

Quadrant II – Transcript and Related Materials

Programme: Bachelor of Science (First year)

Subject: Zoology

Paper Code: ZOC 101

Paper Title: Diversity of non chordates and cell biology.

Unit: 3

Module Name: Classification of phylum Cnidaria up to class level (part1)

Module No:12

Name of the Presenter: Ms.Bhakti Dafale.

Notes:

Classification of Phylum Cnidaria up to class level

The Classification followed here is given by Hyman, L.H; (1940).

It is a group made up of more than 9,000 living species. According to Hyman Cnidaria has been divided into three classes, viz., Hydrozoa, Scyphozoa and Anthozoa.

Class 1 Hydrozoa

(Gr., *hydro*-water; *zoion* -animal)

- Habitat: mostly marine, few are fresh water
- Habit: some are solitary and some are colonial
- They exhibit tetramerous or polymerous radial symmetry.
- Body wall consists of an outer ectoderm and an inner endoderm separated by non cellular mesoglea.
- Mesoglea is simple and acellular
- Gastrovascular cavity without stomodeum and septa.
- Skeleton or horny structure is horny perisarc in some forms, whereas coenosarc secretes a skeleton of calcium carbonate forming massive stony structure or coral in other forms.
- They exhibit polymorphism. There are two main types of zooids, the polyp and medusa.
- Asexual Polyps is dominant form
- Medusa is provided with true muscular velum.

- Many hydrozoa exhibit alternation of generations.
- Reproductive products or sex cells are ectodermal in origin and discharged externally.
- Cleavage is holoblastic.
- Embryo - ciliated planula. Examples: *Hydra*, *Obelia*, *Physalia* (portuguese man of war), *Tubularia*

Class 2: Scyphozoa

(Gr., *Skyphos*- cup, *zoios*-animal)

- Habitat: exclusively marine
- Habit: solitary, freely swimming
- Scyphozoa include large jelly-fishes or true medusa. Medusae are large, bell or umbrella-shaped without true velum, free swimming or attached by an aboral stalk.
- Marginal sense organs are tentaculocysts having endodermal statoliths.
- Polypoid generation absent or in some represented by small polyp called as scyphistoma which by the process called strobilisation or transverse fission gives rise to medusae.
- Gastro vascular system without stomodaeum with gastric filaments and may or may not be divided into four inter-radial pockets by septa.
- Mesogloea is usually non cellular.
- Gonads are endodermal and the sex cells are discharged into the gastric pouches.
- Examples: *Aurelia*, *Pericolpa*, *Cyanea*, *Rhizostoma* etc.

