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Uppermost Permian trace fossils along a shelf to slope transect in South China and their implications for oceanic redox evolution and extinction pattern

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Abstract

Trace fossils are important evidence of benthic activity and proxies of bottom and interstitial water oxygen content, making them a promising tool to understand the oceanic redox evolution and extinction patterns during the end-Permian mass extinction (EPME). Detailed bed-by-bed ichnologic studies were performed at a high-resolution scale from two uppermost Permian sections (Shangsi and Dongpan) in South China, documenting the presence of *Chondrites targionii*, *Chondrites* isp., *Nereites* isp., *Planolites* isp. A, *Planolites* isp. B, *Palaeophycus* isp., *Phycosiphon incertum*, *Thalassinoides* isp., and *Zoophycos* isp. The uppermost Permian strata at the Shangsi section mainly comprise siliceous limestone interbedded with illite-montmorillonite claystone and shale, recording a deep shelf setting. The uppermost Permian strata at the Dongpan