23.3 Sponges and Cnidarians

KEY CONCEPT

Sponges and cnidarians are the simplest animals.

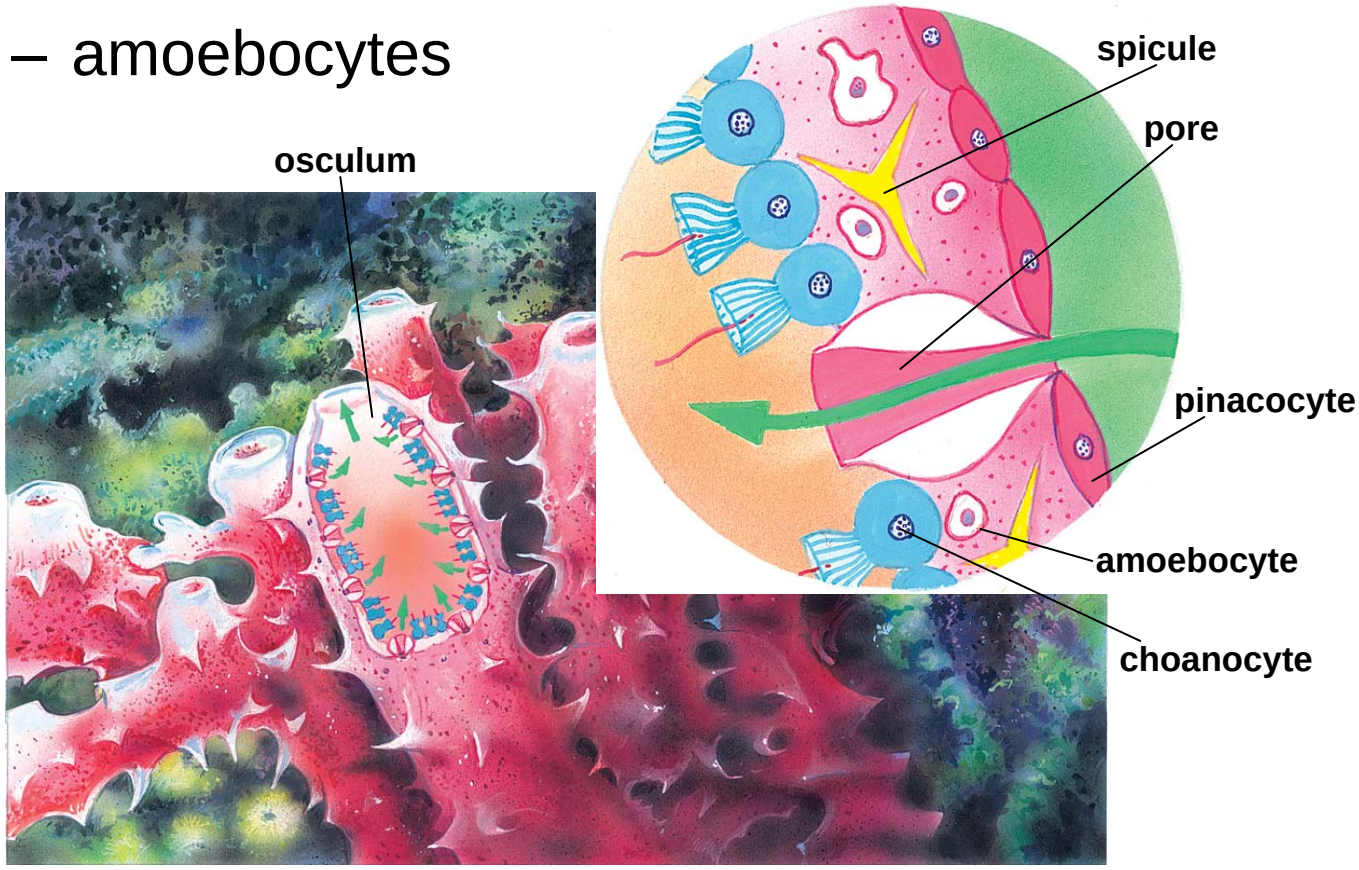
23.3 Sponges and Cnidarians

Sponges have specialized cells but no tissues.

- Sponges are the most primitive animals on Earth.
  - 570 million-year-old fossils
  - closely related to group of protists
- Sponges share common characteristics.
  - sessile
  - reproduce both sexually and asexually
  - filter feeders

23.3 Sponges and Cnidarians

- Sponges have several types of specialized cells.
  - pinacocytes
  - choanocytes
  - amoebocytes



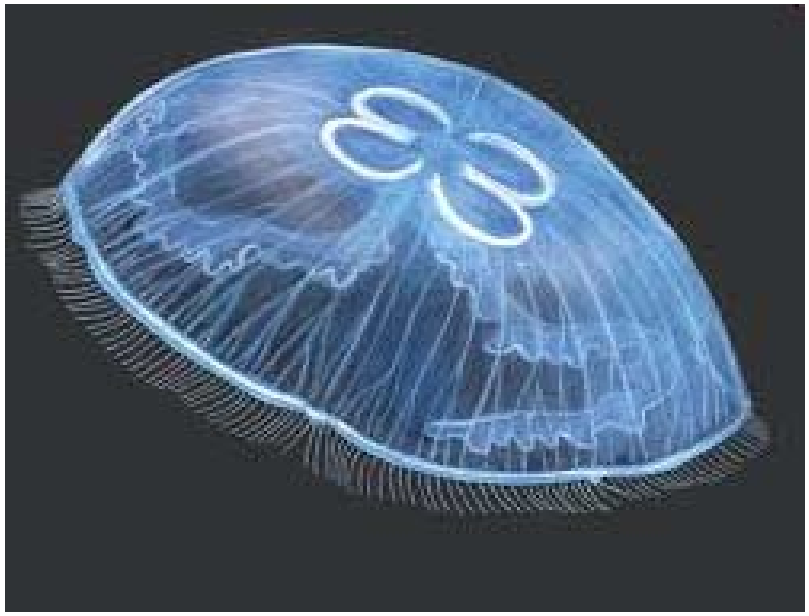
23.3 Sponges and Cnidarians

- **Cnidarians are the oldest existing animals that have specialized tissues.**
  - Cnidarians have two body forms.
    - polyps

In the polyp form of a coral, the tentacles and mouth face upward.

23.3 Sponges and Cnidarians

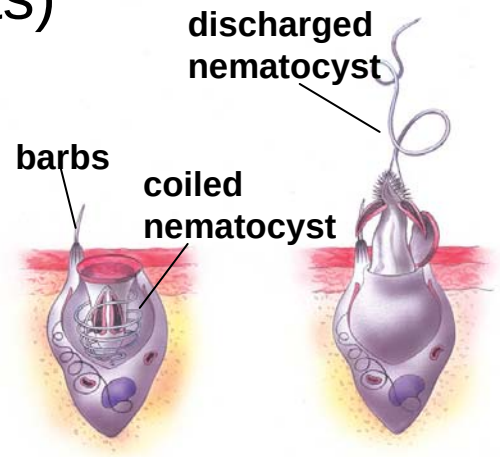
– medusas

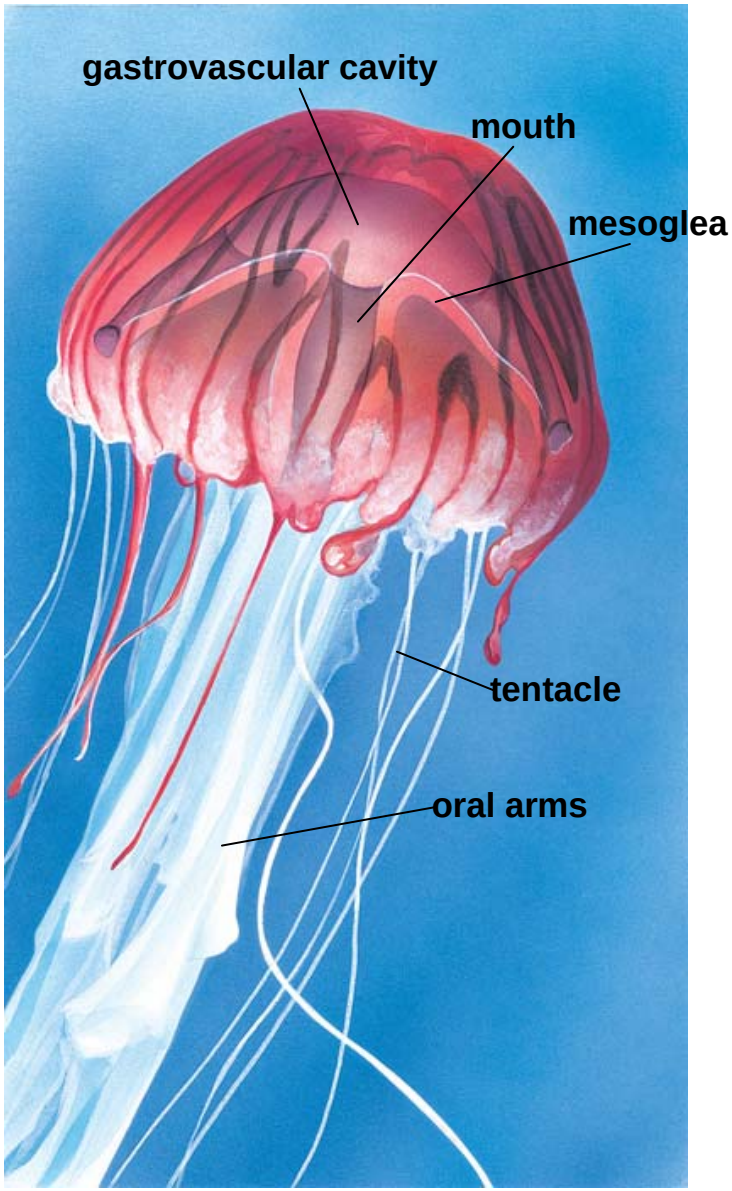


In the medusa form of a jellyfish, the tentacles and mouth face downward.

23.3 Sponges and Cnidarians

- Cnidarians are made up of two tissue layers separated by mesoglea.
- The outer tissue layer has three cell types.
  - contracting cells
  - nerve cells
  - cnidocytes (which contain nematocysts)





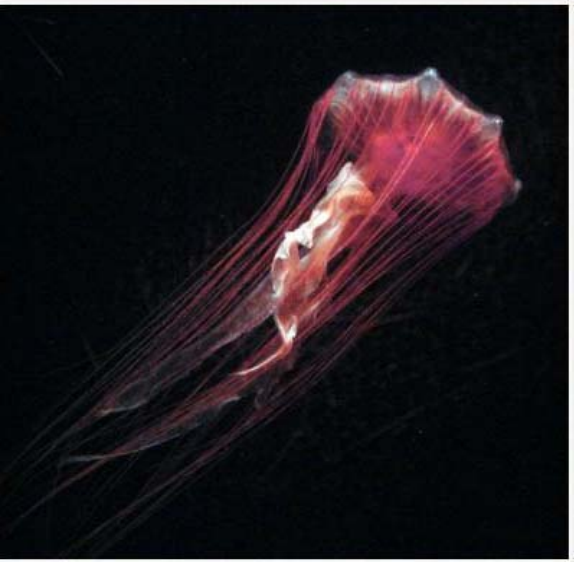
23.3 Sponges and Cnidarians

- The four major cnidarian classes are defined by their dominant body form.
  - **Scyphozoans** are jellyfish with a dominant medusa form.
  - **Anthozoans** such as sea anemones have a dominant polyp stage.
  - **Hydrozoans** such as hydra alternate between forms.
  - **Cubozoans** such as sea wasps have a dominant medusa form.

23.3 Sponges and Cnidarians

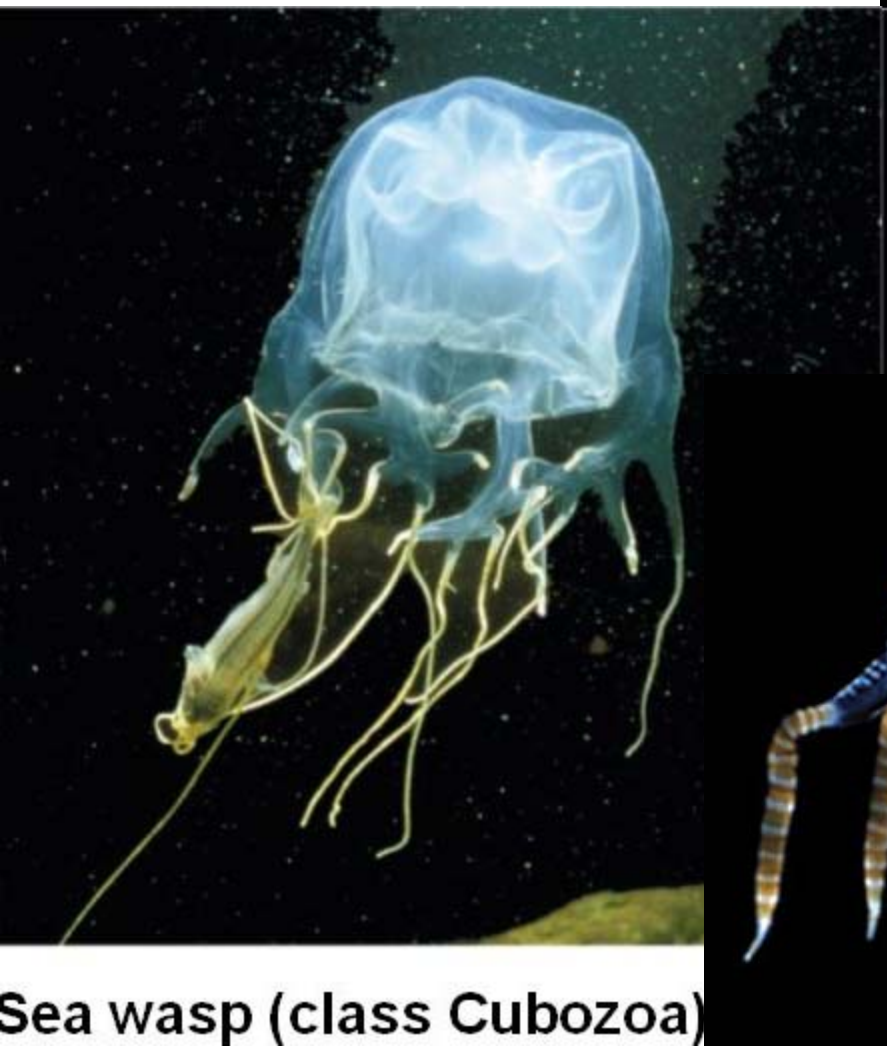
- **Scyphozoans** are jellyfish with a dominant medusa form.




23.3 Sponges and Cnidarians

- **Cubozoans** such as sea wasps have a dominant medusa form.



Sea wasp (class Cubozoa)

23.3 Sponges and Cnidarians

Anthozoans have a dominant polyp stage, like Corals and Anemones.

Sea anemone (class Anthozoa)

23.3 Sponges and Cnidarians

– Hydrozoans such as hydra alternate between forms.