

Albian–Cenomanian calcareous nannofossils from DSDP Site 364 (Kwanza Basin, Angola): Biostratigraphic implications for the South Atlantic

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The Early Cretaceous is described in the literature as the last expression of the Gondwana fragmentation, thus representing a fundamental time interval for understanding the geological evolution of the South Atlantic (e.g. Kennedy & Cooper, 1975; Koutsoukos & Dias-Brito, 1987). In the South Atlantic, biostratigraphic studies using calcareous nannofossils are scarce, and the zones utilised for them are outdated in light of current knowledge regarding Albian guide species. Important taxonomic revision studies of the guide species *Prediscosphaera cretacea* and *Eiffellithus turriseiffelii* have been published (e.g. Kennedy et al., 2000; Watkins & Bergen, 2003), which significantly aid in the identification of these species, and thus refine their use in biostratigraphic interpretations. This study analysed 72 samples from Site 364 of DSDP Leg 40, which was drilled in the Kwanza Basin, Angola. According to Bolli et al. (1978), the studied interval is composed predominantly of limestone and black shales from cores 42 to 26. Smear-slides were prepared following the double slurry method (Watkins & Bergen, 2003). The biostratigraphic analysis was based on Sissingh (1977), Perch-Nielsen (1979, 1985), Bown et al. (1998) and Burnett et al. (1998). A total of 103 taxa were identified. The basal interval contains *Prediscosphaera columnata* and the bases of *Hayesites albiensis*, *Tranolithus orionatus*, *Axopodorhabdus biramiculatus* and *Eiffellithus monechiae*, which indicate an Albian age. The stratigraphic interval between the base of *Eiffellithus turriseiffelii* and the top of *Watznaueria britannica* was interpreted as Late Albian–Early Cenomanian. A Middle–Late Cenomanian age was inferred by the occurrences of *Cretarhabdus striatus*, *Eiffellithus perch-nielseniae*, *Rhagodiscus asper* and *A. biramiculatus*. The observed assemblages have a subtropical-tropical affinity, which can be considered indicative of the Albian–Late Cenomanian interval and of a surface-water connection between the central and South Atlantic segments. This project was sponsored by IODP/CAPES grant 8888.091703/2014-01.

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