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## Phylum: Porifera

## Flow chart-Porifera

**Class 1 Calcareia or Calcispongiae**

- Small, calcareous sponges
- Skeleton 1,2 or 3 rayed calcareous spicules
- Eg. *Sycon*, *Grantia*

**Class 2 Hexactinellida or Hyalospongiae**

- Urn or vase shaped
- Sixed rayed triaxon siliceous spicules
- E.g. *Euplectella*, *Hyalonema*

**Class 3 Demospongiae**

- Siliceous spicules or spongin fibres or both
- Monoaxon, tetraaxon spicules never triaxon
- E.g. *Spongilla*, *Euspongia*

# Sycon

**Common name:** Sycon

**Geographical Distribution:** . These are found in abundance near North Atlantic shores

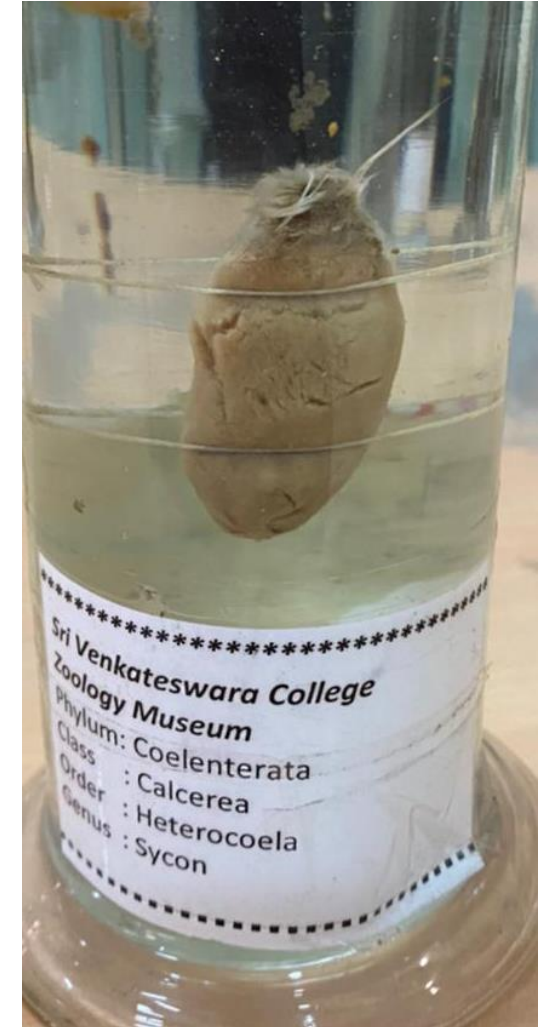
## Scientific Classification with Justifications

**Phylum-** Porifera (Pore bearing, cellular grade, asymmetrical or radially symmetrical.)

**Class-** Calcarea (Calcereous spicules present.)

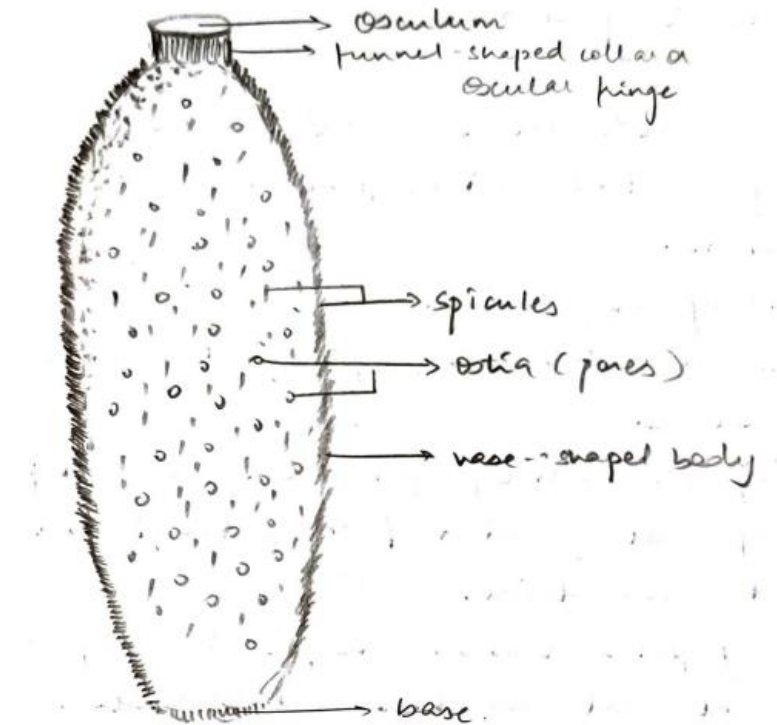
**Genus-** Sycon

## Flow chart-Porifera



## Characteristic features:

- Body wall consists of outer dermal epithelium, called **pinacoderm** and inner flagellated epithelium, called **choanoderm**.
- Skeleton comprises of calcareous spicules of monaxon, triaxon and tetraxon type.
- Choanocytes (flagellated cells) are present in only **radial canals**.
- Water enters the body *via* ostia and enters the **incurrent canals** from where it passes into radial canals through **prosopyles**.
- From radial canals, water enters the **excurrent canal** through **apopyles**.
- Water reaches to **spongocoel** through the gastral ostia and passes out by **osculum**.
- Reproduction takes place by both asexual (budding and regeneration) and sexual (by ova and sperms).



Sycon

# Euplectella

**Common name:** Venus's flower basket

**Geographical Distribution:** . It is distributed near Philippines and West Indies.

## Scientific Classification with Justifications

**Phylum- Porifera** (Pore bearing, cellular grade, asymmetrical or radially symmetrical.)

**Class-Hexactinellida or Hyalospongiae** ( Glass sponges with siliceous spicules of triaxon or six-pointed type. )

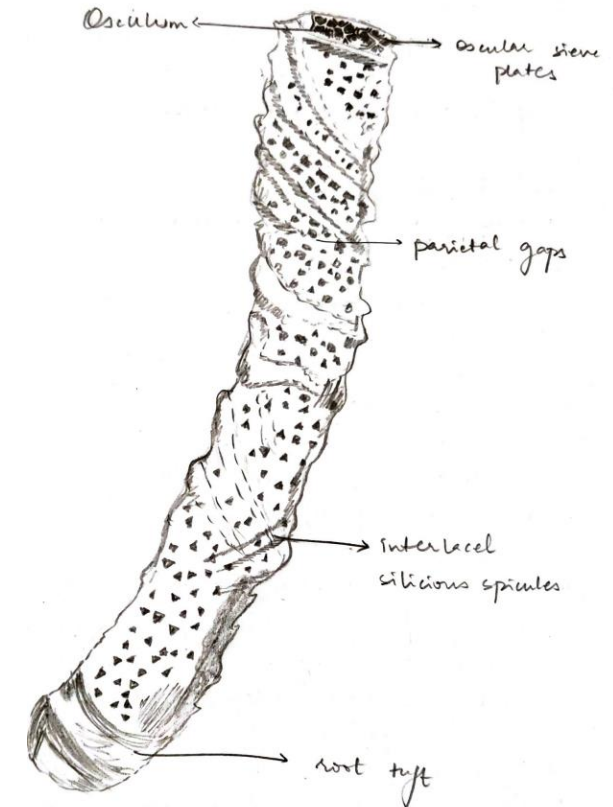
**Genus- Euplectella**

## Flow chart-Porifera



## Characteristic features:

- Commonly called as Venus's flower basket due to its beautiful elegant glossy shape like knitted elongated basket.
- Animal measures 15 to 30 cm in length and 2 to 5 cm in diameter.
- Body is long, rigidly curved and cylindrical.
- Body is composed of four and six-rayed siliceous spicules interlaced and fused at their tips forming three dimensional network with parietal gaps.
- Spicules are joined together forming a network.
- Lower end contains usually a mass of long siliceous spicules in form of root tuft which fasten the animal with mud.
- Cloacal cavity is closed in above with a sieve plate.
- Osculum contains sieve called as oscular sieve plate.
- Canal system is of simple Sycon type.
- Euplectella displays an interesting commensal relation with certain species of shrimps. A young female and male shrimp enter into spongocoel and after growth become unable to come out. Their entire life is passed in sponge prison. They feed on plankton in water current.



**Euplectella**

# Hyalonema

**Common name:** Glass rope sponge

**Geographical Distribution:** Found along new England coast.

## Flow chart-Porifera

### Scientific Classification with Justifications

**Phylum- Porifera** (Pore bearing, cellular grade, asymmetrical or radially symmetrical.)

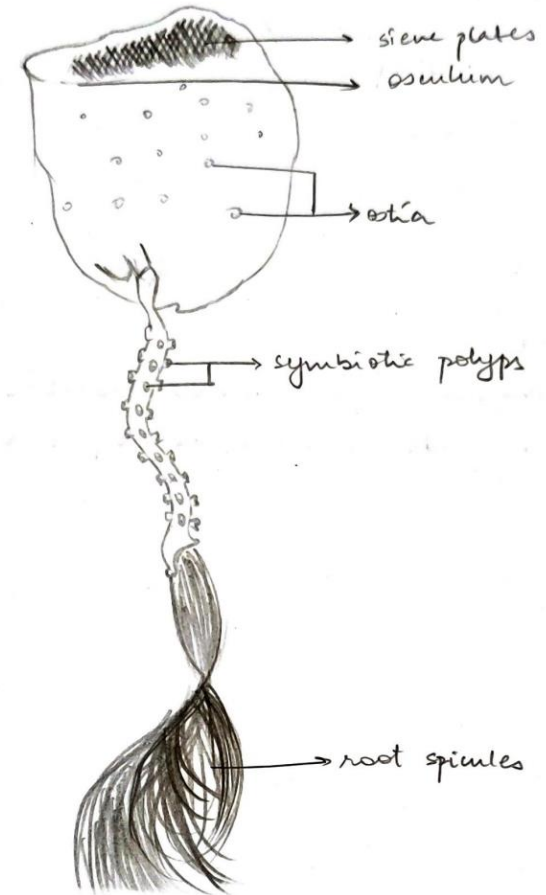
**Class-Hexactinellida or Hyalospongiae** ( Glass sponges with siliceous spicules of triaxon or six-pointed type. )

**Genus- Hyalonema**



## Characteristic features:

- Commonly called as glassrope sponge.
- Body is spherical or ovoidal and axially traversed by a bundle of long spicules.
- Spicules are often fused to form a lattice-like skeleton, giving the sponge a glasslike appearance when dried.
- Glass sponges are most symmetrical and most individualized. Body is cup or vase-shaped measuring 10 to 30 cm in height. Spongocoel is well developed. Osculum contains sieve plate.
- Stick or-columella is composed of a root tuft or root spicules which acts as hold fast organ.
- Root spicules are compact, stalklike elongated, twisted and giving the appearance of a rope. The middle columella contains symbiotic polyps (Epizoanthus).
- It possesses large and small amphidisk spicules like fresh-water sponges. Entire body contains small, branching, six-rayed spicules resembling Christmas trees on cross-shaped bases.
- When the upper surface of the sponge is depressed, spongocoel is formed and excurrent canals open into it but when columella is projected into gastral cone, no spongocoel exists.
- Flagellated chambers are arranged radially and in parallel planes in the sponge wall.



**Hyalonema**