

## The 'Micula acme' during Oceanic Anoxic Event 3 (Coniacian–Santonian)

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Oceanic Anoxic Event (OAE) 3 has been identified in the Coniacian–Santonian interval. However, it differs from previous OAEs in that it is only of regional extent, as documented by the deposition of black shales in the equatorial to mid-latitude Atlantic Ocean and, in part, adjacent basins. OAE 3 is not associated with a distinctive  $\delta^{13}\text{C}$  anomaly, and the temporal distribution of the organic-carbon-rich sediments appears to be diachronous.

With the aim of assessing the impact of OAE 3 on calcareous nannoplankton, a biostratigraphic and quantitative analysis of ODP/DSDP sites situated in the Demarara (ODP Site 1261), Angola (DSDP Site 364), and Guinea (ODP Site 959) Basins (Atlantic Ocean) was conducted. The results showed that there were distinctive phases of enrichment in *Micula* spp., primarily in Zones CC14 and CC17 of Late Coniacian and Late Santonian age. The genus shows correlatable abundance maxima, although with different values in different locations. The highest percentages were detected at ODP Site 959. The study was extended into the Indian Ocean, and ODP Site 763 (Exmouth Plateau) and the Tanzania Drilling Program Site 39 (TDP39) were sampled. Here, *Micula* spp. showed minor increases in abundance compared to the Atlantic sites.

In addition to increases in abundance of the *Micula* group, we also detected peaks of *Marthasterites* (up to 50%) in the Early Coniacian at the supposed onset of OAE 3 and just prior to the oldest *Micula* pulse. The shifts in nannofossil composition suggest unusual oceanographic conditions, although the palaeoecological affinity of *Micula* and *Marthasterites* remains to be assessed.