ACTA PALAEONTOLOGICA POLONICA

The stolon system in *Rhabdopleura compacta* (Hemichordata) and its phylogenetic implications

Adam Urbanek and P. Noel Dilly
Acta Palaeontologica Polonica 45 (3), 2000: 201-226

Studies made with the light microscope on the stolon system of extant pterobranch hemichordate *Rhabdopleura compacta* Hincks, 1880 have revealed the presence of characteristic structures called herein diaphragm complexes. Each complex consists of the stolonal diaphragm proper and a thin-walled conical encasement, produced by a rapid inflation of the stolonal sheath around the diaphragm. Such structures have never been observed before either in the Recent or fossil Rhabdopleurida. However, both in their origin and in their relations to the stolon and to the zooidal tube, diaphragm complexes strongly resemble the internal portions of thecae as recognized in the sessile orders of the Graptolithina. The significance of the presence of these homologues of the enclosed initial portions of thecae in *Rhabdopleura compacta* for the understanding of the phylogenetic relationships between pterobranchs and graptolites is discussed.

Key words: Hemichordata, Pterobranchia, Graptolithina, stolon, homology, mosaic evolution.

Adam Urbanek [urbanek@twarda.pan.pl], Instytut Paleobiologii PAN, ul. Twarda 51/55, PL-00-818 Warszawa, Poland;P. Noel Dilly [ndilly@sghms.ac.uk], Department of Anatomy, St. George s Hospital Medical School, Cranmer Terrace, London SW17 0RE, United Kingdom.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see creativecommons.org), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Full text (908.0 kB)