







AKADÉMIAI KIADÓ

A New Upper Palaeolithic site in the Northern Great Plain of Hungary

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ABSZTRAKT

Jászfényszaru-Szeméttelap 1. egy felső paleolit lelőhely a Jászságban, amit Jászfényszaru határában fedeztek fel egy teljes felületű feltárás során. A lelőhelyen főleg szarmata és honfoglalás kori jelenségek kerültek elő, de egy kis felső paleolitikumra keltezhető leletanyagot is azonosítottak, amely Korai Epigravettien jellegzetességeket mutat. A leletanyag a Kárpát-medence utolsó glaciális korú emberi megtelepüléseinek jobb megértéséhez járul hozzá.

KULCSSZAVAK

pattintott kövek, késő felső paleolitikum, korai Epigravettien, tipológiai értékelés

ABSTRACT

Jászfényszaru-Szeméttelap 1 is a new Upper Palaeolithic site in the Jászság region of Hungary in the Northern Great Hungarian Plain. The site was occupied mainly during the Sarmatian and Hungarian Conquest Period, but a small assemblage of Upper Palaeolithic finds was also identified, which can be related with the Early Epigravettian. Our research contributes to the better understanding of the Carpathian Basin's human occupations during the Last Glacial Maximum.

KEYWORDS

lithics, Late Upper Palaeolithic, Early Epigravettian, typological analysis

INTRODUCTION

Late Upper Palaeolithic (LUP) archaeological sites dated to the Last Glacial Maximum (LGM) 26.5–20.0 ka cal BP¹ were proposed to be classified with different cultural names in Eastern Central Europe: Ságvárian or Pebble Gravettian² Epigravettian,³ Epi-Aurignacian,⁴ and Grubgrabian.⁵

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¹Hughes (2021).

²Dobosi (2016).

³Verpoorte (2004); Lengyel et al. (2021).

⁴Demidenko et al. (2019).

⁵Terberger (2013).

The latest comparative lithic studies on prominent assemblages of the LGM archaeological record of Eastern Central Europe suggested to coin all LGM sites under the term Early Epigravettian as their archaeological features showed great similarities.⁶ Early Epigravettian was characterized by the lack of Gravettian armature, the use of backed bladelets, retouched points and backed truncated bladelets as armatures, a pronounced flake production, and a great frequency of domestic tool types in the toolkits.⁷ Early Epigravettian sites were dated to ~ 26.5–20.0 ka calBP.⁸

In response to the advance of the Eurasian Ice Sheet and environmental changes, the Carpathian Basin likely became a glacial refugium for hunter-gatherers.⁹ As a consequence, LGM archaeological record is the most numerous in LUP, including the territory of the Great Hungarian Plain, where these are the oldest archaeological remains.¹⁰

Present paper adds archaeological data to the LUP occupation of the Northern Great Hungarian Plain from the site Jászfényszaru-Szeméttelap 1 (JFSZ1) and aims at providing a better understanding of human settlement dispersal during LGM in the Carpathian Basin.

MATERIALS AND METHODS

Topography and stratigraphy of the site

JFSZ1 is an open-air site (Fig. 1) located in the center of the Carpathian Basin in the northern part of the Great Hungarian Plain. This region is the part of an alluvial fan that was developed during the Upper Pleistocene by the rivers flowing from the Western Carpathians.¹¹ As a result of tectonic subsidence, the river system incised the alluvial fan and some

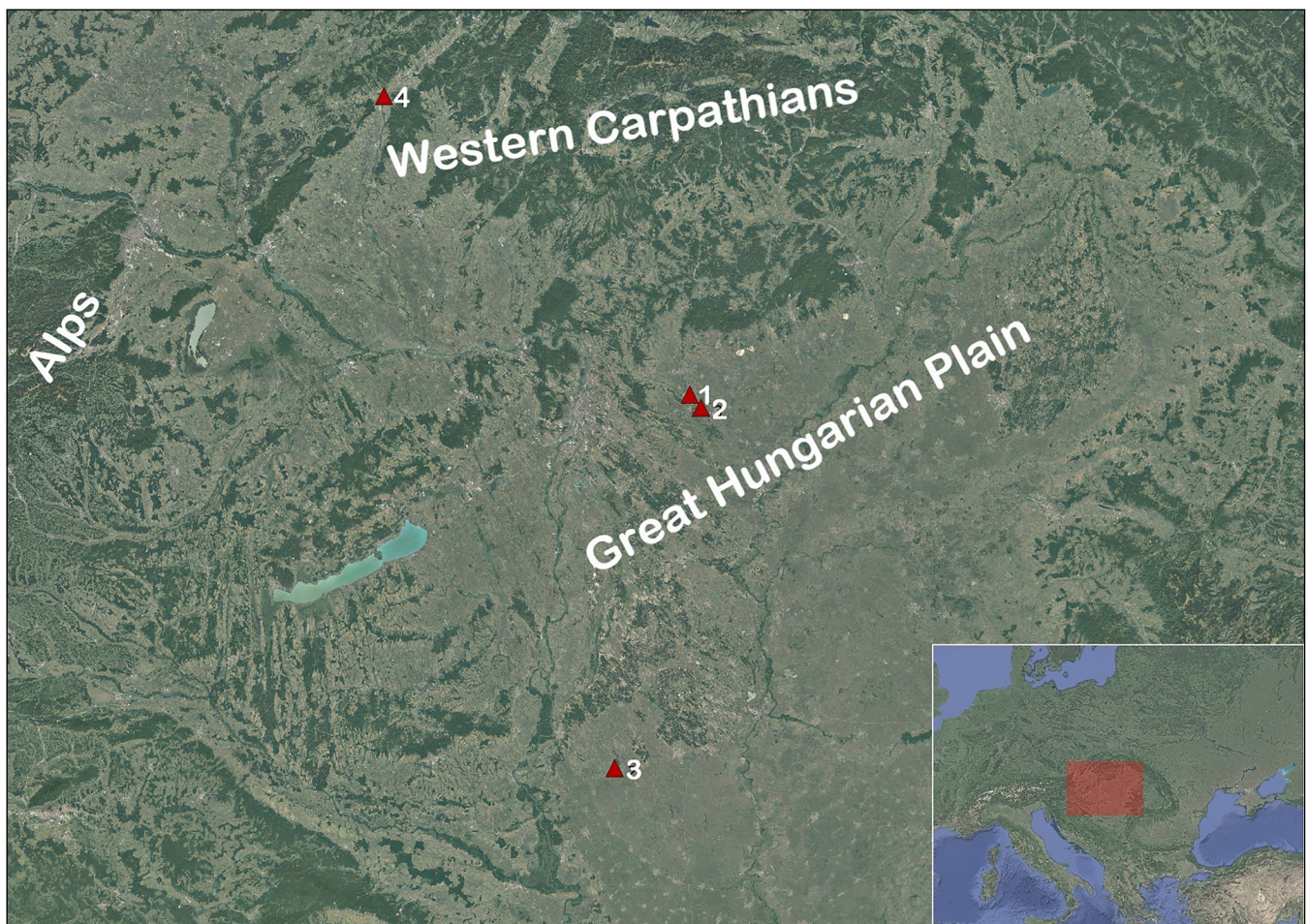


Fig. 1. Sites mentioned in the text (Figure by Zoltán Ferenc Tóth). 1: Jászfényszaru-Szeméttelap 1; 2: Jászfelsőszentgyörgy-Szúnyogos; 3: Madaras-Téglavető; 4: Trenčianske Bohuslavice

1. kép. A szövegben említett lelőhelyek (térkép: Tóth Zoltán Ferenc)

⁶Lengyel (2016, 2018); Lengyel et al. (2021).

⁷Lengyel (2018).

⁸Lengyel et al. (2021).

⁹Lengyel et al. (2021).

¹⁰Lengyel et al. (2021).

¹¹Borsy (1989).

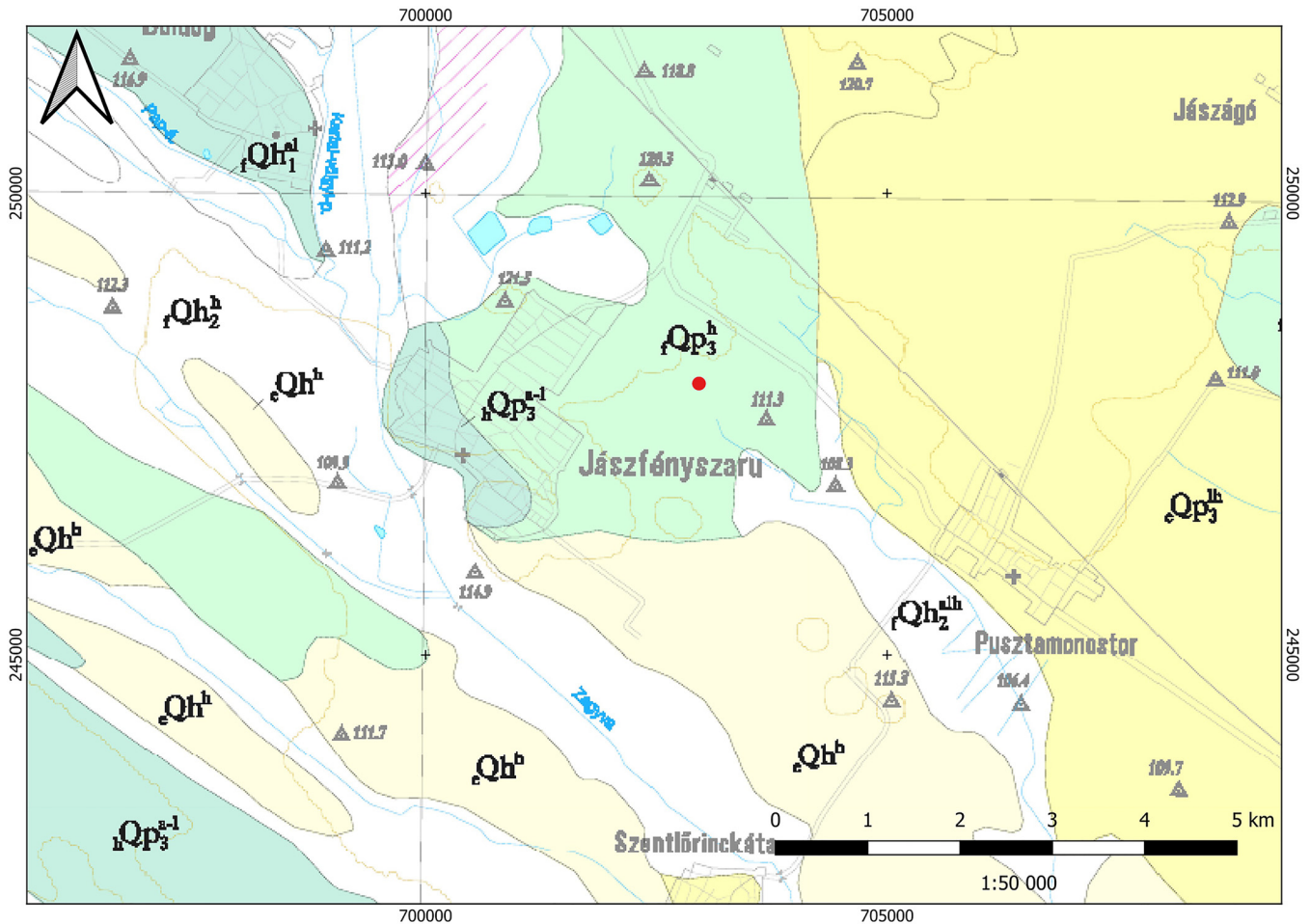


Fig. 2. Geological map of the surroundings of Jászfényszaru-Szeméttelap 1
2. kép. Jászfényszaru-Szeméttelap 1. lelőhely környezetének földtani térképe

areas became arid.¹² This allowed aeolian sand movement in the Upper Pleniglacial and in the Late Glacial period as well.¹³ The alluvial fan was heavily altered by further fluvial and aeolian processes that continued until the Holocene (Fig. 2).¹⁴

JFSZ1 Palaeolithic remains were found in 2018 during the excavation of the Sarmatian settlement dated to the 3th and 4th century AD and the Hungarian Conquest Period finds dated to the 9th century AD. The small lithic assemblage was recovered from the southeastern part of the excavated area. From a total of 16 m² surface, 113 lithics were recovered and further 16 items were found during the extraction of the topsoil. The sole archaeological feature related with the Palaeolithic site was a small pit of possibly a post. The area of the Palaeolithic finds was surrounded by pits of younger periods which did not interfere with the lithic remains (Fig. 3).¹⁵

Three layers were identified: 1) humified sand; 2) sand; and 3) loess. The archaeological finds were recovered 30–40 cm below surface, on the interface of the sand and loess beds.¹⁶ The site was located on a sand dune that was largely destroyed by post-excitation construction works.

Lithics

Lithic raw materials were identified macroscopically compared to the Lithic Reference Collection of the ELTE University of Budapest.¹⁷ Lithic technological analysis was based on the reconstruction of the operational chain.¹⁸ The lithic assemblage thus was divided into eight technological categories: flakes, blades, debris, platform rejuvenating flakes of blade cores, crest blades, neo-crest blades, blade cores, and flake cores.¹⁹ Retouched tools were divided into two major

¹²Balla (1958).

¹³Borsy (1977); Krolopp et al. (1995); Sümegi (1993).

¹⁴Gyalog (2005); Ujházy et al. (2003).

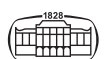
¹⁵Gulyás (2018).

¹⁶Gutay et al. (2019).

¹⁷Mester (2013).

¹⁸Inizan et al. (1999).

¹⁹Lengyel (2018).



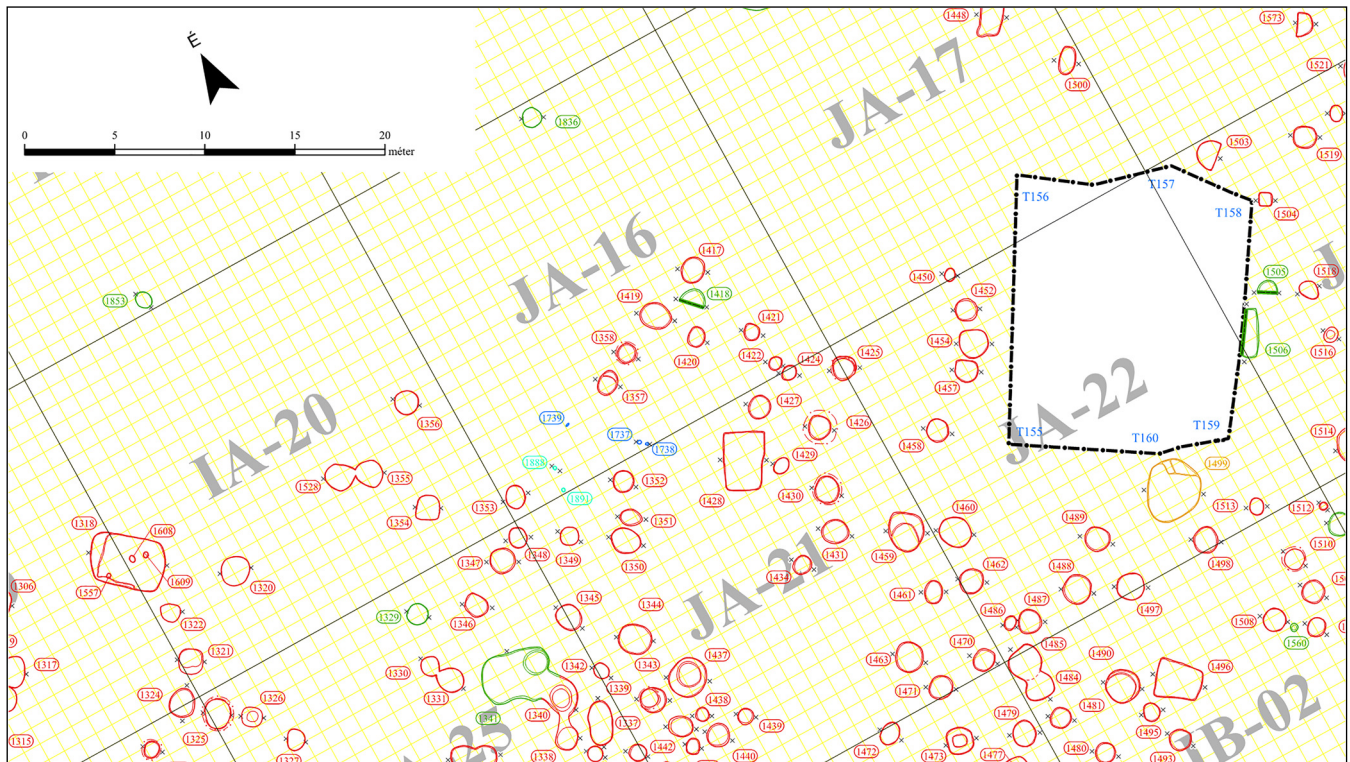


Fig. 3. Location of the Palaeolithic site (cyan color), surrounded by younger objects (red and blue)
3. kép. A paleolit lelőhely elhelyezkedése (cián szín), körülötte fiatalabb korszakok jelenségei (piros és kék)

classes: domestic tools and armatures.²⁰ The domestic tool class included general types of the Upper Palaeolithic, like end-scrapers, retouched blades, and burins.²¹ We compared the retouched tool assemblage with other LUP assemblages via hierarchical cluster analysis using the average linkage between groups with squared Euclidean distance interval applying IBM SPSS 26.0.

Radiocarbon dating

AMS radiocarbon dating was performed at HEKAL in Debrecen laboratory.²² OxCal 4.4. software was applied for calibrating the ¹⁴C date.²³

RESULTS

The technological categories included blades ($n = 45$), flakes ($n = 29$), debris ($n = 52$), and blade cores ($n = 3$). Due to the fragmented preservation of the operational chain, the lithic technology cannot be fully reconstructed (Fig. 4).

The technological analysis thus involved 129 items. Except one, the analyzed artifacts were made of limnic

silicite. The source of the limnic silicite can be located in the Mátra Mountains approximately 30 km north of the site. By the term limnic silicites from Mátra Mountains we mean the varicolored and, in some cases, stratified hydro-opalites, limnic quartzites, jaspers and hydroquartzites originating from the post volcanic activity of the Miocene age.²⁴

Limnic silicites were not necessarily collected in the Mountains, as fluvial gravels were transported by rivers to the foothill and alluvial fan area between Great Hungarian Plain and Mátra Mountains.²⁵

The short mean blade length, 4.1 cm, indicated that small limnic silicite cobbles were likely involved in the flintknapping. One intact radiolarite pebble might have been originated in the Transdanubia where this rock is highly abundant (Fig. 5, 26).²⁶ No item was knapped of radiolarite.

A debordant flake of limnic silicite bears neocortex (Fig. 5, 24.) and another limnic silicite products have a coarse cortical surface (Fig. 5, 23). The difference in the cortex covers suggests different provenances for the cobbles. The cortex presence on the retouched tools indicated that the knapping process did not include a phase for the decortication.

²⁰Lengyel (2016).

²¹Demars and Laurent (1992)

²²Major et al. (2019).

²³Reimer et al. (2020).

²⁴Biro et al. (2000).

²⁵Rónai (1985).

²⁶Szilasi (2017).

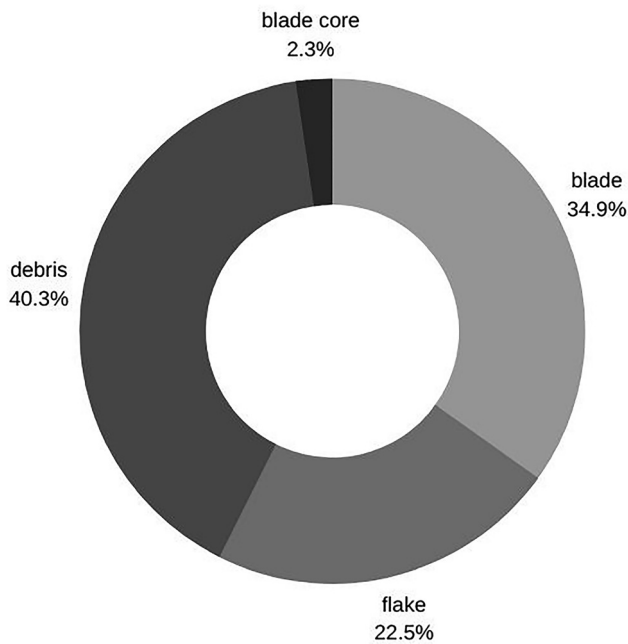


Fig. 4. Technological categories
4. kép. Technológiai kategóriák

Limnic silicite materials often have a heterogeneous texture which might have caused most of the knapping breaks.²⁷ Further knapping accidents are hinged removals, the negatives of which were cleared off the debitage surface at least in one case. Core striking platform rejuvenating flakes were not found in the assemblage, which indicates the lack of core rejuvenation.

Three bidirectional cortical blade cores were found in the assemblage (Fig. 5, 27–29). Core platforms are plain, as well as the blade platforms. Their mean length is 4.13 cm, which further proves they most likely have been made of small limnic silicite cobbles. Blades bearing bidirectional dorsal scars indicated the use of double platformed cores in the debitage as well.

Lipping of flakes and blades, diffuse bulbs, and abraded overhangs were the signs of the use of soft hammer percussion technique.²⁸

The retouched toolkit includes nine domestic tools and no armatures. The thin endscraper (Fig. 5, 3–9) is the ruling type, which was made on blades ($n = 2$) and flakes ($n = 5$). Their lateral edges were retouched in some cases (Fig. 5, 3–6). One piece has a circular shape (Fig. 5, 7) and another is a double endscraper (Fig. 5, 3). Two blades were truncated on their distal parts (Fig. 5, 1, 2).

The small lithic collection and the lack of site features such as hearths most likely indicate a short-term occupation that mostly involved domestic tasks with low investments into lithic tool production. The only faunal remain was an unidentifiable bone fragment, which was radiocarbon dated to 1907 ± 16 BP (DeA-35239) and calibrated to 78–208 AD. The age likely fits the Sarmatian occupation of the territory

of the site, and the lack of animal remains from the Pleistocene period thus further supports an ephemeral Upper Palaeolithic human occupation. As the area where Palaeolithic lithics and the sole bone fragment were found was not intersected by younger pits or houses the bone fragment dated to the Sarmatian period might have been originated from the upper soil horizon and likely traveled to lower horizons via a ground fissure or an unnoticed crotona.

DISCUSSION AND CONCLUSION

The earliest Upper Palaeolithic occupation of the Jászság area is related with the Epigravettian.²⁹ In the JSZF1 assemblage, the thin endscraper abundance, the use of flakes as blanks, the domestic tool and the regional raw material dominance are features of the Early Epigravettian dated to the LGM period.³⁰ We do not find signs of earlier Upper Palaeolithic cultures in the assemblage, as both Aurignacian and Gravettian lithic tool types are absent. Late Epigravettian lithic inventories that are consistently dated to between the end of the LGM and the onset of Late Glacial period have distinct features by the abundance of backed armatures with the presence of backed points and the greater presence of distant lithic raw materials and longer blade products.³¹ Further lithic technological data that could identify the Epigravettian chronological position of an assemblage were found earlier unconvincing,³² therefore we did not involve JSZF1 assemblage into a detailed technological comparison with other assemblages. We, however, did perform a typological comparison via a hierarchical cluster analysis involving Late Upper Palaeolithic assemblages of the Carpathian Basin studied with the same methodology. The analysis grouped JFSZ1 with Madaras and Trenčianske Bohuslavice layer A2–1 (Fig. 6).³³ These two sites in the Late Upper Palaeolithic of the Carpathian Basin included no armature and were dominated by domestic tools.³⁴ Both of these sites were dated to the initial phase of the LGM 26.5–24.0 ka BP, therefore, we can estimate that JSZF1 could also be dated to the initial period of the LGM.

Geographically the closest LUP site in the Great Hungarian Plain is Jászfelsőszentgyörgy-Szúnyogos located 8 km from JSZF1 (Fig. 1). This site yielded two archaeological layers and the lithic tool kit was reported to include two pieces of armature: a Gravette point and a backed blade.³⁵ The latest revision of the assemblage listed two backed blades collected during field surveys and one Gravette point from the lower cultural layer.³⁶ However, none of

²⁹Dobosi (2001).

³⁰Lengyel et al. (2021).

³¹Lengyel (2018); Lengyel et al. (2021).

³²Lengyel (2018).

³³Lengyel (2016) Tab. 1; Lengyel et al. (2021) Tab. 4, Tab. 11.

³⁴Lengyel et al. (2021).

³⁵Dobosi (1993).

³⁶Priskin (2011).

²⁷Lengyel (2013).

²⁸Inizan et al. (1999) 74.

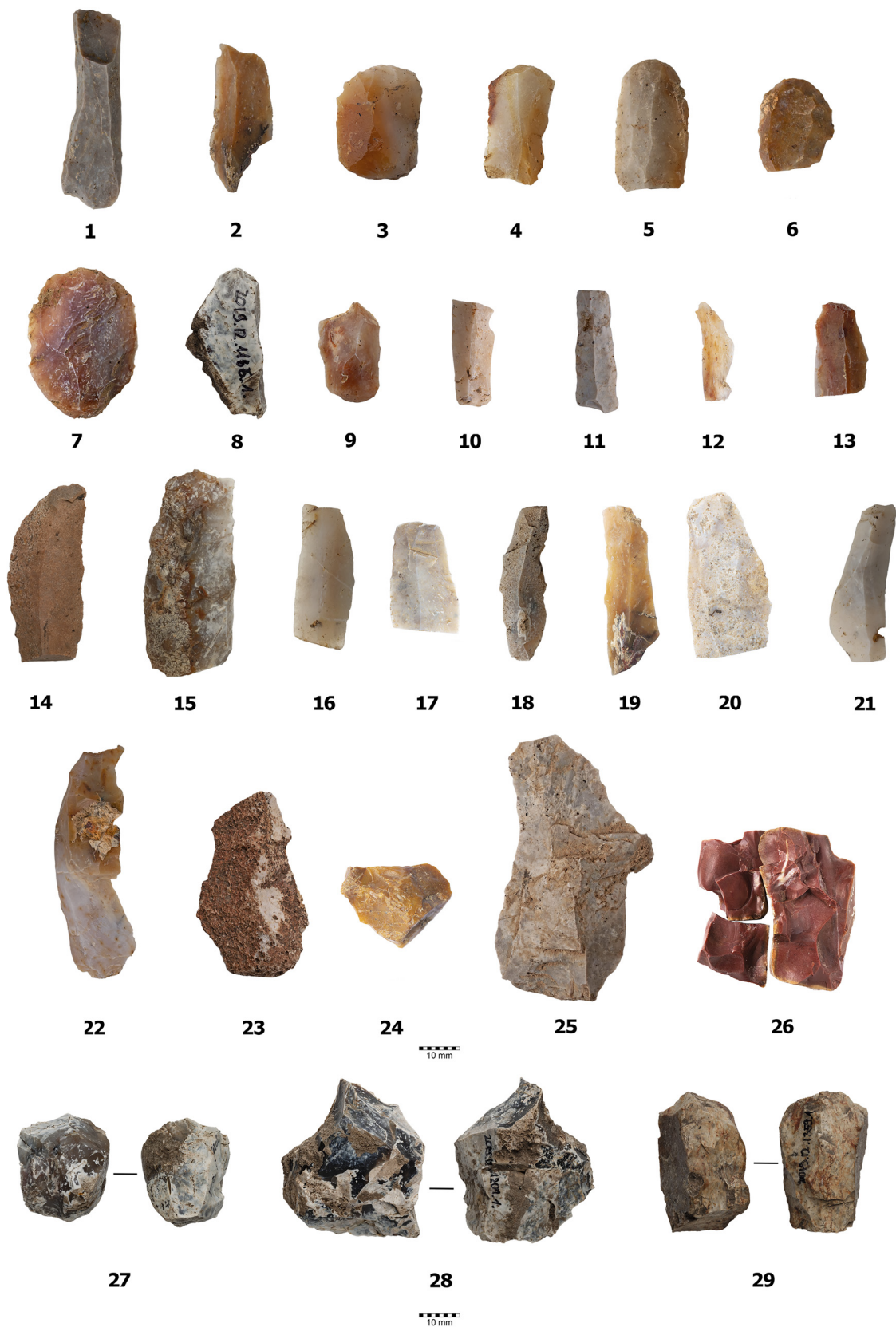


Fig. 5. Lithics from Jászfényszaru-Szeméttelp 1 (photos by Eszter Duong Li, Figure by Zoltán Ferenc Tóth). Truncated blades (1, 2), endscrapers (3–9), debordant flake (23–24), radiolarite raw material pebble (26), and bidirectional cores (27–29)

5. kép. Pattintott kövek Jászfényszaru-Szeméttelp 1. lelőhelyről (A fotókat készítette Duong Li Eszter). Csonkított pengék (1, 2), vakarók (3–9), pengék (10–22, 25), szegőszilánk (23–24), radiolarit nyersanyag kavics (26) és bipoláris magkövek (27–29)

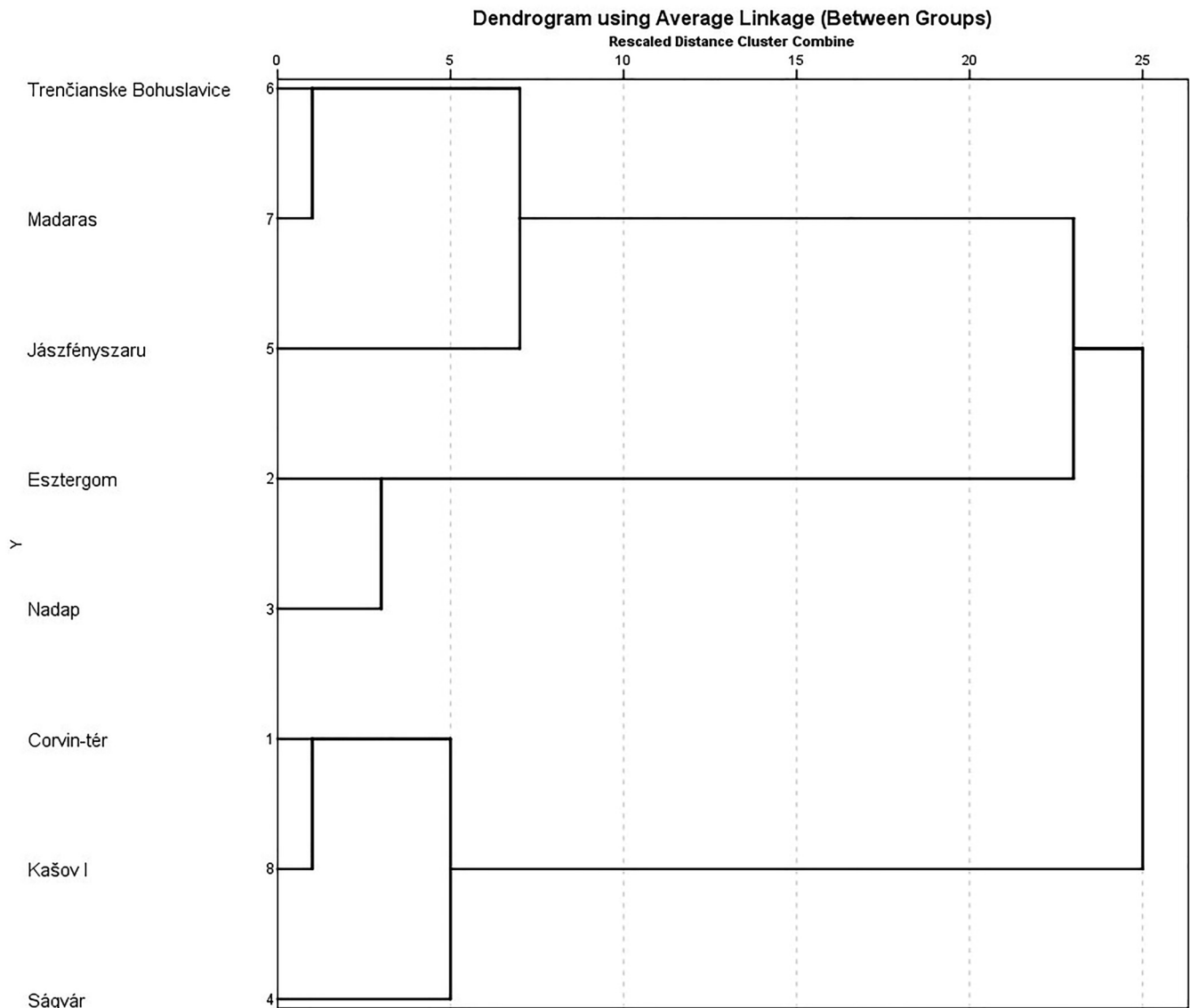


Fig. 6. Result of hierarchical cluster analysis and the relations of Jászfényszaru-Szeméttelp 1

6. kép. A Jászfényszaru-Szeméttelp 1. lelőhely leletanyagán elvégzett hierarchikus klaszteranalízis eredménye

these finds were found to match their typological description.³⁷ The usage of lithic raw materials further implies Early Epigravettian association for Jászfelsőszentgyörgy-Szúnyogos where limnic silicites of Carpathian Basin origin comprise a significant portion of the assemblage.³⁸ Jászfelsőszentgyörgy-Szúnyogos was dated to 23.3–21.4 ka cal BP on an unidentified piece of bone that contained no collagen.³⁹ The date consequently was regarded unreliable.⁴⁰ Jászfelsőszentgyörgy-Szúnyogos fauna consisting predominantly of

wild horse and reindeer,⁴¹ however, matches the prey spectrum of Early Epigravettian hunter-gatherers.⁴² Although only endscrapers were found at JSZF1, the domestic tool dominance indicated that Jászfelsőszentgyörgy-Szúnyogos assemblage thus typologically possibly can be correlated with JSZF1 and the Early Epigravettian occupation of Eastern Central Europe. The two sites seem to strengthen the argument that the Carpathian Basin offered better climatic and ecological conditions for hunter-gatherer groups compared to other regions of Eastern Central Europe to subsist in the coldest millennia of the Upper Pleniglacial.⁴³

³⁷Lengyel (2016).

³⁸Dobosi (2001); Priskin (2011).

³⁹Hertelendi (1993).

⁴⁰Lengyel (2009).

⁴¹Vörös (1993) Tab. 1.

⁴²Lengyel et al. (2021).

⁴³Lengyel et al. (2021).

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Új felső paleolit lelőhely az Észak-Alföldön

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Jászfényszaru-Szeméttelp 1. (JSZF1) régészeti lelőhely az Észak-Alföldön, a Jászságban található. Itt 2018-ban teljes felületű megelőző feltárás során előkerült egy 129 darabból álló pattintott kő leletanyag. A pattintott kövek között kilenc retusált eszközt sikerült azonosítani, a vakarók vannak többségben, az armatúrák teljesen hiányoznak. Tipológiailag a leletanyag a korai Epigravettienhez köthető, annak is a korai szakaszához 26,5–24,0 ka év calBP között.

A földrajzilag legközelebbi felső paleolit korú lelőhely Jászfelsőszentgyörgy-Szúnyogos, aminek alsó kultúrrétegének leletanyaga a közölt szakirodalmi adatok alapján szintén nem tartalmaz armatúrákat. A dolgozatban tárgyalt lelőhely tovább erősíti azt az elképzelést, miszerint az utolsó glaciális maximum idején a vadász-gyűjtögető közösségek számára a Kárpát-medence kedvező paleoökológiai viszonyokkal rendelkezett.

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