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

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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 postion 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.

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