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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-Fammenian (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 Hunanospirifer 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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