
Environmental and vegetation reconstruction during MIS 5-6 at Cova Negra (Xàtiva, Valencia, Spain): the evidence from phytoliths

Irene Esteban^{*†1}, Aleix Eixea², and Valentín Villaverde²

¹University of Barcelona (UB) – Dept. History and Archaeology, Espagne

²University of Valencia – Dept. Prehistory and Archaeology, Espagne

Résumé

The Middle Paleolithic site of Cova Negra, in the Valencia region of Spain, is one of the richest Neandertal paleontological sites on the Iberian Peninsula. The archaeological evidence from Cova Negra indicates sporadic, short-term occupations of the site, suggesting a high degree of mobility among Neandertals (Villaverde et al., 1996). The Valencia region contains an abundant and valuable Middle Paleolithic archaeological record (Fernández Pérís and Villaverde, 2001) and it is one of the fifty-two putative refugia regions within the Mediterranean region (Quézel and Médail, 2003), what might lead to the high and continuous Neandertal occupation of this region along the Middle and Late Pleistocene. This paper reports on the preliminary results of the phytolith analyses from Level VIII of Cova Negra site, dating probably to the MIS 5-6 (Villaverde et al., 2014). We use phytoliths as a tool for paleoenvironment, paleoclimate and paleovegetation reconstruction of the Cova Negra region. These deposits consist of in situ ash remains from suspected natural fires. These ashy layers were most probably formed after the burning of the vegetation covering the rockshelter during periods of non-occupation. Two additional deposits underneath and above Level VIII (Levels IX and VII) were also studied for comparison. The results of the fossil phytolith assemblage from Cova Negra was later compared with a preliminary modern reference collection of surface soils and plants from the study area. Phytoliths were identified in high frequencies in all the archaeological samples from the different levels studied. FT-IR (Fourier Transform Infrared Spectra) detected calcite as the main mineralogical component and this was from an organic origin (wood ash). Eudicotyledonous plants both from the leaves and fruits dominated the phytolith assemblage in Level VIII. Despite wood ash calcite was the main mineralogical component detected in samples, wood/bark phytoliths were barely identified. Grasses and sedges were also well represented. Among grasses, grass silica short cells (GSSCs) from the rondel type were abundant. Bilobates were also detected but in much lesser numbers, and saddles were absent. Finally, diatoms and sponge spicules were identified in high numbers in most of the samples. Plants growing in humid environments where water was highly available might produce most of the phytoliths identified in these layers. This phytolith assemblage was indicative to us of the presence of a deciduous forest and a temperate and humid environment in Cova Negra area during the time of deposition of Level VIII.

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*Intervenant

†Auteur correspondant: irene.esteban.alama@gmail.com

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Mots-Clés: Middle Paleolithic, Neandertal, Riparian vegetation, Paleoenvironment, Paleoclimate, Paleovegetation, FTIR