Diverse mollusc assemblages from the early Triassic (Griesbachian) of South China

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In the Guangxi part of the Nanpanjiang Basin (South China), the latest Permian thick-bedded peri-reefal/shallow water limestone is commonly overlained by Early Triassic (Griesbachian) microbial limestone. We report here on new fossiliferous lenses discovered within the microbial limestone. These shelly accumulations form distinct intercalations between domes of microbial limestone. Such coquinoid lenses are interpreted as material washed in and trapped between the domes. They contain bivalves, gastropods, brachiopods and occasional ammonoids and ostracodes. Lenses from the new Wuzhuan section are dominated by bivalves; however the subordinate fauna contains gastropods, brachiopods and ostracodes. Thirteen species of bivalves were recovered from the Wuzhuan lenses. *Towapteria schyhtica* is one of the dominant species. Other bivalves include *Bakevellia* sp., *Claraia* cf. *liuqiaoensis*, *Astartella* sp., and *Streblopteria* sp. nov., among others. At the genus level, five are long-ranging survivors, four are late Permian holdovers and four first appear in the Griesbachian. From Shanggan, an unusually diverse mollusk fauna with high evenness of species abundances was first described by Kaim et al. 2010 and Hautmann et al. 2011. There, eleven bivalve species were obtained from a single lens. Among the thirteen bivalve species from Wuzhuan, only a single one is shared with the Shanggan fauna, thus yielding a total of 24 species of bivalves for the benthic faunas of the microbial limestone in this area. This reflects a high diversity and evenness of the benthic fauna from the microbial limestone already in the Griesbachian. Sediments enclosed within the basal Triassic microbial limestone documents the first recovery episode of benthic ecosystems in the immediate aftermath of the end-Permian mass extinction.