

Rugose corals and brachiopods across the Frasnian-Famennian boundary in central Hunan, South China

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We present taxonomic revision of rugose corals and brachiopods from several Frasnian-Famennian (F-F) boundary sections in central Hunan Province, China. Diversity of shallow-water rugose corals gradually increased during the Frasnian, but ended with sudden extinction near the end of Frasnian. Ostracods were abundant during the Frasnian; their extinction coincided with anoxic deposition of the end-Frasnian black shale deposits. The early Famennian ostracod fauna is of low diversity. The brachiopod fauna of the late Frasnian (*Palmatolepis rhenana* and *Pa. linguiformis* zones) is dominated by atrypids, small-sized cyrtospiriferids, and the rhynchonellid *Hunanotoechia*. All atrypids disappeared before the F-F boundary with highest rates of extinction below the boundary (probably low in the *Pa. linguiformis* Zone). The Frasnian cyrtospiriferid fauna is also of low diversity and dominated by small taxa. All but one of the cyrtospiriferid taxa crossed the F-F boundary. The early Famennian post-extinction recovery brachiopod fauna was the result of rapid radiation of new forms shortly after the terminal Frasnian event. The early Famennian fauna is characterized by diverse cyrtospiriferids, abundant *Yunnanellina* and productoids. Above the early recovery fauna another fauna was recovered, with brachiopods *Huanospirifer* and *Yunnanella* and is correlated with the late or latest *Pa. crepida* Zone. *Sinalosia rugosa* gen. et sp. nov. (Productida) is erected.

Key words: Rugosa, Ostracoda, Brachiopoda, Frasnian, Famennian, extinction, Hunan, China.

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