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Poster presentation

Deciphering the record of hyaenid activity in the Early Pleistocene site of Fuente Nueva-3 (Baza Basin, SE Spain)

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Fuente Nueva-3 (FN3) is an open air site, dated ~1.3-1.4 Ma. Their two archaeological levels preserve evidences of human presence, consisting in a huge assemblage of lithic artefacts and cuts and percussion marks on the bone surfaces. The lithic remains are associated with an abundant record of macromammals, among which, 16 different species can be distinguished, with a very wide size range, from proboscideans to small mustelids. Carnivores are represented, mainly, by isolated teeth, bellowing to canids, ursids, felids and hyaenids, and their activity is recorded by the presence of different tooth marks types. However, there

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exists an important difference in the carnivore record between both levels, consisting in the presence of more than 200 coprolites in the Upper Level, whereas in the Lower Level these elements are practically absent. For the identification of the defecating organism, different analyses have been performed. The morphological study evidences the presence of the seven shape-types of pellets, described by Diedrich (2012), although pellets present a predominance of round, oval and disk morphologies. The colour of hyena faeces is also very characteristic, being white when dried. Colour analysis of FN3 coprolites using the Munsell Chart of Soils shows a predominance of whitish and very pale brown tonalities. To determine the coprolites composition, the samples were studied by X-ray diffraction, X-ray fluorescence and Scanning Electron Microscopy. The results of these analyses have revealed that the coprolites mostly consist of calcium phosphate (fluor- and hydroxyapatite) and quartz; accompanied, occasionally, by calcite. These data are consistent with the expected composition of faeces in an organism that ingests a large amount of bones, in addition, macroscopic observation of the coprolites surface evidence the presence of numerous fragments of digested bones within them. All these features allow us to adscribe the FN3 coprolites to the hyaena *Pachycrocuta brevirostris*, species of which several teeth have been found at this site. This record manifests a great difference between both archaeological levels, showing in the Upper Level a scenario were hominin and hyaenids coexisted and competed for food resources, whereas in the Lower Level hyaenas were practically absent, and the main modifying agent was early *Homo*.

References

Diedrich, 2012. Typology of Ice Spotted Hyena *Crocuta crocuta* spelaea (Goldfuss, 1823) coprolite aggregate pellets from the European Late Pleistocene and their significance at dens and scavenging sites. In Hunt (ed) *Vertebrate Coprolites*, New Mexico Museum of Natural Hystory and Science, Bulletin 57.