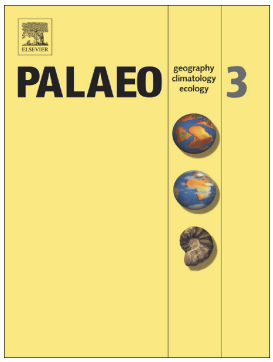

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Foraminiferal response to the PETM recorded in the SW Tarim Basin, central Asia

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Abstract: The Paleocene/Eocene (P/E) boundary interval is the most significant climatic transition during the Cenozoic, when the PETM (Paleocene Eocene Thermal Maximum) caused rapid warming and severe fluctuation of the Earth system, especially in marine settings. The SW Tarim Basin represents a distal branch of the NE Tethys, exposing Paleocene to Eocene successions that include the Qimugen Formation and provide optimal section for investigating the P/E boundary transition. By detail field-based lithological records and the planktonic and benthic foraminiferal assemblage analysis, the P/E boundary was redefined within the black mudstone bed of the Qimugen Formation. The planktonic foraminiferal assemblages recorded in the Qimugen Formation may be subdivided into four biozones, including bioevents of *Globanomalina pseudomenardii*, *Globanomalina luxorensis* and *Pseudohastigerina wilcoxensis*. Planktonic foraminiferal turnover is marked by the cool water subbotinids disappearence, give way to warm water muricate taxa, co-varying with the gradual disappearance of benthic foraminifera. The foraminiferal assemblages together with other identified microfossils suggest a shallow marine environment in which transgressions related to the sea level fluctuation of the Tethyan Domain took place in the Paleocene to Eocene boundary interval.

Keywords: Paleocene/Eocene boundary, foraminiferal biostratigraphy, northeastern