**New evidence from the Devonian dispersed spore record of the Iberian Peninsula: implications in our conception of the Rheic Ocean**

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The palynological fieldworks developed during the last 4 years in the Iberian Chains (NW Iberian Peninsula) have led to the discovery of important Devonian spore assemblages. This high spore diversity, together with the previous studies performed from the Cantabrian Mountains (N Iberian Peninsula) and the Pyrite Belt (SW Iberian Peninsula), represent a valuable source of information for studying the Devonian biodiversity of the Peninsula. This scenario plays a crucial role for a better understanding of the palaeogeographic position of the Iberian Peninsula and the dynamics of the Rheic Ocean. According to current reconstructions, the Iberian Peninsula was located in an intertropical position during the Early Devonian, having Gondwana affinities and being separated from Laurasia by the Rheic Ocean. It is therefore commonly accepted that, until its closure at the end of the Devonian, the Rheic Ocean represented a natural barrier between the land plant species. Recent works however reconsider the hypothesis of a large Rheic Ocean during the Early Devonian (see e.g. Dupret et al., 2011 and references therein), opening up the possibilities for new models. Miospores can be used to test several hypotheses such as e.g. an earlier closure of the Ocean that would have allowed the exchange of species between the Peninsula and Laurasia during the Early Devonian. This communication aims to reflect the current state of the studies carried out in the Iberian Chains and their possibilities to be used as key element for a better understanding of the spore dispersion during the Devonian.

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Dupret, V., Carls, P., Martínez-Pérez, C. & Botella, H. (2011). First Perigondwanan record of actinolepids (Vertebrata: Placodermi: Arthrodira) from the Lochkovian (Early Devonian) of Spain and its palaeobiogeographic signiﬁcance. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 310: 273-282.