

The Upper Palaeolithic mammoth site at Halich (Ukraine)

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SUMMARY: The Halich site was discovered in 1988 and the first excavation was made in 2000. During this excavation 151 mammoth bones and 105 flint tools were found at the site. The age of this site is about 24 ka to 14 ka and could be connected with the Epigravettian culture. This is probably a mammoth butchering or killing site

The Upper Palaeolithic mammoth site of Halich (NW Ukraine; 49°7' N, 24°43' E) was discovered by M. Bandryvski in 1988. In 1997 Sytnik began the study of the site (Sytnik *et al.* 1999). Halich lies on the Halich Hill, a high terrace of the Dniester river right bank. Archaeological and paleontological field studies were started in the year 2000. Three trenches covering 65 square meters were excavated. In the loess layer a very well-developed Upper Palaeolithic culture layer (ca. 10-20 cm thick) was found, with fine remains of hearths, charcoal, and bones. This layer is correlated with the Rovno interphase within the Valdaian/Vistulian loess.

At Halich 151 remains of woolly mammoth - *Mammuthus primigenius* (Blumenbach 1799) were recovered. The bone assemblage includes 38 rib and 19 vertebral fragments as well as six nearly complete cervical vertebrae and two fragments of sacrum. In addition, two fragments of femur, two radii, three unfused tibia epiphyses, and four fragments of innominate were found. In this cultural horizon 14 small bones were recovered, including two carpus bones, one calcaneus, six metapodials, four phalanges and one patella. Although the mammoth bones were discovered in a few clusters, the anatomical order was not visible. (Figs. 1, 2)

At Halich, 18 fragments of teeth were pres-

ent; unfortunately they were mainly isolated lamellae of cheek teeth. Remains of one mandible with both M2s were discovered. On the basis of tooth wear, the age of this animal was estimated to be 12-14 years old. Similar to other bones in the site, the preservation of the mandible was poor.

Green-bone breakage of some bones suggests that people practised marrow extraction. All bone surfaces show very intensive root etching, making it impossible to carry out more detailed taphonomic study of the mammoth remains.

Four tibiae and two ischium bones belonging to two different individuals were found at the site, indicating a minimum of two mammoths. The unfused tibia epiphyses from Halich indicate that both mammoth individuals were less than 26 years old (Lister 1999). Based on the mandibular toothwear, it appears that at least one mammoth was about 12-14 years old.

Five concentrations of charcoal were encountered in the cultural level. Flint artefacts were found in these concentrations, including one large cluster of 27 flint artefacts in concentration number 1. The flint had been transported to the site as unworked nodules, probably originating in the Dniester valley. Cores were reduced at the site and the flint assemblage suggests that mammoth meat and bones were processed on-site.



Fig.1 - General view of the south-west part of the mammoth bone assemblage.



Fig.2 - General view of the south-east part of the mammoth bone assemblage.

Unfortunately no characteristic tools or points were found in the Halich site, so it is impossible to distinguish the culture that is represented. However, the geological data indicate that these findings lie in the upper part of younger Vistulian loess, dating to 24 - 14 kyr. The Epigravettian culture developed during the first millennia of this period in the Dniester valley (Djindjian *et al.* 1999).

CONCLUSION

The presence of a large number of mammoth bones (limb bones, ribs and vertebrae, mandible and innominate), small bones such as phalanges or metapodials and unfused tibia epiphyses could suggest that the Halich site is situated at the place where mammoths died. The green-bone breakage, remains of hearths, and large number of flint tools could suggest that it is an Upper Palaeolithic mammoth butchering or kill-butchering site. Excavations will continue at the site next year, and we will seek support for these hypotheses.

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