

NEW RESULTS IN THE TOPOGRAPHIC RESEARCH ON THE EARLY IRON AGE TUMULUS CEMETERY AT ÉRD-SZÁZHALOMBATTA (KOM. PEST/H)

In memoriam René Goguey

PREVIOUS RESEARCH

The expression *százhalom* («hundred mounds») in the name of the town of Százhalombatta (Kom. Pest/H) is attested in the form *Zazholm* at a fairly early date, around 1283, in Simon Kézai's chronicle, one of the most important medieval historical sources of Hungary¹. Its Latin counterpart, *centum montes*, appears even earlier, in another early medieval chronicle, the *Gesta Hungarorum* of the Anonymous Notary². Topographic research on the imposing burial mounds known to the medieval chroniclers, who used them as a setting for various events of the Hungarian Conquest period, began some 170 years ago, in 1847, when János Varsányi prepared the topographic map of the tumulus cemetery (**fig. 1**)³. His map has 122 tumuli, whose location correlates surprisingly well with the mounds recorded during the survey conducted by Dénes Virágh and István Torma some 140 years later, who identified 123 burial mounds⁴. Their map, whose tumulus numbering has been used since, was based not only on field observations, but also on an aerial photo made in 1953 (**fig. 2**).

Although the aerial archaeological investigation of the well-known site lying fairly close to Budapest was begun quite early, before World War II, the photos made by István Gersi in May 1934 were soon forgotten. D. Virágh and I. Torma were unaware of their existence at the time of their survey; they have only recently been identified among the records kept in the Magyar Nemzeti Múzeum⁵. The area south of the tumulus cemetery was not built up at the time these photos were made, meaning that the remains of possible additional tumuli should have been visible – however, there were no soil marks or other features to indicate their presence. Although several photos were made of the tumulus cemetery as part of the Hungarian-French aerial archaeological project (**fig. 3**)⁶, a systematic investigation was only begun in 2001, as part of a research collaboration between the Eötvös Loránd Tudományegyetem, Régészettudományi Intézet (Institute of Archaeological Sciences of the Eötvös Loránd University) in Budapest and the Matrica Múzeum of Százhalombatta. The possibility that there were other archaeological features in the cemetery in addition to the already known burial mounds and their remnants was first conjectured during this project⁷.

A few burial mounds of the tumulus cemetery were opened under the direction of the historian István Horváth before 1843; then, in 1847, János Luczenbacher (Érdy) excavated four tumuli⁸. In May 1866, Flóris Rómer investigated Tumulus 120; in 1872, Gyula Kereskényi opened two mounds, and four years later, in 1876, another two mounds were explored by Elek Csetneki Jelenik⁹.

Between 1978 and 1996, Ágnes Holport conducted the salvage excavation and systematic research investigation of eight tumuli: in the case of Tumulus 118, she identified the traces of the 19th century excavation. It proved impossible to conclusively determine whether the other seven tumuli unearthed in the southern part of the cemetery had been studied previously¹⁰; it would appear that roughly 18 burial mounds had

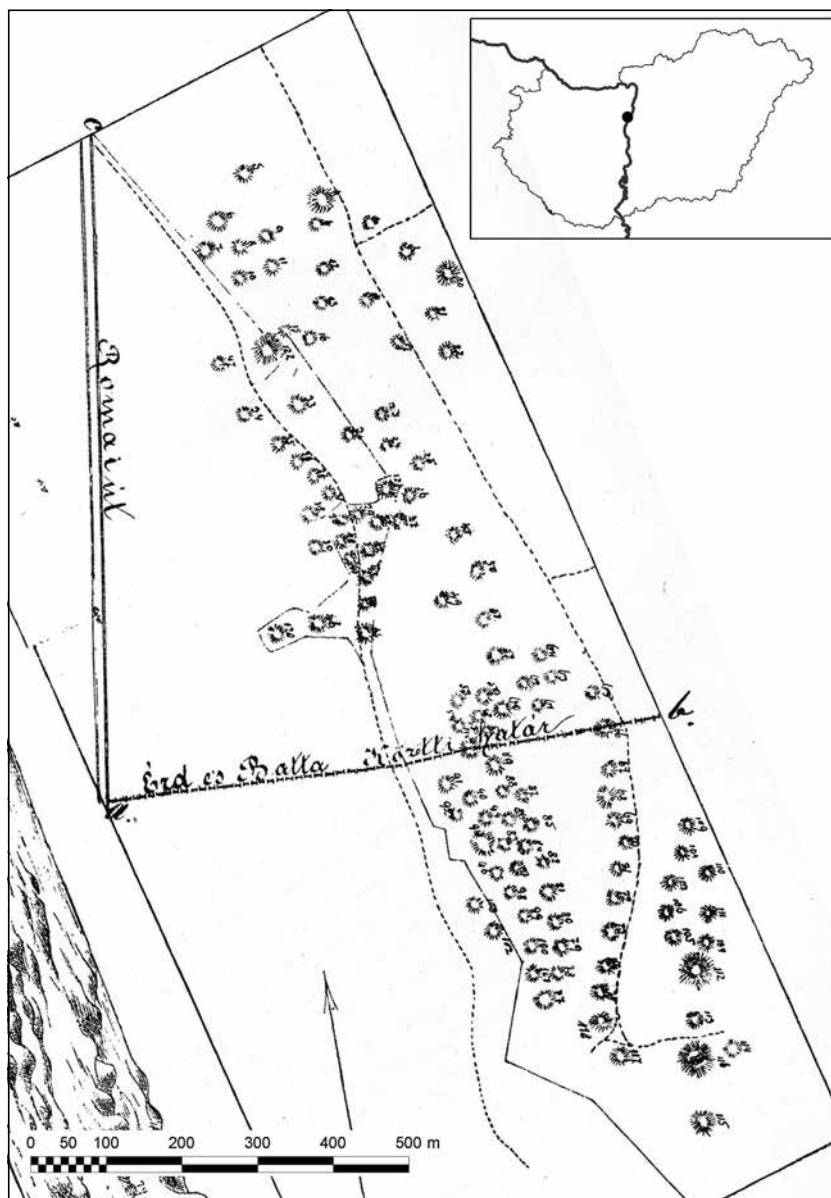


Fig. 1 Map of the Érd-Százhalombatta tumulus cemetery (Kom. Pest/H) from 1847 (J. Varsányi). – (After Luczenbacher 1847, pl. 5; Römer 1878, fig. 50).

been opened during the 19th-20th centuries. However, the investigation of the tumuli did not mean their complete excavation: in the 19th century, a trench cutting across the entire mound was only opened in the case of Tumulus 120, while the field documentation from the 20th century¹¹ indicates that with the exception of Tumulus 115, the investigations focused on the central part of the mounds. In sum, this means that we have information on the structure of no more than 15% of the known mounds and that this information is essentially restricted to the central burial zone.

Not all of the mounds had been raised over a wooden burial chamber; if there was one, it was usually constructed on a 4-5 m × 4-5 m large clay floor. Stone rings were often observed around the burial chamber, although these could equally well be interpreted as the remains of the stone packing once covering the burial chamber¹². The remnants of a low bank preserved to a height of 0.7 m that encircled Tumulus 115 were documented during the modern excavation¹³; however, no ring ditches enclosing the tumuli were observed in the case of the vanished tumuli and neither do the excavation reports mention other possible features between the mounds¹⁴.

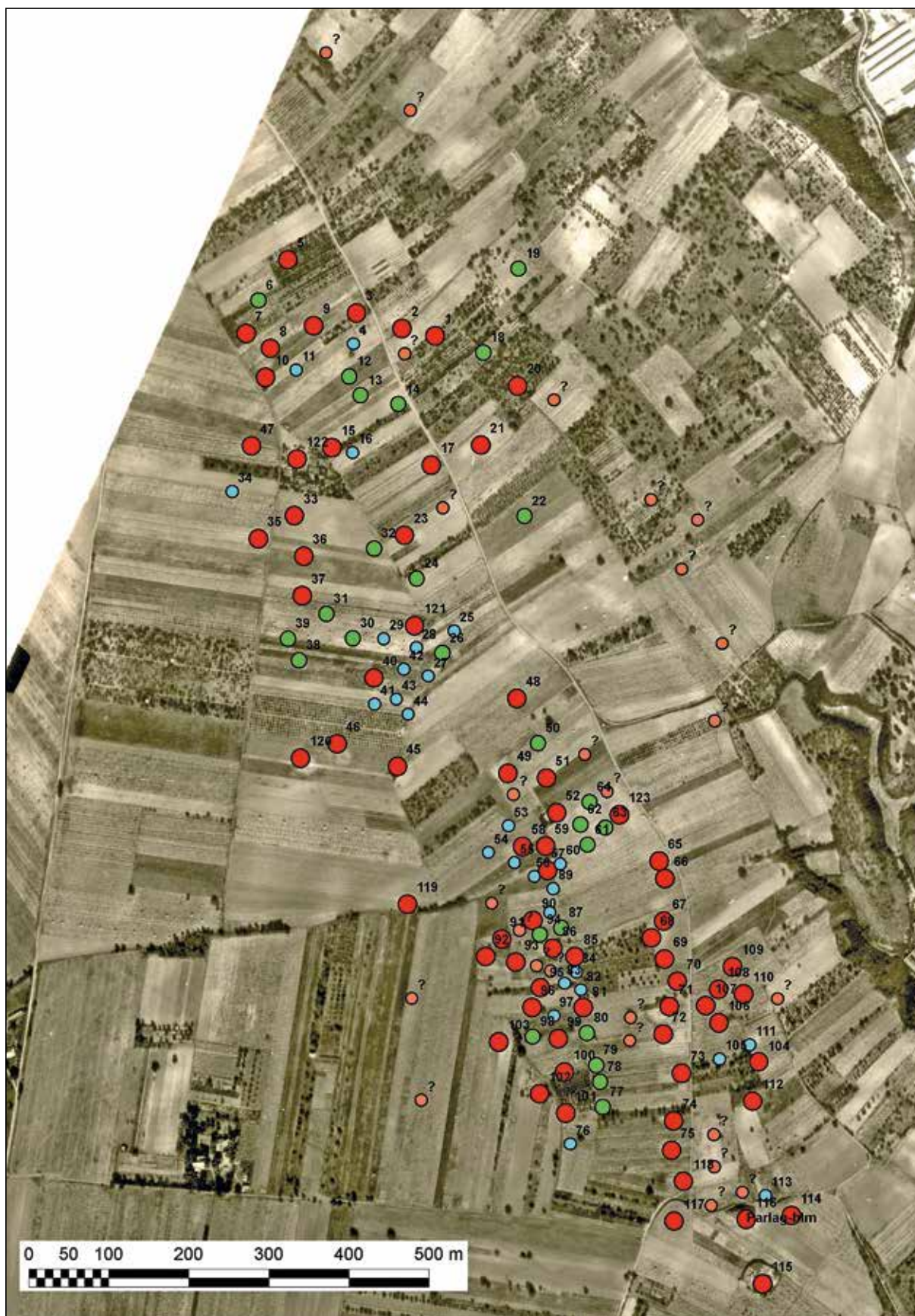


Fig. 2 Map based on an aerial photo made in 1953 of the Érd-Százhalombatta tumulus cemetery (Kom. Pest/H) from 1986 by D. Virág and I. Torma. – Red dots: tumuli; green dots: partly destroyed tumuli; blue dots: wholly destroyed tumuli; orange dots: possible destroyed tumuli. – (After Torma 1986, 229 fig. 26 with additions).



Fig. 3 Tumulus 120 and its area in the Érd-Százhalombatta tumulus cemetery (Kom. Pest/H). – (Photo R. Goguey, June 13, 1993).

RESEARCH METHODS

The area of the Érd-Százhalombatta tumulus cemetery is owned by several individuals, who typically possess small fields, which are utilised variously: as ploughland, orchards and gardens, meaning that the area's investigation can only be conducted in several successive phases across smaller fields, which are explored at the time conditions are best for one particular area. The aerial photography of orchards and plots enclosed by fences can yield little new information – it was in part for this reason that the aerial archaeological prospection begun in May 2012 was complemented with magnetometer geophysical surveys and systematic surface find collection. The following equipment was used during the investigations:

A hand-held Nikon D300 camera with Nikkor ED 24/70 lens and direct GPS data recording during exposition was used during the flights made with a Cessna plane. The analysed images were assembled from high-resolution orthophotos covering the entire area and geodetically measured, well-identifiable landmarks before their assessment. A GEM System GSM-19 Overhauser magnetometer (base station and mobile instruments, a sampling frequency of 0.5 s for base data) in a horizontal variometer arrangement with a Trimble GeoXH dual-frequency GPS with an external geodetic antenna was used for the geophysical surveys in tracking mode with a point density of c. 0.5 m and a distance of 0.75 m between the lines. Noise was extracted from the raw data using various mathematical filtering procedures (base correction, dynamic range compression, reduction to pole, downward continuation of potential field data, band filtering, optimal smoothing filtering, etc.). The artefact collection on the roughly 50 ha large area was aided by a hand-held GPS, enabling the association of the finds with the archaeological features identified during previous surveys as well as on aerial photos and through geophysical prospecting.

When assessing the aerial photos and the results of the geophysical surveys, we must be aware of which particular feature or detail of the one-time tumuli can be identified using these procedures. While the

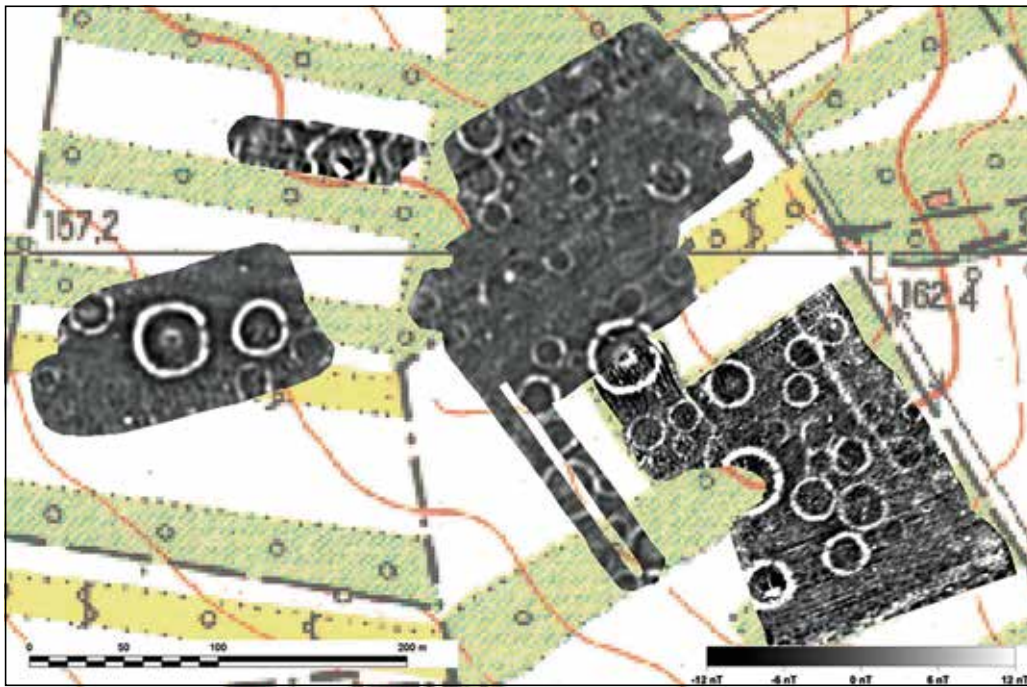


Fig. 4 The Érd-Százhalombatta tumulus cemetery (Kom. Pest/H). Magnetogram of the 2012-2013 magnetometer survey. – (Illustrations B. Holl / S. Pusztai).

remains of a mound are often visible to the naked eye, substantially denuded or flattened tumuli can be exceptionally well observed in oblique light, particularly on snow-covered terrain. In many cases, the remains of the burial chamber can also be made out in the case of denuded or flattened mounds, although they can be more easily identified on the images generated by magnetometers, while much fewer details are visible on aerial photos. The most prominent indication of the presence of a tumulus is a ring-like feature corresponding to the ring ditch encircling the mound. In many instances, even the location of the one-time entrance(?) can be identified – at the same time, the more blurred, perhaps contiguous ring ditches raise several problems of interpretation (fig. 4)¹⁵.

LOCATION, EXTENT AND TOPOGRAPHIC TRAITS OF THE ÉRD-SZÁZHALOMBATTA TUMULUS CEMETERY

The Érd-Százhalombatta tumulus cemetery (fig. 5) lies south of Budapest, in a loessy area with a relative altitude of 100m flanking the western Danube bank, north of the Benta stream, the area's largest watercourse flowing into the Danube. The tumuli are located roughly parallel to the river in a north to south and north-west to south-east direction; earlier surveys indicated that the site extended across a c. 50ha large area measuring 1200m×400m, which was declared a scheduled monument. Remote sensing techniques have revealed that the tumulus cemetery covered a much larger area because we have only found roughly 150m long zones devoid of archaeological feature towards the south. At the same time, we discovered a significant number of intensive traces indicative of burials towards the east, well beyond the cemetery's boundary as determined earlier. It must here be noted that the newly-identified features in this zone probably mark the cemetery's edge because a gully, the plateau of the Early Iron Age settlement and, finally, the

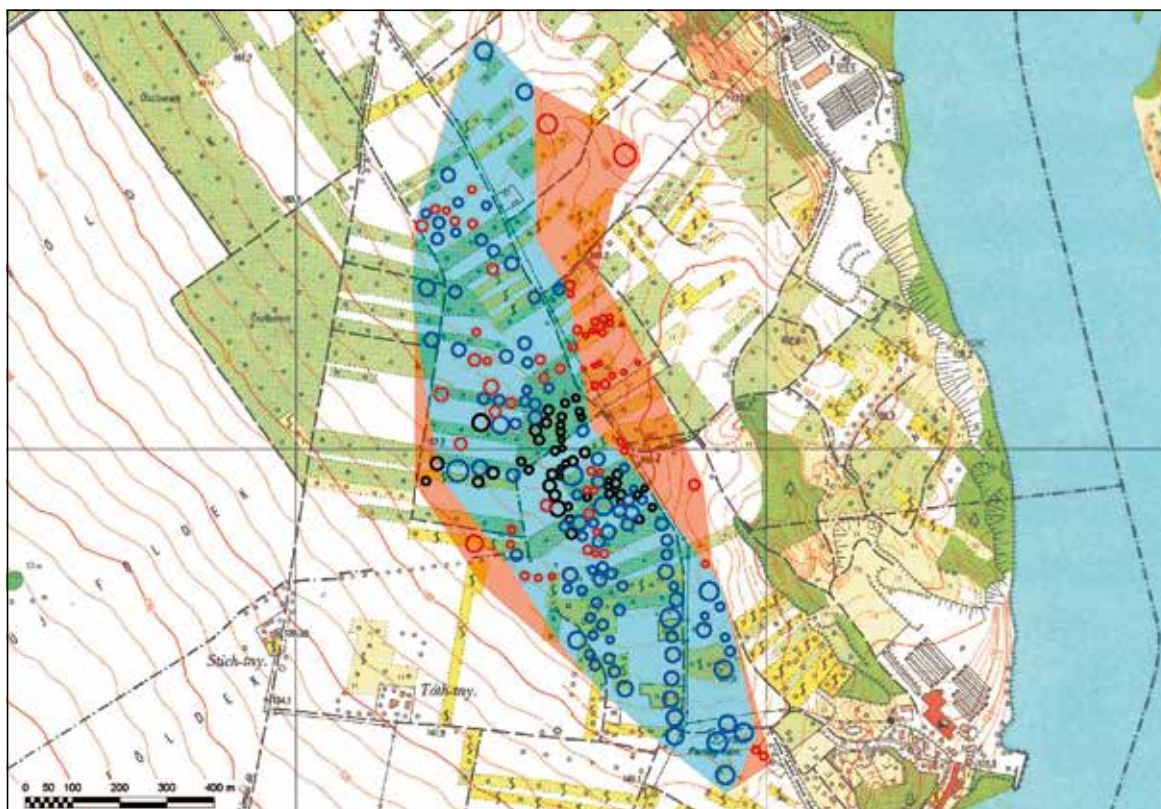


Fig. 5 Extent of the Érd-Százhalombatta tumulus cemetery (Kom. Pest/H) in 1986 (blue) and 2014 (red). Combined tumulus data from old survey maps (blue circles), aerial archaeological photos (red circles) and magnetograms (black circles). – (Illustration B. Holl / Z. Czajlik / S. Pusztai).

Danube lie farther eastward, meaning that the cemetery could not have expanded much farther in this direction. In the light of the above, only a rough estimate can be made of the Early Iron Age necropolis' extent: it was at least 1200m long and 600m wide, meaning that it was at least 70ha large.

In the late 20th century, the general view among archaeologists researching the cemetery was that it could be divided into two units of roughly the same size. The burial mounds in the southern part were higher and spaced more closely, while the tumuli in the northern part were lower and lay farther from one another. One of the most important findings of the aerial prospecting and of the magnetometer surveys is that internal groups cannot be identified in the cemetery in this way because structures ringed by ditches could also be noted in the areas that were earlier believed to be devoid of any archaeological features.

During previous research, the burial mounds were divided into four groups based on the field observations: »intact« mounds, partially destroyed mounds, destroyed mounds and insecurely identifiable mounds. The new surveys would suggest that any classification should not solely be based on the current condition of the mounds because the diameter of a tumulus can be determined even in the case of wholly destroyed tumuli. The most securely identifiable elements on aerial photos and on the images generated by geophysical surveys are the ring-shaped features that represent the ditches encircling the mounds which, regrettably, were not documented during previous research. The diameter of the ditches and the still extant mounds ranges between 8 and 44m. No specific clusters can be identified from the currently available data – we can, at the most, establish that their majority falls into the 12-22m range (fig. 6).

The remains of mounds which had once probably covered a burial chamber can be clearly identified on a part of the aerial photos as well as on the magnetograms (fig. 7). Disregarding the earlier investigated

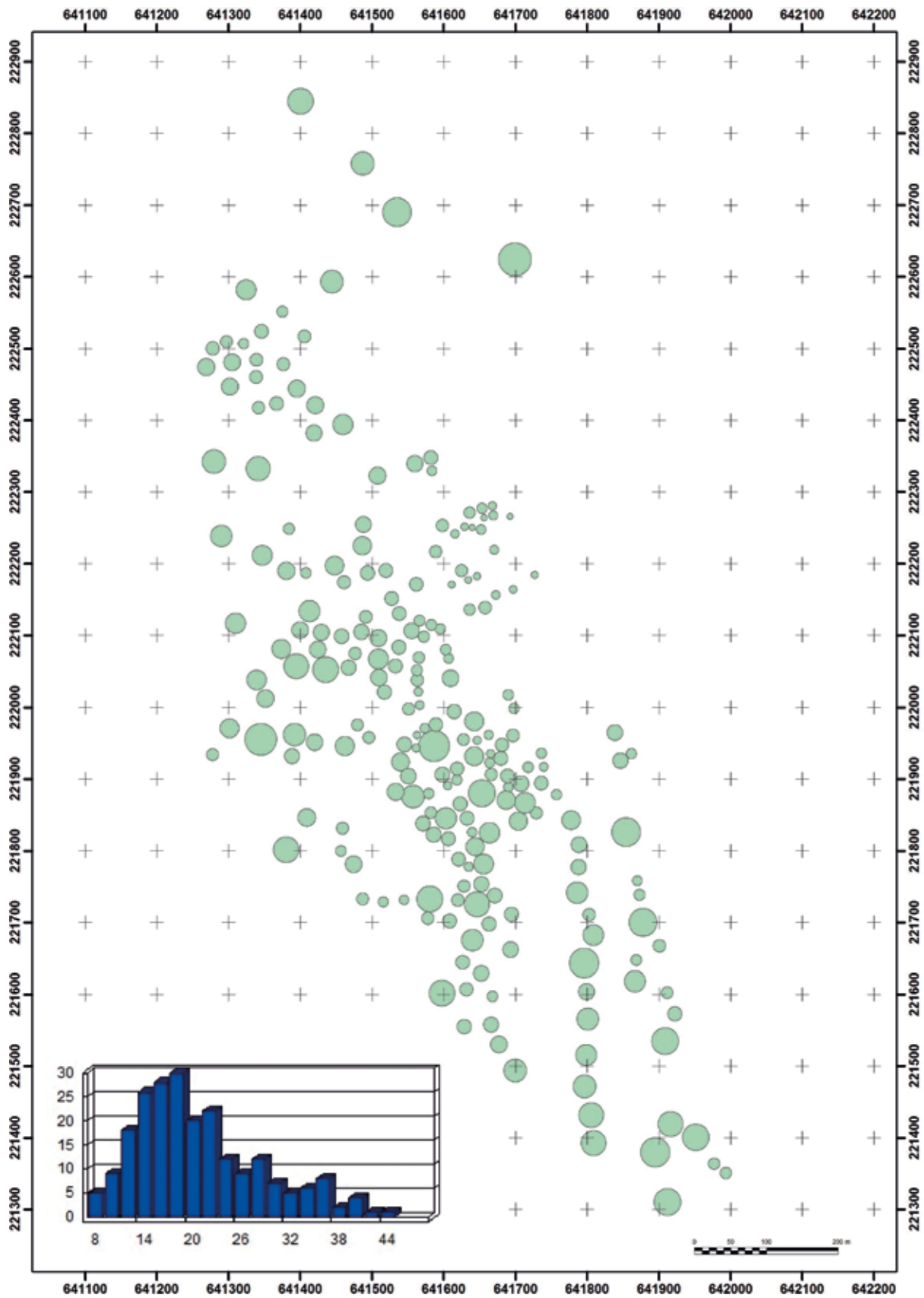


Fig. 6 Comparison of the tumuli/ditched features of the Érd-Százhalombatta tumulus cemetery (Kom. Pest/H) based on their diameter. – (Illustration B. Holl).

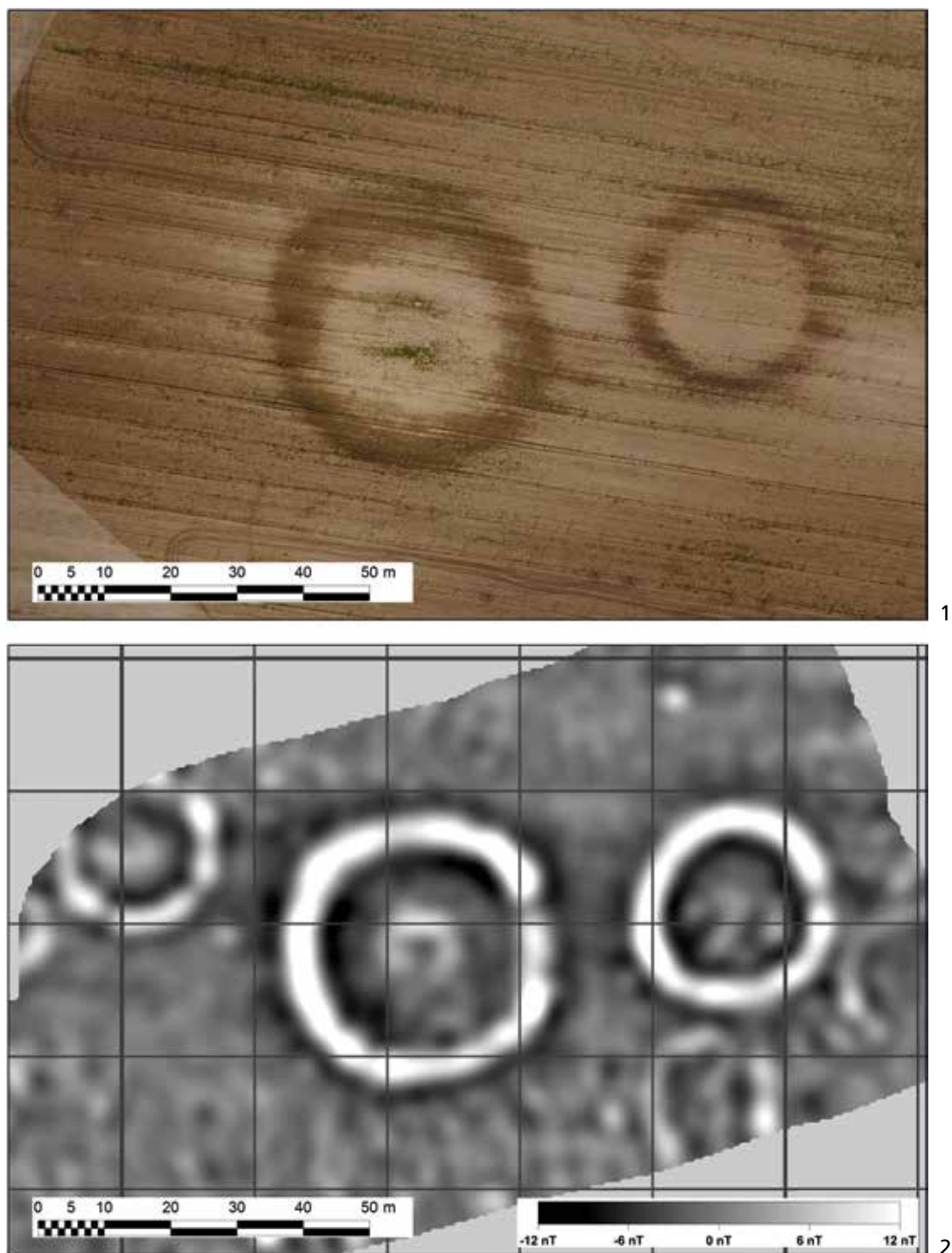


Fig. 7 Érd-Százhalombatta (Kom. Pest/H). Tumulus 120 (left) and Tumulus 46 (right) on the aerial photo (1) and the magnetogram (2). – (1 photo Z. Czajlik, March 11, 2014; 2 magnetogram S. Pusztai, April 2012).

tumuli, we could locate ten denuded burials of this type. Their 4.5 m × 4.5 m size corresponds to the burial chambers uncovered during the earlier excavations. In two cases, the roughly north-east to south-west alignment of the central rectangular structure could also be determined. Of the tumuli uncovered in the 20th century, the alignment of the burial chamber in Tumulus 114 was nearly similar (NNE to SSW)¹⁶, the chamber of Tumulus 118 was aligned NNW to SE¹⁷, that of Tumulus 115 was roughly north to south, while the chamber of Tumulus 117 had an exactly north to south alignment¹⁸. The findings of the geophysical

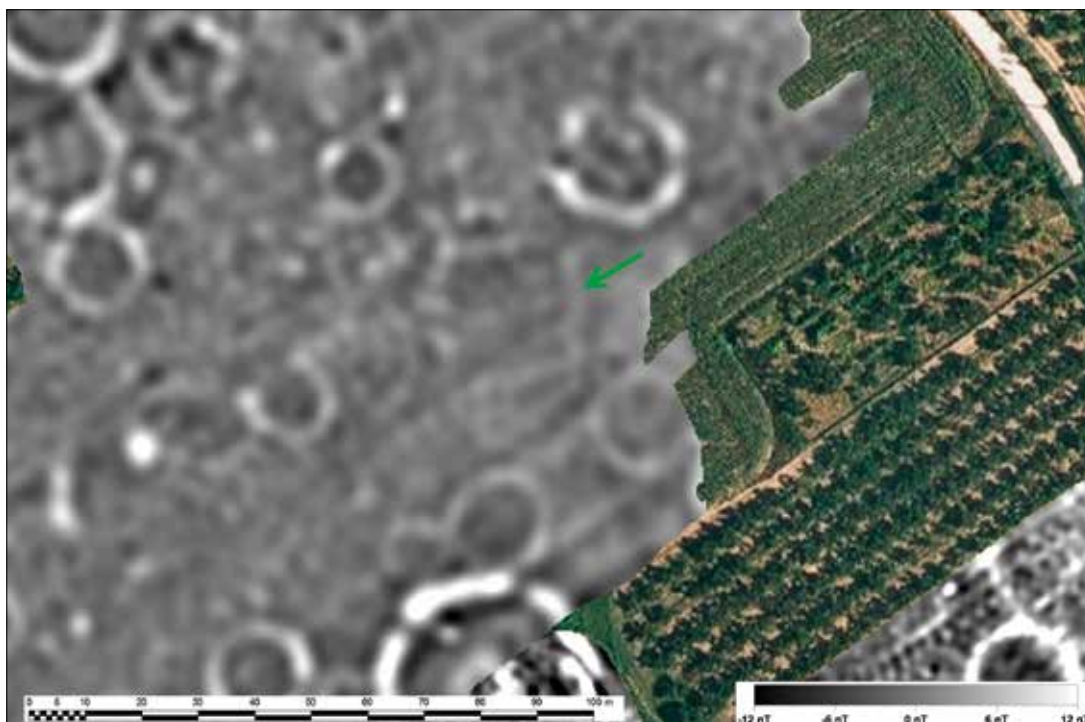


Fig. 8 The Érd-Százhalombatta tumulus cemetery (Kom. Pest/H). A rectangular ditch (arrow) on the magnetogram. – (Illustration S. Pusztai).

surveys thus correlate well with the observations made during the excavations; however, no distinct patterns have been discerned in the alignment of the burial chambers so far.

The denuded mounds were ringed by circular ditches, whose dimensions are roughly similar to the diameter of the still extant, »intact« mounds and the damaged ones. We did not observe any internal structures within the smaller ring ditches and no indications of any visible surface remains were recorded 170 years ago either, at the time they were first mapped by J. Varsányi, at least judging from the fact that features of this type do not appear on his map. This might suggest that these ditches enclosed smaller burial areas which had not or only minimally been marked with an earthen mound. It is noteworthy that these account for the overwhelming majority of the 103 newly-identified features with ring ditches on the aerial photos and the magnetograms. Considering that only a few small fields (totalling roughly 8 ha) could be geophysically surveyed in detail, it seems likely that there were many, previously unrecorded smaller mounds or possible burial areas in the Érd-Százhalombatta tumulus cemetery, whose number exceeded by far the number of larger mounds.

Traces of features that can be interpreted as denuded mounds or burial areas could be found in all the areas that were earlier regarded as »tumulus-free« zones in the cemetery, the single exception being a rectangular, roughly 50 m × 50 m large area bounded by linear ditches which, although apparently part of the cemetery, calls for further investigation in order to clarify its function (perhaps as a cremation place; **fig. 8**).

DATING

We regularly collected finds from the tumuli that were disturbed by ploughing. Several large stones were ploughed up from Tumulus 21 during deep ploughing in spring 2013. The stones that had probably been

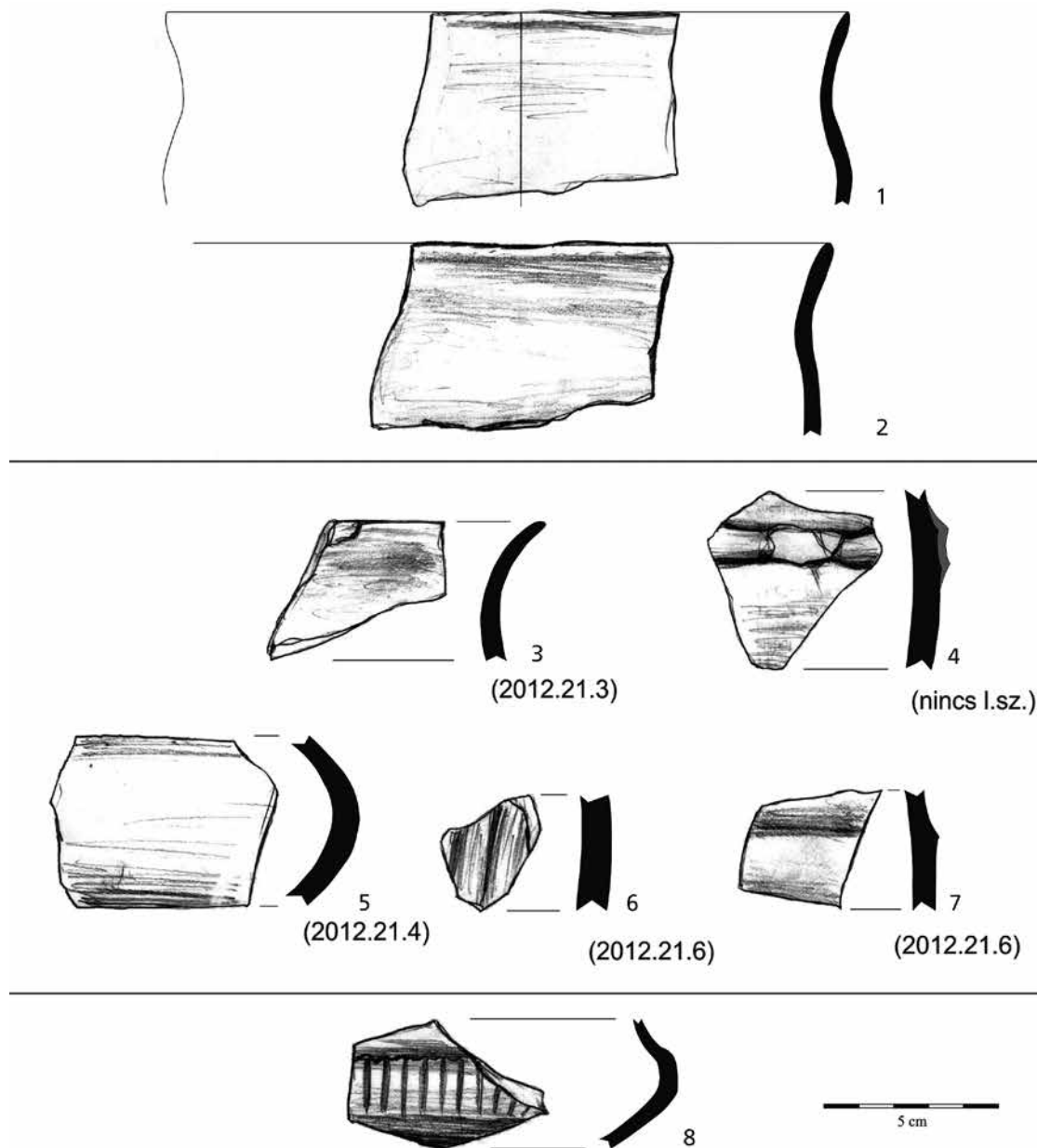


Fig. 9 Early Iron Age pottery finds from the Érd-Százhalombatta tumulus cemetery (Kom. Pest/H) collected during field surveys: **1-2** from Tumulus 21. – **3-7** from Tumulus 46. – **8** from Tumulus 59. – (Drawings G. T. Németh).

part of the stone packing covering the burial vanished without a trace a few days later. We found the fragments of S-profiled bowls in the freshly ploughed land (fig. 9, 1-2). We collected some 50 pottery fragments of typical Early Iron Age vessels, some with a black polished surface, from Tumulus 46, a mound that graded into the ploughed land (fig. 9, 3-7). Tumulus 59, which still rises above the surrounding land, was probably a smaller mound that was damaged by ploughing on several sides. The fragment of a graphitic bowl decorated with vertical fluting was found in this area (fig. 9, 8).

Rising slightly above the surrounding land, Tumulus 94 similarly lies in the southern part of the cemetery; its surface was strewn with limestone fragments and pottery sherds. A rectangular structure could be made out in the middle of the mound on the aerial photo (taken at a time when the field was planted with lucerne; fig. 10). The pottery sherds from the ploughed surface of Tumulus 92, lying slightly west of Tumu-



Fig. 10 Aerial photo of Tumulus 94 in the Érd-Százhalombatta tumulus cemetery (Kom. Pest/H). – (Photo Z. Czajlik, July 6, 2013).

lus 94, included Early Iron Age vessel fragments with graphitic bands on a red painted base and fragments from black polished ware (**fig. 11**).

Tumulus 102 in the southern part of the tumulus cemetery was strongly denuded by the annual ploughing. A yellowish clay ring, the exposed part of the clay packed onto the burial, can be seen on the burial mound rising slightly above the surrounding land. Smaller limestone fragments, calcinated bones and typical Early Iron Age pottery were strewn over the surface. During our sounding excavations conducted in 2013-2014, we determined the archaeological age of the ring ditches enclosing a smaller burial structure or burial area that we had identified using non-invasive methods. We shall not provide a detailed description of the excavation and its results here – we merely wish to note that the pottery recovered from the fill of the ring ditches could be dated to the Early Iron Age in all cases.

The finds collected from the entire area of the necropolis, briefly described in the above, clearly show that these uniformly date from the Early Iron Age¹⁹, although it must be added that a few Late La Tène, medieval and post-medieval pottery sherds were also discovered.

RESULTS OF THE NON-INVASIVE INVESTIGATION OF OTHER EARLY IRON AGE TUMULUS CEMETERIES

The tumulus cemetery at Nagyberki-Szalacska (Kom. Somogy/H) is one of the Transdanubian sites which had been mapped in detail already during the 19th century. The map made by Antal Hencz in 1878 suggested to the site's researchers that the burial mounds had been arranged in two or more rows, and that they had been erected along the path leading to the Early Iron Age hillfort. This conviction was strengthened by the aerial archaeological photos made by Sándor Neogrády in July 1929. Even though the remnants of several tumuli not marked on the map made 50 years earlier can be made out on these photos, this did not lead to a revision of earlier views on the cemetery's dimensions. The assessment of the aerial photos from the 1950s and 1960s and of the new ones made during aerial archaeological prospection from 2005 onward has altered this picture²⁰. On the one hand, remnants of additional tumuli could be identified some

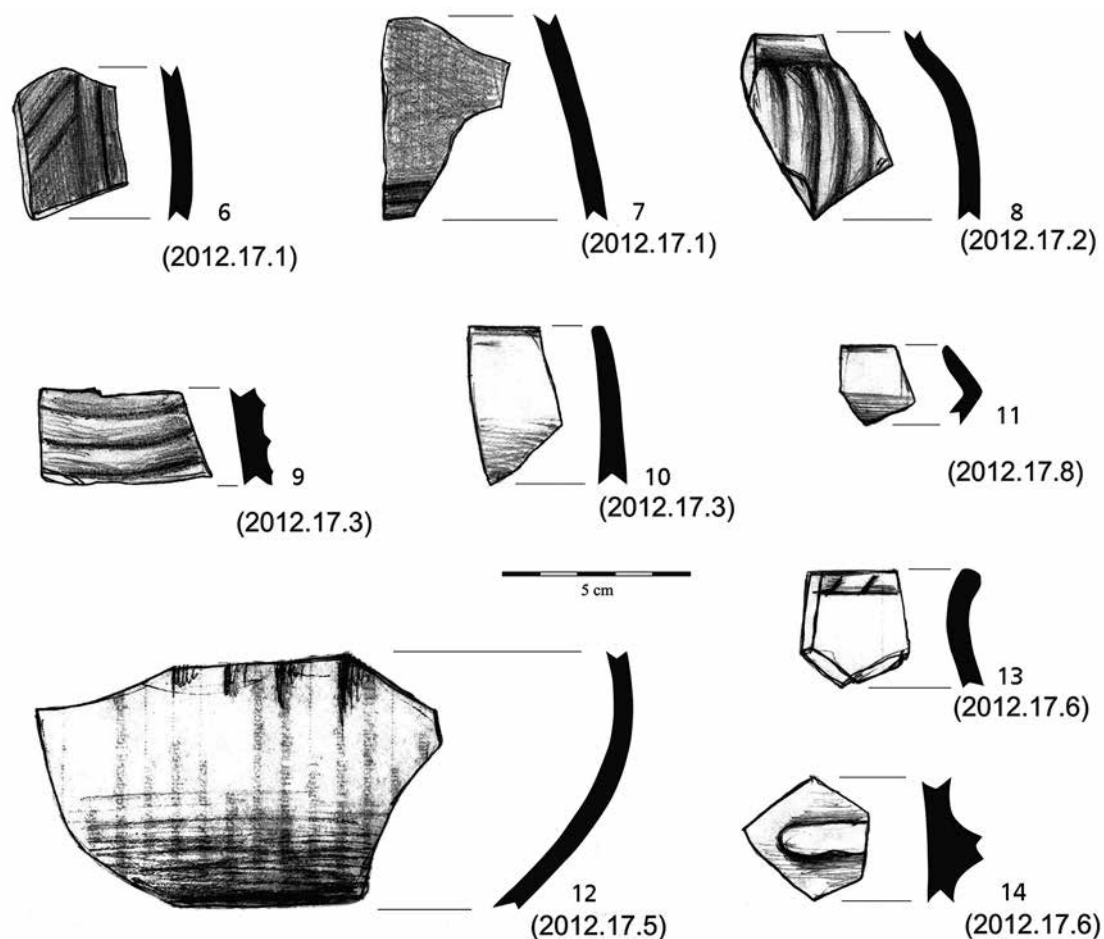


Fig. 11 Early Iron Age pottery finds from the Érd-Százhalombatta tumulus cemetery (Kom. Pest/H) collected during field surveys (Tumulus 92). – (Drawings G. T. Németh).

500m west of the earlier tumulus groups, which would suggest several hundred burial structures if assuming a pattern similar to the one observed at Érd-Százhalombatta. On the other, we found that there were tumuli some 1.5 km south-west of the earlier known southernmost burial mound, meaning that the cemetery was either exceptionally large or that there were two or three necropoleis in the area. Whichever the case, one point emerges clearly: the Szalacska tumulus cemetery is larger and topographically more complex than earlier believed. The presence of »mini« mounds on the 19th century map and on modern aerial photos certainly supports the above because their dimensions compare well with the size of the area enclosed by the ring ditches observed between the tumuli at Érd-Százhalombatta, providing indirect support for what is currently no more than speculation, namely that the smaller ring ditches had enclosed burial mounds.

The aerial laser scanning of the Early Iron Age site of Purbach-Burgstall (Bez. Eisenstadt-Umgebung) in Austria also supports this conjecture because considerably more low and slightly smaller tumuli were identified than in 1962 using traditional mapping techniques²¹. It must be noted that the Purbach tumuli, which were relatively well preserved owing to their location in a forested area, were much lower (with a maximum height of 2 m) and considerably smaller (with a diameter ranging between 5 and 15 m) than the ones at Érd-Százhalombatta.

The tumuli in the Sopron-Várhely cemetery (Kom. Győr-Moson-Sopron/H), similarly lying in an area covered with forest since several centuries and thus undisturbed by ploughing, have likewise survived in a fairly intact condition. It is therefore hardly surprising that the same mounds were identified by airborne laser

scanning as had been mapped earlier during the area's geodesic survey. A few ring ditches enclosing the mounds could be clearly distinguished on the images from both the 1982 and the 2012 surveys²². Another important result of the modern mapping was the identification of the prehistoric(?) roads leading between the tumuli²³.

The creation of a highly accurate elevation model can raise a spate of exciting new questions, even in open, partly cultivated areas. A total of 559 features were identified using aerial laser scanning on the terraces around the known tumuli at Kleinklein (Bez. Leibnitz) in Austria²⁴. While aerial photography did not yield any fresh results either at this site or at Strettweg (Bez. Murtal/A)²⁵, several tumuli were discovered in the broader area of the latter location (Pöls, Schloss Gusterheim)²⁶.

LiDAR and geophysical surveys were conducted on the site of several Iron Age princely burials (such as Glauberg [Wetteraukreis/D] and Hochdorf [Lkr. Ludwigsburg/D]) as part of the »Frühe Zentralisierungs- und Urbanisierungsprozesse – Zur Genese und Entwicklung »frühkeltischer Fürstensitze« und ihres territorialen Umlandes« (DFG SPP 1171) project between 2004 and 2010; however, to the best of our knowledge, no structures suggesting possible burials were located during the research project.

Research in the area of the princely burial at Vix (départ. Côte-d'Or/F) proved more fruitful. Between 1995 and 2000, the area was surveyed using several techniques (fluxgate-gradiometer, Cäsium magnetometer, electrical resistivity and soil radar). The most important findings relevant to this study came from the area marked G, where a new tumulus with a diameter of at least 20m was identified 80m south-west of the princely burial uncovered by René Joffroy and the traces of three other previously unknown tumuli were found farther to the south²⁷.

NEW SITES IDENTIFIED DURING EXCAVATION AND BY AERIAL ARCHAEOLOGICAL PROSPECTING

Areas containing features with ring ditches are usually interpreted as destroyed tumulus cemeteries in the Hallstatt distribution, if this can be supported by finds with a dating value. Most of these were earlier identified through excavations, while today they are generally discovered by aerial archaeological prospecting. Typically enough, still extant burial mounds are rarely found – their one-time presence is indicated by the ring ditches which encircled the burials of which little has survived, probably owing to strong denudation in the current interpretation.

Over 100 Early Iron Age inurned burials and seven ring ditches were excavated at Bezi-Faluhelyi-dűlő (Kom. Győr-Moson-Sopron/H) in 2010. However, remains of a burial could only be identified in the middle of one of the ring ditches, while the other burials had most likely vanished owing to their shallower depth than that of the ditch²⁸. A different technique, but the same practice is reflected in the construction of a stone ring around Grave 10 at Fertőrákos-Kőhidai-dűlő (Kom. Győr-Moson-Sopron/H)²⁹. Although nothing remained of the mound itself at Franzhausen (Bez. St. Pölten/A), a number of burials lying at a similar depth as the ring ditch were uncovered in the middle³⁰. In contrast, no central burials were found at Sierndorf-Untersparchenbrunn (Bez. Korneuburg/A)³¹ and Angern an der March-Mannersdorf an der March (Bez. Gänsendorf/A)³², while four Early Iron Age graves were uncovered outside the ring ditch at the latter site.

The graves at Schirndorf (Lkr. Regensburg/D) were constructed using a different technique³³. While the mound was not enclosed by a ring ditch, there were rings of stone with a stone packing over them. The inhumation burials lay outside the rings of stone, and the empty areas between the stone packings were probably pathways, as at Sopron. Similar burials were uncovered at Wutach-Lembach (Lkr. Waldshut/D),

also lying in the western Hallstatt distribution. It must here be recalled that cremation burials lying by the periphery of the mounds or among them have been identified since the 1970s and the 1980s in the western Hallstatt territory, and that research on these burials found that, judging from the grave goods, the individuals interred in these burials had the same status as the deceased laid to the rest under the tumuli³⁴.

The combination of large-scale excavations with aerial archaeological photography led to the discovery of a remarkably high number of necropoleis in France, whose date ranges from the Late Bronze Age to the Early La Tène period. Some 2000 tumuli have been identified in Alsace alone during the past two decades and about one-quarter of these have been fully or partially excavated. It was found that the tumuli were – at least partially – ringed by a ditch³⁵. The excavations at Mussig (dép. Bas-Rhin/F) have yielded important new insights into the construction of the ditches: the remains of a palisade erected from oak were uncovered on the outer side of the ditch enclosing Tumulus 21. The dendrodate of the palisade (707 BC) and the grave pottery assign the necropolis to the Hallstatt C period³⁶.

CONCLUSION

The aerial archaeological prospection of the Érd-Százhalombatta tumulus cemetery during the past two decades and the area's intensive magnetometer survey begun in 2012 have led to the identification and mapping of 103 features with ring ditches that were previously unrecorded. The surface find collection and the sounding excavations indicated that the ring ditches dated from the Early Iron Age and, given their location, that they were part of the tumulus cemetery. The evidence from other Hungarian and European sites confirms that ring ditches were dug around smaller and lower tumuli as well, which, interestingly enough, could not be seen in the field even in 1847, when J. Varsányi first mapped the Érd-Százhalombatta tumulus cemetery. The new findings have called for the revision of earlier views on the topography of the tumulus cemetery, and further studies and surveys are necessary for clarifying its extent and internal patterning.

The reports from other Early Iron Age sites in Europe indicate that new techniques such as aerial photography, geophysical surveys and aerial laser scanning have similarly called for a reassessment of the previously accepted topography of tumulus cemeteries (e. g. Szalacska, Purbach, Kleinklein, Vix), and that combining these techniques with large-scale excavations enable the detailed topographic study of formerly wholly unknown tumulus cemeteries.

Notes

- 1) Szentpétery 1937, 149.
- 2) *Ibidem* 95.
- 3) Luczenbacher 1847, pl. 5.
- 4) Torma 1986, 228-231.
- 5) Holl/Czajlik 2013, 25 fig. 2.
- 6) Goguey/Szabó 1995, 20 fig. 65.
- 7) Czajlik 2008. – The project was co-funded by the following grants: Országos Tudományos Kutatási Alapprogramok (OTKA) 68824 and Nemzeti Kutatási, Fejlesztési és Innovációs Hivatal (NKFIH) 111058.
- 8) Luczenbacher 1847.
- 9) Torma 1986, 230.
- 10) Holport 1996.
- 11) Holport 1985.
- 12) Holport 1996, 40-41.
- 13) *Ibidem* 40.
- 14) Holport 1986; 1996.
- 15) Holl/Czajlik 2013.
- 16) Holport 1985, fig. 9.

- 17) Ibidem figs 3-4.
 18) Ibidem figs 18-19.
 19) See ibidem figs 8, 2; 13, 1-4.
 20) Czajlik et al. 2012, pl. 2.
 21) Doneus et al. 2008, esp. figs 9-10. – Doneus/Briese/Kühtreiber 2008, 147-148 fig. 6: further tumuli discovered by LiDAR in the forest at Mannersdorf am Leithagebirge (Bez. Bruck an der Leitha/A).
 22) Szádeczky-Kardoss 1982, suppl. 2. – Czajlik et al. 2012, pl. 5.
 23) Czajlik et al. 2012, 68 pl. 5.
 24) Egg/Kramer 2013, 16 suppl. 3.
 25) Egg 1996, pl. 2, 1.
 26) Ibidem pl. 2, 2.
 27) von der Osten-Woldenburg 2011, 120 figs 9-10.
 28) Bíró/Molnár 2010.
 29) Đurković 2009, fig. 2.
 30) Neugebauer 1997, 181 fig. 72, 1-2.
 31) Lauer mann 1990.
 32) Neugebauer 1997, fig. 63.
 33) Stroh 2000, suppl. 1-2.
 34) Löhlein/Bräuning 2012, 88.
 35) Plouin 2012, 222-223.
 36) Ibidem 223.

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Zusammenfassung / Summary / Résumé

Neue Ergebnisse bei topographischen Untersuchungen am früheisenzeitlichen Hügelgräberfeld von Érd-Százhalombatta (Kom. Pest/H)

Am östlichen Rand der Osthallstattkultur gelegen, stellt das Hügelgräberfeld bei Érd-Százhalombatta einen der am frühesten identifizierten archäologischen Fundplätze in Ungarn dar. Ein erster Plan wurde 1847 gezeichnet; die Anzahl der Hügel, die zu dieser Zeit verzeichnet wurden (123), hat sich bis zum Ende des 20. Jahrhunderts nicht wesentlich verändert. Luftbildarchäologie begann 2001, und ab 2012 erlaubten geomagnetische Prospektionen die Identifizierung von 103 Kreisgräben, die vermutlich die bisher unbeobachteten früheisenzeitlichen Bestattungen markieren. Die Prospektionen zeigen, dass die Ausmaße des Gräberfeldes mind. 70 ha betragen (statt ehemals angenommener 50 ha) und dass sich die Anlage in ihrer Binnengliederung von der einst vermuteten unterscheidet. Früher war man der Meinung, dass das Gräberfeld aus zwei großen Gruppen von Hügeln bestand; diese Ansicht muss nun dahin gehend revidiert werden, dass dicht aneinander Kreisgräben zwischen den bekannten Hügeln liegen. Diese Kreisgräben scheinen Grabanlagen unterschiedlicher Größe einzufassen – wobei die Möglichkeit auch nicht ausgeschlossen werden kann, dass sie kleine Nekropolen umfasst haben.

New Results in the Topographic Research on the Early Iron Age Tumulus Cemetery at Érd-Százhalombatta (Kom. Pest/H)

Located on the fringes of the eastern Hallstatt culture, the tumulus cemetery at Érd-Százhalombatta is one of the earliest identified archaeological sites in Hungary. The first map of the site was drawn in 1847; the number of mounds registered at the time (123) did not change substantially until the end of the 20th century. The aerial archaeological investigations began in 2001 and the magnetometer geophysical survey from 2012 led to the identification of 103 ring ditches, which probably mark the location of formerly undocumented Early Iron Age burials. The surveys indicate that the cemetery's area covered at least 70 ha (instead of the once assumed 50 ha) and that its layout also differed from the previously reconstructed internal topography. Formerly, the cemetery had appeared to be made up of two large groups of tumuli, a reconstruction that can now be discarded in view of the closely-spaced ring ditches lying among the known tumuli. These ditches apparently encircled burial mounds of varying sizes – however, the possibility that they enclosed small graveyards cannot be ruled out either.

Nouveaux résultats de l'étude topographique de la nécropole tumulaire du premier âge du Fer de Érd-Százhalombatta (Kom. Pest/H)

Situé aux marges de la culture orientale du Hallstatt, la nécropole tumulaire de Érd-Százhalombatta est l'un des premiers sites archéologiques identifiés en Hongrie. La première cartographie du site date de 1847 et le nombre de tertres identifiés alors (123) n'a pas été substantiellement modifié avant la fin du 20^e siècle. Des investigations en photographie aérienne ont débuté en 2001 et des études de géophysiques réalisées à l'aide d'un magnétomètre depuis 2012 ont permis d'identifier 103 fossés circulaires qui marquent probablement l'emplacement de tertres non-documentés jusqu'alors. Les prospections indiquent que l'étendue de la nécropole est d'au moins 70 ha (alors que 50 ha étaient envisagés). L'organisation diffère également des topographies internes reconstruites précédemment. Il apparaissait que la nécropole était constituée de deux grands groupes de tumuli, cette reconstitution est désormais abandonnée au regard des fossés circulaires très proches l'un de l'autre situés autour des tumuli. Ces fossés entouraient visiblement des tertres de tailles différentes, la possibilité qu'ils aient enceint des cimetières n'est néanmoins pas exclue.

Traduction: L. Bernard

Schlüsselwörter / Keywords / Mots clés

Ungarn / Hallstattzeit / Hügelgräber / Kreisgraben / Luftbildarchäologie / geophysikalische Prospektion
Hungary / Hallstatt / tumulus cemetery / ring ditches / aerial archaeology / geophysical survey
Hongrie / Hallstatt / nécropole tumulaire / fossé circulaire / photographie aérienne / prospection géophysique

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