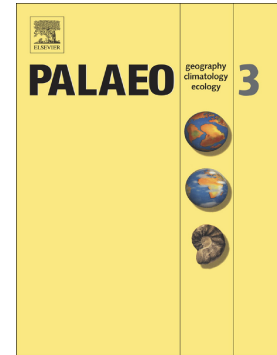


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Skeletal microstructure of uintacrinoid crinoids and inferences about their mode of life

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ABSTRACT

Uintacrinoids (Uintacrinoida) are among the most bizarre of all the crinoids. These stratigraphically important Late Cretaceous crinoids are characterized by an atypical large stalkless globular cup without cirriferous centrodorsal and extremely long arms. Owing to this unusual morphology, the mode of life of these crinoids has confused palaeontologists for more than a century. While uintacrinoids have been commonly regarded as pelagic forms, either swimming actively or floating passively by means of a putative buoyancy mechanism, some recent authors have favoured a benthic mode of life. However, evidence supporting a benthic lifestyle hypothesis is still limited. Here we describe the stereom microstructure of *Marsupites* and *Uintacrinus*. In *Marsupites*, thecal plates are typically comprised of coarse to medium, clearly structural, galleried stereom, which alternates with zones of fine and

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