

Phylum Coelenterata

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Phylum Coelenterata contains a wide variety of aquatic (marine and freshwater) animals, about 9000 species of coelenterates are present on earth planet. The most of coelenterates are capable of some form of movement, ranging from creeping on a pedal disc and burrowing to freely swimming. They are found from the deepest reaches of the ocean to the intertidal zone, and in some habitats they are one of the dominant animals. They include the jellyfish, sea anemones, hydroids, soft and stony corals. Coelenterates are multicellular organisms and can be found living in groups. The body wall of these animals possesses epithelial cells, muscle cells, glandular cells, nerve cells and nematocyst cells. These nematocyst cells present in the body wall will help in paralyzing the prey while collecting food.

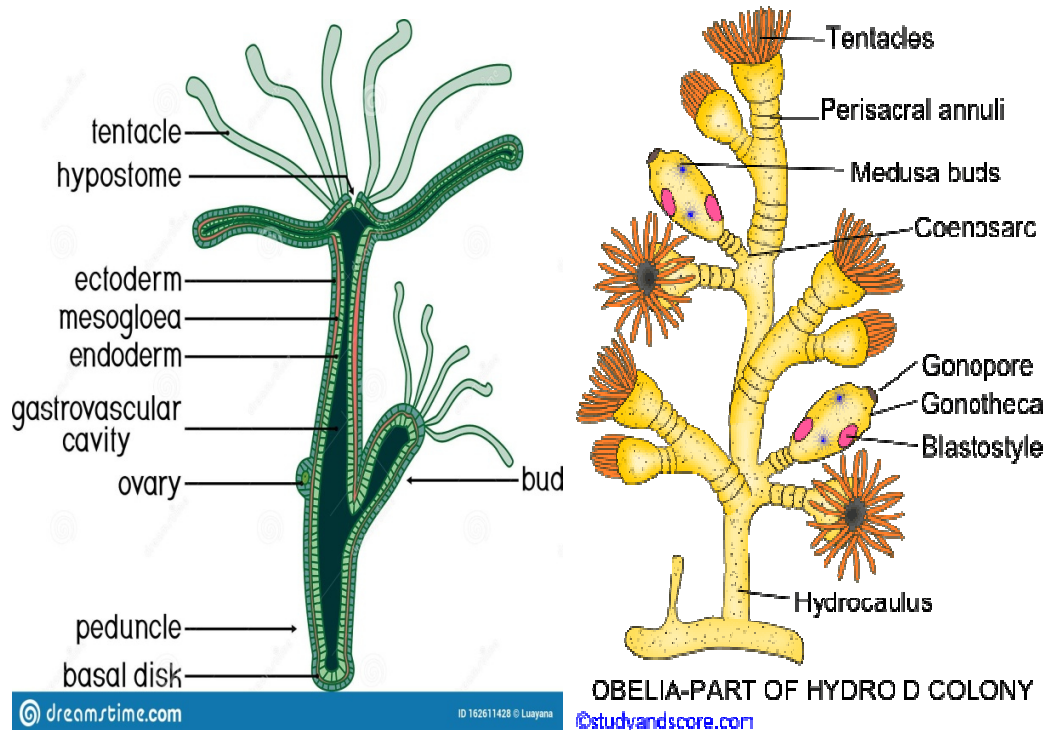
Coelenterates have a holozoic form of nutrition. The mouths of these organisms are encircled with tentacles which have nematocysts. There is no presence of an anus in these organisms; the mouth is responsible for both ingestion and elimination. Coelenterates have tentacles that help them capture their prey, eat and digest it. These tentacles are also used for defence purposes. Coelenterates are show radial and biradial symmetrical body. Most coelenterates are radially symmetrical consisting of a central gastrovascular cavity. This gastrovascular cavity consists of only one opening i.e. mouth present on the hypostome. The anus is absent The coelenterates show polymorphism as their zooids shows two forms i.e. polyp & medusa. The polyps are sessile & asexual zooids while the medusae are free living & sexual forms. They are carnivorous ,without anus, respiratory ,circulatory & excretory system. Life cycle shows alternation of generation as the asexual polypoid gen. is alternated with the sexual medusoid generation.

The phylum coelenterata (Cnidaria) is divided into three classes: Hydrozoa (hydroids and medusae), Scyphozoa (jellyfish) and Anthozoa (sea anemones and corals), but the Cubozoa (Cubomedusae, sea-wasps) are sometimes separated from the Scyphozoa to form a fourth class.

CLASS I : HYDROZOA :

1) Hydrozoa animals are multicellular, diploblastic animals.

- 2) They show mouth opening, and anus is absent.
- 3) They show both polyp and medusa forms. Medusa is a reproductive zooid. Polyp is a fixed stage.
- 4) In medusa the gastro-vascular-system is transversed by canals. In medusa definite sense organs like statocyst, nervous system, and muscular system are well developed.
- 5) Polymorphic tendency is well developed
- 6) Gonads are seen.
- 7) Alternation of generations is seen in the life history of these animals. 8) Velum is present on the medusa



For example , Hydra, Obelia.

CLASS II: SCYPHOZOA:

- 1) Represented by medusoid forms.
- 2) Sense organs are tentaculocysts.
- 3) Gastrovascular system shows stomach and 4 gastric pouches. In the gastric pouches gastric filaments are present.
- 4) Velarium is present with endodermal canal (Acraspedote).

5) Gonads are endodermal in origin

6) Medusa arises by strobilisation.

For example Jelly fish



CLASS III: ANTHOZOA:

1) They exhibit only polyp forms.

2) Medusa stage is absent.

3) Mesenteries are present, they bear nematocyst.

4) Gonads are endodermal.

5) Corals coral reefs are common. This class is divided into 2 sub classes.

i) Sub class: Hexacorallia (or) Zoantharia.

ii) Sub class: Octocorallia (or) Alcyonaria

For example Sea anemones, coral

