

Campanian nannofossil biostratigraphy from Mississippi (Gulf of Mexico) and correlations to northwest Europe, southwest France and Tunisia

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Upper Santonian to lower Maastrichtian nannofossils investigated in the DCH-1 Foun Farms Corehole (Noxubee County), and a composite of 14 outcrop sections from central Mississippi, demonstrate the potential in Campanian calcareous nannofossil biostratigraphy and the possible significance of the Gulf Coast region in global correlation. The exceptional preservation of recovered nannofossil assemblages and geographic-location-optimized biostratigraphic resolution; sample density and analysis-time-limited results. Eighty Campanian nannofossil events were reproduced between the core and composite outcrop section. Approximately 37 new species were observed in this material, of which eleven were utilized for biostratigraphy. Lineages in the families Arkhangelskiellacae, Chistozygaceae, Polycyclolithaceae, and Stephanolithiaceae are presented.

The boundaries of the Campanian were constrained by analyses of: (1) the Campanian/Maastrichtian GSSP section of Tercis les Bains, southwest France; and (2) Santonian/Campanian boundary sections in southern England (Whitecliff), Texas (Waxahachie), and Mississippi (Plymouth Bluff) containing the boundary fossil criterion, the extinction of the crinoid *Marsupites testudinarius*.

The Mississippi sections contain flora with both high- and low-latitude affinities, but also many cosmopolitan taxa. Latitudinal segregation first observed during the early Campanian had become more severe near the close of the Campanian, making it difficult to correlate between sections in northwest Europe (southern England, Netherlands, North Sea) and low latitudes (southwest France, Tunisia). Nanofossil events in these eastern circum-Atlantic low- and high-latitude sections could be correlated to, and directly integrated within, the Mississippi succession.