

Variations in calcareous nannofossil assemblages during the Paleocene–Eocene transition on the Moesian Platform, Bulgaria: Constraints and significance for a low- to mid-latitude record of the PETM

Kristalina Stoykova

Bulgarian Academy of Sciences, Geological Institute, 1113 Sofia, Bulgaria; stoykova@geology.bas.bg

Marin Ivanov

Sofia University, 'St. Kliment Ohridski', Faculty of Geology and Geography, 1000 Sofia, Bulgaria; mivanov@gea.uni-sofia.bg

Georgi Grančovski

Bulgarian Academy of Sciences, as above; georgi2801@geology.bas.bg

Previous studies have identified a drastic shift in calcareous nannofossil composition in two Bulgarian sections – Bozhuritsa and Riben – that are situated in the central part of the Moesian Platform of northern Bulgaria (Stoykova & Ivanov, 2005). Biostratigraphic analyses indicate that the sampled sections (Zones NP9 to NP10) provide insights into the biotic response of nannoplankton communities to the remarkable global warming event – the Paleocene-Eocene Thermal Maximum (PETM). Variations in calcareous nannofossil assemblages before, during and after the PETM were examined through high-resolution sampling of the targeted interval. Two dissolution zones, the first at the onset of the PETM (NP9b) and the second in the lowermost Eocene (NP10), were almost barren of calcareous nannofossils. Moreover, the negative $\delta^{13}\text{C}$ excursion interval contained a warm-water assemblage, including *Rhomboaster* spp., *Toweius serotinus* and rare *Discoaster araneus*. The variations in calcareous nannofossil assemblages in Bulgarian sections are fully comparable to those reported worldwide (e.g. Angori et al., 2007; Self-Trail et al., 2012) for low- to mid-latitude records of the PETM. The sedimentology of the studied successions suggests that deposition likely took place in a middle shelf setting.

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