

Evolution of the embryonic development in lingulid brachiopods

Andrzej Baliński

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The style of embryonic development in the lingulids has changed through time; that of Recent lingulids is not primitive for the group. The shell of Devonian lingulids consists of two valves already at the embryonic stage, whereas in Recent lingulids the protegulum originates as a single plate, subsequently folded in two. The protegulum of the Devonian lingulids is a cup-shaped, subcircular plate, usually with a characteristic radial sculpture suggesting the presence of marginal setae, similar to those occurring in early juvenile stages of Recent discinids. Devonian protegula are 81 to 100 μm in width and thus are three times smaller than protegula of the Recent *Lingula* and *Glottidia* and twice as small as those of the Late Cretaceous *Lingula* sp. The embryonic development of lingulids underwent important modification during last 370 Ma.

Key words: Lingulidae, protegulum, ontogenetic development, Late Devonian.

Andrzej Baliński, Instytut Paleobiologii PAN, ul. Twarda 51/55, PL-00-114 Warszawa, Poland.

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