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On the morphology and evolution of the Cucullograptinae (Monograptidae, Graptolithina)

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A description is given of the structure, astogenetic development and evolution of the Upper Silurian Cucullograptinae. It is based on the material contained in the core samples from the Mielnik on the Bug (Eastern Poland) deep-boring and from the Baltic drift. The graptolites were prepared by dissolving the limestone and marly matrix in hydrochloric acid. For detailed study the specimens were bleached. The stratigraphic position and significance of the fauna investigated are discussed. The main trend in the evolution of sicula consists in its simplification and is interpreted as due to foetalization. In contrast with sicula, the evolution of thecae displays progressive changes which primarily consist in the development of apertural apparatus, connected, in most lines, with the elaboration of its secondary asymmetry. The biological significance of this pattern of evolution of thecal characters. is discussed. The Cucullograptinae supply convincing evidence for the distal introduction of phylogenetic novelties which makes up a prevailing mode of evolutionary changes of astogeny in this group of moriograptids. Problems, related to the mechanisms of evolution and organization of graptolite colonies are discussed. Using the data, now available, tentative phylogenetic relationships within the group are established. An attempt is made to show some implications of these data in the problem of origin of the Cucullograptinae. Fourteen representatives (species and subspecies) of the Cucullograptinae are described in the systematic part. Four species and two subspecies are new.

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