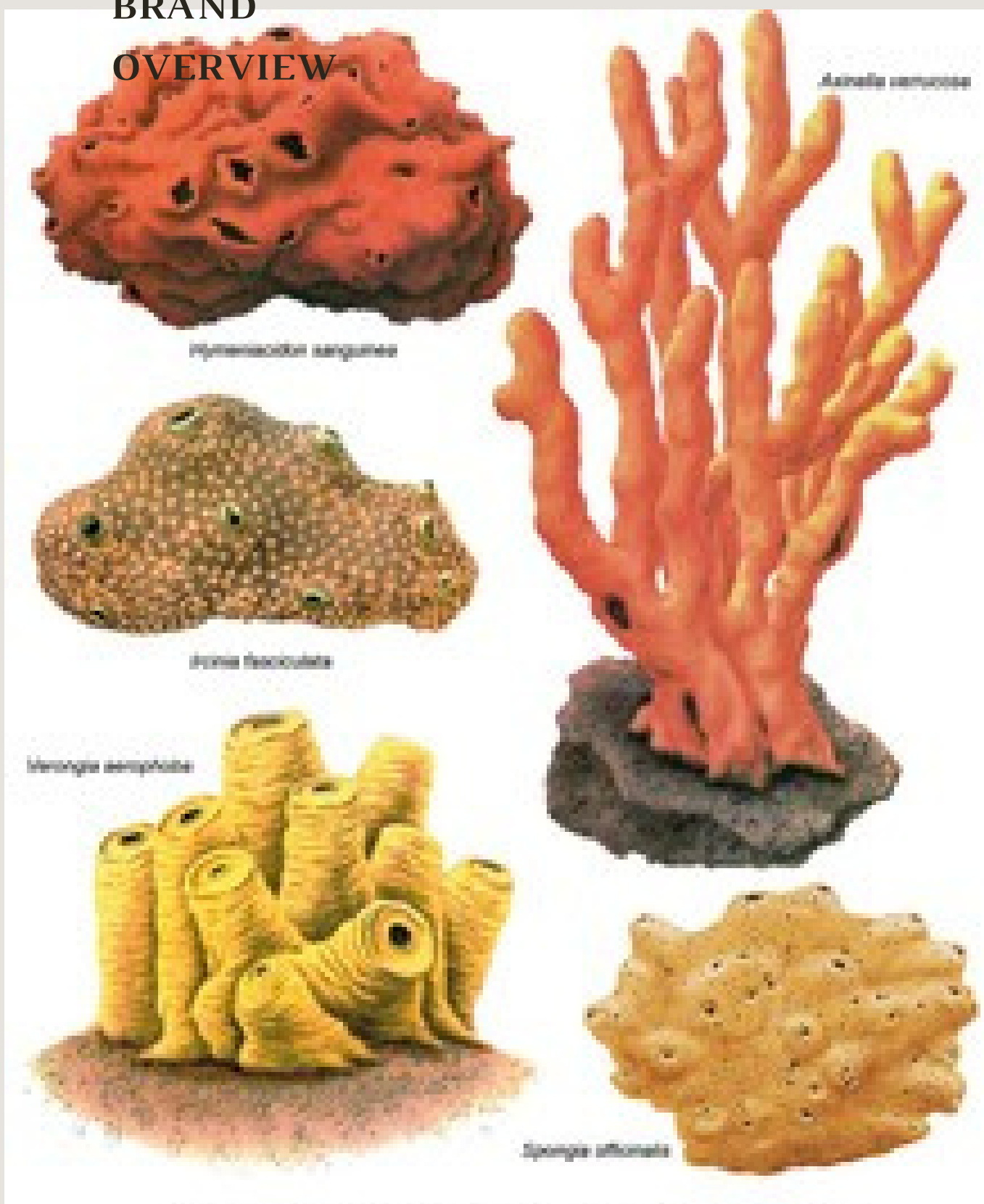


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OVERVIEW



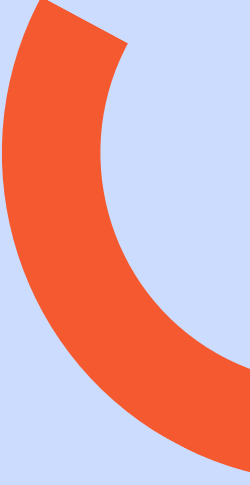
# porifera

The meaning behind the logo  
mark of Beuaray Corp.

- Porifera are all aquatic, mostly marine except one family Spongillidae which live in freshwater.
- They are sessile and sedentary and grow like plants.
- The body shape is vase or cylinder-like, asymmetrical, or radially symmetrical.
- The body surface is perforated by numerous pores, the Ostia through which water enters the body and one or more large openings, the oscula by which the water exits.
- The multicellular organism with the cellular level of body organization. No distinct tissues or organs.
- They consist of outer ectoderm and inner endoderm with an intermediate layer of mesenchyme, therefore, diploblastic
- The interior space of the body is either hollow or permeated by numerous canals lined with choanocytes. The interior space of the sponge body is called spongocoel.

- Characteristic skeleton consisting of either fine flexible spongin fibers, siliceo spicules, or calcareous spicules.
- Mouth absent, digestion intracellular.
- Excretory and respiratory organs are absent.
- Contractile vacuoles are present in some freshwater forms.
- The nervous and sensory cells are probably not differentiated.
- The primitive nervous system of neurons arranged in a definite network of bipolar or multipolar cells in some, but is of doubtful status.
- The sponges are monoecious.



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- Reproduction occurs by both sexual and asexual methods.
  - Asexual reproduction occurs by buds and gemmules.
  - The sponge possesses a high power of regeneration.
  - Sexual reproduction occurs via ova and sperms.
  - All sponges are hermaphrodite.
  - Fertilization is internal but cross-fertilization can occur.
  - Cleavage holoblastic.
  - Development is indirect through a free-swimming ciliated larva called amphiblastula or parenchymula.
  - The organization of sponges are grouped into three types which are ascon type, sycon type, and leuconoid type, due to simple and complex forms.
  - **Examples:** *Clathrina*, *Sycon*, *Grantia*, *Euplectella*, *Hyalonema*, *Oscarella*, *Plakina*, *Thenea*, *Cliona*, *Halichondria*, *Cladorhiza*, *Spongilla*, *Euspondia*, etc.

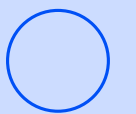
# Classification of porifera

The phylum includes about 5,000 species of sponges, grouped into 3 classes depending mainly upon the types of skeleton found in them. The classification here is based on Storer and Usinger (1971) which appears to be a modification from Hyman's classification.



Class 1 Calcarea (L., calx=lime) or Calcispongiae (L., *calx*=lime+ *spongia*= sponge)

- Small-sized calcareous sponges, below 10 cm in height.
- Solitary or conical; body shape vase-like or cylindrical.
- They may show asconoid, Syconoid, or leuconoid structures.
- A skeleton of separate one or three or four-rayed calcareous spicules.
- Exclusively marine.





## Class 2. Hexactinellida (Gr., *hex*=six + *actin*=ray) or Hyalospongiae (Gr., *hyalos*=glass+ *spongos*= sponge)

- Moderate -sized. Some reach 1 meter in length.
- Called glass sponges.
- Body shape cup, urn, or vase-like.
- Skeleton is of siliceous spicules which are triaxon with 6 rays. In some, the spicules are fused to form a lattice-like skeleton.
- No epidermal epithelium.
- Choanocytes line finger-shaped chambers.
- Cylindrical or funnel-shaped
- Found in deep tropical seas.



### Class 3. Demospongiae (Gr., *dermos*= frame+ *spongos*= sponge)

- Contains the largest number of sponge species.
- Small to large-sized.
- Conical or solitary.
- The body shape is a vase, cup, or cushion.
- Skeleton of siliceous spicules or spongin fibers, or both, or absent.
- Spicules are never 6-rayed, they are monaxon or tetraxon and are differentiated into large megascleres and small microscleres.
- The body canal system is leucon type.
- Choanocytes restricted to small rounded chambers.
- Generally marine, few freshwater forms.

