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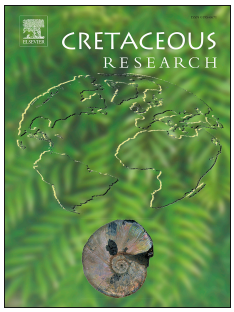

Distribution of Albian dinoflagellate cyst associations along a proximal–distal transect across the Iberian margin

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Distribution of Albian dinoflagellate cyst associations along a proximal – distal transect across the Iberian margin

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Abstract

The analysis of Albian dinoflagellate cysts, or dinocysts, along an inshore – offshore transect across the Iberian Margin reveals the environmental influence on the assemblages composition. Two biodiversity metrics are used to analyze changes in the assemblage structure. The stress associated to environmental instability is identified as the main factor influencing the dinocyst biodiversity. The relative frequency distribution of dinocysts is analyzed to identify associations of taxa sharing similar environmental preferences. Seven dinocyst associations are identified. The environmental affinities of the seven dinocyst associations are inferred from lithological data and assemblage structure. Association 1 dominated the most proximal and unstable environments. Associations 2 and 3 characterized inner-middle neritic environments. Taxa in the Association 2 preferred stable mesotrophic conditions, whereas, taxa in the Association 3 were tolerant to variations in salinity and nutrient input. Associations 4 and 5 are indicative of open marine distal environments. Taxa in the Association 4 were tolerant to limited environmental fluctuations. Taxa in the Association 5 were restricted to stable open marine conditions. The widespread distribution of taxa in the Association 6 is interpreted as revealing their ubiquitous character. The taxon in the Association 7 is considered as cosmopolitan because its widespread distribution was conditioned to nutrients availability.

Keywords: dinocyst; Cretaceous; Lusitanian Basin; DSDP Hole 398D; paleoenvironment; statistical significance