Mohelno
Last Glacial Maximum site in Moravia

Tereza Rychtaříková[1] - Petr Škrdla[1] - Jaroslav Bartík[1] - Yuri Demidenko[2] - Ladislav Nejman[3]

[1]Institute of Archaeology, Academy of Sciences of the Czech Republic, Cechyňská 19, 602 00 Brno, Czech Republic
[2]Institute of Archaeology National Academy of Sciences of Ukraine, Geroyiv Stalingrada Av. 12, Kyiv 04210, Ukraine
[3]School of Philosophical andHistorical Inquiry, University of Sydney, Australia

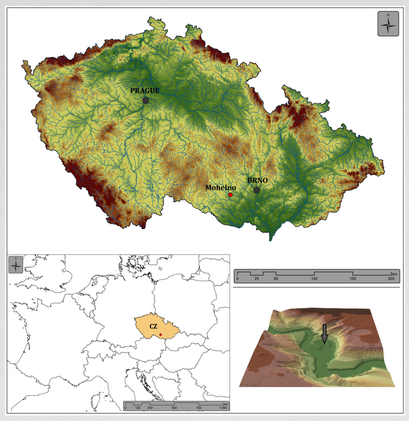


Fig. 1: Location of Mohelno site

INTRODUCTION

A new Late Upper Palaeolithic site that documents repeated human penetration into Central Europe during the Last Glacial Maximum (LGM from here), was recently discovered and excavated in Moravia. The rescue excavations have uncovered two (to date) spatially separated stony paved areas with LGM Epi-Aurignacian lithic assemblages mainly characterized by tiny microliths and carinated atypical endscraper-cores.

Mohelno-Plevovce is located on the Jihlava River in the Moravian Highlands, ca. 50km to the west from the city of Brno. The area was deforested in the 1970s during the construction of Mohelno water reservoir, which is a part of Dalešice pumped-storage hydroelectric power plant. Since then the location has been continuously disturbed by erosion caused by fluctuating water levels, which rise and fall by up to 11m, often on a daily basis. Archaeological field work is possible only during scheduled maintenance breaks when the water level is lowered for a few days. The excavation is complicated by a high moisture content in the sediments as well as severe time constraints (scheduled maintenance intervals last only 3-5 days).

Fig. 2: 2013 excavation - stone structure KSA

STONE STRUCTURES KSA & KSB

Regular perturbations of sediments by fluctuating water levels has exposed two stone structures. Stone structure KSA was excavated in 2013 and KSB during two maintenance breaks in 2014 and 2016. Both structures consisted of evenly arranged flat stones in the same layer, rarely penetrating the underlying sediment, so we suspect that they represent the original floor surface.

Fig. 3: Stone structures KSA (left) and KSB (right)

KSA consisted of 40 artificially placed flat stones. All stones were in the same layer and have a similar shape. The size of stones varies from 5 x 5cm to 50 x 50cm and the smaller stones were used to fill the gaps between bigger stones. The structure had a hexagonal shape over an area of 3 x 3m.

KSB consisted of more than 100 flat stones of different shapes, ranging in size from 15 to 40cm, with some stones up to 65cm long. The structure was trapezoidal in shape over an area of 3 x 3m. In contrast to the KSA, the artifact cluster extends (with lower density of finds) ca. 2m outside the paved area.

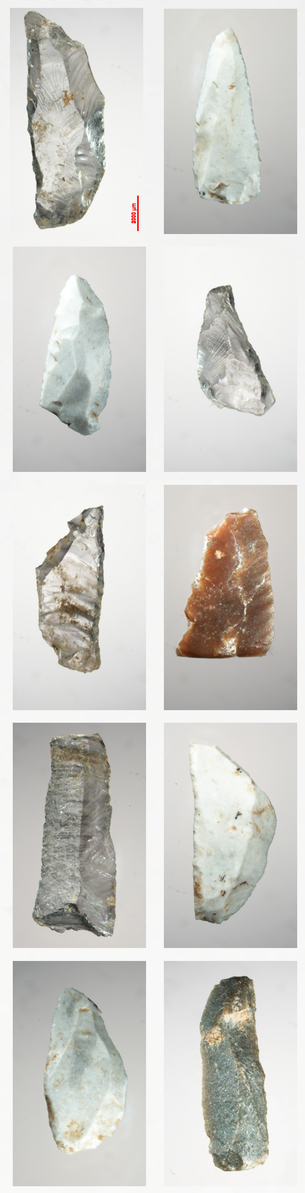


Fig. 4: Selected microliths from KSA & KSB.

Two AMS dates (Poznań lab.) on juniper charcoal samples (one from each structure), places the occupation of both KSA & KSB at the beginning of the maximum peak of the LGM (ca. 23 ka calBP).

TECHNOLOGY

The structures are characterized by a high density of artifacts within the paved area, with density decreasing rapidly away from the paved area. This is interpreted as a result of the 'barrier effect' of the covered area. The industry is distinguished by carinated atypical end scrapers that were used as cores for the production of elongated chips, which were then used to manufacture microlithic tools. The microliths tools are small, often less than 10mm long, bearing a fine retouch on dorsal side.

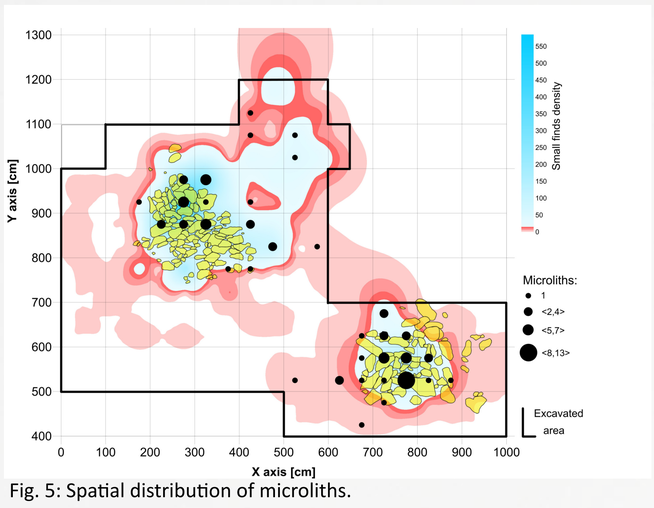


Fig. 5: Spatial distribution of microliths.

Fig. 6: Macro-tools from KSA & KSB

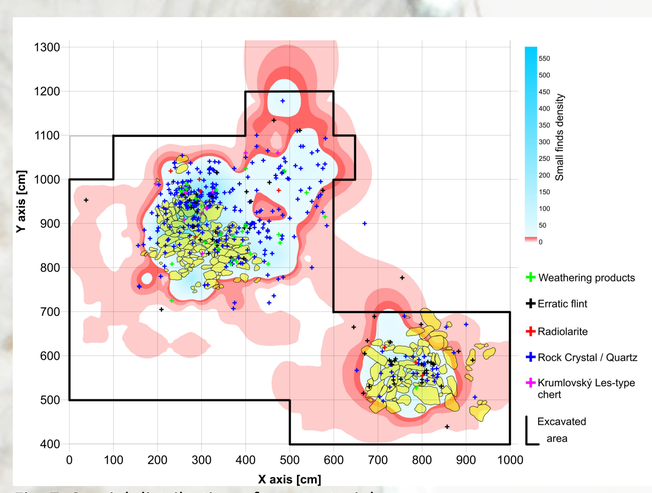
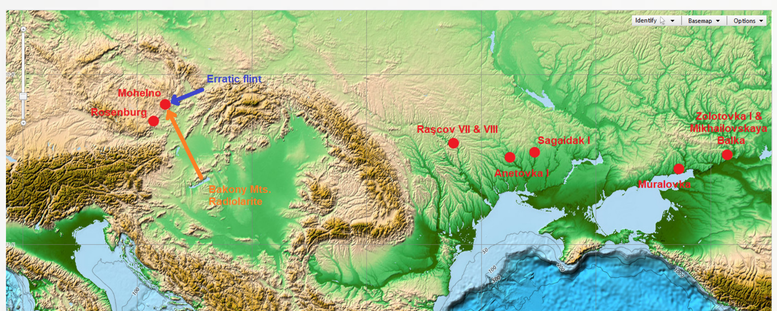


Fig. 7: Spatial distribution of raw material.

RAW MATERIAL

The dominant raw material in the KSA assemblage is imported erratic flint while in KSB it is locally sourced rock crystal. Other rock types used include siliceous weathering product of serpentinite, colorful varieties of radiolarite (including Szengál-type), quartz, and Krumlovský Les type-chert. The Szengál-type radiolarite indicates contacts with the Bakony Mountains area in Hungary and the erratic flint indicates contacts with the Moravia / Poland border. The raw material used indicates a large source territory and group mobility covering a minimum distance (in direct line) of 300km in the north-south direction.



CONCLUSION

Industries similar to Mohelno occur far to the east of Moravia on the other side of the Carpathians in the area north of the Black Sea, which was a climatic refugium, especially during the LGM (Sofer, Gamble, eds. 1990). Demidenko (2003) points out the presence of Epi-Aurignacian industries, which differ from industries that evolved from the Gravettian technocomplex. Examples of very similar microlithic industries include Raşkov 7 & 8 in nothern Molodova (960km east of Mohelno), Anetovka I on the lower Bug and Sagaidak on Sagaidak river (1200km from Mohelno) in southern Ukraine (ca. 1125km east of Mohelno), and Muralovka, Zolotovka and Mikhailovskaya Balka (ca. 1700km east of Mohelno) in the Lower Don of southern Russia. Demidenko (et al. 2018) proposed the term EASMM (Epi-Aurignacian with Sagaidak - Muralovka-type microliths) for this specific industry type.

Fig. 8: Raw material imports in Mohelno and locations with similar industries.

REFERENCES

Demidenko, Yu.E., Škrdla, P., Rios-Garaizar, J. 2018: European perspectives of the East European EGM Epi-Aurignacian with Sagaidak - Muralovka-type microlith. In: Valde-Nowak, K. Sobczyk, M. Nowak, J. Zralka, eds., Multas per gentes et multa per saecula amici magistro et collegae suo loanni Christopho Kozlowski dedicant. Krakow: Institute of Archaeology, Jagiellonian University, 85-92.

Demidenko, Y.E. 2003: Orinjak zapadnoj i centralnoj Evropy: sistematizacija dannych i paradigmy interpretacij. Kamjana doba Ucrainu 4, 150-175.

Soffer, O., Gamble, C. (eds.) 1990: The world at 18 000 B.P. London.

Škrdla, P., Nejman, L., Bartík, J., Rychtaříková, T. 2015: Human occupation of Central Europe during the Last Glacial Maximum: new evidence from Moravia, Czech Republic. Antiquity Project Gallery 337, October 2015.

CEZ GROUP

We would like to thank CEZ a.s., Dalešice Pumped-Storage Hydroelectric Power Station for permitting and financing the research and to everyone who assisted us in the field for a great job done in harsh conditions.

PLEVOVCE PROJECT