the recent discovery of such fortified sites

²³ See, for example, Zs. Molnár – Z. Imecs 2006 who applied geographical models to the area in question (XTENT and Thiessen Polygons). In the Otomani I period, i. e. possibly somewhat later than Andrid-Dealul Taurilor, it is thought likely that a prominent position was achieved by the fortified settlements at Carei-Bobald, Sălacea-Dealul Vida and Săcuieni-Cetatarea Boului; cf. Molnár – Imecs 2006, 53, pl. 12,15. During the Otomani II phase the territory earlier on occupied by Andrid-Dealul Taurilor is considered to be part of the territory dominated by the settlement of Sălacea-Dealul Vida; cf. Molnár – Imecs 2006, 50, pl. 13,16.

²⁴ We would like to thank J. Németi, who provided us with information on details of these sites’ fortification systems. The tell-like(?) settlement at Pişcolt has recently entered the literature; cf. Németi 1999, 45; Molnár – Németi 2002, 157.

²⁵ Németi – Roman 1990, 27–38; Németi 2002, 74–77; Németi 1999, 124.

²⁶ Németi 1999, 29; Németi – Molnár 2002, 54–56, 74–79, 106.

²⁷ Vasiliev 1995; Giurgiu-Ardeu 1996, 189–226; Prochnenko 1999, 77–82; Mátuz – Nováki 2002; Furmanek – Veliačik – Vladár 1999, 120–129.

²⁸ Among the more familiar exceptions are the fortifications at Santana and Corneşti; cf. Rusu – Dörner – Ordentlich 1996, 15–44; Medeleş 1993, 119–150; Rada – Ciochină – Manea 1989, 377–380; Heeb – Szentmiklósi – Wiecken 2008.



Fig. 10: Aerial photograph of the Late Bronze Age fortified settlement of Andrid-Corlat.

in the lowlands or marshes of the Tisa area²⁹ this situation is slowly changing. It is in the context of this new group of fortified lowland Gáva settlements that Căuaş-Sighetu (fig. 9) and Andrid-Corlat (fig. 10) have to be seen, which are located on islands in the swamps of the Ier Valley.

The settlement at Căuaş was discovered in the 1970s by surface finds³⁰. In the close vicinity of the site a gold treasure was recovered³¹, and some small-scale surveys were carried out inside the settlement by T. Bader in 1977, N. Iercoşan in 1996³² and J. Németi in 2001³³. During the latter campaign, which focused on an area crossed by a water drainage canal, J. Németi observed the existence of a trench and a defence wall on the western side of the site. Topographical measurements show that the settlement covers an area of about 58 ha (fig. 11). According to the pottery finds from the surface large parts of this area were inhabited, although, of course, from the surface finds alone it is difficult to tell if all settlement activity actually was contemporaneous. So far archaeological traces are missing only from some of the lower parts of the site, which in spring in particular are wet and prone



Fig. 11: Topographical plan of the fortified settlement of Căuaş-Sighetu.

to be flooded. The site's perimeter is 3034 m. At least along parts of its perimeter the settlement was defended by a wall and trench. A preliminary magnetometer survey was carried out in 2008 on a 0.25 ha test area. The results point to a discontinuous habitation of the area examined, which seems to be due to its location in a marshy area on the southern periphery of the site. The magnetometer results do not provide conclusive evidence that in this area there was a fortification. If so, it seems to have been destroyed by agriculture or erosion. On the north-eastern pe-

²⁹ Five fortifications have been registered in northern and eastern Hungary; see Hellebrand 2004, 171–186.

³⁰ Németi 1982, 48–49. pl. XIV/3–12. XV/1–7; Németi 1990, fig. 21/1–9; Németi 1999, 19.

³¹ Popescu 1975, 43–50.

³² Iercoşan 1997, 9–10.

³³ Németi 2002.

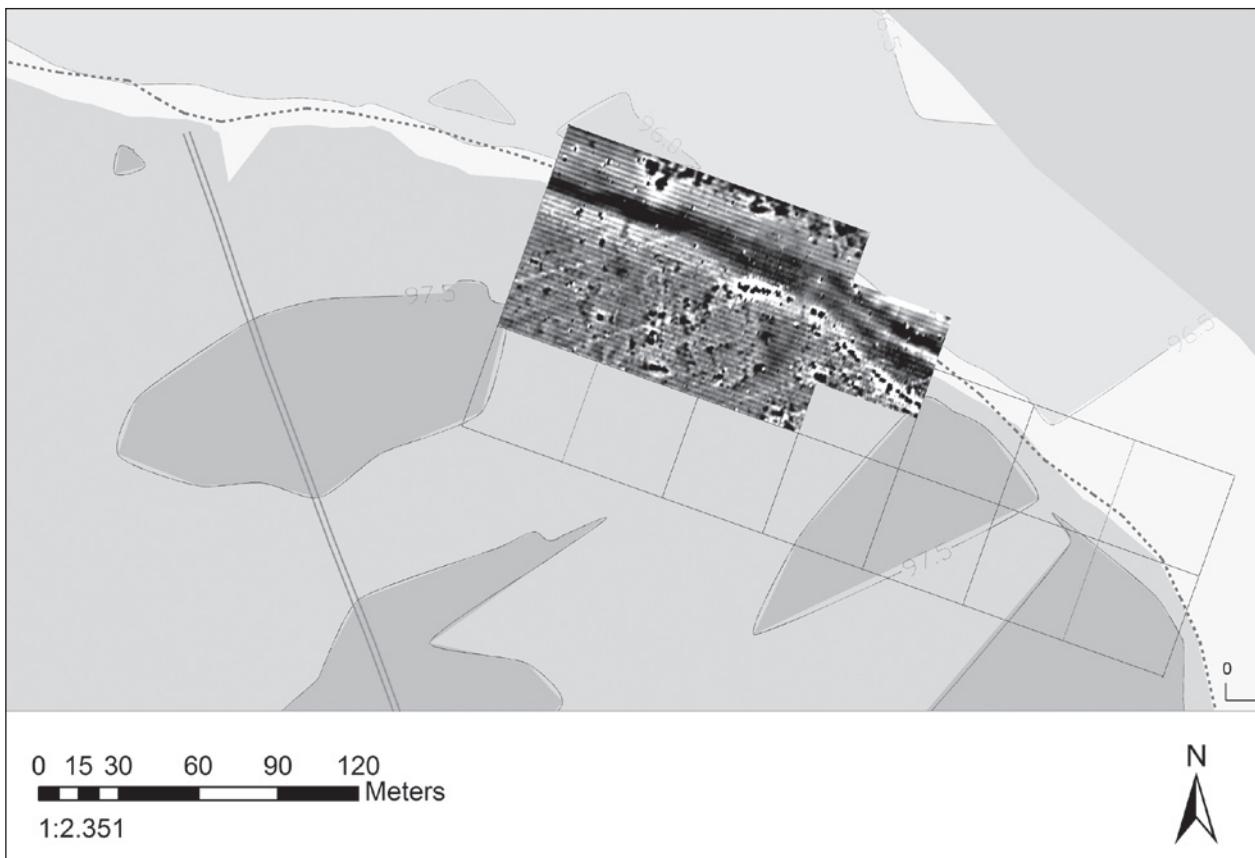


Fig. 12: Magnetometer survey of the north-eastern periphery of the fortified settlement of Căuaş-Sighetu.



Fig. 13: Remains of the southern ditch and wall of the fortified settlement of Andrid-Corlat.

riphery of the Căuaş site, on the other hand, a recent magnetometer survey in spring 2010 unambiguously established the existence of a fortification system (fig. 12). Its precise nature needs to be clarified by excavation since from the shade plot one gets the impression that towards the east there may have been a bipartide construction, while in the western part of the area examined there is only one rather large dark (i. e. positive) anomaly. Most likely these were some kind of trenches, but their precise construction is unclear. The same holds true for the function of a line of rather strong anomalies that seem to accompany

the eastern section of the ‘trench’ on its inner side, possibly the remains of some kind of palisade. Again, however, this question requires an excavation to be solved. The fortification in this section is situated on the brink of the slight elevation occupied by the settlement. Some rather large positive features some 10–15 m outside, to the north, are situated in what today is a swampy area that would seem unfit for occupation. Their origin and interpretation as well need to be clarified by future work. Inside the fortification, on the other hand, a large number of pottery sherds is to be found on the surface. They clearly correspond to the presence of a greater number of positive features in the magnetometer results that are caused by pits etc. and confirm settlement activity in this area. The materials collected from the surface date to the Gáva II phase and match the materials that had been previously found.

The settlement at Andrid-Corlat has been identified by some pottery fragments that were collected from the surface in 1980 by the agronomist Gábor Szabó. J. Németi used these materials and others, which were collected later on, to assign the settlement to the Gáva culture³⁴. In 2008, aerial photography established the existence of a trench and a defence wall that crosses the island on which the settlement is located

³⁴ Németi 1982, 47. pl. XIII/6–7; Németi 1999, 27.



Fig. 14: Magnetometer survey of the fortified settlement of Andrid-Corlat.

(fig. 10)³⁵. The trench is wide and easily traced on the surface, but the wall is only slightly visible as it has been affected by tilling (fig. 13). No doubt, it must have been impressive, because a description from 1866 still depicts it as a wall, and the Corlat area was still fit for use as a refuge for the inhabitants of neighbouring villages during the Mongol invasion³⁶. The existence of a fortification system on the eastern side of the island has been marked on a map issued at that time³⁷. Magnetometer surveys were carried out 2008–2010 on almost the entire western part of the site and on a smaller area in the north and north-east. This work confirms the existence of a fortification system along

the entire perimeter examined (fig. 14). One or rather two trenches may be assumed, although the corresponding features in the shade plot of the magnetometer data in some places are rather narrow and not easily distinguished from the remains of some other kind of construction (palisade?). Future magnetometer surveys will show if this fortification in fact continued around the entire perimeter of the site which would make up for a fairly massive defence system of about 1660 m in length. From the results obtained so far, this seems highly likely. It is suggested, therefore, that the trench(es) and/or most likely some kind of palisade protected and marked out the entire inhabited area of the site³⁸ from the surrounding marsh to the west, north and east – an area locally known as the ‘Big Marsh’.

One aim of future work at Andrid-Corlat and more so at Căuaş will be to establish if there was in fact a continuous fortification of the entire site,

³⁵ The flight was conducted by Liviu Marta and Cătălin Nicolaie; it was made possible by a program run by the County Museum of Satu Mare with EU funds.

³⁶ Cf. Szatmár vármegye, Pest Frigyes 1864–1866. évi helynévtárában. Nyíregyháza 2001, 213.

³⁷ A második katonai felmérés. A Magyar Királyság és a Temesi Bánság. 1819–1869. Die zweite militärische Vermessung. Aufnahmekarte des Königreiches Ungarn. 1819–1869 (DVD 2005 dec.).

³⁸ Cf., for example, Ostoja-Zágorski 1983; Schöbel 2006.

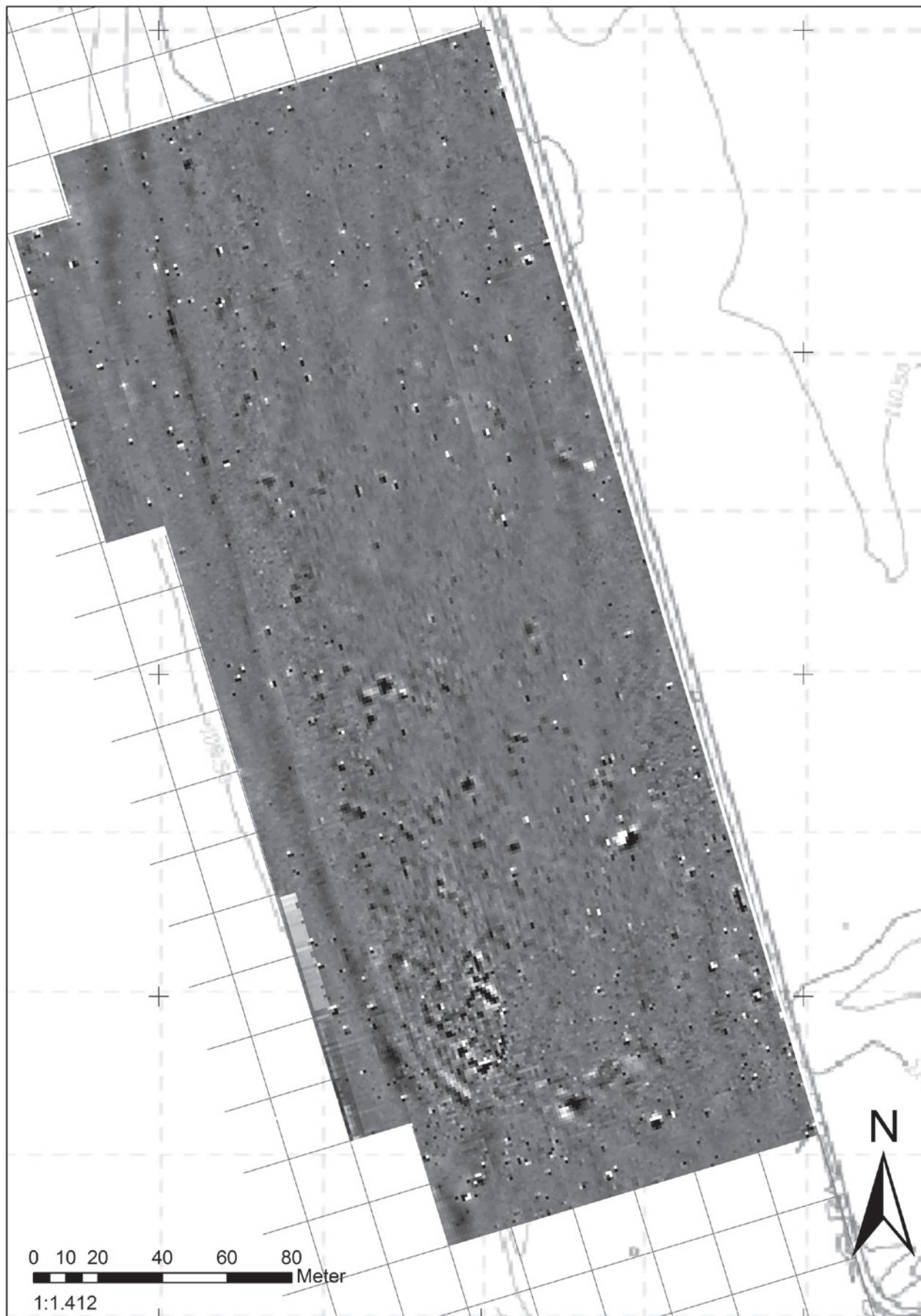


Fig. 15: Detail of the magnetometer survey on the south-western part of the settlement of Andrić-Corlat.

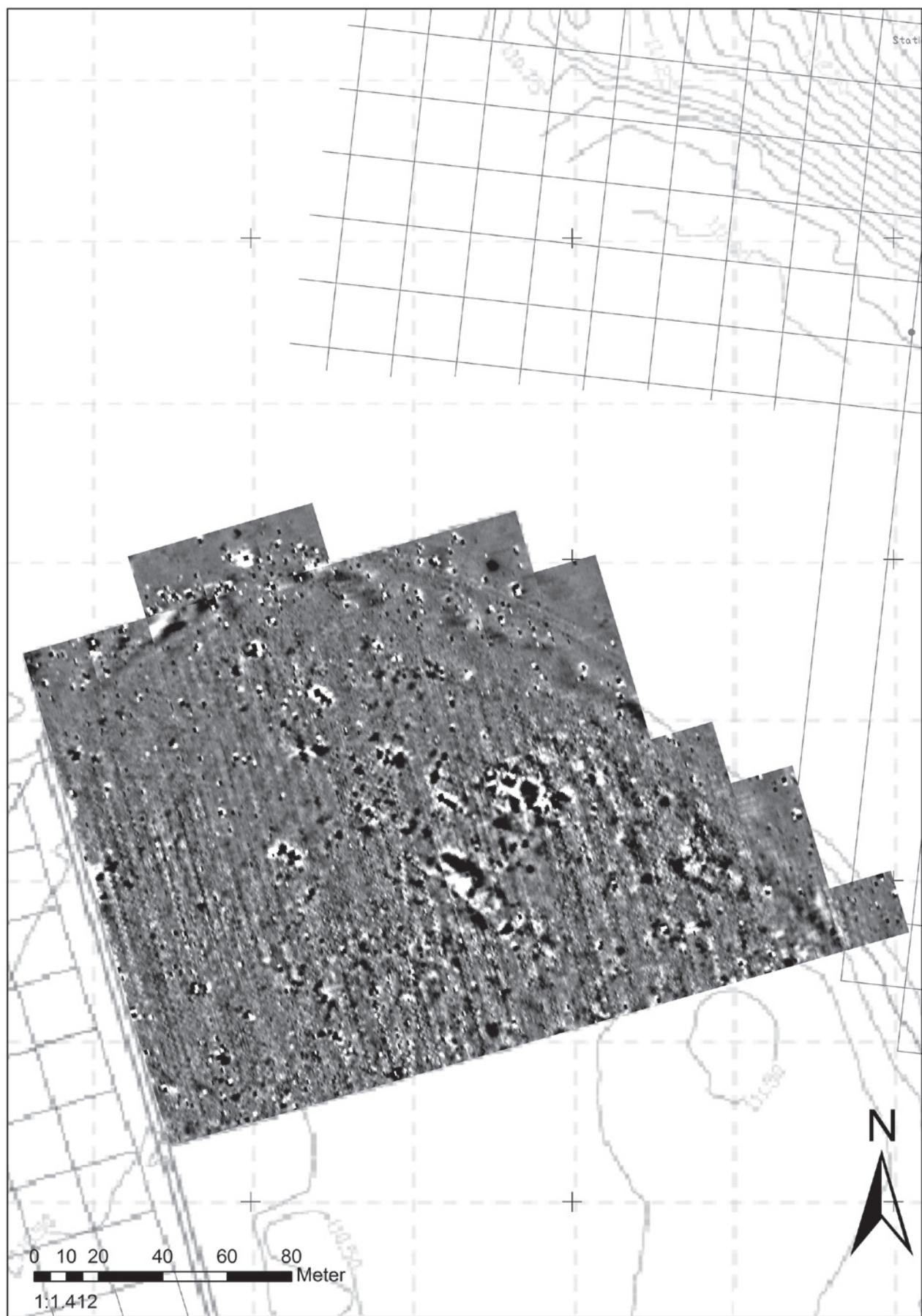


Fig. 16: Detail of the magnetometer survey on the northern part of the settlement of Andrid-Corlat.

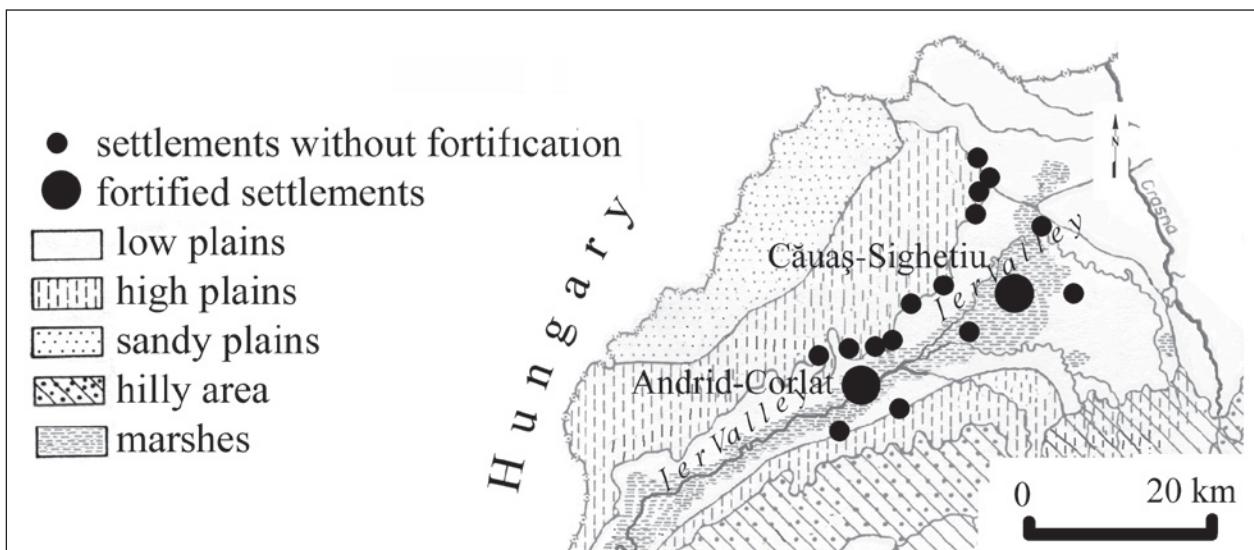


Fig. 17: Settlements of the Gáva culture in the Ier valley.

how it was constructed, organised and maintained. In the latter case, in particular, such a fortification would be impressive and surpass a length of 3 km (see above). More importantly, however, the aim of future magnetometer research and intensive survey is to obtain data on the intensity of habitation and the internal organisation of the settlements at Căuaş and Andrid-Corlat. By their sheer size of 58 ha and 18.6 ha respectively these Urnfield period sites differ from the Early to Middle Bronze Age sites discussed above. One wonders if a densely settled area of this size is likely, and for sure the internal organisation was different from the Early to Middle Bronze Age sites.

At Andrid-Corlat, in any case, where a larger area along the western and northern perimeter including parts of the inside area was surveyed, one gets the impression of a discontinuous settlement with anomalies or features, that might point towards settlement activities arranged into distinct clusters. One such cluster can be located in the south-western part of the site, where the western fortification turns east to cross the island (fig. 15). Proceeding northward at first in the middle part of this western area there is less evidence of settlement remains, but a higher frequency of archaeologically relevant features can be observed again in most of the northern part of the site (fig. 16). Here, too, there seem to be some less densely occupied stretches, and clearly the interpretation of some of the larger features visible in the north-eastern part of the magnetogram in terms of possible house structures or evidence of craft production requires excavations. However, the total image may point to a segmentary pattern with individual household units or farmsteads divided by open spaces. Such areas with low habitation intensity have also been found in several contemporaneous sites situated in the Carpathian highlands (see above). But

in their case there is a discussion if the impression of unsettled areas is due to poor preservation and erosion. Establishing the intensity of habitation within the settlements at Andrid-Corlat and Căuaş will provide clues for the further discussion on the character of such Urnfield period settlements in general³⁹. Against a local background it will be asked, what role the two fortifications at Andrid-Corlat and Căuaş had in relation to the numerous settlements without fortification along the Ier river valley terraces (fig. 17). With only 15.5 km distance both sites are located at unusual proximity, given that distances between comparable Gáva fortifications hitherto known typically were much greater⁴⁰.

To conclude this preliminary report, the Ier valley offers ideal conditions for the study of long-term trends in Bronze Age land-use and settlement organisation. The methods applied – topographical measurements, aerial photography and magnetometer survey – provide important data both on the intra and off-site level⁴¹. Based on such intensive survey techniques the joint project reported on will seek to develop a better understanding of the Ier valley micro-region. An increasingly closer coverage of the Early to Middle and Late Bronze Age sites of this area is aimed at. This will also involve targeted exca-

³⁹ In the territory of Transylvania there are considered to exist two types: large-sized fortifications, that were permanently inhabited (Teleac, Mediaş, Ciceu-Corabia, Şimleu Silvaniei), and such, that were only used as a refuge in case of conflict etc. (Dej, Subcetate, Sărătel etc.); cf. Vasiliev 1995, 150.

⁴⁰ For some other sites the distance to the closest fortified settlements is: Derşida 29 km, Şimleu Silvaniei 46 km, Tăşad 77 km and Călineşti-Oaş 80 km.

⁴¹ See also the results of geomagnetic surveys that were carried out at a small number of other Middle and Late Bronze Age sites: Túrkeve-Terehalom (Csányi – Tárnaki 1996, 31–48), Héhalom 'Templomdomb' (Bácsmegi – Sümegi 2005, 169–173) and Corneşti-Iarcuri (Heeb – Szenthiklósi – Wiecken 2008, 179–188).

vations to further our understanding of some of the points raised above with regard to both the internal organisation of individual sites and their chronological position vis-à-vis each other.

References

- Bácsmegi – Sümegi 2005
G. Bácsmegi – P. Sümegi, Héhalom-Templomdomb bronzkori tell geoarchaeológiai vizsgálata, ComArchHung 2005, 167–176.
- Bader 1972
T. Bader, Cultura Suciu de Sus în nord vestul României, SCIV 23/4, 1972, 509–536.
- Bader 1978
T. Bader, Epoca bronzului în nord-vestul Transilvaniei. Cultura pretracică și tracică (București 1978).
- Bader 1982
T. Bader, Die befestigten bronzezeitlichen Siedlungen in Nordwestrumänien, in: Beiträge zum bronzezeitlichen Burgenbau in Mitteleuropa (Berlin–Nitra) 47–70.
- Csányi – Tárnoki 1996
M. Csányi – J. Tárnoki, Bronzkori tell-telepek a Közép-Tisza-vidéken, in: R. Kertész et al. (Hrsg.), Vendégségben össenk háza táján. Állandó régészeti kiállítás a szolnoki Damjanich János Múzeumban (Szolnok 1996) 31–48.
- Fazecaş 1995
G. Fazecaş, Aspecte privind aşezările culturii Otomani pe teritoriul României, Crisia 26/27, 1995, 51–67.
- El Susi 2002
G. El Susi, Cercetări arheozoologice în aşezarea de epoca bronzului de la Carei–Bobald (Județul Satu-Mare), Thracia, 23, 2002, 243–265.
- Furmánek–Veliačík–Vladár 1999
V. Furmánek – L. Veliačík – J. Vladár, Die Bronzezeit im slowakischen Raum (Rahden/Westf. 1999).
- Giurgiu–Ardeu 1996
A. Giurgiu–Ardeu, Contribuții privind stadiul cercetării Hallstattului timpuriu în spațiul intercarpatic. Contributions in connection with the research stage of the Early Hallstatt inside the Intercarpatic Area, Sargetia 26/1, 1995/96, 189–226.
- Gogâltan 2003
F. Gogâltan, Tell-urile epocii bronzului în Bazinul Carpatic: Probleme de terminologie. Die Tells der Bronzezeit im Karpatenbecken: Terminologische Fragen, in: Acta Terrae Septemcastrensis II, 2003, 45–93.
- Gogâltan 2008
F. Gogâltan, Fortificațiile tell-urilor epocii bronzului din bazinul carpatic. O privire generală, Analele Banatului 16, 2008, 81–100.
- Heeb – Szentmiklósi – Wiecken 2008
B. S. Heeb – A. Szentmiklósi – J. M. Wiecken, Zu den Wallringen von Cornești-Iarcuri, Jud. Timiș, Rumänien. Forschungsgeschichte und neueste Untersuchungen, PZ 83, 2008, 179–188.
- Hellebrand 2005
M. B. Hellebrand, Őskori föld- és vizivárok. Prehistoric Earthworks and Forts Surrounded by Bodies of Water, in: MÖMOS II. Őskoros Kutatók II. Összjövetelének konferenciakötete. Debrecen 2000, November 6–8 (Debrecen 2004) 171–186.
- Iercoşan 1997
N. Iercoşan, Sondajul arheologic Căuaş–Sighet, jud. Satu Mare, comunicare la a XXXI-a sesiune anuală de rapoarte preliminare de săpături arheologice, mai 1997 (București 1997).
- Kimmig 1992
W. Kimmig, „Wasserburg Buchau” – eine spätbronzezeitliche Siedlung (Stuttgart 1992).
- Matuz – Nováki 2002
D. Matuz – Gy. Nováki, Spätbronzezeitliche, frührheisenzeitliche Erdwälle in Nordungarn (Budapest 2002).
- Medelet 1993
F. Medelet, În legătură cu fortificația de pământ de la Cornești (comuna Orțisoara, județul Timiș), Analele Banatului 2, 1993, 119–150.
- Molnár – Imecs 2006
Zs. Molnár Zsolt – Z. Imecs Zoltán, Adatok a Nagykárolyi síkság és az Ér vidék településhálozatának kutatásához, Dolgozotok (Ú. S.) 1, 2006, 29–87.
- Németi 1982
I. Németi; Descoperiri hallstattiene timpurii din zona Căreilului, Satu Mare StCom 5/6, 1981/82, 45–58.
- Németi 1990
I. Németi Contribuții la cunoașterea sfârșitului epocii bronzului din nord-vestul României. Beiträge zur Erforschung der Spätbronzezeit in Nordwestrumänien, SCIVA 41/1, 1990, 19–54.
- Németi 1999
J. Németi, Repertoriul arheologic al zonei Careiului (București 1999).
- Németi 2002
J. Németi, Căuaş, com. Căuaş, jud. Satu Mare. Cronica cercetărilor arheologice din România. www.archweb.cimec.ro.
- Németi – Roman 1995
I. Németi – P. Roman, Epoca bronzului timpuriu în nord-vestul României, Satu Mare StCom 11/12, 1995, 25–32.
- Németi – Molnár 2002
J. Németi–Zs. Molnár, A tell telepek elterjedése a Nagykároly-síkságon és az Ér völgyében. Kolozsvár (Cluj-Napoca 2002).
- Németi – Molnár 2007
J. Németi – Zs. Molnár, A tell telepek fejlődése és vége a Nagykároly síjságon és az Ér völgyében (Cluj-Napoca 2007).
- Ordentlich 1971
I. Ordentlich, Aria de răspândire a culturii Otomani de pe teritoriul României. Die Verbreitung der Otomanikultur in Rumänien, Marmăta 2, 1971, 19–35.
- Ostoja-Zágorski 1983
J. Ostoja-Zágorski, Aspekte der Siedlungskunde, Demographie und Wirtschaft hallstattzeitlicher Burgen vom Biskupin-Typ, PZ 58, 1983, 173–210.
- Popescu 1975
D. Popescu, Tezaurele de aur de la Sacoșu Mare și Căuaş, Tibiscus (istorie) 1975, 41–74.
- Prochnenko 1999
I. Prochnenko, Harta răspândirii cetăților din veacul XII–VIII î.e.n. pe Tisa Superioră. The Map of XIIth–VIIIth c. B.C. Citadels in Upper Tisa, in: Relații româno-ucrainiene, istorie și contemporaneitate (Satu Mare 1999) 77–82.
- Roman – Németi 1990
P. Roman – I. Németi, Epoca bronzului în nord-vestul României, SympThrac 8 (Satu Mare–Carei 1990) 34–41.
- Rada – Ciochină – Manea 1989
M. Rada – N. Ciochină – D. Manea, Studiu aerofotometric al fortificațiilor de la Cornești (jud. Timiș), SCIVA 40, 1989, 377–380.
- Rusu – Dörner – Ordentlich 1996
M. Rusu – E. Dörner – I. Ordentlich, Fortificația de pământ de la Sântana–Arad în contextul arheologic contemporan, Ziridava 19/20, 1996, 15–44.
- Schöbel 2006
G. Schöbel, Die Wasserburg Buchau – eine Ufersiedlung der Spätbronzezeit am Federsee, in: Z badania nad osadnictwem epoki brązu i wczesnej epoki żelaza w Europie. Środkowej. Aus den Forschungen über das Siedlungswe-

sen der Bronze und der frühen Eisenzeit in Mitteleuropa
(Kraków 2006) 205–218.

Vasiliev 1995

V. Vasiliev, *Fortifications de refuge et établissements fortifiés du premier âge du fer en Transylvanie* (Bucarest 1995).