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Zoology
Part - I
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Chapter

Porifera (outline classification)

- Classification of Porifera suggested by Hyman (1940) and Burton (1967)
- However, classification of Porifera followed here is based upon Storer & Usinger (1971), which appears to be modified form of Hyman's classification.
- The classification of Porifera chiefly based upon types of skeleton, such as -

- Class - 1. (Calcarea)
- Exclusively Marine, mostly in shallow water or between tide marks or some in deep sea.
- Body shape cylindrical / vase shaped.
- Skeleton of separate calcareous spicules - Monaxon, Triaxon or Tetraxon. (Four - rayed)

Order - 1 (Homocoela)
- Ascanoid sponge, with thin walled, cylindrical body.
- Its often Colonial.

Ex:- Leucosolenia

Order - 2. (Heterocoela)
- Syconoid & Leuconoid sponges, with thick walled.
- Its shape appears - vase - shaped.
- Its body wall thick & folded & lined by choano - cytes. Ex:- Sycon (Scypha)

- Class - 2. (Hexactinellida)
- Its called Glass Sponge.
- Skeleton is of Siliceous spicules, which are Triaxon with Six - rays.
- Its shape is cylindrical or funnel like. or cup etc.
- Exclusively Marine. Many in deep sea

Order - 1 (Hexasterophora)
- Its spicules are Hexasters. (Star like)
- Usually attached with substratum.

Ex. - Euplectella (venus's flowes basket)

Order - 2. (Amphidiscophora)

- Its spicules are Amphidiscs
- It attached to Substratum / Bottom.

Ex. - Hyalonema

Class - 3. (Demospongiae)

- It contains the largest number of species
- Skeleton may be spongin fibres (Siliceous fibres)
  & there may be no skeleton in some species.
- Body shape is irregular, and the canal system is of Leucon type.

Sub. class - 1 (Tetractinellida)

- Skeleton mainly of Tetraxon. Siliceous spicules but absent in order Myxospongida
- canal system is Leuconoid type.

Order - 1 - Myxospongida.

- Simple structure & skeleton absent.

Ex1 Vasicarcella

Order - 2 Carnosa.

- Simple structure & spicules are not differentiated.

Ex1 - Halisarca.

Order - 3. Choristida

It contains both large & small spicules.
(Megascleres & Microscleres)

Ex1 Geodia.

Sub. class - 2. (Monaxonida)

- Its shape occurs rounded mass to branching type or elongated.
- Skeleton consists of Monaxon.
- It is cosmopolitan.

Order - 1 (Hadromerida)

- Spongin absent.

- Body form variable.

Ex) Cliona

Order - 2 (Halichondrida)

- Spongin present & scanty.
- Monoaxon megascleres are often two types Monactines & Diactines. Microscleres are absent.

Ex) Halichondria.

Order - 3. (Poecilosclerida)

- Large spicules ~~[illegible]~~
- Ex) Cladorhiza.

Order - 4 (Haplosclerida)

- Monaxon megascleres are of only one type. viz. Diactinal.
- Microscleres are absent.
- Spongin fibres are are absent.

Ex) Chalina.

Sub-class-3 (Keratosa)

- Body is rounded & massive with a number of conspicuous oscula.
- Skeleton consists of spongin.
- Siliceous spicules are absent.
- It's also known as "Horny-sponges" found in shallow and warm waters of tropical & subtropical regions.

Ex) Euspongia (Bath sponge), Hippospongia (Horse sponge)