

# Preliminary data of paleoflora remains from Escucha Formation (Albian) in Santa María Mine of Ariño (Spain)

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The deposits corresponding to the Escucha Formation in the Santa María Mine of Ariño yielded abundant flora and fauna remains with more than 5,000 bones and remains of six specimens of a new dinosaur of basal iguanodontians (Alcalá et al. 2012; McDonald et al. 2012). This is one of the most important single layer deposit (called AR-1) in the world with a high concentration of fossils including dinosaur remains (bones, egg shell fragments), turtles, crocodiles, fishes, invertebrates (i.e., bivalves, gastropods, ostracods, insects) and plants (i.e., amber, pollen, charophyte oogonia, bacteria, palynomorphs) (Alcalá et al. 2012). The collaboration between the Fundación Conjunto Paleontológico de Teruel- Dinópolis (FCPTD) with Sociedad Anónima Minera Catalano-Aragonesa (SAMCA Group), which has been extracting coal in Ariño (Teruel) since 1919, has allowed the extraction of exceptionally well-preserved fossils.

Plant remains from AR-1 are described in this study for the first time. Messoflora remains include, fragments of axis corresponding to form-genus *Cyparyssidium*, charred wood of *abietineus* conifer with different stages of fusion of lamellae and charred fern pinnules of *Weichselia*, showing stomata, internal structure of the pinnule and soral clusters of the same taxon. Inside the sori the material has not been affected by the fires showing the massive globular spore concentrations that occupy completely the sorus. These spore masses present the spores in different stages of maturity as previously reported by Diez et al. (2005).

AR-1 level yielded a low diversity, well-preserved and rich palynomorph assemblage that presents a very particular sedimentary depositional environment. This fact is indicated by the numerous taxa indicative of freshwater environments such as *Ovoidites* and other continental algae (Zippi 1998).

The assemblage is mainly constituted by gymnosperm pollen grains represented by the conifer pollen genus *Classopollis* (Family Cheirolepidiaceae), gymnosperm genera *Inaperturopollenites* and *Spheripollenites*, *Araucariacites australis* Cookson ex Couper and *Taxodiaceapollenites hiatus* (Potonié) Kremp. Moreover, the spores are represented by a rather high percentage of the genera *Cyathidites*, *Deltoidospora* and schizaeaceous spores (genera *Plicatella*, *Cicatricosisporites* and *Klukisporites*). The

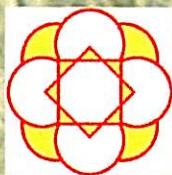
pollen grains are represented by several monosulcate/monocolpate pollen grains of the genera *Asteropolis*, *Pennipollis*, *Retimonocolpites* and *Transitoripollis*.

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