

SZELETIAN OR NOT SZELETIAN

Bifacial industries from three open-air Middle Palaeolithic sites from the Cserhát Mountains (Northern Hungary)

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Abstract: During the last 15 years, three Middle Palaeolithic open-air sites were excavated in the Cserhát Mountains (Northern Hungary), lying at the northern periphery of the Great Hungarian Plain. The context was similar at each locality: the lithics were excavated from loess-like reddish or yellowish sediment from a depth of 50–100 cm beneath of the recent surface level. Bifacially worked leaf-shaped points and knives associated with sidescrapers and endscrapers made on flakes were found at all sites but in different ratio. For the time being, the chronology of the assemblages is not clear enough, but the typological and technological attributes of the assemblages show few if any Upper Palaeolithic traits. In the present paper, the characteristics of the bifacially manufactured and leaf-shaped implements from the sites will be compared with an emphasis on their raw material types.

INTRODUCTION

The Szeleta Cave, the first excavated Palaeolithic site in Hungary is located in the Bükk Mountains (Fig. 1: 1), North-Eastern Hungary, at 345 m a.s.l. and 100 m relative height. The first field works were carried out by the geologist O. Kadić and the anthropologist J. Hillebrand between 1906 and 1913 (*Kadić 1915*). The cave became famous very quickly because of the presence of the finely elaborated leaf-shaped points made of metarhyolite (earlier: glassy quartz porphyry, felsitic porphyry, metaquartzite or simply: Szeleta raw material), radiolarite and limnic silicite. The excavated industries were originally classified as belonging to the Solutrean (*Hillebrand 1935; Kadić 1915; 1934*). Later F. Prošek defined the assemblages of the open-air and cave sites characterized by bifacially worked leaf-shaped points from Slovakia as Szeletian (*Prošek 1953*). Since then, a series of small-scale excavations have been carried out in the cave by J. Nemeskéri, A. Saád, L. Vértes, Á. Ringer and T. Hauck (*Hauck et al. 2016; Ringer 2002; Saád/Nemeskéri 1955; Vértes 1968*). During the analysis of the artefacts excavated at the beginning of the 20th century typical pieces of the Aurignacian, Taubachian, Jankovichian and two different Mousterian industries were also recognised (*Ringer/Mester 2000; 2001*). Furthermore, the results of the so-called technological studies restricted exclusively to (some) leaf-shaped artefacts suggested that the Early Szeletian and Jankovichian industries belong to the same entity (*Mester 2018*).

However, in a recent study (*Markó 2016*), published on the centenary of the monograph on the Szeleta excavations, it was not possible to define any assemblage typical for an Early Upper Palaeolithic or transitional Szeletian entity from the discrete levels called as hearths or culture layers of the eponymous site. Moreover, it became clear that the majority of the rolled artefacts of the Early Szeletian (or Jankovichian) industry (*Gábori-Csánk 1993*) are not suitable for typological and technological analysis. On the other hand, some of the well-known leaf points, classified recently (*Mester 2018*) as belonging both to the Early Szeletian/Jankovichian and the Evolved Szeletian entities were associated with Gravettian backed tools in layer 5 (*Markó 2016*). As during the recent sampling project (*Hauck et al. 2016*) no diagnostic artefacts were found in the rear of the main corridor of the cave, the character of the lithic industries from the underlying layer 4 (36,430 ±330 and 36,640 ±330 uncal BP dates from the lower level of this stratigraphic unit)

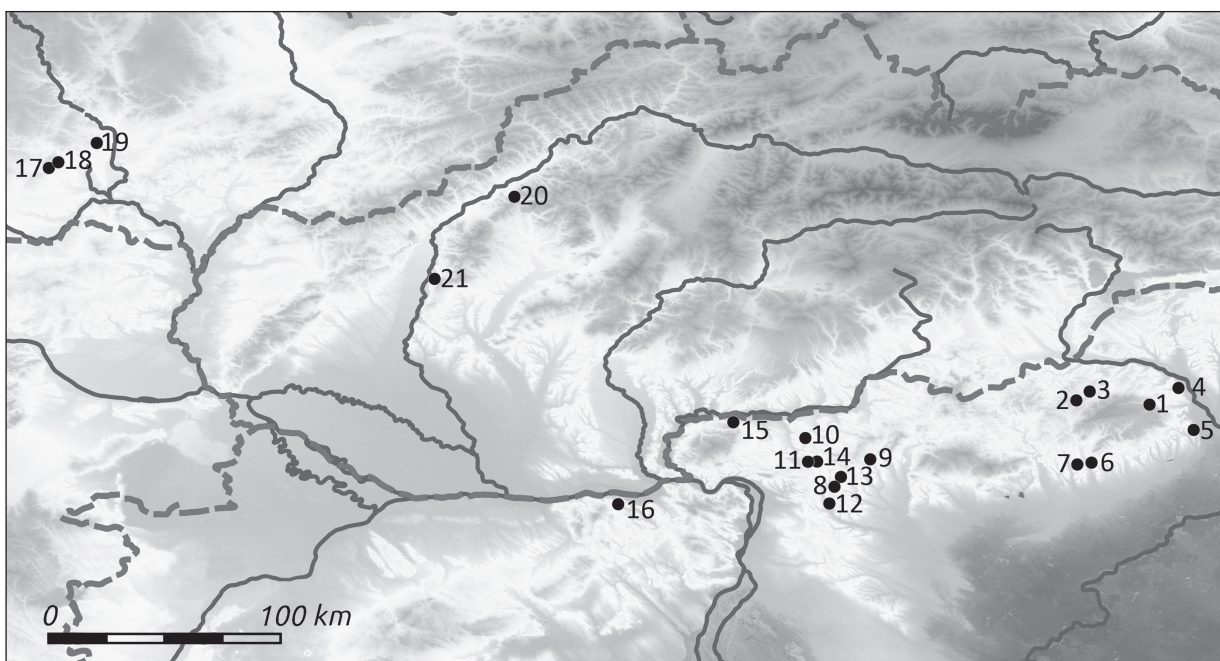


Fig. 1. Locations of the discussed sites. 1 – Szeleta Cave; 2 – Bükkmogyorósd-Hosszú-bérc; 3 – Csokvaomány/Nekézseny-Határ-tető; 4 – Sajóbábony-Méhész-tető; 5 – Mályi-Öreg-hegy; 6 – Eger-Kóporos-tető; 7 – Egerszalók-Kővágó-dűlő; 8 – Acsa-Rovnya; 9 – Buják-Szente 2; 10 – Debercsény-Mogyorós; 11 – Legénd-Káldy-tanya 5; 12 – Galgagyörk-Csonkás-hegy; 13 – Vanyarc-Szlovácka dolina 5; 14 – Szécsénke-Kis-Ferenc-hegy; 15 – Hont-Csitár (Malom-hegy); 16 – Jankovich Cave; 17 – Vedrovice V; 18 – Moravský Krumlov IV; 19 – Želešice-Hoynerhügel; 20 – Trenčianske Teplice-Pliešky; 21 – Moravany nad Váhom-Dlhá.

and 3 (dated to $36,850 \pm 200$ and $40,850 \pm 810$ BP) is not known. Anyway, both the “early” and “developed” points from layer 5 pieces could belong to a more recent period, which questions the proposed classification of the leaf points.

Moreover, inter-layer refits of a maximum 3.5 m in vertical direction were recognised, proving important stratigraphic disturbances along the sequence.

As a total, bearing in our mind the incomplete layer sequence in the Szeleta Cave, the more than 900 m³ of excavated sediments and the less than 1500 artefacts excavated in six lithostratigraphic units and stored in collections of five museums in four countries, we raised the question if there is any assemblage from the eponymous site relevant in the discussion of the Szeletian industry (Simán 1990)? Or, put it another way: is the use of the term “Szeletian” justified?

ARCHAEOLOGICAL RESEARCH IN THE CSERHÁT MOUNTAINS

Leaf point industries from Hungarian open-air sites (Fig. 1) were known for a long time only from non-stratified or non-evaluated stratigraphic contexts (Adams 2000; 2007; Dobosi 1987–1988; 1995; 2011; Kozłowski et al. 2009; 2012; Ringer 1983; Rozsnyói 1963; Simán 1985; Vértes 1951; 1965; Zandler 2012). Since 2003 rich assemblages with bifacial artefacts have been excavated in the previously not investigated part in Northern Hungary.

The Cserhát region, lying between the northern margin of the Great Hungarian Plain and the Ipoly/Ipeľ River valley and built by volcanic and fluvial rocks (Hármor 1985; Láng 1967; Noszky 1940) belongs to the Northern Mid-Mountains range in Hungary (Fig. 1). The first data concerning the possible Palaeolithic artefacts from the Cserhát region is dated to 1913 when three “Aurignacian type” tools were found with a polished stone axe at Alsópetény. In 1952 three obsidian blades from Galgagyörk, 38 years later further chipped stone assemblages from 18 open-air sites got into museum collections (Markó 2012). The first excavations were conducted in the 1980s on the Upper Palaeolithic localities at Püspökhatvan and Verseg by V. T. Dobosi and É. Cs. Balogh (Balogh/Dobosi 1991; 1995; Dobosi 1991). After the millenary,

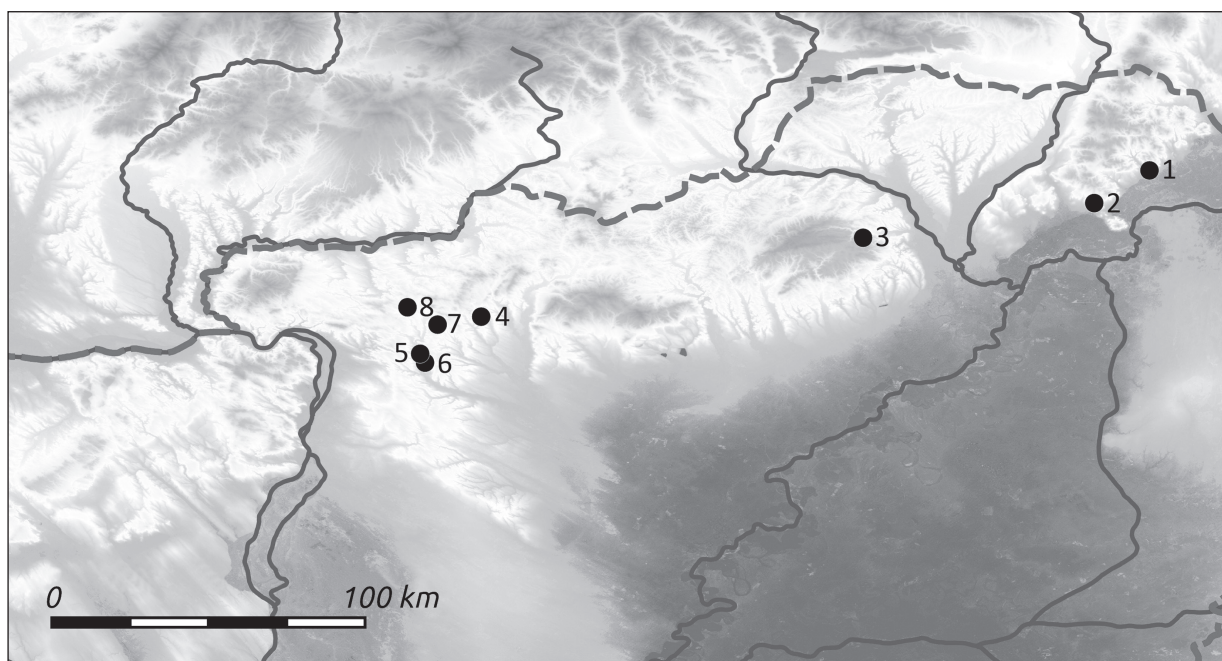


Fig. 2. Raw material procurement of the studied sites. 1 – Carpathian 2T obsidian (Tolcsva); 2 – Carpathian 2E obsidian (Mád); 3 – Metarhyolite (Bükkszentlászló); 4 – Limnic silicite (Buják); 5 – Limnic silicite (Püspökhátvan); 6 – Andesite and Siliceous, Radiolarite and Quartzite pebbles at Galgagyörk; 7 – Siliceous, Radiolarite and Quartzite pebbles at Vanyarc; 8 – Siliceous, Radiolarite and Quartzite pebbles at Szécsénke.

the Early Upper Palaeolithic site was excavated at Acsa (Dobosi 2008; 2013). Further open-air sites were located by A. Péntek in the southern slopes of the Cserhát (Markó 2012; Markó/Péntek/Béres 2002; Simán 1993), many of them could have been connected to the Middle (Markó 2009b; Péntek 2014–2015; 2015; Péntek/Gábrriel 2018; Péntek/Zandler 2013a; 2013b; 2014; 2017; 2018) and Upper Palaeolithic (Dobosi 2010; 2011–2013; Markó/Péntek/Béres 2002; Péntek 2016; 2018; Péntek/Zandler 2016; Zandler 2008) period.

An important number of Late Middle Palaeolithic localities, lying along dead-end valleys with asymmetrical cross-sections, 50–70 m above the valley-bottom (Markó 2012; Péntek 2014–2015; Péntek/Zandler 2016) yielded leaf-shaped tools (Markó 2009b; Péntek 2014–2015; 2015; Péntek/Gábrriel 2018; Péntek/Zandler 2013a; 2013b; 2014; 2017; 2018). Three of them, Vanyarc – Szlovácka dolina, Galgagyörk – Csonkás hegy and Szécsénke – Kis Ferenc hegy were successfully excavated (Fig. 1: 12–14). In the following the leaf shaped implements from these sites will be discussed.

The assemblages are characterised by:

- the presence or even the elevated ratio of the extralocal metarhyolite raw material, transported from a distance of about 100 km to the sites (Fig. 2: 3);
- the presence of leaf-shaped points, bifacial sidescrapers and knives (in typological point of view);
- the flake blanks selected for tool manufacturing;
- the absence of blades among the blanks and blade cores, as well as;
- the lack of typical Upper Palaeolithic tool types.

The studied localities

The results of the excavations at Vanyarc (Fig. 1: 13) were published in several papers (Markó 2007; 2011; 2012). The site is located north-west of the village, on a plateau lying between the Nógrád/Vanyarc streamlet and an asymmetrical dead-end valley (Cesz dolina), at 265–275 m a.s.l. and a 60–70 m relative height.

The Galgagyörk locality (Fig. 1: 12) is lying south of the village, in the tectonically preformed wide and highly asymmetric valley of the Galga River, on the uppermost terrace level (220–230 m a.s.l.), at 70–80 m relative height. From this site, only the surface collected artefacts are published until now (Markó/Péntek/Béres 2002) as belonging to the Micoquian (or *Keilmessergruppe*: Jöris 2004). During the later systematic

Table 1. The studied lithic assemblages.

	Vanyarc	Galgagyörk	Szécsénke
Year of the field works	2003–2007	2008, 2018	2015–2018
Excavated trench	52 m ²	31 m ²	18 m ²
Number of excavated lithics	1950	437	1077
Number of tools	42	33	37

surveys, the authors used a handheld GPS unit to document the archaeologically relevant artefacts. In 2004 an exceptionally finely elaborated leaf-shaped point found here was compared to the artefacts of the Upper or Evolved Szeletian following the terminology of that time (Markó 2004). Four years later the first sounds were started in the hope of documenting the stratigraphic position of the Szeletian and Micoquian industries. During the excavations, however, a single artefact bearing layer was documented and neither bifacial backed knives nor small circular scrapers (*groszaks*) were found. The relatively rich lithic assemblage is classified as belonging to the leaf point industry (Markó *et al.*, *in press a*).

The site of Szécsénke (Fig. 1: 14) is situated to the south-east from the village, on the hilltop between the Halyagos and Szécsénke streamlets, at an altitude of at 270–280 m a.s.l. At this locality the coordinates of the archaeologically significant surface finds were also documented by a handheld GPS (Péntek/Zandler 2013a). A test excavation was carried out in 2015 (Chu *et al.* 2018) lead by K. Zandler and continued by the authors of this paper between 2016–2018 (Zandler *et al.*, *in press*) exposing 30 m²; the intact artefact-bearing layer was excavated 18 m² in total (Table 1).

STRATIGRAPHIC AND CHRONOLOGICAL DATA OF THE LOCALITIES

During the excavations, complex geo-pedological investigations were undertaken at each site; the results of the fieldwork at Vanyarc have already been published (Horváth/Mindszenty 2007). Generally, the artefact bearing layers were documented in a basically *in situ* position, without any traces of recent (agricultural) disturbances. During the excavations, however, evidences of wedge formation, periodic shrinking and swelling of clay minerals and clay migration were recognised. Due to the plateau position of the localities, the artefacts were excavated in a reduced layer sequence, in decalcified loam directly underlaying the present-day humic soil level. Except for a single tooth fragment from Galgagyörk classified as *Bison sp.* by the palaeontologist István Vörös (p. c.), no faunal remains were preserved.

Among the artefacts, numerous charcoal grains were observed, classified by A. Grynaeus as remains of deciduous trees (oak, beech and willow: Markó 2007). In our view these pieces were found in a secondary position, fallen in the wide and deep desiccation cracks observed during the dry summers of the excavations also. We had the possibility to date two samples (Table 2), which, however, reflect only the minimum age of the artefacts, due to the small amount of carbon (Markó 2012).

Table 2. Radiocarbon dates from Vanyarc.

Laboratory code	δ ¹³ C‰	¹⁴ C age (BP)
Hv-25892	-25.1	32,330 ±2260
Hv-25893	-24.3	27,430 ±1310

During the excavations at Galgagyörk and Szécsénke OSL samples proved around 50,000–40,000 years old occupation. The results will be published together with the age of a burned silex artefact excavated at Vanyarc and the complex stratigraphic evaluation of the localities (Markó *et al.*, *in press b*).

RAW MATERIAL PROCUREMENT

The studied assemblages are dominated by locally available hydrothermal raw material types (Table 3). The geological sources of the medium to low quality rocks are known partly from the Galga valley

Table 3. The excavated raw material procurement of the studied assemblages.

Raw material types	Vanyarc		Galgagyörk		Szécsénke	
Limnic silicite	1211	62.10%	264	60.41%	1024	95.17%
Jasper/Lydit	18	0.92%	–	–	1	0.09%
Siliceous pebble	3	0.15%	4	0.92%	3	0.28%
Radiolarian pebble	1	0.05%	1	0.23%	4	0.37%
Quartzite pebble	12	0.62%	6	1.37%	26	2.41%
Andesite	–	–	96	21.97%	–	–
Metarhyolite	650	33.33%	56	12.81%	19	1.67%
Obsidian	–	–	4	0.92%	–	–
Burned	55	2.82%	6	1.37%	–	–
Total	1950	100.00%	437	100.00%	1077	100.00%

near the village of Püspökhatvan (Fig. 2: 5), and from fluvial sediments dated to the Middle Miocene Sarmatian period, covering a large area lying east of Vanyarc (Fig. 2: 4). Finally, a very low-quality variant was used at the Galgagyörk site (Markó 2005), where the andesite from the nearby outcrops was also extensively manufactured: 22% of the assemblage was made of this rock (Fig. 2: 6).

Although in the surface collected assemblage from Szécsénke numerous artefacts were made of various pebbles (e.g. Péntek 2015; 2019), the secondary raw material sources played a subordinate role in the raw material procurement of the excavated assemblages: the quartzite, radiolarite and siliceous pebbles (Fig. 2: 6–8) are represented by single pieces only (Table 3).

One of the points observed during the surface collections on the Cserhát Middle Palaeolithic sites was the high number of the extralocal raw material (Markó 2009a; 2011), transported from the south-eastern part of the Bükk Mountains over a distance of at least 100 km (Fig. 2: 3). The ratio of metarhyolite reached one-third of the lithic assemblage and 40% of the tools in the Vanyarc assemblage (Table 3). Among the surface collected artefacts of Szécsénke the comparably high ratio of metarhyolite 38.01% was recognised, (Péntek/Zandler 2013a), however, only 1.67% of the 1077 excavated pieces were made of this raw material (Table 3). Finally, at Galgagyörk, 12.81% of the studied assemblage was made of this raw material. Importantly, artefacts of the Hungarian obsidian (Tolcsva and Mád-type or Carpathian 2E and 2T) variants (Fig. 2: 1, 2) are also represented by single pieces (Table 3), which is a unique phenomenon in the discussed leaf point assemblages of the Cserhát area.

TYPOLOGICAL TRAITS OF THE ASSEMBLAGES

The Vanyarc, Szécsénke and Galgagyörk assemblages show different typological composition: at Vanyarc the bifacially worked and leaf-shaped tools, at Galgagyörk the sidescrapers, at Szécsénke the endscrapers are the dominating tool classes (Table 4). Generally, the endscrapers are made on short and thick flakes with non-lamellar retouches are by no means of Upper Palaeolithic character. Moreover, neither blade cores, nor blade and bladelet tools or typical burins are known from the studied assemblages, emphasising the clear Middle Palaeolithic character of the sites.

One of the common points is the presence of bifacially worked and leaf-shaped points (Table 5). The terms refer to typological and not technological categories defined by M. Kot (2016).

Among the backed knives made on raw material fragments, the presence of *Klausennische*-type and a characteristic form typical for the Vanyarc assemblages (Vanyarc-type bifacial knife) is emphasized (Pl. I: 2; II: 2). The leaf points are generally fragmented (Pl. I: 4, 5; II: 3) which prevents their technological analysis (Table 6). This way, it is not clear if the knives would represent the beginning of the leaf points (Neruda/Nerudová 2010). Importantly, one of the pieces from Vanyarc (Pl. I: 2) is made of non-local raw material transported from a distance of 95 km to the site, which makes problematic to use the same terminology as for the sites of workshop character based on the locally available raw material types.

Table 4. Main tool types of the studied assemblages.

Tool types	Vanyarc	Galgagyörk	Szécsénke
Leaf-Shaped point	9	3	3
Other bifacial tools	7	1	2
Sidescraper	10	14	6
Endscraper	3	5	22
Retouched flake	3	2	1
Typical tool total	32	25	34
Worked edge fragment	9	7	3
Bifacially worked fragment	1	1	–

The use of the “*wechselseitig-gleichgerichtete Kantenbearbeitung*” (Bosinski 1967) was documented in three cases (Pl. II: 1). Only one symmetrical leaf-shaped point with a plano-convex cross-section (Pl. I: 1) came to light during the excavations. One of the reviewers of the present paper suggested that this piece is a semi product of a leaf point. In our view, this piece, made of the extralocal metarhyolite is a rejuvenated point; the laminated structure with quartz veins of the rock made impossible to complete the next stage of the manufacture of the piece.

The most important result of the excavations at Vanyarc was the documentation of a small workshop with numerous small flakes and chips including refitted pieces (Fig. 2: 3; Markó 2011, 72) for manufacturing this raw material (Table 5). A rough preform of a bifacial tool (Pl. I: 3) was found in this part of the trench, however, in this case no refit was observed. Importantly, the above-mentioned bifacial knife and the rejuvenated leaf point were found more than 9 and 5 m from the unique metarhyolite flake concentration (Markó 2012, fig. 3: 46), questioning the on-site manufacture of these pieces.

On the other hand, the first steps of the manufacture of a thick bifacial tool (“a piece with wide edge” in Table 5, a post-genetically fragmented preform with refitted flakes) of very low quality local limnic silicite with numerous mineral veins and inclusions, as well as cleavage plans was proved by direct refits (Markó 2007, 11, fig. 6).

The bifacial tools from Galgagyörk were made on elongated flakes with plano-convex cross-section (Pl. II: 5, 6). A symmetrical, biconvex fragment was made of metarhyolite (Pl. II: 4), another tool of the same raw material was rejuvenated after fragmentation (Pl. II: 5). Finally, a piece, made on very poor quality limnic silicite is heavily fragmented too (Pl. II: 6).

Table 5. Distribution of bifacial tools in the studied assemblages.

Typological classification	Vanyarc	Galgagyörk	Szécsénke
Leaf point	7	2	3
Bifacial knife	4	–	1
Leaf-shaped scraper	–	1	1
“Stück mit breiter schneide”	1	–	–
Half made bifacial tool	2	–	–
Fragmented tool	1	1	–
Total	15	4	5
Raw material			
Limnic silicite	5	2	5
Metarhyolite	10	2	–
Total	15	4	5

Table 6. Details of the leaf-shaped tools from Vanyarc, Galgagyörk and Szécsénke.

Details	Vanyarc	Galgagyörk	Szécsénke
Fragmentation			
Intact	1	2	1
Proximal	3	–	2
Distal	2	1	–
Heavily fragmented	–	1	–
Symmetry			
Symmetrical	2	1	2
Asymmetrical	4	3	1
Cross-section			
Biconvex	1	1	1
Plano-convex	5	3	2
Total	6	4	3

The leaf-shaped points from the Szécsénke assemblages were also made on elongated flakes, in two cases with plano-convex (Pl. III: 1, 3) and one case with a biconvex cross-section (Pl. III: 2). Symmetrical (Pl. III: 1, 3) and asymmetrical forms (Pl. III: 2) are also represented (Table 6). The one bifacially worked knife could be a broken leaf-shaped point which was rejuvenated later as a knife (Pl. III: 4). The one fragmented bifacially retouched sidescraper is asymmetrical with a plano-convex cross-section (Pl. III: 5). Each leaf-shaped point and bifacially worked tool was made of limnic silicite (Table 5; Pl. III: 1–5).

Without microscopic analysis it is not clear if the fragmentation of the tools had been caused by impacts. However, use-wear analyses of bifacial tools in the Micoquian assemblage of the Kůlna Cave show us cutting, slicing, chopping, scraping of leather, bone and antler (Neruda/Nerudová/Šajnerová-Dušková 2010).

DISCUSSION

The methods of excavations and documentation of the Szeleta and Jankovich Caves were very coarse-grained for answering the archaeological questions of the 21st century. At the same time, leaf points are known various open-air sites from Hungary, as the “Aurignacian” locality of Acsa-Rovnya (Fig. 1: 8) in the Cserhát Mountains (Dobosi 2008; 2013), the Middle Palaeolithic site of Hont (Fig. 1: 15) in the Ipoly/Ipeľ valley (Zandler 2010) and the numerous localities on the piedmont of the Bükk Mountains (Bükkmogyorósd-Hosszú-bérc, Csokvaomány/Nekézseny-Határ-tető, Eger-Kőporos-tető and Egerszalók-Kővágó-dűlő: Fig. 1: 2, 3, 6, 7; Dobosi 1995; 2011; Rozsnyói 1963; Vértes 1951; 1965; Zandler/Béres 2014).

Regrettably, on the sites lying in the well-known wine region around Eger the complete layer-sequence was disturbed by intensive deep ploughing (Kozłowski *et al.* 2009; 2012; Markó 2012). At Acsa the artefacts were found both in the Holocene humic soil and the Pleistocene loam without forming a discrete artefact bearing layer (Dobosi 2008; 2013) and in the case of the Hont locality the excavated artefacts were mixed with the pieces collected on the surface probably at several localities and field documentation is absent (Markó 2019). At this later site nearly 800 artefacts were recently collected from the surface. In this collection beside the local limnic silicite (76%) and the siliceous, quartzite and radiolarite pebbles (18%), the metarhyolite is represented by a few pieces (4%), similarly to the Szécsénke assemblage. Among the retouched tools, however, sidescrapers and endscrapers are nearly equally represented (27% and 26%), and leaf shaped tools (18%) and retouched blades (16%, possibly intrusion from a later prehistoric period, classified earlier as “Mesolithic”: Gábori 1964, 70–72) are also common types.

The definition of the Bábonyian industry is based on the not stratified finds of the eastern part of the Bükk (Ringer 1983) and the Cserhát Mountains (Fig. 1: 11; Markó/Péntek 2005). The eponymous site of Sajóbáony-Méhész-tető (Fig. 1: 4) has been known since 1927 (collection by Z. Schréter). L. Tóth identified the site during the 1960s and published a total of 120 surface finds including 60 tools kept in the collection of the Ottó Herman Museum at Miskolc (Tóth 1973). A test excavation carried out in 1974 by Viola T. Dobosi exposing 60 m² yielded 180 artefacts including further 31 tools. (Dobosi 1987–1988). The charcoal sample collected from a well-defined fireplace yielded an anomalously young age (BLn – 2063: 185 ± 50 BP).

No information is available from Ringer’s fieldworks (1986, 1991, 2005 and 2014), of which only 32 selected surface-collected tools have been published until now (Ringer 1983). In 1997, another excavation was carried out with the participation of B. Adams exposing 26 m² and yielding 2,758 artefacts including the total of 75 tools (Middle and Upper Palaeolithic tool types also; Adams 2000; Ringer/Adams 2000). The radiocarbon dating efforts of two charcoal samples were not successful again (ISGS A-0007: 2542 ± 55 BP and ISGS A-0008B: 2515 ± 53 BP; Adams 2000).

Finally, in 2019 a new test excavation was carried out at the site exposed almost 2000 artefacts without further details (Lamotte/Mester 2019–2020).

The Mályi-Öreg-hegy locality (Fig. 1: 5) has been known since 1973 after the surface collections by M. Hellebrandt, A. Saád and Á. Ringer. The results of these activities as well as the test excavations in 1990, 1991 and 2004 have not been published except for five selected tools (Ringer 1983). A few artefacts were known from the 1998 excavation season, exposing 14 m² and yielding 206 chipped stone implements (Adams 2000).

Beside the Galgagyörk locality the surface collected assemblage from Legénd-Káldy-tanya (Markó/Péntek 2005) was classified as belonging to the Bábony-type industry in the Cserhát region. In these assemblages the leaf shaped implements are absent but typical bifacial knives and small circular scrapers are well represented. The presence of metarhyolite and obsidian among the raw material types makes these assemblages similar to the excavated industry from Galgagyörk. Further field works on this site may clear the differences between the surface collected “Micoquian” and excavated “leaf point” assemblages sharing numerous common points.

As a total, until now well-defined layers yielding rich artefactual material with leaf points have been excavated and documented only at Vanyarc, Szécsénke and Galgagyörk in Hungary. In our view the recovered assemblages belong to a single cultural tradition, dated to the Late Middle Palaeolithic period and characterised by the presence of leaf-shaped points. The lack of Upper Palaeolithic technological and typological traits (blade cores, blades and blade tools, burins, etc.) excludes an Upper Palaeolithic or “transitional” classification of these industries. Instead of “Szeletian”, we suggest using the neutral term “Leaf point industry” or “*Blattspitzenindustrie*” (Bohmers 1951; Bolus 2004; Bolus/Rück 2000), for the archaeological assemblages from various localities in the Cserhát Mountains, and probably from Slovakia and Moravia too.

The stratigraphic position of the artefact bearing layers of the three discussed localities is seemingly identical, but the raw material spectra and the typological composition of the assemblages are different. The elevated ratio of the metarhyolite in the Vanyarc assemblage with clear evidences of on-site tool maintenance and blank production, together with numerous but fragmented leaf-shaped tools among the secondarily modified pieces may document a regular (seasonal?) moving of hunter-gatherer groups along the mid-mountain range over a distance of 100 km (Vanyarc-type industry: Markó 2007).

Leaf shaped tools were dominant in the assemblage of the specialised workshop site of layer 0 at Moravský Krumlov IV (Fig. 1: 18) in Moravia (Nerudová 2011a; 2011b; Nerudová/Neruda 2017). However, as it was discussed above, the large distance from the single raw material outcrop of the metarhyolite, the bifacial tools made of this rock of the Vanyarc assemblage probably does not represent the production phase but rather the use and the rejuvenation of these pieces.

Until now the main goal of the excavations of this site was to document, if possible, a not disturbed part of the artefact bearing layer, the unusual raw material management of the locality and to collect samples for scientific dating projects. Although the number of the excavated lithics is higher than the pieces known from the Szeleta and especially, the Jankovich Caves (Fig. 1: 1, 16), further large surface excavations would be necessary to collect artefacts to perform systematic technological studies. A possible goal of these investigations is to compare the tools and the waste material of both the local and the extralocal raw material types. At the same time, however, specialized studies would be necessary to clear the nature of the tool and blank fragmentation (due to manufacture, rejuvenation, use or taphonomical agents), until now prevented by the laminar structure and the inhomogeneity of the utilised rocks.

The presence of low-quality limnic silicite and andesite excavated at Galgagyörk suggest that humans might have had no previous information about the sources of the siliceous rocks in the Cserhát region (Richter 2001) and exploited the nearest raw material sources without an emphasise of the quality of the rock. The presence of obsidian artefacts in the same assemblage prove that the Zemplén Mountains area was also visited by this “pioneering” human group (Markó *et al.*, *in press a*). The stratigraphy of this locality is more favourable than it was documented at Vanyarc and the excavations are not finished yet.

Finally, the assemblage recovered at Szécsénke characterised by the dominance of endscrapers and local limnic silicite compared to the surface collected material from Buják-Szente 2 (Fig. 1: 9; Péntek/Zandler 2014) and Debercsény-Mogyorós (Fig. 1: 10; Markó 2009b) from the Cserhát area and to the Slovakian open-air stratified sites Trenčianske Teplice-Pliešky (Fig. 1: 20; Kaminská *zost.* 2014) and Moravany nad Váhom-Dlhá (Fig. 1: 21; Nemergut 2010; Nemergut/Cheben/Gregor 2012).

The raw material procurement of this locality is compared to the Moravian Szeletian sites like Vedrovice V (Fig. 1: 17; Valoch 1993; 2000), Moravský Krumlov IV (Neruda/Nerudová *eds.* 2009; Neruda/Nerudová 2010) and Želešice-Hoynerhügel (Fig. 1: 19; Škrdl *et al.* 2014), where basically local and regional chert variants were used. At Moravany in the Váh valley (Western Slovakia) the local radiolarites were the most frequent types, the regional limnic silicites had a subordinate role. The extralocal metarhyolite and obsidian represented in a low quantity (Nemergut 2010; Nemergut/Cheben/Gregor 2012).

CONCLUSIONS

The territory of the Cserhát Mountains was one of the white spots in respect of the Palaeolithic research in Hungary. Thanks to field surveys, a great number of Middle and Upper Palaeolithic sites were discovered (Péntek 2014–2015; Péntek/Zandler 2016). Three of the Late Middle Palaeolithic open-air sites were successfully authenticated by excavations between 2003 and 2018 (Vanyarc: Markó 2007; 2012). Each site is lying at the same geographical situation, along or at the heads of “dead-end valleys”, at an altitude of 220–280 m a.s.l. and a 60–80 m relative height, at a distance of 15–20 km from each other, as the crow flies. The geo-pedological analysis proved relatively undisturbed layer sequences, with no traces of intense frost action and clay migration. Each of the layer sequences is non-calcareous and unfortunately does not contain faunal remains (Markó *et al.*, *in press b*; Zandler *et al.*, *in press*).

The non-Levallois flake industries yielded mostly exhausted single platform cores and each yielded leaf-shaped points made both on flake and raw material chunks, with a symmetrical or slightly asymmetrical shape and plano-convex or biconvex cross-section.

At each site, the local limnic silicite is the dominant raw material type. At Vanyarc (Markó 2009a; 2011) and Galgagyörk the extralocal metarhyolite played the secondary role (Markó *et al.*, *in press a*), at Szécsénke this rock was represented by single pieces (Zandler *et al.*, *in press*). The long-distance raw material obsidian was documented only in a small quantity at Galgagyörk.

The differences observed at the distribution of the major tool classes and in the intensity of these of the local and extralocal raw materials in our view indicate different human behaviour rather than the different “cultural” background: the humans of the Galgagyörk were seemingly certain pioneers in the Cserhát region (Markó *et al.*, *in press a*), while the “Vanyarc-type” assemblages document regular long-distance movement along the mid-mountain range (Markó 2012). Regrettably, the organic remains have perished during the geological processes, so we can only suppose that these assemblages are linked to (probably) hunting groups. The industry from Szécsénke site reflects the general traits known from the “Szeletian” in Moravia and Slovakia with the intense exploitation of locally available rocks (Kaminská *zost.* 2014; Nemergut 2010; Neruda/Nerudová *eds.* 2009; Valoch 1993).

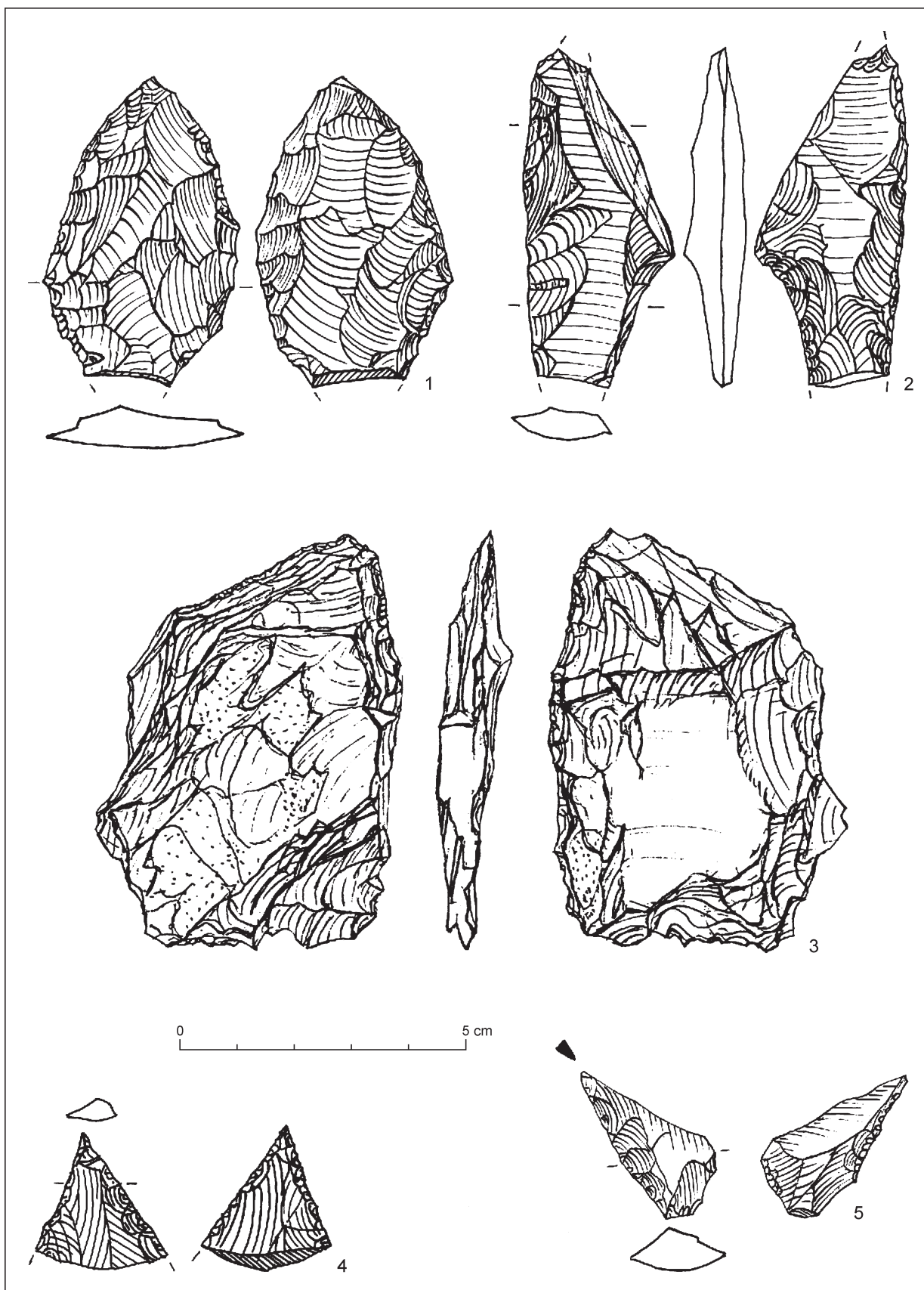
The occurrence of the asymmetrical leaf-shaped tools seems to be independent of the chronological or cultural classification of the seemingly similar pieces of the Jankovich Cave and the “Early Szeletian” of the Szeleta Cave or the discussed open-air sites in the Cserhát region. From our part, we suggest to use the term “leaf-point industry” (*Blattspitzenindustrie*; Bohmers 1951; Bolus 2004; Bolus/Rück 2000) for the diverse lithic assemblages with dominant Middle Palaeolithic elements from the cave sites in the Transdanubia and in the Bükk Mountains, as well as for the recently excavated and adequately documented assemblages in the Cserhát Mountains (Markó 2013; 2015–2016; 2019).

This later area and the Ipoly/Ipeľ valley lying north of it are promising for further studies oriented towards the Late Middle Palaeolithic human occupation and behaviour.

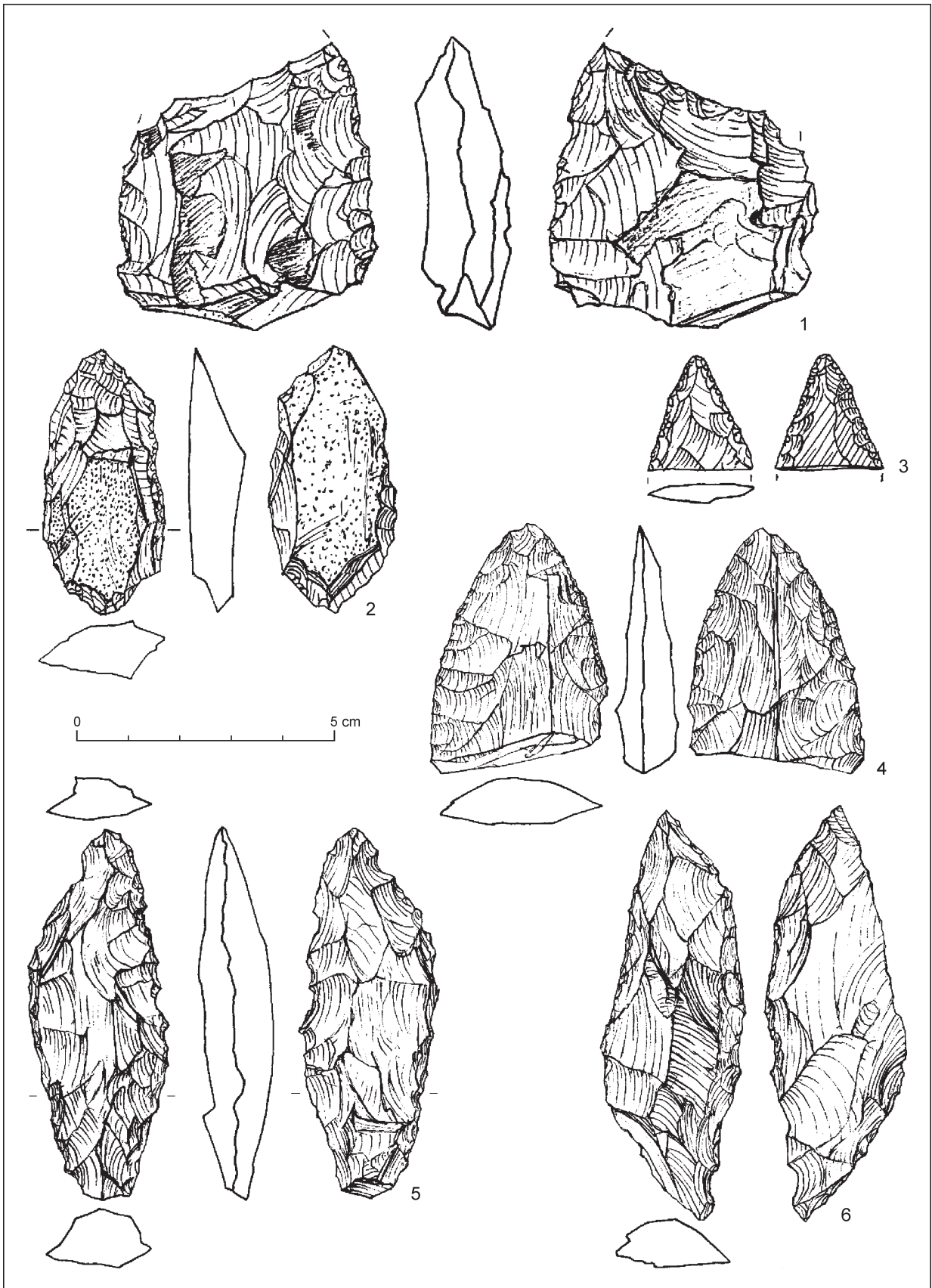
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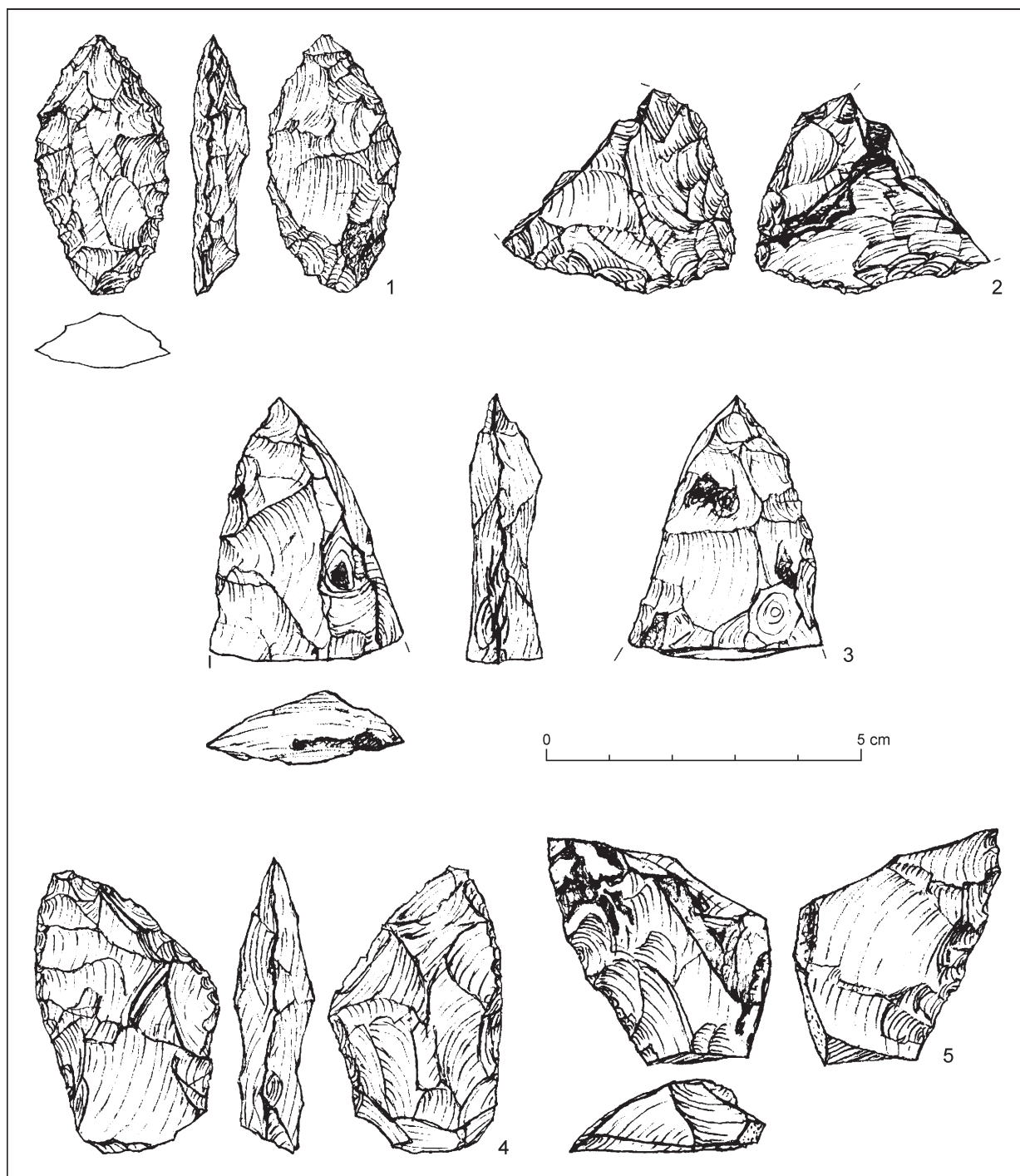
Translated by authors



Pl. I. Leaf-shaped and bifacially worked tools from Vanyarc.



Pl. II. Leaf-shaped and bifacially worked tools. 1–3 – Vanyarc; 4–6 – Galgagyörk.



Pl. III. Leaf-shaped and bifacially worked tools from Szécsénke.

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Szeletien alebo nie szeletien

Bifaciálna industria z troch otvorených stredopaleolitických lokalít v pohorí Cserhát (severné Maďarsko)

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Súhrn

Listovité hroty z maďarských otvorených lokalít sú dlhodobo známe len z nestratifikovaných a nevyhodnotených stratigrafických situácií. Od roku 2003 boli v predtým nepreskúmanej oblasti, v regióne Cserhát, objavené bohaté stratifikované súbory s listovitými hrotmi. Tento región leží medzi severným okrajom Veľkej dunajskej kotliny a údolím rieky Ipeľ. Identifikované boli početné lokality v slepých údoliach, kde boli nájdené listovité hroty s asymetrickým prierezom z neskorej fázy stredného paleolitu.

Súbory objavené na lokalitách Vanyarc, Galgagyörk a Szécsénke, sú charakteristické prítomnosťou listovitých hrotov, bifaciálnych driapadiel, nožov, úštepov na výrobu nástrojov bez akýchkoľvek stôp po produkcii čepelí či nástrojov z horného paleolitu. Vo všetkých prípadoch sa navyše potvrdila prítomnosť extralokálnej metaryolitickej suroviny z východnej časti Bukovských vrchov, zo vzdialenosti zhruba 100 km od predmetných lokalít. Nálezy sa vzhľadom na

polohu lokalít nachádzali v odvápnenej hline ležiacej priamo pod súčasnou humusovou pôdou, v pozícii *in situ*, bez stôp nedávneho (poľnohospodárskeho) porušenia. V skúmaných súboroch dominujú miestne suroviny (hydrokvarcit a limnosilicit). Extralokálny metaryolit má vedľajšiu úlohu len v súboroch zo Szécsénke.

Súbory vykazujú rôzne typologické zloženie. Vo Vanyarcu sú časté bifaciálne opracované a listovité nástroje, v Galgagyörku prevládajú driapadlá. Škrabadlá sú dominantnými nástrojmi v Szécsénke.

Podľa nášho názoru patria získané súbory ku kultúrnej tradícii z neskorej fázy stredného paleolitu, ktorú charakterizuje prítomnosť listovitých hrotov a nožov. Nože by mohli byť medzistupňom vo výrobe listovitých hrotov.

V Maďarsku sú vyššie opísané lokality a industrie s listovitými hroťmi nedostatočne definované. V inej štúdii (Markó 2013; 2019) bolo spochybnené aj odôvodnenie industrie jankovichieny, definovanej podľa nestratifikovaných, prípadne neadekvátne zdokumentovaných kolekcii kamenných industrií (Gábori-Csánk 1993). Väčšina súborov bábonyienu je stále nepublikovaná. Kamenná industria z jaskyne Jankovich a súbory z lokalít jankovichieny by mohli patriť viacerým archeologickým entitám. Súbory z hornej vrstvy v jaskyni Szeleta boli čiastočne určené pred 30 rokmi ako gravettienske, zatiaľ čo artefakty z nižšej vrstvy zatiaľ neboli revidované. Po revízii artefaktov z údajných „kultúrnych vrstiev“ v Szelete sa ukázalo, že použitie pojmu „szeletien“ by sa malo obmedziť len na lokality v oblasti Bukových hôr v severnom Maďarsku.

Na rôznorodé súbory kamenných industrií so stredopaleolitickými prvkami z jaskynných polôh Zadunajska a Bukových hôr, ako aj na nedávno preskúmané a patrične zdokumentované súbory v pohorí Cserhát preto navrhujeme používať pojem „industria listovitých hrotov“.

Obr. 1. Poloha skúmaných nálezísk. 1 – jaskyňa Szeleta; 2 – Bükkmogyorósd-Hosszú-bérc; 3 – Csokvaomány/Nekézse-ny-Határ-tető; 4 – Sajóbáony-Méhész-tető; 5 – Mályi-Öreg-hegy; 6 – Eger-Kőporos-tető; 7 – Egerszalók-Kővágó-dűlő; 8 – Acsa-Rovnya; 9 – Buják-Szente 2; 10 – Debercsény-Mogyorós; 11 – Legénd-Káldy-tanya 5; 12 – Galgagyörk-Csonkás-hegy; 13 – Vanyarc-Szlovácka dolina 5; 14 – Szécsénke-Kis-Ferenc-hegy; 15 – Hont-Csitár (Malom-hegy); 16 – jaskyňa Jankovich; 17 – Vedrovice V; 18 – Moravský Krumlov IV; 19 – Želešice; 20 – Trenčianske Teplice-Pliešky; 21 – Moravany nad Váhom-Dlhá.

Obr. 2. Získavanie surovín na skúmaných náleziskách. 1 – karpatský obsidián 2T (Tolcsva); 2 – karpatský obsidián 2E (Mád); 3 – metaryolit (Bükkzentlászló); 4 – limnosilicit (Buják); 5 – limnosilicit (Püspökhátvan); 6 – andezit, kremičité, rádiolaritové alebo kvarcitové okruhliaky z Galgagyörku; 7 – kremičité, rádiolaritové a kvarcitové okruhliaky z Vanyarcu; 8 – kremičité, rádiolaritové a kvarcitové okruhliaky zo Szécsénke.

Tabela 1. Skúmané kamenné súbory.

Tabela 2. Rádiokarbonové dáta z Vanyarcu.

Tabela 3. Získavanie objavených surovín v skúmaných súboroch.

Tabela 4. Hlavné typy nástrojov v skúmaných súboroch.

Tabela 5. Distribúcia bifaciálnych nástrojov v skúmaných súboroch.

Tabela 6. Detaily listovitých nástrojov z lokalít Vanyarc, Galgagyörk a Szécsénke.

Tab. I. Listovité a obojstranne opracované nástroje z Vanyarcu.

Tab. II. Listovité a obojstranne opracované nástroje. 1–3 – Vanyarcu; 4–6 – Galgagyörku.

Tab. III. Listovité a obojstranne opracované nástroje zo Szécsénke.

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