

Trepostome bryozoans encrusting Silurian gastropods: A taphonomic window and its implications for biodiversity

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Silurian turreted gastropods from the Upper Leintwardine Formation, Ludlow Series, collected in Delbury Quarry, Shropshire, UK, are all encrusted by the trepostome bryozoan *Homotrypa cochlea* sp. nov. Bryozoans were not found to encrust any other component of the shelly fauna and thus seemed preferentially to choose the gastropod shells. The relationship between these two organisms was examined to consider whether the bryozoans were using the dead, empty mollusc shells as a substrate, if they were living symbiotically with live gastropods, or if the shells were inhabited by a non-gastropod host. There is evidence that the bryozoans encrusted the shells of living gastropods but continued growing after the death of the mollusc, potentially with the shell then occupied by a conchicole. Bryozoans encased the gastropod shells and, after death of the mollusc, the internal cavity became a “closed” microenvironment where the shell form and sometimes the recrystallised shell became preserved. The aragonitic shells of these gastropods were prone to dissolution early in diagenesis, and no gastropods are found without encrusting bryozoans. Bryoimmuration resulted in a local taphonomic window for the molluscs, which are notably sparse in most early Palaeozoic shelly faunas—the so-called “missing molluscs” phenomenon.

Key words: Gastropoda, Bryozoa, symbiosis, overgrowth, aragonite, taphonomy, Silurian, Shropshire, UK.

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