

***Ex Proboscideis* - Proboscidean remains as raw material at four Palaeolithic sites, Hungary**

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SUMMARY: The palaeontological data in this paper was provided by the archaeozoologist István Vörös. Evidence from four sites, Vértesszőlös, Tata, Istállóskő cave and Esztergom-Gyurgyalag, characterised by the presence of objects made of Proboscidean remains are presented. Pleistocene faunas at both archaeological and palaeontological localities in the Carpathian Basin are dominated by the remains of the Elephantidae. The phylo- and ontogenesis of this taxon from the Pliocene-Pleistocene boundary till the middle of the Würm glaciation was established by István Vörös. Some 470 localities have yielded fossils belonging to this family. The bulk of these finds was recovered without any proper stratigraphical information from river banks, gravel quarries, open-air lignite mines and calcareous tuffs of varying age. In this context the Elephantidae function as “Leitfossil” due to the taxonomical significance of the evolution of their teeth.

1. INTRODUCTION

Archidiskodon meridionalis occurs from the boundary of the Pliocene-Pleistocene up till the end of the Lower Pleistocene. During the Middle Pleistocene *Mammuthus trogontherii* is the dominant species. Archaic forms of the mammoth appear as early as the Middle Pleistocene (at the Lower Palaeolithic site of Vértesszölös). The true woolly mammoth is recorded during the Upper Pleistocene until the inter-pleniglacial period (e.g. the Middle Palaeolithic site Tata at the beginning of this period and the Aurignacian site of Istállóskő at the end of this period).

By the Pleniglacial B period, mammoth is already absent from the faunas (Vörös 1998). Mammoth bones found at archaeological sites during this period probably derived from animals that were no longer part of the contemporary fauna (e.g. remains found at the site of Esztergom already belong to this “post-proboscidean” period).

2. THE LOWER PALAEOLITHIC SITE OF VÉRTESSZÖLÖS

The absolute chronological data for this site is extremely variable. Its relative chronological position based on terrace chronology, biostratigraphy (presence of archaic elements) and palynology (presence of relict floral elements) is clear.

The five occupation horizons are stratified in calcareous silts and travertine, in loess and sandy loess sediments containing rich smaller and larger mammal faunas, Ostracoda and molluscan faunas, and micro and macro plant fossils etc.). Human remains comprise the occipital bone of an adult man and fragments of the milk teeth of a child. The archaeological horizon comprising lithic flakes and tools, and animal bones interpreted as subsistence debris attains a depths of up to 60 cm in places.

Of special significance for the human occupation of the site are hearths formed by small fragments of animal bones.

Of particular interest at this site is a “hand-axe” made from a medial fragment of a left

tibia of an elephant. The tool is the retouched fragment of a split long bone. The tool was prepared using the same techniques used in lithic technology. Due to poor fossilisation, traces of use wear are not preserved on this find.

When first revealed during excavation the bones were rather greasy in appearance. Afterwards they became porous and fragile with no preservation of observable traces on their surfaces.

An albumin-residue analysis was undertaken on a fragment of this bone, in order to determine the exact Proboscidean species within the genus, as this could provide important chronological information for the fauna. Unfortunately this analysis did not produce any further data. However, based on biostratigraphical evidence of Elephantidae at non-archaeological Middle Pleistocene sites, I. Vörös attributed the species for this period to *Mammuthus trogontherii* (Vörös 1998).

More than 100 bone tools made of non-proboscidean raw materials were selected from the subsistence debris. With the exception of spirally fractured or cutmarked bones evidence for tool production is comparable to techniques utilised to produce stone tools.

The lithic inventories from the five cultural horizons display the same industry. Though the quantity and composition of lithic tools within the inventories varies from layer to layer, changes in parameters reflect an internal development within the lithic industries. Throughout the stratigraphical sequence an increase in the ratio of better quality silex raw material in comparison to quartzite, in the quantity of Middle Palaeolithic tools and in tool size can be observed.

3. THE MIDDLE PALAEOOLITHIC PEBBLE INDUSTRY SITE OF TATA

Karstic phenomena are known from various places along the margin of the North-East Transdanubian Mesozoic mountain range in different periods of the Earth's history. As a result of the last karstic phase, freshwater limestone has been produced from the beginning of

the Pleistocene period up to the present day (Korpás 2000). Vértesszölös and Tata are both part of this karstic water system. Due to climatic and orographic factors karst processes were periodical and of varying intensity.

The archaeologically dated calcareous tuff at Tata formed on the second flood-free terrace. Humans at Tata specialised in hunting mammoth calves.

A medial fragment of a lamella from a lower molar of a mammoth was chosen for further modification. The tooth plate was completely polished. At the base of the irregular ridges of the polished surface, traces of ochre can be observed. The edges of the piece are profiled/polished. This object is unsuitable for utilisation. According to L. Vértes who initially published the object, this find could symbolise a spiritual connection between the human community and their principal game (Vértes 1965, 139).

The most unusual aspect of the Tata inventory is the average length of the tools: 31 mm. Larger tools have not been found so far. Thus, the discrepancy between the small size of the lithic tools and the large size of the main human prey has still to be clarified. During Lower, Middle and Upper Palaeolithic periods this contrasting pattern is observable at all pebble-using sites in Hungary.

4. ISTÁLLÓSKÖ CAVE SITE (BÜKK MOUNTAIN)

Two Aurignacian horizons are preserved in the sediments of this cave. Based on the horizontal and vertical distribution of the faunal material and an analysis of skeletal part representation of the fauna, during the first phase of occupation the cave was probably used during the summer to autumn as a hunting camp. This is supported by the composition of the archaeological inventory (many weapons / points, few tools).

During the younger phase of occupation the site was inhabited for a longer period of time. This interpretation is supported by the presence of a large hearth surrounded by blocks of stone, indicating a continuously inhabited home base site, where butchering and curation of animal hide also occurred (Vörös 1984).

Of significance are small and large fragments of a rod made of polished mammoth tusk. Fragments with intact surfaces are slightly bent, but the angle does not reflect the natural curvature of the tusk, showing that the tusk had been straightened. The lithic inventory is poor and atypical. Typical forms such as carinated scrapers, nosed end scrapers and busquet burins are absent in both Aurignacian levels of the cave. Within the older Aurignacian level split based bone-points function as a "Leitfossil". The younger Aurignacian level is characterised by the presence of Mladec bone points. Moreover, the faunas of both Aurignacian layers are dominated by *Rupicapra* (more than 50%); Cervidae (*Cervus*, *Rangifer*, *Alces*), *Ursus spelaeus*, and the stepic *Equus* and *Bison* are present along with carnivores of the deciduous forest such as *Canis* and *Vulpes* (Vörös 1984).

5. THE GRAVETTIAN OPEN-SITE OF ESZTERGOM-GYURGYALAG

The site is located on the first Würm terrace above the alluvial flood plain of the Danube.

Of particular interest is a fragment of a retouched, pierced tool (shovel?) made from the tibia of a mammoth. According to observations of I.Vörös, the opening was made by piercing four smaller holes of ca. 10 mm in diameter. During this period, the acquisition and occurrence of mammoth bones at archaeological sites raises a number of questions. Did the bones derive from animals which belonged

to the contemporary fauna, were they obtained by hunting or by collecting the fossilised bones from river gravels?

The discrepancy between the faunistical data and the archaeological chronology cannot be explained by archaeological methods. ¹⁴C data (16,160 BP) corresponds to the archaeological dating of the site. Mammoth bone appears to be an autochthonous element of the find assemblage. From a topographical and chronological point of view, the site belongs to a series of settlements located along the Danube-bend belonging to the short interstadial phase post-dating the Würm 3 cold maximum.

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