



## **A temporary pond in the Early Cretaceous of southern England: palaeoclimatic implications of nonmarine “Purbeck-Wealden” ostracod faunas**

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Excavation of a partial *Iguanodon* skeleton from the Upper Weald Clay (Barremian, Early Cretaceous) of southern England included detailed micropalaeontological and palynological studies (Nye et al., in press). Rich non-marine assemblages of pollen and spores include early angiosperms as well as freshwater green algae. The ostracod assemblages are autochthonous thanatocoenoses, indicative of local environment at the time of deposition. Using a palaeobiological approach, the ostracods and paly-nomorphs demonstrate temporary / ephemeral freshwater conditions. Ostracod “faunicycles” in “Purbeck-Wealden” deposits may represent salinity variations in non-marine water-bodies, influenced by the balance between precipitation and evaporation, and/or the relative abundance of permanent and temporary waterbodies in the landscape; many assemblages resulted from post-mortem mixing, perhaps during flood events (Horne, 2002). Faunal alternations may therefore reflect shifts of the boundary between warm temperate and paratropical climate in the Early Cretaceous of NW Europe. The previously rejected possibility that such assemblage variations record Milankovitch cyclicity deserves to be reconsidered.

Horne, D. J. 2002. Ostracod biostratigraphy and palaeoecology of the Purbeck Limestone Group in southern England. *Special Papers in Palaeontology*, 68, 1–18, 2 pls.

Nye, E., Feist-Burkhardt, S., Horne, D. J., Ross, A. J. & Whittaker, J. E. (in press) The palaeoenvironment associated with a partial *Iguanodon* skeleton from the Upper Weald Clay (Barremian, Early Cretaceous) at Smokejacks Brickworks (Ockley,

Surrey, UK), based on palynomorphs and ostracods. *Cretaceous Research...*