Alsónyék-Bátaszék: introduction to a major Neolithic settlement complex in south-east Transdanubia, Hungary

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Introduction to this volume

The site of Alsónyék-Bátaszék in south-west Hungary is remarkable in two ways. First, it has a very long sequence of occupation, from the Early to the Late Neolithic, broadly from c. 5750 cal BC to c. 4300 cal BC. That encompasses the succession of the Starčevo, Linearbandkeramik culture (LBK), Sopot and Lengyel periods, spread horizontally over wide areas of the site, and without formation of deep stratigraphy. Such persistence of place without tell formation – questions of continuity are explored extensively in the papers that follow – is, on the basis of present knowledge, unprecedented in the Hungarian Neolithic. Secondly, the Lengyel occupation, including houses, pits and graves, is of unparalleled size, reaching a possible extent of some 80 hectares, perhaps larger than other known Lengyel sites in Hungary by a factor of at least two or three. For example, the extent of Zengővárkony was recently estimated as 40 ha (Bertók / Gáti 2014, 82) and that of Aszód-Papiföldek as 20–25 ha (Kalicz 1985, 14).

Alsónyék (the abbreviated name being used hereafter) was investigated between 2006 and 2009. The excavations have been followed by extensive analysis, which is still ongoing, and much of it involving international cooperation. One of them is a collaboration with the European Research Council-funded project, *The Times of Their Lives* (see Acknowledgments). The ToTL project is applying formal chronological modelling – explicit, quantified and probabilistic interpretation of radiocarbon dates within a Bayesian statistical framework – to a series of case studies across Neolithic Europe. In so doing, it aims to achieve much more robust and precise estimates of the timing and duration of various Neolithic sites, sequences and phenomena than is possible with informal inspection of radiocarbon dates.

The ToTL project has also enabled radiocarbon dating on an unfamiliar scale. Altogether 296 measurements are presented in this volume, including 216 for the Lengyel occupation. These are unusual numbers of measurements in the central and south-east European context as a whole, and within Hungarian archaeological research in particular. Few sites, with exceptions such as Ecsegfalva 23 from the Early Neolithic (Whittle 2007), Balatonszárszó-Kis-erdei-dűlő from the central European LBK culture (Krisztián Oross and Alasdair Whittle, pers. comm.) and now Polgár-Csőszhalom from the Late Neolithic (Pál Raczky, pers. comm.; Raczky / Anders 2010a; Raczky et al. 2015), have so far been dated by more than a handful of measurements.

The papers that follow set out in detail the aims, objectives and results of the dating and modelling programme for Alsónyék. *Peopling the past: creating a site biography in the Hungarian Neolithic* explains our overall goals, and the Bayesian process; it also covers the issue of dietary offsets. We then present each of the four settlement phases at Alsónyék in chronological order. Each incorporates a description of the excavated features, the sampling strategy, the radiocarbon dates, and the results of formal modelling. *The early days of Neolithic Alsónyék: the Starčevo occupation* involves the first occupation at Alsónyék by Early Neolithic farmers of probable Balkan origin, a settlement of unusual size and abundance of finds for the Transdanubian context. *Longhouse times: dating the Alsónyék LBK settlement* presents the central European LBK occupation, a settlement of longhouses characteristic for the LBK both in Transdanubia and in central Europe beyond. The transition between the Middle and the Late Neolithic is followed in *Midlife changes: the Sopot burial ground at Alsónyék*; the Sopot culture has often been regarded as of southern affinity or origin. The Late Neolithic Lengyel culture closes the story, with what was both the last and the largest occupation. This is described in *Coalescent community at Alsónyék: the timings and duration of Lengyel burials and settlement*. In the final paper, *The Alsónyék story: towards the history of a persistent place*, we summarise results, discuss the long history of the site as a whole, with reference particularly to persistence of place and the major Lengyel aggregation and its decline, and consider the implications of formal chronological modelling for future research.

The geographical and environmental setting

The Alsónyék site (at Lat. 46° 12′ N, Long. 18° 42′ E) is located in the south-west part of the Tolna Sárköz region in south-east Transdanubia *(fig. 1)*. It is bounded by the Szekszárd Hills to the west and by the wide alluvial plains of the former Danube channels to the east. It is situated c. 16 km west of the Danube and approximately 10 m above its alluvial plain, here known as the Sárköz region.

The surroundings are dotted by island-like ridges lying at 92–94 m a.s.l., higher both than the average for the area and the infilled river and stream channels, which lie at 86–87 m. The bed of the Lajvér stream extends across the middle of the excavated area.

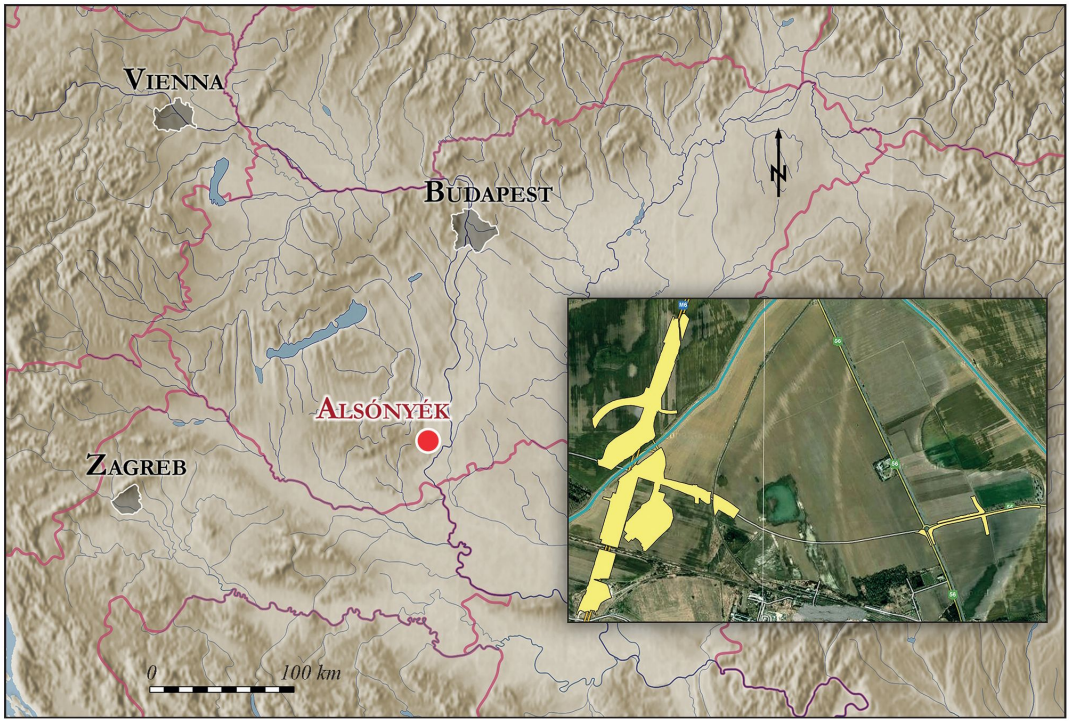


Fig. 1. Location of the Alsónyék-Bátaszék site and outline plan of the excavation.

The Sárköz region is located along the Danube and consisted of two parts: the Tolna Sárköz on the right bank and the Kalocsa Sárköz on the left bank. However, this is more an ethnographic than a geographical distinction, and nowadays the Sárköz name is mostly used for the Tolna Sárköz *(fig. 2)*. The Danube is the prominent feature of the region but the Sárvíz river may have had similar importance, as the main right-bank tributary of the Danube in the Tolna Sárköz region until 1855 (Pataki 1936; Andrásfalvy 1975; Balázs Kovács 2006). River regulations in the late nineteenth century completely changed the original geomorphological features of the area. Before this, the Danube and the Sárvíz appear not to have existed as a single channel, for thousands of years; instead, branches of river meandered across a waterlogged marshland dotted with shallow sand-banks. Many of these branches were active channels, while others were transformed into running streams only during times of flood, or persisted as oxbows cut off at earlier times *(fig. 2)*. The alluvial terraces and the small islets rising above the marshy floodplain were the only flood-free zones before the river regulations (Pécsi 1959). These must have been the only areas suitable for farming. Above the varied alluvial sediments, the region is now predominantly covered by alluvial soils with the occasional meadow chernozem on the higher terraces (Marosi / Somogyi 1990).

The Tolna Sárköz region lay not only geographically on the border between the Transdanubian Hills and the Great Hungarian Plain, but also in the cultural contact zone between the Neolithic populations of the northern Balkans and central Europe (Bánffy / Sümegi 2012; Bánffy 2013b; Bánffy et al. 2014). This geographical setting has left its imprint on the archaeological record, repeated cultural influences from the south being found in the material of all Neolithic periods recorded at the site.

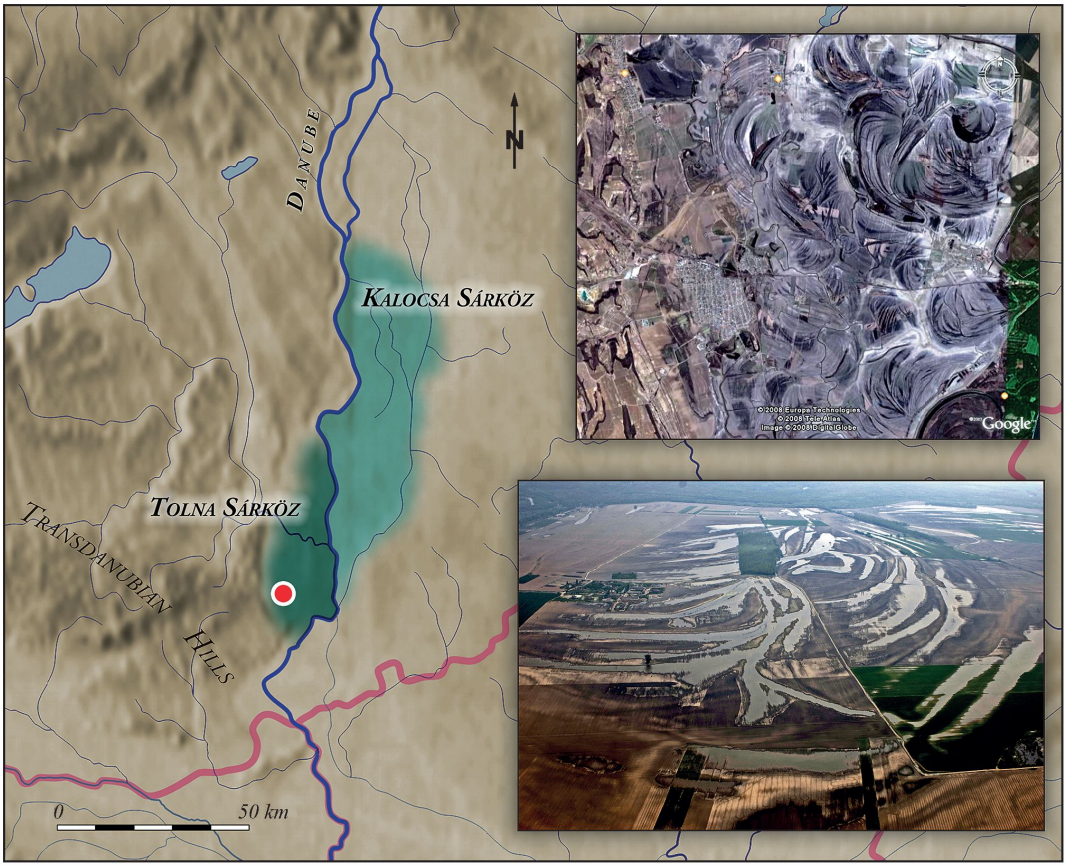


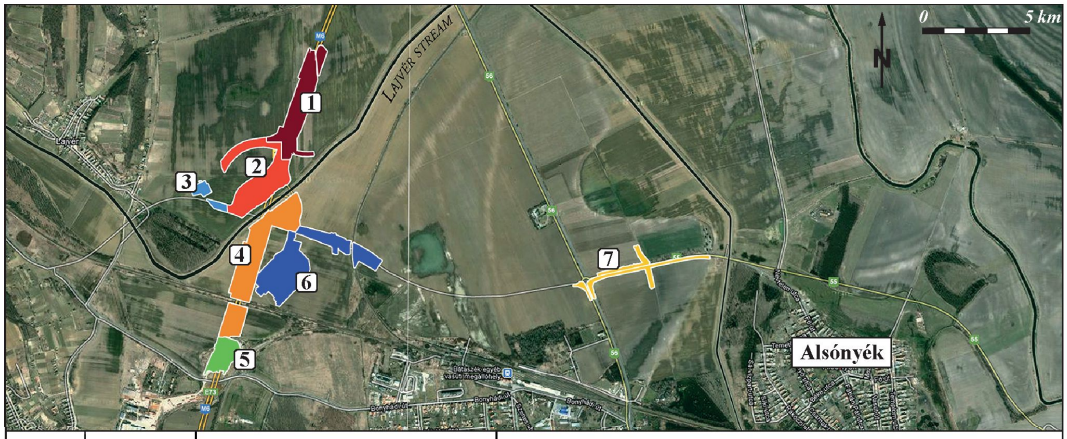
Fig. 2. Map of the Sárköz region and former river beds as visible on Google Earth (top right) and in an aerial photo taken during floods in 2006 (lower right).

Excavations

The site of Alsónyék was investigated during archaeological excavations preceding the construction of the M6 motorway between 2006 and 2009. Several institutions and excavation teams participated in the fieldwork, which was conducted at several locations independently of each other. However, it soon became clear that the different areas were all part of a single, very extensive Neolithic complex. Because of this, the excavation was separated into six parts (areas 1–6), and four parts were later combined to form two larger areas. For the purpose of analysis these are subsites 10B, 11, 46 and 5603 *(fig. 3)*. These labels are particularly relevant for the Lengyel settlement, because in that period the whole excavated area was occupied. When the ToTL programme at Alsónyék began, the post-excavation analysis of subsite 46 was not advanced enough for its inclusion in the dating project. Given that the area contained only two houses and 55 graves, its exclusion was not seen as serious.

The normal rescue excavation method is to remove all the soil layers down to the subsoil by machine, but Alsónyék required a particular excavation methodology. For example, if the topsoil had been removed to the subsoil by machine, then less than half of the excavated features would have remained.

In many cases the full excavation of features was not successful because of the high groundwater level, such as in areas closer to the Lajvér stream. The edges of some features



Areas	Subsites	Name of excavated areas	Excavation team
1	10B	Alsónyék-Kanizsa-dűlő (M6 TO 10/B)	Institute of Archaeology of HAS-Archeosztráda Ltd., led by Anett Osztás and István Zalai-Gaál (2006–2008)
2	10B	Alsónyék-Kanizsa-dűlő (M6 TO 10/B)	Ásatárs Ltd., led by Zsolt Gallina (2006–2007)
3	46	Lajvérpuszta (M6 TO 046)	Field Service for Cultural Heritage, led by Vera Majerik (2008–2009)
4	11	Bátaszék-Malomréti-dűlő (M6 TO 11)	Ásatárs Ltd., led by Péter Hornok and Zsolt Gallina (2006–2007, 2009)
5	11	Bátaszék-Malomréti-dűlő Magtár (M6 TO 11)	Field Service for Cultural Heritage, led by Vera Majerik (2008–2009)
6	5603	Bátaszék-Mérnökségi Telep and Bátaszék-56-os út (M6 TO 5603/1)	Institute of Archaeology of HAS-Archeosztráda Ltd., led by Anett Osztás (2008–2009)
7	5603/2	Alsónyék, Hosszú dűlő (M6 TO 5603/2)	Wosinsky Mór County Museum, led by János Gábor Ódor (2008–2009)

Fig. 3. Plan of the excavations, and the areas and subsites covered by the different excavation teams.

were already visible in the higher layers, but the postholes of the houses especially were only observable in the subsoil proper. So we removed the soil layers very carefully and under constant supervision. A second machining was needed to remove further soil layers in some locations or in larger areas, such as in the northern part of 10B and the area of Grave Group 68 in subsite 11.

The burials, postholes and remains of burnt daub surfaces were carefully excavated by hand and the larger pits by spade with the help of robust assistant staff and labourers. Each excavated feature was documented by description, photos and drawings, as well as planned (the geodetic survey was carried out by the Meridián Engineering Office Ltd., Szekszárd). We also collected soil samples, in particular from the postholes of houses and, from the burials, under the skeletons.

The excavated area of Alsónyék is roughly cross-shaped (1.5 km N–S and 800 m E–W). Approximately 15,000 features were found over the c. 25 ha excavated. More than 70 percent of the features uncovered could be assigned to the Neolithic: to the Starčevo culture, the LBK, the Sopot culture and Lengyel culture. The proportion of finds from later periods (Bronze Age: Somogyvár-Vinkovci culture, Kisapostag culture, Transdanubian Encrusted Pottery culture and Tumulus culture; Iron Age: a large, dispersed settlement and a bi-ritual

cemetery; Roman period; a water mill from the 17th–18th centuries AD) was considerably smaller.

Several studies discussing the site and its finds have already been published, ranging from preliminary reports (Bánffy et al. 2010; Gallina et al. 2010; Gelencsér 2010; Majerik et al. 2010) to articles devoted to particular aspects (Zalai-Gaál 2008; 2013; Zalai-Gaál / Osztás 2009a; 2009b; Zalai-Gaál et al. 2009; 2010; 2011a; 2011b; 2012a; 2012b; 2014a; 2014b; Osztás et al. 2012; Köhler 2012; 2013; 2015; Köhler et al. 2013; 2014; Nyerges 2013; Somogyi / Gallina 2013; Serlegi et al. 2013; Szécsényi-nagy et al. 2015; Rassmann et al. 2015; Pósa et al. 2015).

The principal features of the Alsónyék site

Starčevo

The first Neolithic inhabitants in the area were groups of the Starčevo culture. We found their traces at the end of the excavation season in 2007, in the eastern arm in the central part of subsite 10B, in area 1 (*fig. 4*; the figure is based on data from subsite 10B, area 1 and subsite 5603). Here, over a relatively small area, c. 15 ovens and c. 50 pits were excavated. At the same time many Starčevo features were excavated in area 2 of 10B, especially in its northern part. Since the post-excavation evaluation of the features and finds is still ongoing, it is hard to determine the exact number and location of Early Neolithic features in this area. At the moment 58 features here can definitely be assigned to the Starčevo culture, but the excavators have estimated the total number of Starčevo features to be some 100 (Gallina et al. 2010, 10).

In the south-east part of the excavated area (subsite 5603, area 6), further extensive traces of Starčevo occupation were discovered in 2008 *(fig. 4)*. Some 500 Starčevo features were uncovered here. These provide most of the data for our summary in *The early days of Neolithic Alsónyék: the Starčevo occupation*, because more post-excavation analysis of the finds from this area has been carried out than for elsewhere within the Early Neolithic settlement. The most common features are the large irregular pits and the pit complexes, in which traces of many ovens were found, in both subsites 10B (areas 1 and 2) and 5603 (area 6). These appear to have been used for various open-air manufacturing and other economic activities. This is also supported by the fact that we could not detect any traces of surface-level timber-framed houses; no remains of such houses have so far been found at any Starčevo site in Hungary. Twenty-five burials provide the first opportunity in Hungary to investigate the burial customs, origin, diet, lifestyle and other aspects of Starčevo people through various bioarchaeological investigations, noted below.

At Alsónyék, especially in area 6, Starčevo and later Neolithic features rarely overlap. The Early Neolithic features occur both on terraces and in deeper, wet places (used primarily for extracting finer quality clay). They often appeared high up, right beneath the ploughsoil, and sometimes only in the form of larger surfaces covered by daub fragments, fish bones and shells. This was typical at Alsónyék only for the Early Neolithic, which implies that Starčevo people must have had a lifestyle and economy very different to those of later inhabitants.

The Early Neolithic settlement might have covered an even larger area than the excavated one, as clearly shown by the geophysical survey directly to the east of area 6 (Rassmann et al. 2015, 5 fig. 9); there may also have been more Starčevo occupation beyond area 1 as well *(fig. 4)*. It appears, however, that the northern limit of the Starčevo distribution in both areas is fairly well defined. There are some traces of the Starčevo occupation

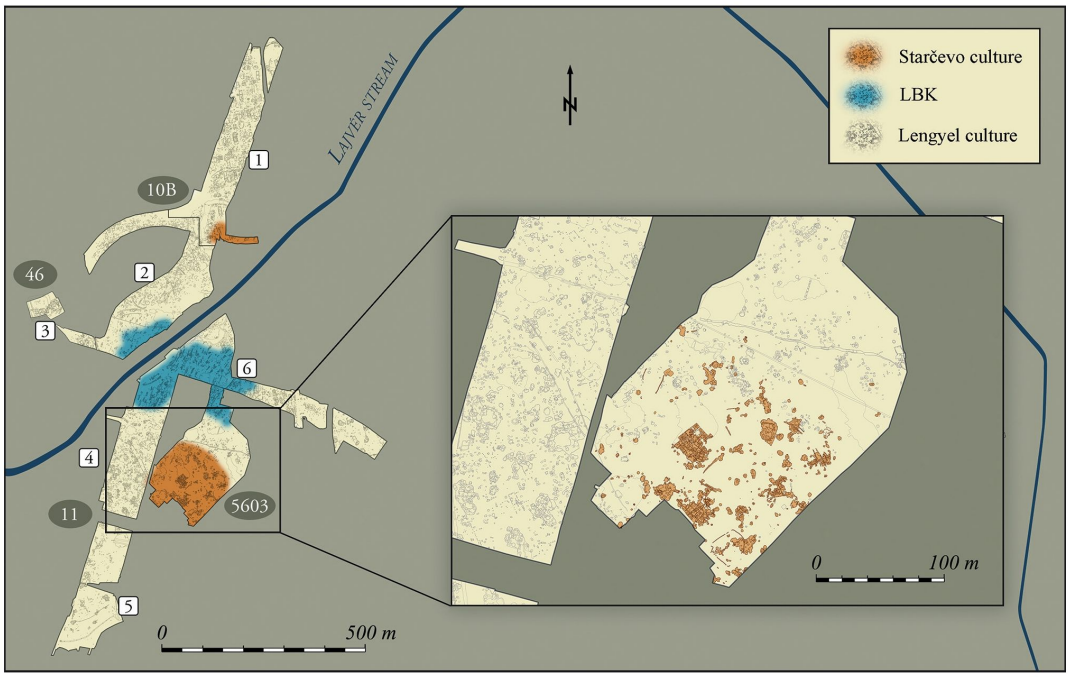


Fig. 4. Spatial distribution of the Starčevo culture features.

at the northernmost and the southernmost end of subsite 11, but so far this material has not been processed in any detail. Alsónyék is by far the largest Starčevo site so far discovered in Hungary in terms of both the enormous amount of archaeological material, and the extent and variety of features.

LBK

An LBK settlement with dozens of longhouses was uncovered in the centre of the investigated area *(fig. 5)*. The largest part of this was excavated between 2006 and 2007 in the southern part of area 2 of subsite 10B and in the northern part of subsite 11 (area 4). In addition to various pits and a few larger ditches of rounded profile, a substantial number of long pits flanking longhouses were uncovered. The exact number and type of LBK features are not yet known. The remains of some 50 houses were identified in total. However, traces of postholes were only found in a few cases and therefore the house plans are unsuitable for detailed architectural analysis. Five graves can be assigned to the LBK.

Some other LBK features were excavated in 2008 in the northern part of area 6 *(fig. 5)*. Here about 50 LBK features were identified, most of which were long pits or at least parts of such (extending into unexcavated areas). Here also it is difficult to study complete house plans, because postholes are not well preserved. No LBK burials were found.

The overall distribution of the LBK settlement is fairly well defined. Its edges are visible in almost every direction; rather more than 80 percent has been excavated. The LBK settlement was concentrated in the very centre of the excavated area, close to the supposed former Lajvér stream bed, perhaps either for economic or environmental reasons.

This site is one of the southernmost known LBK settlements in Transdanubia. Little is so far known about these southern occupations, because research has been concentrated

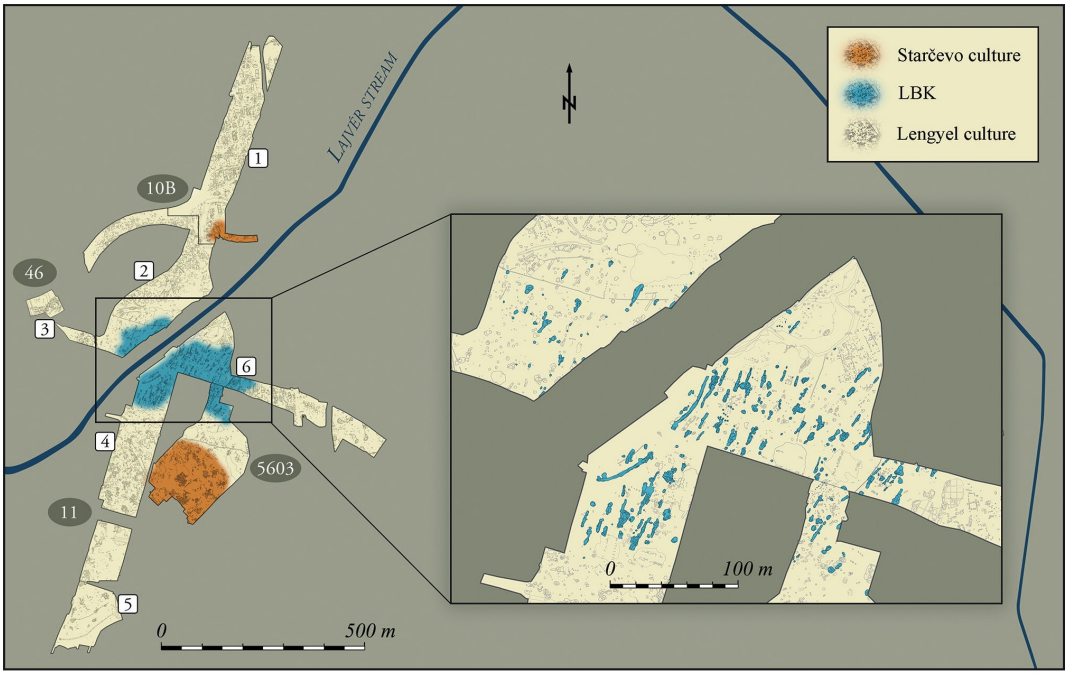


Fig. 5. Spatial distribution of the LBK culture features.

on areas around and north of Lake Balaton. The material from the site is also noteworthy, its pottery assemblage showing close links with the early Vinča style of the northern Balkans.

Sopot

In 2008 and 2009, some 1–1.5 km to the east of the area just described, features of the late Neolithic Sopot culture were excavated by archaeologists from the Wosinsky Mór County Museum, Szekszárd, led by János Gábor Ódor *(fig. 6)*. Features of different phases, mainly from the early medieval Avar period, surrounded those of the Sopot occupation. Most of these were found in the northern segment of the excavated area (c. 20 m by 80 m). Some ten large, pit complexes (2–7 m in diameter) and small sections of four more or less parallel ditches were investigated. Slightly further away, on the edge of an Avar cemetery, a well belonging to the Sopot culture was unearthed. There is geophysical evidence, however, for a greater extent to the Sopot occupation, which is discussed in *Midlife changes: the Sopot burial ground at Alsónyék*. In spite of the relatively few features investigated, a very rich and important assemblage of Sopot material culture was found. Eighteen Sopot graves, two of them double burials, are particularly significant. Many of these burials contained pots, and *Spondylus* ornaments and chipped and polished stone artefacts were also found. This group of Sopot graves is the largest ever discovered in Hungary, and various bioarchaeological studies will follow in due course. The ditch system is also an important discovery. In order to get a more precise idea of its layout and extent, a magnetometer survey was subsequently carried out (Rassmann et al. 2015). The Sopot graves were only found among the segments of this ditch system, often in stratigraphic relationship to it; none were discovered to the south of it.

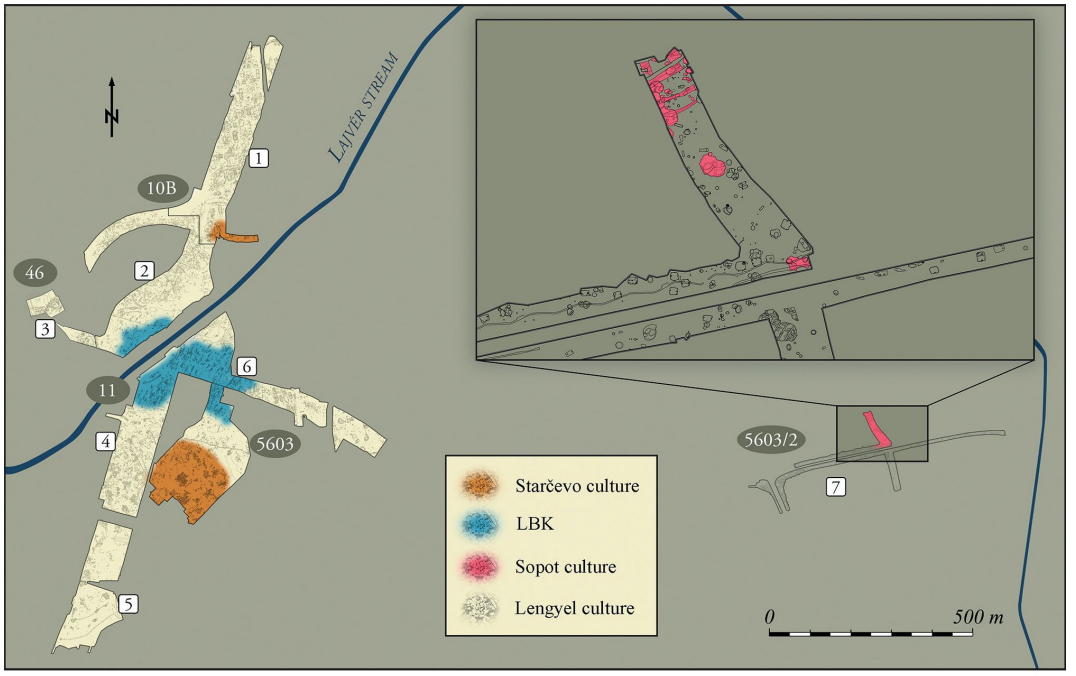


Fig. 6. Spatial distribution of the Sopot culture features.

The appearance of the Sopot culture north of its core area is often considered to be a catalyst for the birth of the Lengyel culture from late LBK groups, and marks the advent of the local Late Neolithic at the turn of the fifth millennium cal BC. The absolute chronological position of the Sopot distribution in Transdanubia is therefore a key issue for understanding the emergence of the Lengyel culture.

Lengyel

The Neolithic settlement of Alsónyék reached its greatest extent during the Late Neolithic Lengyel period. Nearly 9000 features, including postholes associated with 122 houses, pits and pit complexes, and approximately 2300 burials, could be assigned to it. The traces of Lengyel settlement and burials were found over the entire excavated area, with an estimated extent of some 80 ha. Lengyel features are scarce only in the southern portion of subsite 5603 where there had been Starčevo occupation, and in the middle of the site, where traces of Lengyel activity were minimal *(fig. 7)*. Lengyel features were particularly dense in the northern part of subsite 10B (area 1). The upper layers there had to be removed by machine in two distinct rounds, as the graves and the pits often appeared high up, with traces of the postholes related to the houses only becoming visible at deeper levels. Several stratigraphic relationships as well as the renewal of some houses also support this inference. A somewhat lower density of occupation was observed in the other excavated areas, perhaps partly due to different soil conditions, but equally possibly because of differences in character and sequence.

The c. 2300 burials uncovered mostly form part of groups of graves, actually being small cemeteries within the various parts of the settlement. Ninety-two distinct burial groups were found, ranging over the whole site. The smallest of these contain 25–30 burials, and

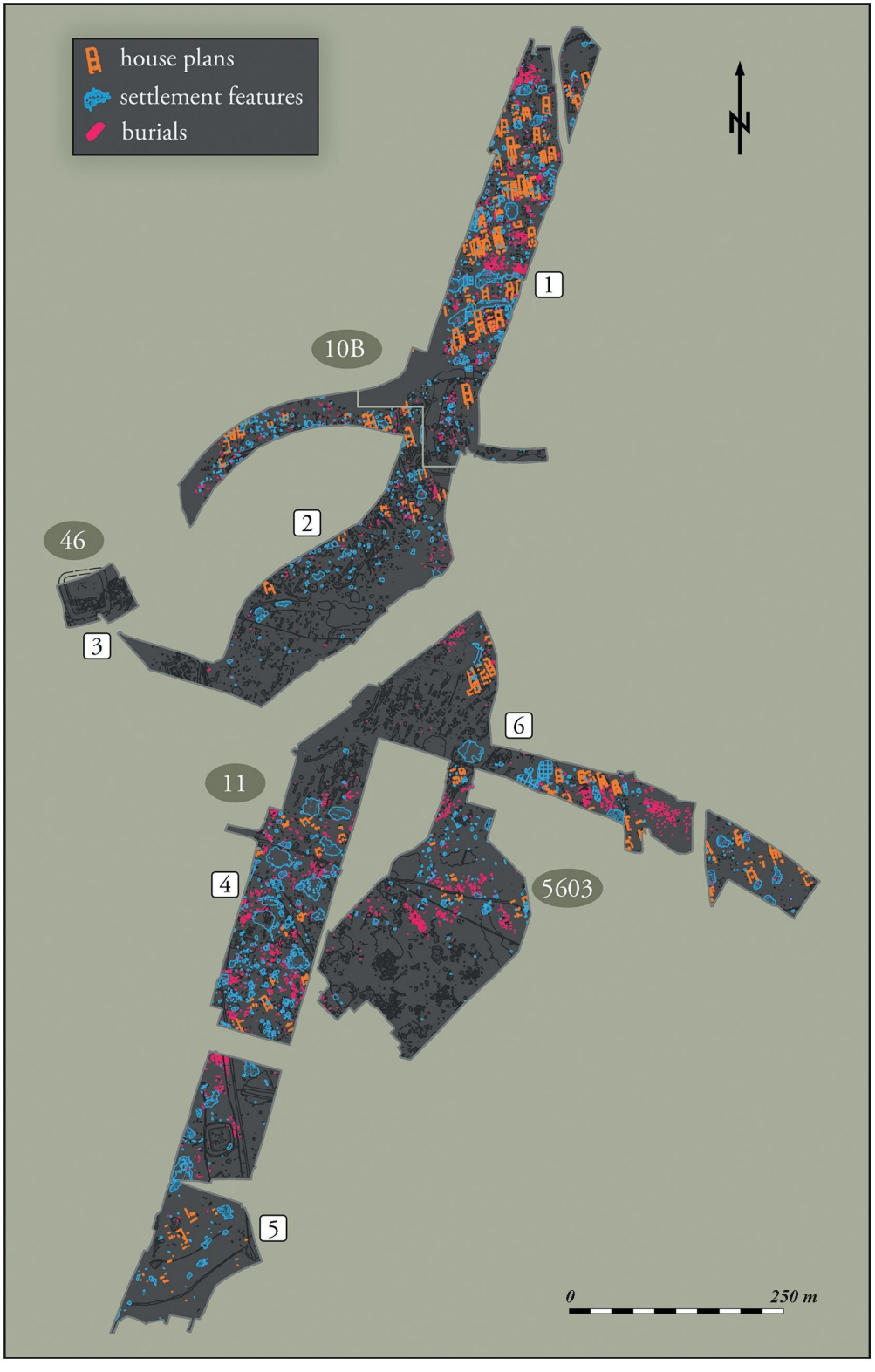


Fig. 7. Spatial distribution of the Lengyel culture features.

the largest c. 100. Apart from the grave groups, several solitary or scattered graves were also found; some of these were inserted into pits, others were on the location of former houses and some were even arranged in small clusters. Other large Lengyel burial grounds or large Lengyel settlements with numerous burials are known in Transdanubia (Zalai-Gaál 2010), but the enormous number of graves at Alsónyék and the abundant grave goods provide an unprecedented opportunity for osteological, palaeopathological and demographic investigations, and for archaeological analysis of mortuary practices and social differentiation, as well as of the long-distance networks and exchange activity reflected in grave goods.

The discovery of 122 surface-level, timber-framed houses at a single site is unprecedented for the area and the period (though a large settlement with many houses belonging to broadly the same time has also been found in the north of the Great Hungarian Plain at Polgár-Csőszhalom: Raczky / Anders 2008). These buildings help a better understanding of the architecture and lifestyle of the Lengyel population.

This is a fairly new strand in the settlement archaeology of the Lengyel culture in Hungary and beyond, the study of which, lacking large surfaces with structures, has till now almost exclusively focused on burials and grave goods. This, the numbers of burials and the sheer size of the site make Alsónyék exceptionally significant.

Outlook and post-excavation process

This rescue excavation has yielded an enormous amount of finds and information. Naturally, the restoration and the inventory of the finds, as well as the phasing of the data recorded from all the subsites excavated with slightly different documentation methods, have not yet been finished *(fig. 8)*.

This work has required the ongoing cooperation of an extended research group. Eszter Bánffy leads this team, and is responsible for the analysis of the Starčevo occupation with Tibor Marton and Anett Osztás, whilst Krisztián Oross and Tibor Marton are working on the LBK and Sopot periods. Anett Osztás is writing up the Lengyel house architecture and settlement structure for her PhD thesis. Krisztina Somogyi (ÁSATÁRS Cultural, Archaeological Servicing and Commercial Ltd.), who was one of the excavators of the site, is carrying out the processing of pottery connected to certain house groups of the Lengyel settlement in her PhD thesis. István Zalai-Gaál is evaluating all the graves and most of the grave goods, including their typology, relative chronology and connections with neighbouring groups, not to mention their social archaeological dimensions. All this research has been underpinned by a grant from OTKA (K 81230), the Hungarian Scientific Fund, for the primary documentation and evaluation of the finds.

Bioarchaeological investigations are also underway. The osteology and the palaeopathology of the Neolithic human remains are the task of Kitti Köhler (Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences); 862 Lengyel graves were the subject of her PhD dissertation (Köhler 2012; 2013). These unique anthropological assemblages have become cornerstones in several international cooperations. Run together with the Anthropology Department of Mainz University, between 2009 and 2013 a major aDNA and stable isotope sampling project, *Bevölkerungsgeschichte des Karpatenbeckens in der Jungsteinzeit und ihr Einfluss auf die Besiedlung Mitteleuropas* was supported by the Deutsche Forschungsgemeinschaft (Al 287/10-1) and led by Kurt W. Alt and Eszter Bánffy. Anna Szécsenyi-Nagy (Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences) successfully investigated 68 mitochondrial DNA samples from all periods of Alsónyék except the LBK. In her PhD she has analysed a couple of

Areas	Subsites	Excavated area (m²)	Excavated features (no.)	Neolithic features (no.)	Neolithic ceramic inventory (no.)	Neolithic animal bone inventory (no.)
1	10B	42076	4733	5966	102038	23476
2	10B	47038	3047			0
3	46	6799	264	68	1254	1010
4	11	67525	3572	1717	24931	0
5	11	16253	201			2571
6	5603	63488	2911	2401	72470	30914
7	5603/2	11238	715	39	1678	0
TOTAL		254417	15443	10191	202371	57971

Fig. 8. The main data from the excavations and the post-excavation processes up to 2015, by areas.

hundred mtDNA samples from Transdanubian contexts (Szécsényi-Nagy 2015). The first results regarding the genetic origin of Europe's first farmers have already been published (Szécsényi-Nagy et al. 2015). Parallel to this, Marc Fecher (Institute of Anthropology, Johannes Gutenberg University of Mainz) is evaluating the stable isotope results from both human and animal samples in his PhD dissertation (see also *Peopling the past: creating a site biography in the Hungarian Neolithic*).

Discovery of the presence of tuberculosis at Alsónyék within the Lengyel population presents one of the oldest cases so far of this disease in Europe. Kitti Köhler has clearly identified that for the first time, within Grave Group 13, on the basis of physical anthropological alterations (Köhler et al. 2013; 2014). The palaeopathological analysis of this grave group has been supplemented with the help of Erika Molnár and György Pálfi (Department of Biological Anthropology, University of Szeged). All the individuals of this grave group were subsequently subjected to palaeomicrobiological analysis (Institute for Mummies and the Iceman, EURAC Research, Bolzano) with the help of Annamária Pósa (Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences) (Pósa et al. 2015). Balázs G. Mende (Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences) is dealing with the general impact of the disease for the Lengyel community.

One of the biogeochemical projects has just begun. A major DFG-funded project at Heidelberg University, which is concentrating on early Neolithic milk consumption and dietary change in south-east Europe, is analysing the Starčevo pottery and stone tools from Alsónyék (*Food cultures: interdisciplinary studies of early farming food technology and palaeodiet in southeastern Europe*: led by Maria Ivanova-Bieg). Associated with this, Angela Kreuz and Péter Pomázi are studying the Starčevo botanical remains Éva Ágnes Nyerges (Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences) is studying the extensive zooarchaeological remains from Alsónyék for her PhD, focusing especially on changes in agriculture through the Neolithic period. Kata Szilágyi (Móra Ferenc Museum, Szeged) is studying the rich Late Neolithic chipped stone material in her PhD dissertation, from both the technological and the raw material point of view. Pál Sümegi and his colleagues (Department of Geology and Palaeontology, University of

Szeged) are responsible for palaeoenvironmental reconstruction including analysis of Mollusca as well as the investigation of the shell ornaments (*Spondylus* and *Dentalium*). There is also a cooperation with the Römisch-Germanische Kommission (DAI), which, in addition to other Neolithic sites, is concentrating on the geomagnetic survey of the unexplored areas of Alsónyék, in order to make estimates of the size and the spatial organisation of the Neolithic settlements (Serlegi et al. 2013; Rassmann et al. 2015).

And last but not least, the papers presented in this volume, produced within and parallel to the *Times of Their Lives* project, concentrate on the radiocarbon chronology of Alsónyék, interpreted in a formal Bayesian statistical framework.

This is certainly not the end of the line, and this unique site and its assemblages still have many untapped research resources. The scale of the operation has also opened up entirely new, regional perspectives on Neolithic settlement. These investigations call for fresh approaches to the study of settlement size and layout, as well as to that of the nature of the communities involved.

Acknowledgments

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Summary · Zusammenfassung · Résumé

SUMMARY The excavations and ongoing investigations of the site of Alsónyék-Bátaszék in south-west Hungary, remarkable for both its longevity and size, are introduced. Its occupation encompasses the succession of the Starčevo, Linearbandkeramik culture (LBK), Sopot and Lengyel periods, from the earlier sixth to the mid-fifth millennium cal BC. The papers devoted to its chronology that follow in this volume are sketched, covering the Bayesian approach adopted and other aspects of methodology, period by period modelling of an extensive series of radiocarbon dates, and finally discussion of the implications of results. The setting of the site in the Tolna Sárköz region of south-east Transdanubia is detailed, and the excavation process described, along with the principal features of the site, period by period. The paper ends by emphasising the extensive nature of ongoing investigations of all aspects of Alsónyék.

ZUSAMMENFASSUNG Der vorliegende Band befasst sich mit den Ausgrabungen und noch anhaltenden Untersuchungen des Fundortes Alsónyék-Bátaszék in Südwest-Ungarn, der für seine lange Belegungsdauer und Größe bekannt ist. Seine Okkupation umfasst die Starčevo Kultur, die Kultur der Linearbandkeramik (LBK) und die Perioden Sopot und Lengyel; also insgesamt einen Rahmen vom frühen 6. bis Mitte des 5. Jahrtausends cal BC. In dieser Einführung werden die folgenden Aufsätze, die sich mit der Chronologie des Fundortes beschäftigen, umrissen. Sie verfolgen den Bayes'schen Ansatz und andere methodische Aspekte und analysieren eine umfassende Serie von Radiocarbondaten. In einer Schlussdiskussion werden die Ergebnisse zusammengeführt. Die Verortung von Alsónyék-Bátaszék in der Tolna Sárköz Region in Südosttransdanubien und die Ausgrabungen werden ausführlich beschrieben, ebenso die wichtigsten Merkmale und Ausprägungen der einzelnen Perioden innerhalb des Fundortes. Abschließend wird der enorme Umfang der noch andauernden Untersuchungen aller Aspekte von Alsónyék betont. (M. E.)

RÉSUMÉ Les fouilles ainsi que les études en cours du site d'Alsónyék-Bátaszék dans le Sud-Ouest de la Hongrie, réputé pour sa longévité et ses dimensions, sont présentées dans cette partie introductive. Le site fut occupé successivement par les cultures de Starčevo, du Rubané, de Sopot et de Lengyel, du début du 6e jusqu'au milieu du 5e millénaire cal BC. Les articles inclus dans ce volume sont esquissés: Ces derniers sont dédiés à la chronologie du site et traitent de l'approche bayésienne, ainsi que d'autres aspects méthodologiques, de la modélisation par période d'une longue série de datations radiocarbone, et finalement des implications des résultats. Le site est ensuite décrit au sein de son environnement dans la région de Tolna Sárköz en Transdanubie sud-orientale. Le déroulement des fouilles et ses principales caractéristiques sont présentés pour chaque période. L'article termine en soulignant le caractère extensif des études en cours touchant à tous les aspects d'Alsónyék. (Y.G. / E.P.)

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