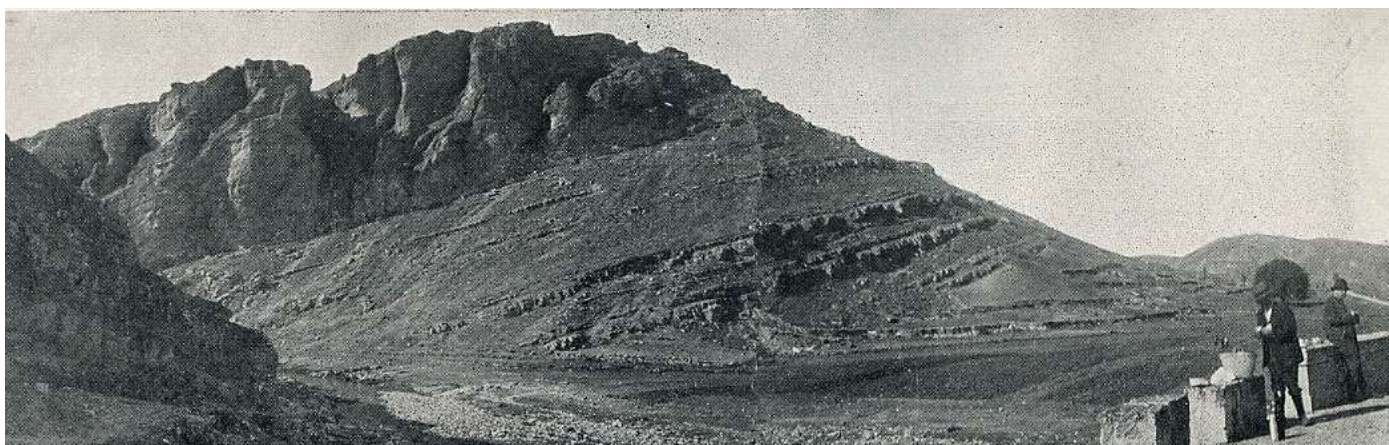




V CONGRESO DEL CRETÁCICO DE ESPAÑA

García-Hidalgo, J.F., Gil-Gil, J., Barroso-Barcenilla, F.,
López Olmedo, F. y Díaz de Neira, J.A. (Editores)



VEGETAL PRESERVATION IN THE “LO HUECO” FOSSIL SITE (CUENCA, SPAIN)

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“Lo Hueco” fossil site, formed by alternated flooding and drying depositional events, has been proposed as a *Konzentrat-Lagerstätten* (Cambra-Moo et al., 2013). A huge fossil sample representing a large variety of taxa (vertebrates, invertebrates and plants) has been recovered from the outcrop, and nowadays, this fossil association represents an important extinct biota from the Upper Cretaceous (Upper Campanian-Lower Maastrichtian) of the Iberian Peninsula. Vertebrates and invertebrates are exclusively represented by biomineralized tissues or moulds (invertebrates) that in the case of vertebrates appeared in an excellent state of preservation (microscopic characteristic could be easily observable). However, vegetal remains present different modes of preservation, becoming exceptionally well-preserved by atypical fossilization processes that maintain intact several areas of labile tissues. On one hand, leaves, stems and roots become typically carbonified. On the other hand, woody remains (trunks and branches), present unusual modes of preservation. In order to assess these processes laboratory microscopic observations of these remains, and detailed microscopic, X-ray diffraction (XRD) and X-ray fluorescence (XRF) analyses has been carried out. Those remains that were subaerial or sub-aquatically exposed (oxic conditions) became intensely altered and also affected by carbonification, however, the major part of the organic tissues became partially or completely mineralized in gypsum and enclosed by a ferruginous crust. Woody remains that were rapid buried (anoxic conditions), trapped resinous material in the inner area of tracheids and in parenchyma cells, experiencing a low degree of maturation and safeguarding labile tissues from degradation. Silicification or carbonification processes are largely common in vegetal remains preservation, however, the mineralization in gypsum or the sealing by resinous material, are unusual patterns of preservation in vegetal remains, and can be considered as exceptional. In fact, it is the first fossilized wood in gypsum reported in the Upper Cretaceous record, and one of the scarce findings in the world (Swezey et al., 1999).

Acknowledgements: Research projects PEIII1-0237-7926 of the Junta de Castilla-La Mancha, and CGL2009-12008, CGL2011-25894 and CGL2012-35199 of the Ministerio de Ciencia e Innovación, Spain.

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