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Ultrastructure of the jaws of the fossil and Recent Eunicida (Polychaeta)

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The ultrastructure of the jaws of Ordovician, Silurian, Permian and Recent Eunicida (Polychaeta) have been studied by transmission and scanning electron microscopy. Primary and secondary zones have been distinguished in the ultrastructure of the jaws. The primary zone is formed of the pharyngeal cuticle containing an orthogonal network of collagen fibrils, while the secondary zone, underlying the primary one, is developed of inner part of the pharyngeal cuticle devoid of a regular network of collagen fibrils. The two zones are pierced by microvilli. The jaws of placognath Eunicida are structured of the primary wne only. The Eunicida with highly organized jaw apparatus have a strongly developed secondary zone underlying the primary one. A preliminary correlation of evolutionary changes in the anatomy and ultrastructure of the jaws of Eunicida bas been conducted. It has also been shown that the ultrastructural studies of the scolecodonts were not very useful for taxonomic purposes.

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