MORPHOLOGY OF THE MACHAERIDIAN *LEPIDOCOLEUS SARLEI* FROM THE SILURIAN OF NEW YORK STATE, U.S.A.

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Machaeridians are a group of Palaeozoic, marine, worm like fossils. Despite their nearly global occurrence and long time range, they have been very little studied. Their scleritome is composed of two or four longitudinal series of calcitic sclerites. Morphological studies of the group are greatly hampered by post-mortem disarticulation of scleritomes. Rare complete or partially complete specimens are vital to almost every aspect of machaeridian study.

Lepidocoleid machaeridians usually have two series of sclerites articulating dorsally by means of a hinge which allows the animal to close and open the scleritome. Six articulated specimens of *Lepidocoleus sarlei* from the Lewiston Member of the Silurian Rochester Shale (Wenlockian) of Western New York State, and the holotype from the Clinton Group of the Rochester Shale (New York State), constitute a remarkable collection of exceptionally well-preserved lepidocoleids, invaluable for reconstructing disarticulated scleritomes. The short, robust, lepidocoleid specimens are 12-22 mm long and have 6-14 sclerite pairs preserved. The hinge is exposed in a wide dorsal groove that is clearly visible on several of the specimens. Sclerites of the left side are posteriorly displaced in relation to those of the right side. Compensation occurs by means of a minute posteriormost left sclerite. The growth of the scleritomes can be elucidated by tracing distinct growth increments in sclerites from several specimens. One enrolled specimen possibly demonstrates a method of defence with the better protected dorsal side oriented outwards. Two of the specimens expose atypical sclerites which may result from damage to the juvenile sclerite. The fact that the aberrant sclerite has the same position in both specimens and the same type of growth disturbance suggests sexual dimorphism as an alternative.