Proboscideans (Palaeoloxodon antiquus, Mammuthus meridionalis/trogontherii) and first human settlements in France: taphonomic consideration from Soleilhac (Haute-Loire)

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The site of Soleilhac in the Massif Central (Haute-Loire) is one of the oldest archaeological sites in France. Interesting paleontological remains were found in the first half of the XIXth century at the site called « Soleilhac-ferme », with more than 500 bones, ascribed (according to a recent revision by Lacombat, 2005) to Præmegaceros sollihacis, Cervus acoratus, Dama clactonia, Hemitragus bonali, Bison schoensacki, Hippopotamus antiquus, Equus altidens, Equus süssenbornensis, Stephanorhinus hundsheimensis, Mammuthus trogontherii, Ursus deningeri.

At the beginning of 1970s, geological research in this geographical area allowed E. Bonifay to discover new paleontological remains of straight tusked elephant, P. antiquus in a similar fluviatile context. This new site was called "Soleilhac-centre". Although this new deposit cannot be stratigraphically correlated to the "historic" paleontological records between both localities seem similar from a biochronological point of view and are supposed to be contemporaneous.

In Soleilhac-centre, an area of 400m2 approximately was excavated and allowed to find a paleosurface (Bonifay, 1989, 1991, 2002) yielding paleontological remains (NT=3000; NISP=724) and lithic artefacts (N=500) of mode I (Turq & Fosse, 2012). The paleontological sample is extremely fragmented due to weathering and diagenetic compression. Identified species (Bonifay & Bonifay, 1981 ; Aouadi, 2001) belong mainly to Cervus acoratus and Præmegaceros sollihacis (NISP =558) and then to Proboscideans (NISP = 134 ; MNI = 8). Most of the remains have been attributed to Palaeoloxodon antiquus but some teeth belong clearly to a mammoth group (M.meridionalis / M. trogontherii).

Other species of Ungulates (bison, rhino, horse) or Carnivores (Canis etruscus, cf. Lynx and Vulpes sp.) are very rare (< 5 bones/species). This paleontological record is correlated, according to the magnetostratigraphic (Thouveny & Bonifay, 1984) and biochronological comparison with other European sites, to the Jaramillo subchron. Recent biochronological revisions of main European archaeological records allow to correct this age, during the Brunhes episode, between 0.6 and 0.78 m.a.

From a taphonomic point of view, if skeletal elements of cervids seem to result from a human exploitation (no cutmarks on bones but postcranial elements are highly fractured), the anthropogenic intervention on Proboscidean bones is not evident. The sample includes isolated teeth (NISP=38), vertebrae (NISP=32) and ribs (NISP=25), then tusks and some isolated appendicular elements. The mortality profile raised from teeth shows that 12-24, 24-36 and 0-12 years (sensu Haynes, 1991) age classes respectively are, represented the best. The frequency of skeletal elements, correlated with the standardized disarticulation sequence (sensu Hill, 1979) suggests a relatively long time of exposure (abundance of ribs, vertebrae and presence of innomiates). Bones also present taphonomic modification produced by water (erosion, dissolution). All of these taphonomic indications/evidences suggest that Proboscidean remains are of natural origin. By these paleontological (presence of Proboscideans) and taphonomic (none-low exploitation of Megaherbivore carcasses) characteristics, the sample from Soleilhac appears to be similar to that of other European and African sites yielding evidence of human occupation and confirm that natural death sites in fluviatile contexts were systematically occupied by Lower/Middle Pleistocene hominids.

References

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