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Excavations at two new sites in Bavaria (Germany) with artifacts of the earliest dispersals of anatomically modern humans into Europe

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Fig. 1: Geographical position of Schmähingen-Kirchberghöhle and Herrnsaal (M is the center of the Moravian site cluster of the Bohunician, Hradsko is the most western Bohunician site known so far; map: Google Earth, Data SIO, NOAA, U.S. Navy, NGA, GEBCO, Image Landsat/Copernicus, Image IBCAO, Image U.S. Geological survey, picture taken 12/14/2015, hight 683.43 km);

The exact timing and cultural context of early dispersals of modern humans into Central and Western Europe is still a major question in Paleolithic research. Recent case studies at Bacho Kiro (Hublin et al. 2020) and Ranis (Mylopotamitaki et al. 2024) strongly suggest that assemblages of the Initial Upper Paleolithic (IUP) and the Lincombian-Ranisian-Jerzmanowician (LRJ) were produced by Homo sapiens sapiens. Here, we report about excavations conducted by the Institut für Ur- und Frühgeschichte of the Friedrich-Alexander-Universität Erlangen-Nürnberg at two new sites with surface collections yielding artefacts of the IUP and the LRJ.

LRJ: Kirchberghöhle

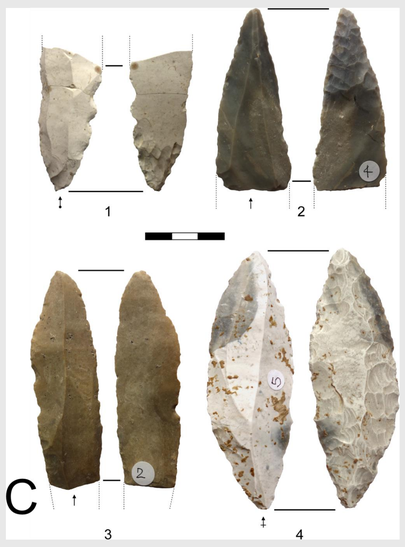

Fig. 2: Schmähingen-Kirchberghöhle. A - view from southeast with the position of the remnants of the cavity and it´s filling (the people are standing on the surface of the sediments, the excavated square meter is at the western limits of the preserved sediments near to the tree), B – LRJ artifacts (taken from Uthmeier et al. 2018: Fig. 6), C - view from the west on the square meter under excavation (note the horse tooth indicating the stratigraphical position of the archaeological horizon

- Kirchberghöhle is the ruin of a rock-shelter located in the vicinity of the small town of Schmähingen near Nördlingen (Fig. 1) in the northern wall of a former quarry used for the exploitation of Jurrasic Malm limestones dislocated and fractured by the meteorite impact (Fig. 2: A)
- Erosion and excavations by amateurs led to the almost complete destruction of the site; three Jerzmanowice points (Fig. 2: B) were discovered undocumented
- Three 14C-dates obtained from the surface collected faunal remains of mammoth, bovid and horse gave in absolute ages between (Erl-20425) 44,714-48,120 calBP and (Erl-2043) 39,713-41,886 calBP (Uthmeier et al. 2018: Fig. 4)
- To elucidate the stratigraphical context of the lithics and faunal remains, undisturbed sediments confined to two quarter square meters were excavated
- The Jerzmanowician find horizon is one in a series of sub-layers within GH 2 characterized by debris of different size and degree of weathering
- the horizontal orientation of the find horizon, the good preservation of the bone surfaces, and numerous small fragments of faunal remains point to less severe post-depositional processes at least within the excavated area
- Digested bones among the faunal remains support the findings based on the surface collected fauna that the primary function of the site was that of a hyena den

Initial Upper Paleolithic (IUP): Herrnsaal

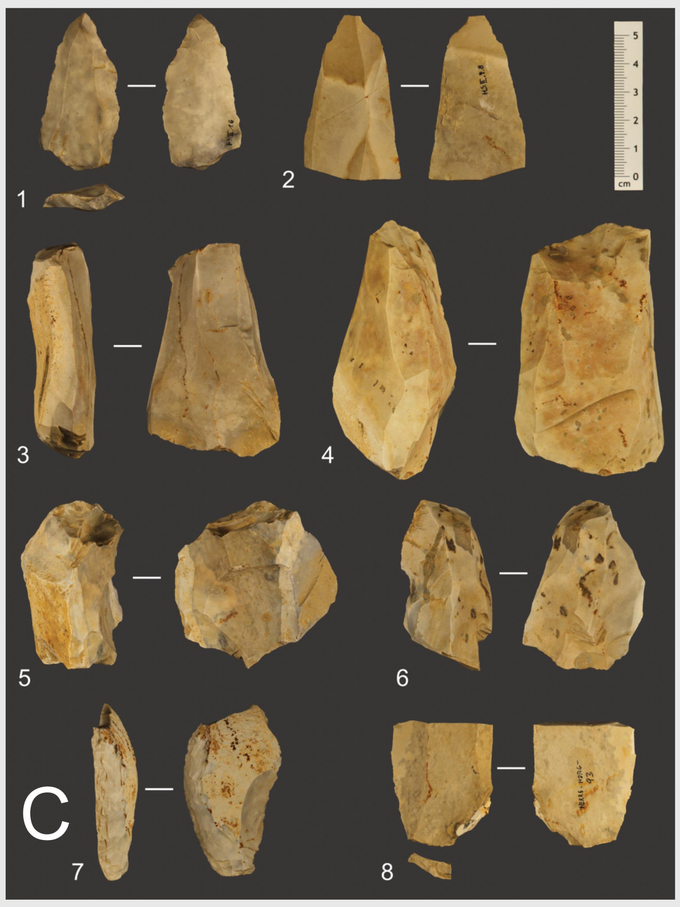

Fig. 3: Herrnsaal. A - view from east with excavated square meters along the drainage ditch (in the foreground) and on the agricultural field (below the tents), B – stratigraphical, sequence, C - Bohunician artifacts (surface collection M. Hilgart) photos: Th. Uthmeier, M. Weiß

- The openair site of Herrnsaal is located ca. 5 km east of Kelheim in view distance to the Danube
- M. Hilgart and R. Pleyer collected lithic artifacts from the surface identified as belonging to the Initial Upper Paleolithic Bohunician (Uthmeier et al. 2023).
- In 2023, profiles were opened in several square meters along an artificial drainage ditch and in two square meters to the north of the drainage ditch (Fig. 3: A); artifacts were found in low numbers immediately below the ploughing horizon in a loess-like sediment overprinted by the Bt-horizon of the Holocene soil formation, vertically stretching over app. 10 cm in depth
- small artifacts obtained from wet-sieving leave open the possibility of less severe post-depositional processes restricted to small-scale cryoturbation and/or bioturbation; micromorphological and OSL-samples were taken from the find horizon
- Excavated artifacts include formal tools, blanks and cores and are technologically and typologically identical to the rich surface finds; surface finds were preliminarily analyzed using a sample of app. 1,000 artifacts
- Indicative pieces among the cores exhibit clear attributes of the Levallois concept, albeit of a specific method described as being typical for the Moravian Bohunician (cp. Skrdla 2017: 37ff.)
- Of special interest is the occurrence of ventrally thinned (Levallois-)points recalling Jerzmanowician points
- The dominance of preforms and flakes from the initial preparation of raw nodules is indicative of a primary site function as a workshop

Setting

Fieldwork

Conclusion and perspectives

- Herrnsaal is the westernmost Bohunician site known so far, being in a linear distance towards the Moravian cluster of Bohunician sites of app. 350 km, and towards the formerly most western site of Hradsko (see Skrdla 2017: 77ff.) of 250 km (Fig. 1)
- Ongoing analysis at Herrnsaal and Schmähingen-Kirchberghöhle are dedicated to 1) the understanding of the sedimentation processes based on **micromorphological samples**, 2) the absolute dating of the archaeological horizons using **OSL- and radiocarbon dating** methods, 3) faunal analysis (if preserved) including the application of **ZooMS** to detect human remains, and 4) **lithic analysis** (especially in the case of Herrnsaal: the excavated lithic and part of the surface collected material are the topic of an ongoing MA thesis of L. Stiller, FAU Erlangen-Nürnberg).

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