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THE MACROVERTEBRATE ASSEMBLAGES FROM THE LOWER PLEISTOCENE SITES AT VENTA MICENA AND FUENTE NUEVA-3 (ORCE, SPAIN): FAUNAL COMPARISON WITH DMANISI (EAST GEORGIA) AND OTHER EUROPEAN SITES

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The comparative systematic study of those species of large mammals preserved in the Lower Pleistocene sites at Venta Micena and Fuente Nueva-3 (Orce, Guadix-Baza Basin, Southeastern Spain) has revealed a faunal assemblage which is clearly different to those of typical European Villafranchian and Galerian faunas.

The faunal composition of this assemblage includes a small number of European species of large mammals of Villafranchian age, such as *Mammuthus meridionalis, Stephanorhinus etruscus* and *Ursus etruscus.* However, most species were originated in Asia, especially in the case of ruminants (*Bos (cf. Dmanisibos) sp.*, Bovini gen. et sp. indet., *Praeovibos sp., Soergelia minor, Hemitragus alba,* Caprini gen. et sp. indet., *Megaloceros (Megaceroides) solilhacus* (*Eucladoceros giulii* in Kahlke, 1997), and Cervidae gen. et sp. indet.), and several others are immigrants to Europe from Africa (v.g., *Megantereon whitei, Pachycrocuta brevirostris,* and *Hippopotamus antiquus*). The origin of a few species, like *Equus altidens* or *Homotherium latidens*, has not been yet determined. The large canids (*Canis (Xenocyon) falconeri* and *Canis etruscus*) are evolved forms of their typical representatives from the Italian Villafranchian Units of Olivola and Valdarno.

The faunal composition of the macrovertebrate assemblages from the Orce sites is very similar to that of Dmanisi and also resembles that of Apollonia (Macedonia, Greece), Pirro Nord (Italy) and Untermassfeld (Germany). Taken all together, these assemblages allow to identify a biostratigraphical time interval placed between the last Villafranchian and the first Galerian, of which the most significant species would be *Megantereon whitei* and *Soergelia.* This biostratigraphic level is also related with the first arrival of the genus *Homo* in Europe (Martínez-Navarro & Palmqvist, 1995, 1996; Martínez-Navarro *et al.*, 1997).

The comparative study of the taphonomic relationships between Venta Micena, Dmanisi and Apollonia (all of them open-air stratified deposits) is promising, due to the important role played by scavenger carnivores in the bone-collecting process at these three sites. Until the present moment, only Venta Micena in Europe has been described as resulting from the accumulation of bones around the dens of the large, short faced hyaenid *Pachycrocuta brevirostris* (Palmqvist *et al.*, 1996; Arribas & Palmqvist, 1998); however, the evidence recently collected in Apollonia and Dmanisi suggests that bone-cracking activities of scavenger carnivores are at least as important, or even more, as in Venta Micena. The results of the behavior on bones of carrion-eaters in these three sites is evidenced in those anatomical regions of long bones which were preserved (v.g., the abundance of epiphyses is probably related to their structural density and the frequency of long bones which were preserved complete seems to be related with their marrow content) and specially in the craniodental remains, as deduced from the abundance of isolated maxillae with both tooth rows, which show a high density of gnawing marks, and craneal vaults of ruminants which preserve the base of horn. The systematic excavation made in Dmanisi will presumably allow to conduct detailed taphonomical and paleoecological studies in relation with the activities and competence between hominids and hyaenids during Lower Pleistocene times in Eurasia.

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