

***Schizosphaerella* size and abundance variations across the Toarcian Oceanic Anoxic Event in the Sogno Core (Lombardy Basin, Southern Alps)**

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Abundance and size variations of nannofossil *Schizosphaerella punctulata* were quantified in the uppermost Pliensbachian–Lower Toarcian succession recovered with the Sogno Core (Lombardy Basin, Northern Italy). High-resolution nannofossil biostratigraphy and C-isotopic chemostratigraphy identified the Jenkyns Event within the Toarcian oceanic anoxic event (T-OAE) interval. Absolute abundances and morphometric changes of “small *S. punctulata*” (< 7 µm), *S. punctulata* (7-10 µm; 10-14 µm; > 14 µm) and “encrusted *S. punctulata*” (specimens with a fringing crust) show large fluctuations across the negative C-isotopic Jenkyns Event. The *Schizosphaerella* crisis is further characterized by a decrease in average valve size in the early–middle Jenkyns Event. The abundance fall was caused by the failure of *S. punctulata* specimens > 7 µm and “encrusted *S. punctulata*” that along with the increased relative abundance of small specimens, produced the reduction of average dimensions also documented in the Lusitanian and Paris Basins, although with a diachronous inception. The average valve size from the Lombardy Basin is ~2 µm smaller. Hyperthermal conditions associated with excess CO₂ and ocean acidification possibly forced the drastic reduction of *S. punctulata* abundance/size. In the pelagic succession of the Sogno Core there is a strong positive correlation between the *S. punctulata* (> 7 µm) absolute abundance/size and the CaCO₃ content, with a negligible contribution by “small *S. punctulata*”. Encrusted specimens testify selective neomorphic processes: the diagenetic crust seems diagnostic to separate *S. punctulata* from *S. astraea*.