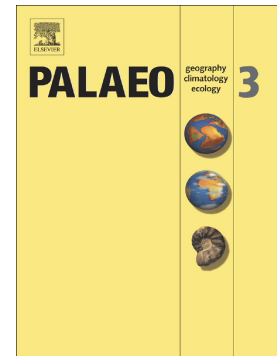


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Abundance and size changes in the calcareous nannofossil *Schizosphaerella* – relation to sea-level, the carbonate factory and palaeoenvironmental change from the Sinemurian to earliest Toarcian of the Paris Basin

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Abstract:

Abundance and size changes in the calcareous nannofossil *Schizosphaerella* are investigated throughout the upper Sinemurian to lowermost Toarcian of the Sancerre-Couy core (Paris Basin). Measurements from 116 samples are compared to 487 and 411 measurements of CaCO₃ content and total organic carbon (TOC) content, respectively. Our results confirm that *Schizosphaerella* was better adapted to proximal areas than coccoliths as expressed by the stepwise rise in abundance of *Schizosphaerella*, followed later on by the rise in abundance of coccoliths during the major transgression of the Sinemurian. The new results show that changes in the size of *Schizosphaerella* were mostly a response to Early Jurassic temperature variations (coldhouse-greenhouse changes). Large average sizes of *Schizosphaerella* correspond mostly to proximal, cool environmental conditions of the late Sinemurian. Medium average sizes correspond to more distal conditions and cool surface waters whereas small average sizes are associated with warm episodes. These results suggest that the size response of *Schizosphaerella* to the early Toarcian Oceanic Anoxic Event and to preceding environmental perturbations of the Early Jurassic was probably not a physiological

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