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CTENOPHORA (AFFINITIES) Continue

Different workers have dissimilar views regarding origin and relationships of ctenophores. No fossil record is available due to their soft bodies. In the absence of fossils their origin remains obscure.

1. Affinities with Coelenterata: In the beginning, Eschscholtz (1829–1833) regarded ctenophora as a class under phylum Coelenterata.

@ Resemblances with Coelenterata. There are certainly many morphological similarities many morphological between ctenophora and Coelenterata.

I. Biradial symmetry.
II. Body parts arranged along an oral-aboral axis.
III. Pancrease of gelatinous mesoglea
IV. Lack of organ-systems (tissue grade)
V. No coelom. Style gastrovascular cavity.
VI. Diffuse nerve net or plexus.
VII. Presence of statocysts.
VIII. Endodermal origin of gonads.

(b) Differences from Coelenterata

I. Tentacles oppositely placed symmetry bilateral.
II. No polymorphism. No colony formation.
III. Presence of 8 comb plates for locomotion.
IV. Mesenchymal muscle present. No epithelio muscular fibres.
V. Nematocyst absent. Instead, special sensory cells or

colloblasts present on tentacles.

VI. Statocyst present aboxally, not marginally.

VII. Gastrovascular system with anal pores more organized.

VIII. Development of determinate type.

2. Affinities with platyhelminthes.

platyctenea ctenophora (ctenoplana and coeloplana) show certain resemblances with polyclad turbellarians (Cestoplana).

I. Dorsoventrally flattened body.

II. Crawling mode of life.

III. Ectoderm ciliated.

IV. Lobed gastrovascular cavity, especially in embryos.

V. Gelatinous mesenchyme with muscle fibres and cells.

VI. Similar earlier stages of segmentation and gastrulation.

On account of these similarities, ctenoplana and coeloplana have been considered the missing links between coelomata and platyhelminthes. This view is no longer supported because ctenoplana and coeloplana are now considered typical ctenophores adapted for a creeping mode of life.