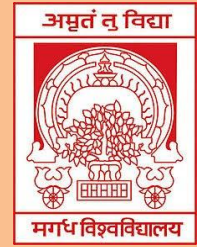




DAUDNAGAR COLLEGE

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Topic

PHYLUM – CNIDARIA

CLASSIFICATION

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PHYLUM – CNIDARIA (=COELENTRATES)

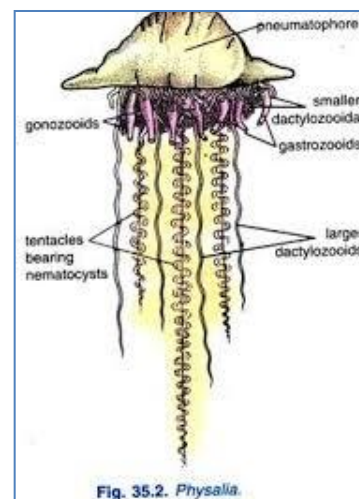
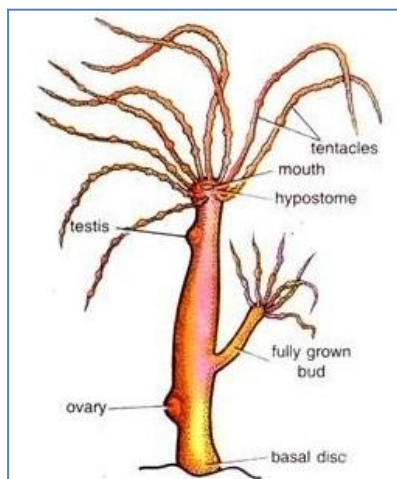
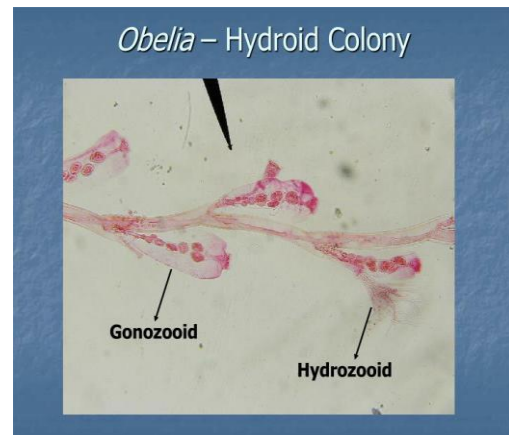
CLASSIFICATION

The phylum is divided into three classes, namely, Hydrozoa, Scyphozoa and Anthozoa.

Classification: The classification followed here is given by Hyman, L.H., (1940). According to Hyman, Phylum Coelenterata has been divided into three classes, viz., Hydrozoa, Scyphozoa and Anthozoa.

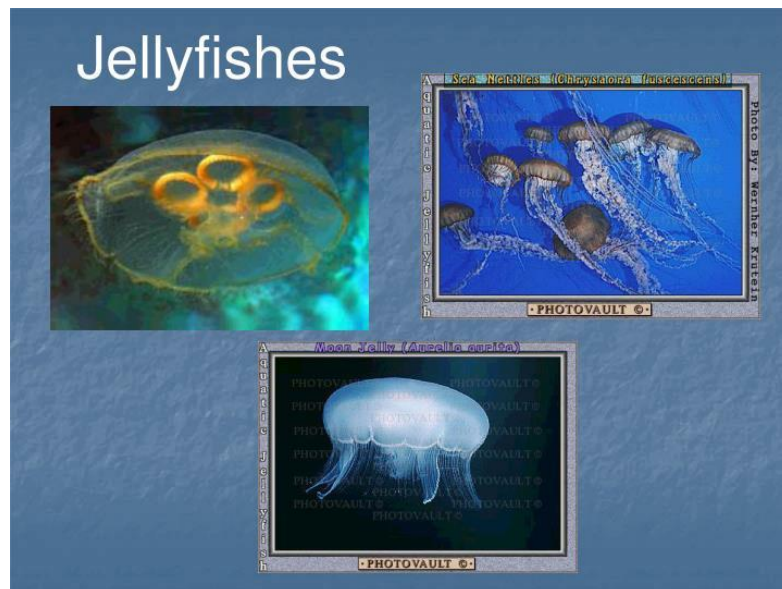
1. Class HYDROZOA (Hydra; water; zoon: animal)

- mostly marine, few are fresh water.
- Solitary or colonial, with polyp as the dominant stage, medusa is simple and possess true muscular velum.
- Mesogloea is simple and acellular.
- Cnidocytes are confined to epidermis. Gonads are epidermal.
- Many Hydrozoa exhibit alternation of generations.
- Skeleton or horny structure is horny perisarc in some forms, while coenosarc secretes a skeleton of calcium carbonate forming massive stony structure or coral in other forms.
- Ex. *Hydra*; *Bougainvillea*; *Obelia*; *Millepora*; *Stylaster*; *Physalia* (portuguese man of war); *Vellela*; *Porpita*.



Class SCYPHOZOA

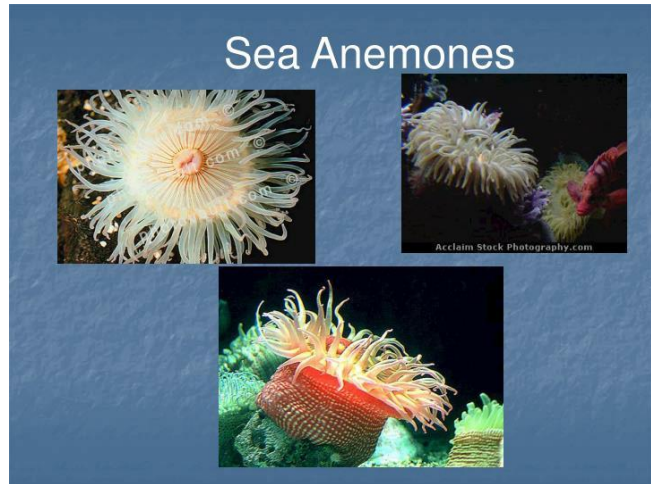
- Habitat: exclusively marine
- Habit: solitary, freely swimming
- medusa as dominant stage and without a velum. Polyps is short lived or absent
- Mesogloea is highly enlarged with cells (cellular).
- Reproductive organs are gastrodermal.
- Sense organs are located on the bell margin.
- Ex. *Aurelia aurita* (Jelly fishes); *Pelagia*; *Cyanea*, *Rhizostoma*



Class ANTHOZOA (=ACTINOZOA)

(Anthos: flower; zoios: animal “flower like animals”)

- Habitat: exclusively marine
- Habit: Solitary or colonial
- They occur only in polyp form. Medusa form is absent.
- Pharynx present with two ciliated grooves called siphonoglyphs.
- Mesogloea is cellular. It contains fibrous connective tissue and amoeboid cells.
- Gonads gastrodermal.
- Examples: *Metridium* (sea anemone), *Telesto*, *Tubipora*, *Xenia*



Class Anthozoa is further classified into two subclasses:

A. Subclass **OCTOCORALLIA (=ALCYONARIA)**

Polyp with 8 tentacles and 8 septa. Colonial forms only. Ex. *Tubipora*; *Alcyonium*; *Heliopora*; *Gorgonia*; *Corallium*; *Pennatula*; *Renilla*.

B. Subclass **HEXACORALLIA (=ZOANTHARIA)**

Solitary or colonial; polyp with 6 or multiple of 6 tentacles. Ex. *Zoanthus*; *Metridium*; *Adamsia*; *Antipathes*; *Fungia*; *Astraea*; *Madrepora*; *Meandrina*.

Hydrozoa	Schyphozoa	Anthozoa
Both Polyp & Medusa	Medusa Dominant	Polyp Dominant
Fresh water & Marine	Marine	Marine
Medusa neither cellular nor fibrous (In Hydra Collagen and Elastin Fiber Present)	Posses cell	Posses cell and fiber
Gonads Ectodermal & Discharge externally	Gonads Endodermal & Discharge internally	Gonads Endodermal & Discharge internally
Medusa Posses a Velum	No Velum	No Medusa
Tenticlocytes absent	Tenticlocytes present in Medusa	No Medusa
No Mesenteries in Polyp	No Polyp	Mesenteries prsent
Tentacles Hollow	Solid	Solid
Hydra, Obelia, Physalia	Aurilia, Rhizostoma	Metridium, Adamasia, Gorgonia (Sea fen), Pennatula (Sea Pen), Corals