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Autothecal morphs and dormancy in the camaroid graptolite *Xenotheka*

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The camaroid graptolite *Xenotheka klinostoma* Eisenack, 1937 is described from the lower Llanvirn limestones of Gilbergabrottet, northern Öland, Sweden. Two distinct autothecal morphs are recognized: (1) normal morph (described for the first time), i.e. an autotheca with an unsculptured outer surface, devoid of both an outer lining and autothecal occlusion, and inhabited by an active zooid; and (2) sealed morph, i.e. an autotheca coated and occluded, provided with a sculptured outer lining made of a unique verrucose fabric, and inhabited by an inactive or dormant zooid. In addition, the existence of a hypothetical (3) unsealed morph or re-opened autotheca, devoid of an autothecal occlusion but provided with an outer lining, and inhabited by a reactivated zooid, is predicted. The sealed morphs may represent an adaptation which allowed their inhabitants to survive adverse conditions. The outer lining of *Xenotheka* is compared with a peculiar outer membrane found in the modern hemichordate *Rhabdopleura*, from the intertidal zone of Fiji, and with camaroid extracamaral tissue.

Key words: Graptolithina, Camaroidea, microfossils, ultrastructure, dormancy, Ordovician, Sweden.

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