

## Post-extinction survivor fauna from the lowermost Famennian of eastern North America

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An earliest Famennian (Late Devonian) shell bed was discovered in the Hanover Shale Member of the Java Formation 1.4 meters above the Frasnian-Famennian (F-F) boundary in western New York. The invertebrate shelly fauna of the shell bed (Lower *Palmatolepis triangularis* conodont Zone), provides information on taxonomy of an outer shelf benthic association during the survival interval of recovery in the Appalachian foreland basin soon after the terminal Upper Kellwasser event marking the F-F mass extinction. Shelly invertebrates are extremely rare in the upper Hanover immediately above and below the shell bed. Abundance of brachiopod valves and remains of other groups in the shell bed reach 80-100 valves/100 cm<sup>2</sup>. Elongate valves of the linguloid brachiopod *Barroisella* cf. *B. campbelli* have preferred alignments roughly parallel to direction of down-slope flow in the deep-water foreland basin depositional setting. The brachiopod fauna is dominated by the representatives of *Retichonetes*, *Barroisella*, *Cyrtospirifer*, *Tylothyris*, and *Praewaagenoconcha*. Rare elements include species of *Thiemella*, *Schizophoria*, *Ripidiorhynchus*?, *Chapinella*?, an indeterminate rhynchonellid, *Ambocoelia*, and extremely rare *Orbiculoidea*. Forms including *Cyrtospirifer hornellensis*, *Tylothyris mesacostalis*, *Praewaagenoconcha speciosa*, and few others are late Frasnian carryovers. The range inception of *Thiemella leonensis* is just above the F-F boundary (Upper Kellwasser horizon) in the upper Hanover Shale shell bed in the western Appalachian foreland basin.

**Key words:** Brachiopoda, Conodonta, extinction, survivor fauna, Frasnian, Famennian, North America.

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