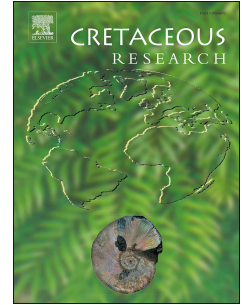


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An integrated microcrinoid zonation for the lower Campanian chinks of southern England, and its implications for correlation

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An integrated microcrinoid zonation for the lower Campanian chalks of southern England, and its implications for correlation.

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ABSTRACT

Detailed logging, sampling and processing of Lower Campanian chalks in Sussex, Hampshire, Isle of Wight, Wiltshire and Dorset (United Kingdom) have revealed the presence of a distinctive succession of pelagic microcrinoid faunas, including 25 species and forms of the order Roveacrinida. These occur through the *Offaster pillula* and *Goniot euthis quadrata* zones and provide the basis for a new zonation characterized as CaR1-CaR11. Together with horizons of abundance and distinctive forms of the holasterid echinoids *Hagenowia*, *Echinocorys* and *Offaster* and limited microbrachiopod data, these provide a detailed biostratigraphical framework which allows independent assessment of correlations based primarily upon marker beds (marls, flints etc). The new biostratigraphy confirms and further constrains the detailed correlation of the *Offaster pillula* Zone (Newhaven Chalk Formation), but proposes a new correlation framework for the overlying *Goniot euthis quadrata* Zone (uppermost Newhaven, Culver and Portsdown chalk formations). A new genus of Saccocominae (*Assericrinus* gen nov., type species *A. portusadernensis* sp .nov.), two new species of *Saggitacrinus* (*S. alifer* sp. nov. and *S. longirostris* sp. nov.), a new form of *Applinocrinus* (*A. cretaceus* forma *spinifer* nov.), a new form of *Stellacrinus*, *S. hughesae* forma *lineatus*, and two new species of *Hessicrinus* (*H. cooperi* sp. nov. and *H. apertus* sp. nov.) are described. It is likely that the roveacrinid zonation will be applicable internationally, given that many of the species are also present in the Campanian of the Gulf Coast of the USA.

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