Late Cretaceous (Campanian–Maastrichtian) calcareous nannofossils from ODP Site 762: Evolution of the genus *Eiffellithus*

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Well-preserved Campanian to Maastrichtian nannofossil assemblages from ODP Hole 762C (19°53.24'S, 112°15.24'E) confirm the evolution and final history of the genus *Eiffellithus* before its ultimate extinction at the Cretaceous–Palaeogene boundary. Following the radiation of the genus in the Late Albian–Cenomanian and then its decline, only a few species dominated the Late Cretaceous, with only three species first appearing in the Late Campanian. Quantitative analyses of a total of 69 samples suggests a continuous, expanded record in the core, which is ideal for biostratigraphic resolution and the investigation of *Eiffellithus* evolution.

In this paper, we used the species *E. paralleus*, *E. eximius* and *E. gorkae*, using the application of their biostratigraphic utility as described in Shamrock and Watkins (2009), and found that deposition occurred during the Late Campanian to Late Maastrichtian (Zones CC22–CC26 and UC16–UC20). The quantitative nannofossil study recovered 71 species, and *E. turriseiffelii, Prediscosphaera cretacea, Micula staurophora*, *Watznaueria barnesiae* and *Broinsonia* spp. dominated the assemblages. In addition, the pattern of diversification of the assemblages and the abundance patterns of the taxa may be related to the Late Cretaceous climate cooling that began in the Campanian, and to the palaeoceanographic regime in austral provinces, when Site 762 was located at an estimated palaeolatitude of 43°S (Thibault et al., 2012).

References

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