

Eocene to Early Oligocene calcareous nannofossils from western and central Cuba

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Eocene and Oligocene calcareous nannofossils, planktonic foraminifera and larger benthic foraminifera were studied from a few sections in western and central Cuba. The Eocene–Oligocene boundary in the Noroña section had previously been documented using planktonic foraminifera (Molina et al., 2015).

Calcareous nannofossil assemblages were very common and very well preserved in the Noroña section, with a dominance of the species *Cyclicargolithus floridanus* and the regular occurrence of the species *Bramletteius serraculoides*, *Blackites spinosus*, *Coccolithus formosus*, *C. pelagicus*, *Lanternithus minutus* and *Zygrhablithus bijugatus*. Discoasters were represented by *Discoaster barbadiensis*, *D. deflandrei*, *D. gemmeus*, *D. gemmifer*, *D. saipanensis*, *D. tanii* and *D. tanii ornatus*. Among the reticulofenestrids, the most common and regularly-occurring species were *Reticulofenestra bisecta*, *R. hillae*, *R. stavensis* and *R. umbilicus*, while the sporadically occurring species were *R. dictyoda*, *R. lockeri*, *R. minuta* and *R. scrippsae*. Helicoliths were represented by *Helicosphaera bramlettei*, *H. compacta*, *H. euphratis*, *H. reticulata* and *H. seminulum*. *Sphenolithus moriformis* and *S. predistentus* occurred in all samples. The lower part of the section was assigned to the Late Eocene Zones NP19–20/CP15, based on the co-occurrence of *Sphenolithus pseudoradians*, *Isthmolithus recurvus*, *Discoaster barbadiensis* and *D. saipanensis*. *Clausiococcus subdistichus* was absent or occurred only very sporadically and thus could not be used for biostratigraphic purposes. *Coccolithus formosus*, the last occurrence of which defines the top of Zones NP21/CP16a, was present throughout the entire section. The occurrence of the typical Early Oligocene taxon *Sphenolithus tribulosus* in the middle part of the section indicated an Early Oligocene age.

References

Molina, E., Torres-Silva, A., Ćorić, S. & Briguglio, A. 2015. Integrated biostratigraphy across the Eocene/Oligocene boundary at Norona, Cuba, and the question of the extinction of orthophragminids. *Newsletters on Stratigraphy*, **49**(1): 27–39.