



Benthos

porifera



(sponges)

Primitive body structures

Various forms



porifera

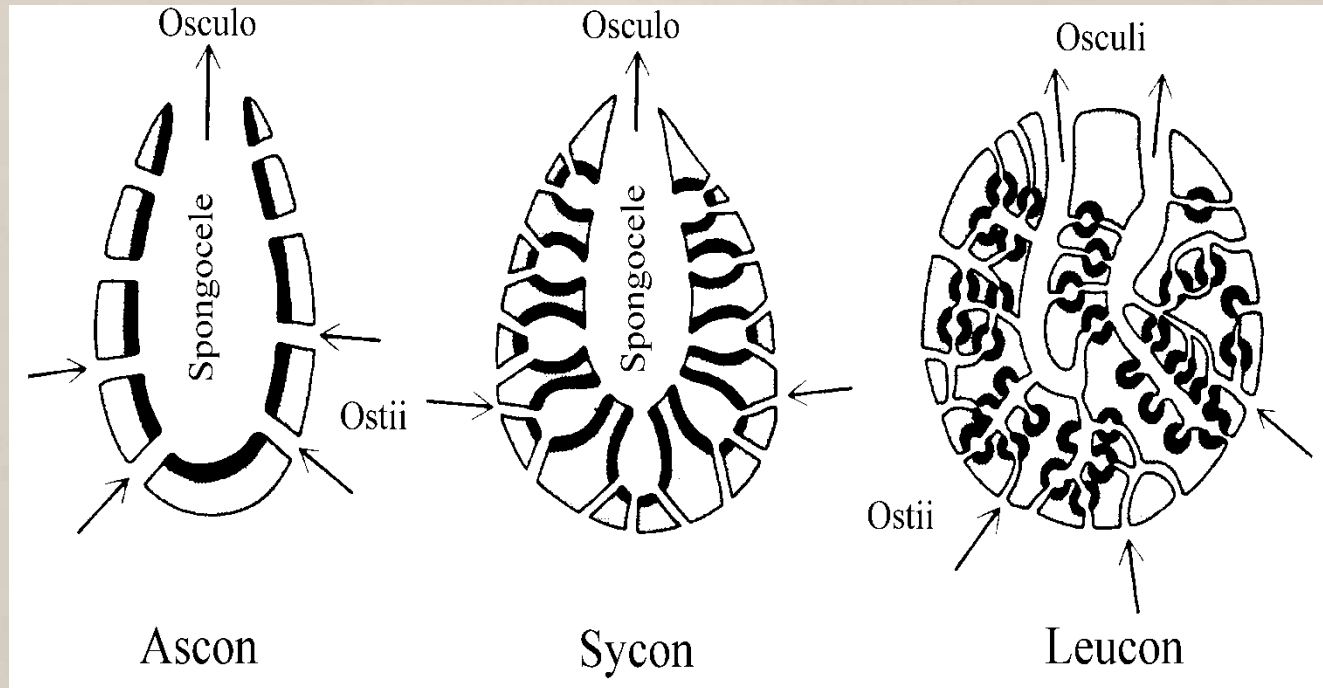


Filter method: ostii and osculi

(Sponges)

choanocytes

3 types:



porifera



(Sponges)

Reproduction: asexual (budding)

sexual

4 classes: Demospongia (90% of
the known species)

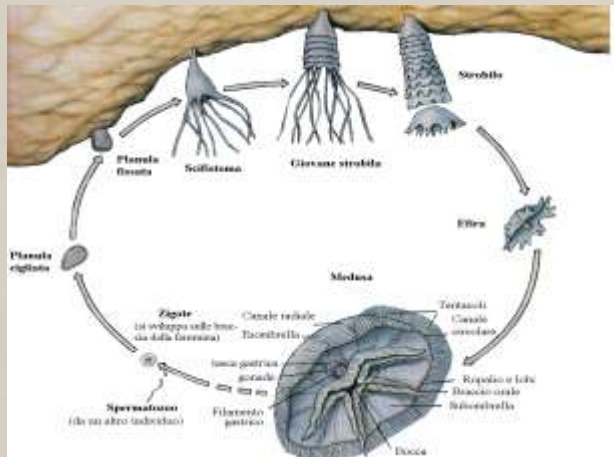
cnidaria



medusoid



polypoid



Life circle

2 types: hydroid

scyphozoid

cnidaria



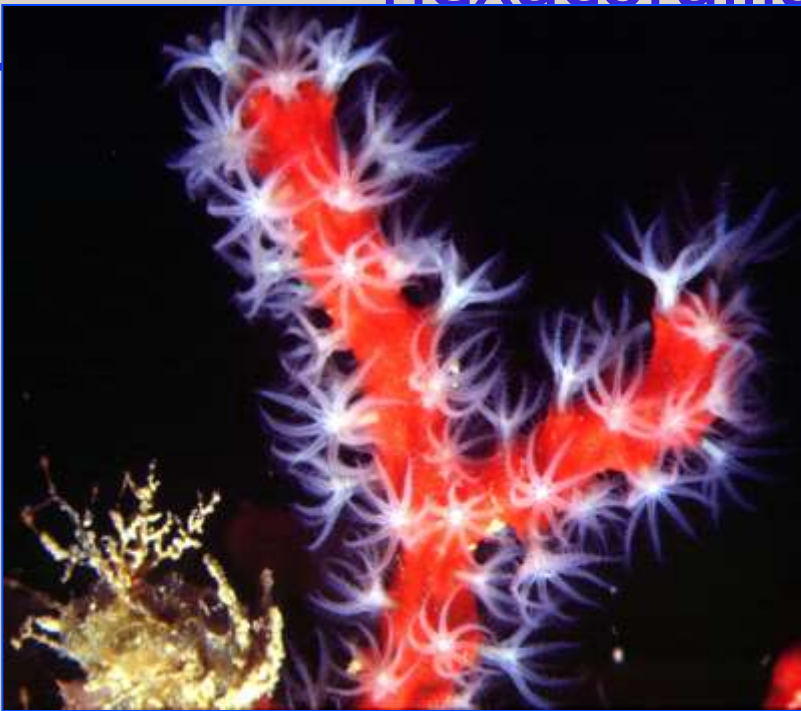
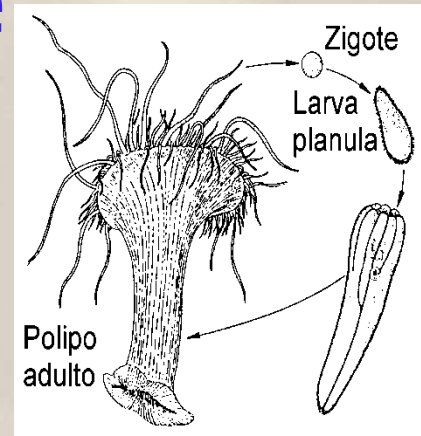
anthozoa

Absence of the medusoid stage

2 subclasses: octocorallia

hexacorallia (true

cor



anthozoa



1. Octocorallia: 8 tentacles
form colonies



2. Hexacorallia: $n \times 6$ tentacles
solitary or colonies

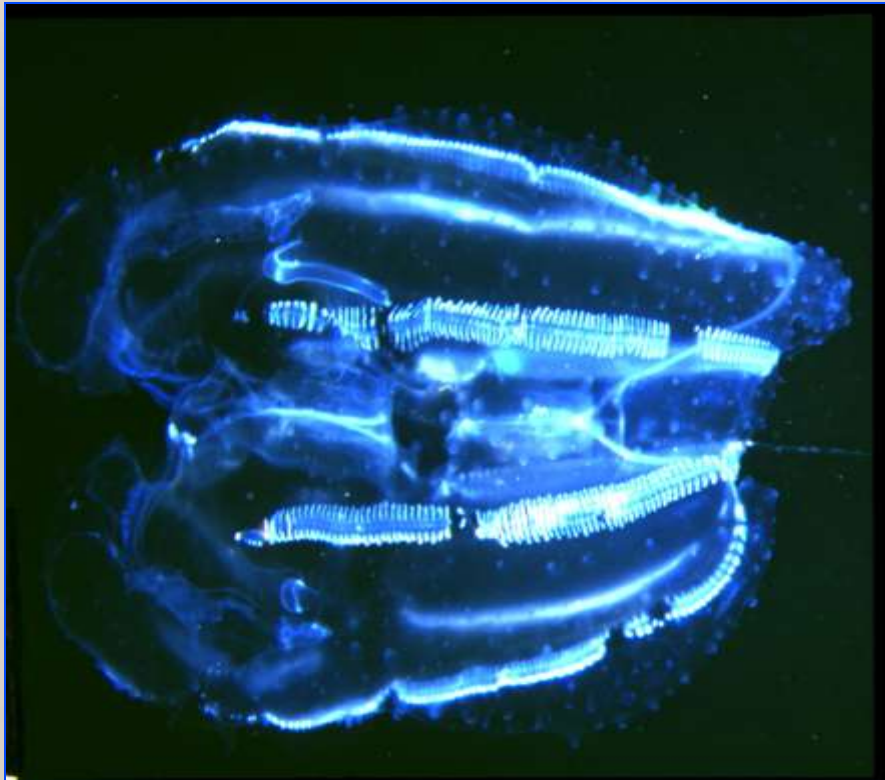


ctenophora

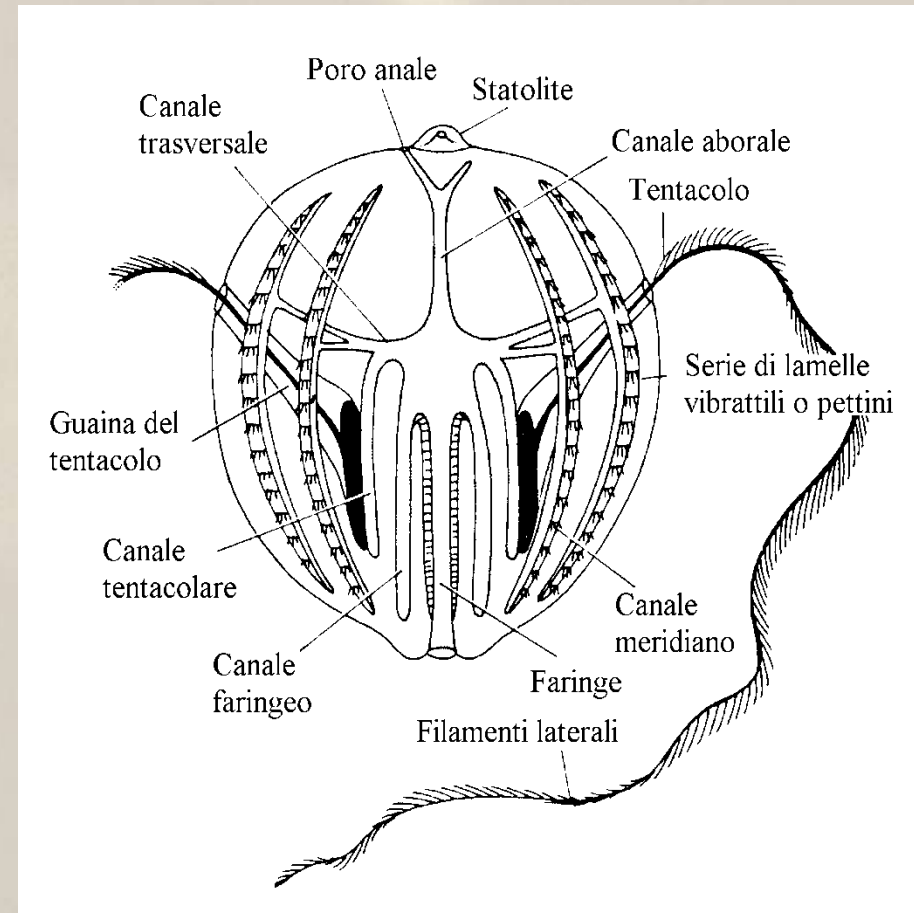


(Comb jellies)

Colloblasti instead of cnidoblasti



Cestus veneri



The marine worms



These are the most interesting for the submarine observer:

- **Platyhelminthes (flatworms)**
- **Nematoda (roundworms)**
- **Sipunculida**
- **Echiuridea**
- **Anellida (segmented worms; mobile or sedentary polychaetes)**

plathelminthes



(flat worms)



Dorso-ventral flattened body

No anus

Carniverous predators

annelida



(segmented worms)

Cylindrical body

Equal metamerie

Divided into: Clitellata (earthworms and leeches)

Polychaeta (polychaets, only marine forms)



Mobile Polychaet

(*Hermodice carunculata*)



Sedentary Polychaet

(*Sabella spalanzani*)

bryozoa



Colony made up of many single animals, called zoids.

A zoid is divided into a Polypid and a Cystid.

Cystid: builds the house

Polypid: sits in the Cystid
has tentacles

Polymorphism

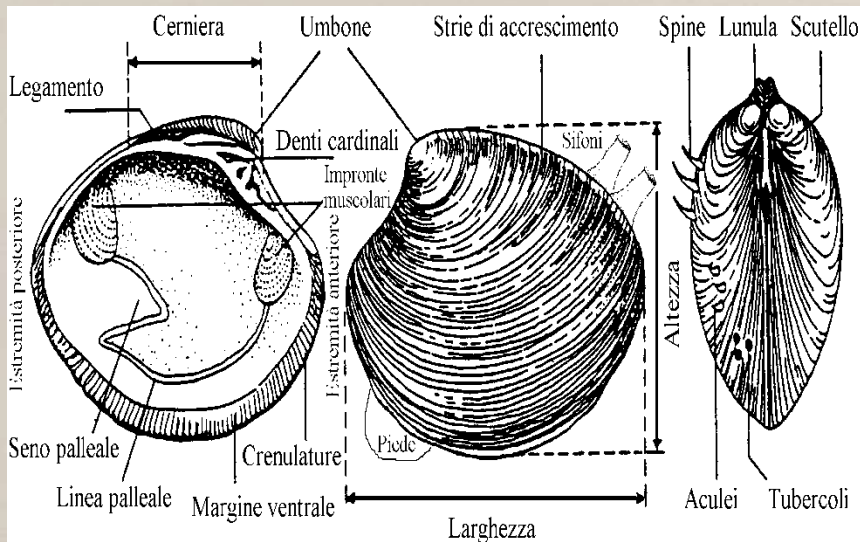
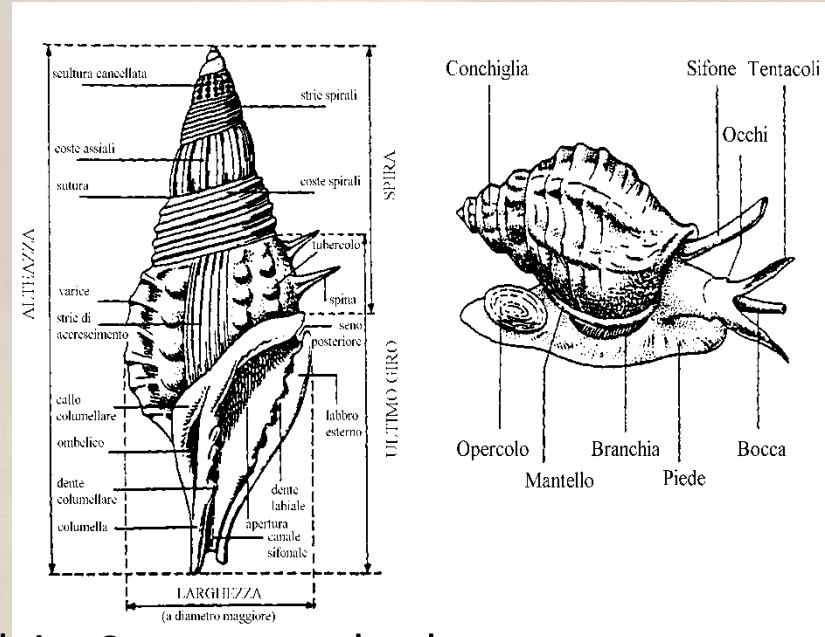


mollusca



1. Gastropoda: largest class

- (snails) shell is helicoidal
- operculum
- diet: vegetarian, carnivorous, suspension or detritus feeder



2. Bivalvia: 2 connected valves

- (shells) big foot (sometimes produces byssus, f.e. Mytilus)
- diet: suspension feeders

mollusca



3. Scaphopoda: look like an elephant's tusk
diet: microorganisms



4. Cephalopoda: head is the major part of the body
tentacles around the mouth
divided into: octopuses (8 tentacles)
squids (10)
cuttlefish (10)
nautilus (50)

crustacea



Phylum: Arthropoda (largest of the animal kingdom)

divided into 10 classes: Crustacea

Class: Crustacea (crustaceans)

divided into 10 subclasses: Cirripedia

Malacostraca

Body: chitinous exoskeleton

differentiated metameri: head

trunk

telson

crustacea



Cirripedia: sessile

cement gland

5 chitinous plates

live in the tidal zone



crustacea



Malacostraca: heterogenous subclass

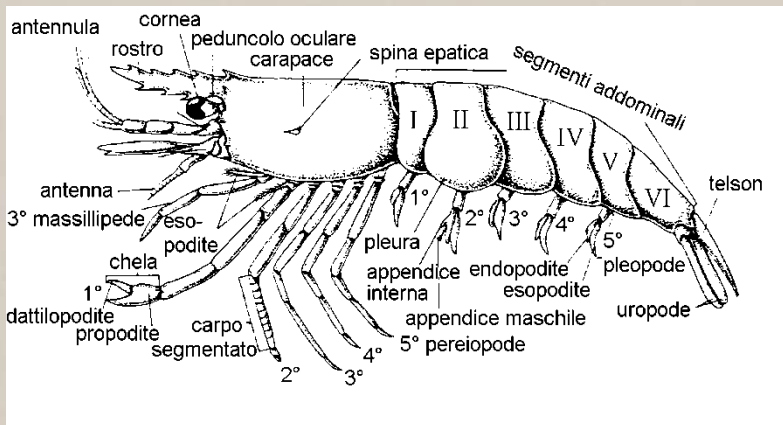
includes: crabs, lobsters,

shrimps,

prawns

live in holes or niches

omnivourous



echinodermata



Five-beamed symmetry in adults

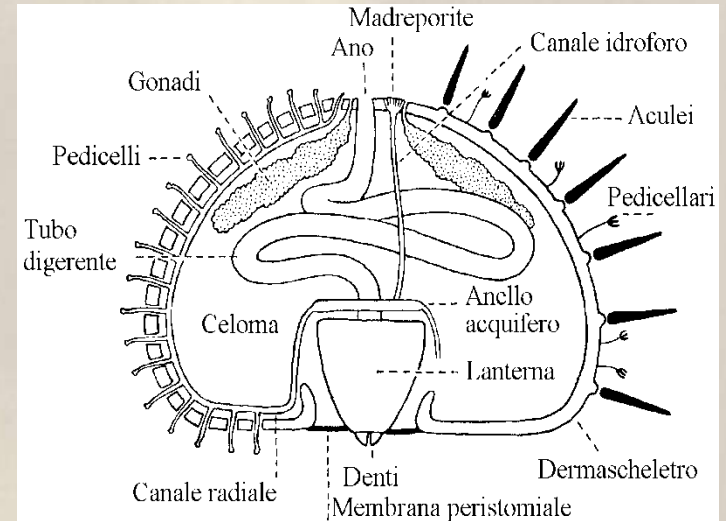
Bilateral symmetry in larvae

Calcareous external skeleton

Locomotion with use of water propulsion

Divided into:- **Crnioidea** (sea lilies)

- **Holothioidea** (sea cucumbers)
- **Asteroidea** (sea stars)
- **Ophiuroidea** (brittle stars)
- **Echinoidea** (sea urchins, sand dollars)



tunicata



Spinal cord

Tunica

they filter water

