

Connecting ring structure and its significance for classification of the orthoceratid cephalopods

Harry Mutvei

Acta Palaeontologica Polonica 47 (1), 2002: 157-168

The connecting ring in orthoceratids is composed of two calcified layers: an outer spherulitic-prismatic and an inner calcified-perforate. The spherulitic-prismatic layer is a direct continuation of that layer in the septal neck, whereas the calcified-perforate layer is a structurally modified continuation of the nacreous layer of the septal neck. The latter layer is traversed by numerous pores which are oriented either transversally to the siphuncular surface, or have a somewhat irregularly anastomosing course. The connecting ring structure is positively correlated to the dorsal position of the scars of the cephalic retractor muscles. Asimilar type of connecting ring and a dorsal position of retractor muscle scars also occur in lituitids, previously assigned to tarphyceratids, and in baltoceratids, previously assigned to ellesmeroceratids. These two taxa are therefore included in the suborder Orthoceratina, which, together with the suborder Actinoceratina, are assigned to the order Orthoceratida Kuhn, 1940.

Key words: Orthoceratina, Actinoceratina, siphuncular structure, connecting ring.

Harry Mutvei [harry.mutvei@nrm.se], Department of Palaeozoology, Swedish Museum of Natural History, Box 50007, SE–10405 Stockholm, Sweden.

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