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The ultrastructure, development, and systematic position of the graptolite genus *Mastigograptus*

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Fragments of rhabdosomes isolated by chemical treatment from an erratic boulder of Baltic origin and ?Middle Ordovician age, provisionally assigned to *Mastigograptus* aff. *tenuiramosus* (Wallcott, 1881) were studied with SEM. Although exceptionally well preserved, remains lack the thin-walled free portions of thecae. Rhabdosomes are provided with a strongly developed basal disc, short stem and many branched stipes. The latter consist of heavily corticalized chains of stolothecae with alternately disposed thecal bases. Stolothecae display a morphological gradient and increase in size and change in shape distalwards. The stolon system studied with SEM on naturally and artificially broken specimens, as well as traced through open thecal bases, reveals a regular triad budding but no stolon inside the stolothecal cavity. We tentatively suggest that crassal lining, recognized earlier by TEM studies, corresponds to an unusually inflated stolonal stolon, filling the entire thecal cavity and adhering tightly to stolothecal wall. The systematic position of *Mastigograptus*, a matter of long debate, seems to be defined by a number of structural features which imply a distinct difference between genus in question and all known orders of sessile graptolites. The order Mastigograptida nov. and the family Mastigograptidae nov. are proposed.

Key words: Pterobranchia, Graptolithina, Mastigograptus, Ordovician, ultrastructure, astogeny, taxonomy

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