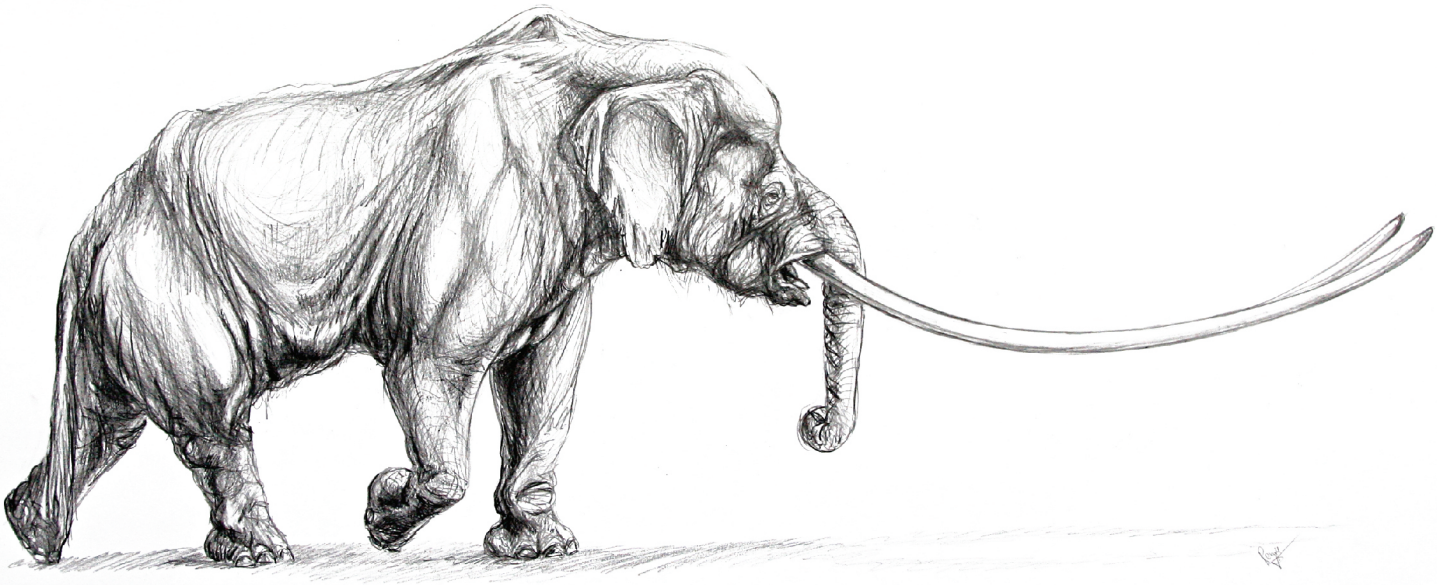
SCIENTIFIC ANNALS of the School of Geology,
Aristotle University of Thessaloniki

SPECIAL VOLUME 102



VIth International Conference on Mammoths and their Relatives

GREVENA
SIATISTA
GREECE 2014

ABSTRACT BOOK

Editors:
Dimitris S. KOSTOPOULOS, Evangelos VLACHOS, and Evangelia TSOUKALA

THESSALONIKI, MAY 2014

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

Philippe FOSSE ✉, Jean Baptiste FOURVEL, Stéphane MADELAINE, and Alain TURQ

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 *Praemegaceros solilhacus, Cervus acoronatus, Dama clactonia, Hemitragus bonali, Bison schoetensacki, 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 acoronatus and Praemegaceros solihacus (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 innominates). 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

Aouadi, N., 2001. New data on the diversity of Elephants (Mammalia, Proboscidea) in the Early and early Middle Pleistocene of France. In: Cavaretta G., Gioia M. Mussi M., Palombo M.R. (eds), The World of Elephants: Proceedings of the 1st International Congress. Roma, Consiglio Nazionale delle Ricerche, pp. 81-84.

Bonifay, E., Bonifay M.F., 1981. Le gisement préhistorique de Soleilhac (Blanzac, Haute-Loire). Le Bassin du Puy aux temps préhistoriques. Le Puy en Velay, Musée Crozatier, 19-36.

Bonifay, E., 1989. Les Premières industries préhistoriques en Europe. Le Temps de la préhistoire. Paris, Soc.Préh.fr., 2, 106-109.

Bonifay, E., 1991. Les premières industries du Sud-Est de la France et du Massif Central. In Bonifay E. & Vandermeersch B. (eds), Les Premiers peuplements humains de l'Europe, Paris, CTHS, pp. 63-80.

Bonifay, E., 2002. Les premiers peuplements de l'Europe. La Maison des Roches (ed), 124 pp.

Haynes, G., 1991. Mammoths, mastodonts, and Elephants. Biology, behavior and the fossil record. Cambridge Univers. Press, 413 pp.

Hill, A., 1979. Disarticulation and scattering of mammal skeletons. Paleobiology 5(3), 261-274.

Lacombat, F., 2005. Les grands Mammifères fossiles du Velay. Les collections paléontologiques du Plio-pléistocène du musée Crozatier, Le Puy en Velay. Annales des Amis du musée Crozatier 13-14, 208 pp.

Thouveny, N., Bonifay, E., 1984. New chronological data on European Plio-Pleistocene faunas and hominid occupation sites. Nature 308, 355-358.

Turq, A., Fosse P., 2012. Le site de Soleilhac (Haute Loire). In Turq A., Despriée J. Airvaux J., Texier P.J., Maureille B. (eds) La conquête de l'Ouest, il y a un million d'années en Europe. Les Eyzies de Tayac, Maison de l'histoire de France, Musée national de Préhistoire, Les Eyzies, pp. 138-140.

fosse@univ-tlse2.fr

Citation:
Fosse, P., Fourvel, J., Madelaine, S., Turq, A., 2014. Proboscideans (*Palaeoloxodon antiquus, Mammuthus meridionalis/trogontherii*) and first human settlements in France: taphonomic consideration from Soleilhac (Haute-Loire). Abstract Book of the VIth International Conference on Mammoths and their Relatives. S.A.S.G., Special Volume 102: 61.