Gravettian mammoth bone deposits in Moravia

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SUMMARY: In addition to the description of 8 Moravian sites associated with mammoth bone deposits (MBD), this paper discusses the various hypotheses explaining their formation either as natural or human-influenced. Recent research records a variability in size of the deposits, but uniformity in chronology (30-20 ka), cultural association (Gravettian/Pavlovian) and spatial patterning (location along the main rivers).

1. INTRODUCTION

The mammoth bone deposits (MBD), in association with the large Gravettian settlements, are located along the main river system of the Moravian corridor (Fig. 1). Over the 120 years of research, several competing hypotheses aimed to explain these accumulations as a part of the Gravettian resource exploitation system. The various authors underlined either specialized mammoth hunting or mammoth scavenging, and relationship to other resources such as reindeer hunting, net-hunting of smaller game or plant gathering. Specifically, one of the alternatives explains the mammoth bone deposits as natural death sites, secondarily exploited by humans for bone, ivory, skins or frozen meat. Other alternatives view them as a result of specialized mammoth hunting: as kill-sites, areas of refuse or storage. There are also combined explanations, taking into account both natural formative processes and human activity.

Chronologically, MBD formation is related to one cultural unit only, the Gravettian (30-20 ky). Potentially, this may be one of the indirect arguments for a human origin of these deposits. MBD termination, on the other hand, correlates with the climatic deterioration around the last glacial maximum.

Spatially, MBD follow the type of landscape preferred both by mammoths and hunters (the “Gravettian landscape”, Fig. 1), i.e., locations on slopes, in low and middle altitudes, within the main river valleys of Moravia: Dyje (Dolní Věstonice, Pavlov, Milovice), Morava (Jarošov, Spytník, Boršice?), and Bečva (Předmostí). On the Dyje river in southern Moravia, these deposits are also related to smaller side valleys and gullies (Fig. 2). Such terrain situations, optimal for development of hunting strategies, could provide another indirect argument for human origin of the MBD.

A variability is being recorded among the individual MBD, concerning size, spatial relationship to adjacent settlements, occurrence of other animals than mammoths, and the archaeological context (charcoal layers, rare lithic artifacts). Some of these locations also suffered from postdepositional processes, namely landsliding and erosion, or from industrial exploitation of loess and bones.

2. THE BONE DEPOSITS

2.1 Dolní Věstonice I

Several MBD (named “kjoekennôddings”) were discovered by K. Absolon, especially in upper part of this large and complex settlement. One of them, because of its circular shape, was later interpreted by B. Klíma as basement of a dwelling structure. However the largest MBD was excavated by B.Klíma next to the upper part of the settlement in a shallow, partly watered depression, located longitudinally along the slope, about 45 m long and 12 m wide.
Besides mammoths, this bone deposit also contained few remains of horse, wolf, reindeer and hare (Absolon 1938, Klíma 1969, n.d.).

2.2 Dolní Věstonice II

This is a large, spatially and chronologically structured settlement, following longitudinally the eastern margin of a side valley, about 500 m long. Part of a MBD, measuring 10 x 10 m and located in fluviatile sands (with water snails), was excavated by J. Svo-boda in the upper part of the gorge (Fig. 3). Additional mammoth bones were scattered in lower parts of the gorge as well. It is not excluded that large portions of the valley floor, together with bones (?), are eroded (Svoboda, ed. 1991, West 2001).

2.3 Pavlov I

This large and complex settlement, excavated by B. Klíma, provided only smaller and spatially restricted mammoth bone accumulations inside the settled area, but an MBD was absent. If we would expect it downslope, at the bottom of an actually active side valley, it could be removed by land-sliding and/or erosion by the brook (Svoboda, ed. 1997).

2.4 Milovice I

This site is located in the terminal part of a large side valley, about 2000 m long. Two MBD (larger than the adjacent settled areas above them) were located on a slope, about 1500 m from the valley mouth. Besides mammoths, there is an admixture of horse, reindeer and wolf. Inside the settled area above, a circular mammoth bone accumulation was found by M. Oliva, and interpreted as a dwelling (Oliva 1988).

2.5 Boršice

From this disturbed settlement, only a “miniature” MBD (with admixture of wolf and reindeer), about 1 m in diameter, has been
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2.6 Jarošov II

A longitudinal deposit of mammoth bones (with some of rhinoceros and horse), about 6 m in length and 3 m wide, has been excavated by R. Procházka, and supplemented by another 3 m by L. Seidl and K. Valoch (1998). Later, an adjacent settlement was discovered about 200 m away on the same slope, and excavated by P. Škrdla.

2.7 Spytihněv

Basing on old reports by V. Hrubý, a “pit”, 15 m in diameter, filled with mammoth bones, has

Fig.2 - Detailed plan of Upper Paleolithic settlement in the Dolní Věstonice-Pavlov microregion. Excavated MBD, at Dolní Věstonice I and II, are indicated by oblong areas.

Fig.3 - Example of a mammoth bone deposit.
been found on the level of the Morava river valley. Following P. Škrda, the deposit has been removed from the slopes above by land-sliding. A possible settlement location lied nearby.

2.8 Předmostí I

Original picture of this classical site is largely de-formed by the industrial exploitation of limestone, loess and bones, and the lack of spatial documenta-tion from earlier excavations. However, the bone accumulation was so large that it was recorded as early as the 16th century, as “giant bones below the Skalka rock”. This deposit was most probably loca-ted in the original depression with mineral water sources. During the early excavations to the north and west of Skalka, other MBD were recorded inside the settled areas or directly adjacent to them. In addition, several groups of selected mammoth bones, deposited after sorts, were recorded by J. Wankel, K.J. Maška and M. Kříž (Absolon & Klíma 1977).

3. REFERENCES


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