

## Cortical fibrils and secondary deposits in periderm of the hemichordate *Rhabdopleura* (Graptolithoidea)


Piotr Mierzejewski and Cyprian Kulicki

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Coenecia of extant hemichordates *Rhabdopleura compacta* and *Rh. normani* were investigated using SEM techniques. Cortical fibrils were detected in their fusellar tissue for the first time. The densely packed cortical fibrils form a characteristic band-like construction in fusellar collars, similar to some Ordovician rhabdopleurids. No traces of external secondary deposits are found in coenecia. Two types of internal secondary deposits in tubes are recognized: (1) membranous deposits, composed of numerous, tightly packed sheets, similar to the crustoid paracortex and pseudocortex; and (2) fibrillar deposits, devoid(?) of sheets and made of cortical fibrils, arranged in parallel and interpreted as equivalent to graptolite endocortex. There is no significant difference in either the shape or the dimensions of cortical fibrils found in *Rhabdopleura* and graptolites. The cortical fabric of both rhabdopleuran species studied is composed of long, straight and more or less wavy, unbranched fibrils arranged in parallel; their diameters vary from 220 to 570 nm. The study shows that there is no significant difference between extinct and extant Graptolithoidea (= Pterobranchia) in the histological and ultrastructural pattern of their primary and secondary deposits of the periderm. The nonfusellar periderm of the prosicula is pitted by many depressions similar to pits in the cortical tissue of graptolites.

**Key words:** *Rhabdopleura*, Pterobranchia, Hemichordata, periderm, sicula, ultrastructure, fibrils.

Piotr Mierzejewski [[mierzejewski@graptolite.net](mailto:mierzejewski@graptolite.net)], Instytut Paleobiologii PAN, ul. Twarda 51/55, PL-00-818 Warszawa, Poland; present address: ul Filtrowa 83/49, PL-02-032 Warszawa, Poland; Cyprian Kulicki [[kulicki@twarda.pan.pl](mailto:kulicki@twarda.pan.pl)], Instytut Paleobiologii PAN, ul. Twarda 51/55, PL-00-818 Warszawa, Poland.

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