

New data on the *Stilostomella*-event in the North Atlantic from IODP Expedition 339

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The “*Stilostomella*-event” refers to the step-wise extinction of deep-sea benthic foraminifera with elongate, cylindrical tests (*Stilostomellidae*, *Pleurostomellidae* and some *Nodosariidae*) during the Mid-Pleistocene Transition (1.2-0.6 Ma; Hayward, 2002; Kawagata et al., 2005). The event has been described from the Atlantic, Indian and Pacific Oceans and is considered one of the major turn-over events in benthic foraminiferal communities during the Cenozoic. The timing and underlying causes of this global event are still a matter of debate. Shipboard data collected from Pleistocene sediments during IODP Expedition 339 further document the extinction event in the North Atlantic and allow comparing foraminiferal records from different water depths.

Initial analysis of the foraminiferal assemblages reveal clear differences in the abundance of various stilostomellid, pleurostomellid and nodosariid species between the deeper sites along the Western Iberian Margin (1085-2289m) and the shallower sites in the Gulf of Cadiz (577-991m). Consequently, different patterns of extinction can be observed in the two areas. Stratigraphic constraints from calcareous nannoplankton and magnetostratigraphy as well as calculated sedimentation rates suggest that the extinction datum falls within the time-span of c. 0.5-0.8 Ma at all sites. This estimate is in good agreement with previous reports from the ODP sites 980 and 982 in the North Atlantic (Kawagata et al., 2005).

More detailed post-cruise work on the foraminiferal assemblages, paleoceanographic proxies and stratigraphy will improve our understanding of the timing and the underlying causes of the observed extinction patterns.

References

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