18: *Phyla of the "Changed Animals"*

Climbing the evolutionary ladder from the protozoa we find higher levels of organization. Organisms are grouped into **mesozoa** and **metazoa** based on how organized they are. The simplest **multicellular** organisms (those having many cells) are the mesozoa ("middle animals"). These organisms are simple **parasitic** worms. Parasitic means that they live at the expense of some other organism. They often suck nutrient-rich fluids right out of the other organism, but they don't usually kill the organism or they lose their source of food.

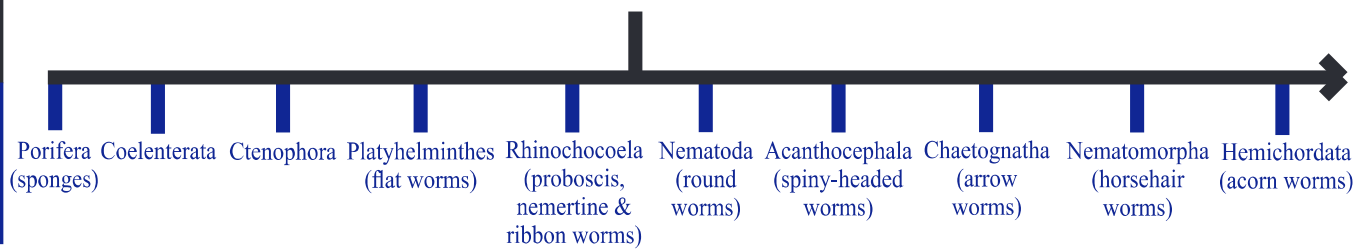
The **metazoa**, meaning "changed animals" can be larger in size because they have different kinds of cells that work together to bring things in, take things out, protect the whole organism, and perform other duties that enable them to live in a wider range of habitats. Because of the various cell types, organisms at this level begin taking on a variety of shapes that are not possible among colonies of identical cells. The metazoa include all other phyla of animals from the simple to the complex.

A strawberry sponge of the phylum Porifera.

Kingdom

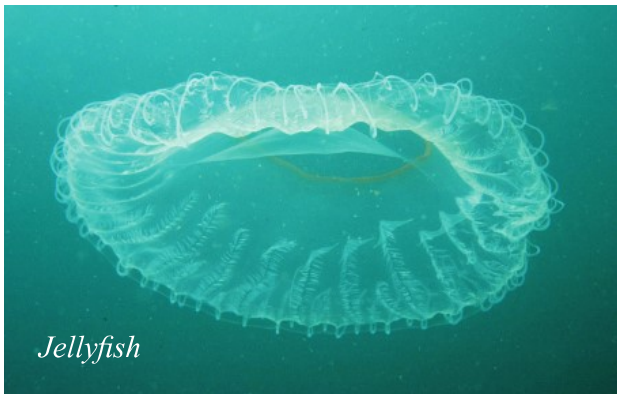
Phylum

Kingdom Animalia: Metazoa

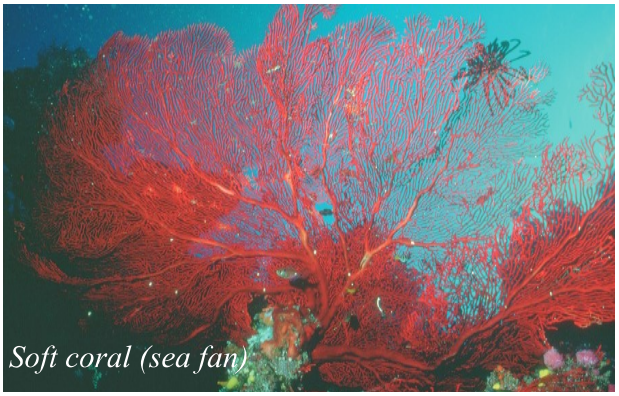


The next set of organisms in terms of their simplicity is the phylum **Porifera**—the sponges. There are many types of these animals that live in the sea and a few that live in fresh water. Sponges are made up of several types of cells. Notice that, in one big jump, we have gone from organisms that are groups of identical cells to organisms that are made up of several types of cells. The organisms that would bridge this gap in evolution are absent from the fossil record. This is another of the more important objections to the theory. Many such gaps exist.

Jellyfish, anemone, soft coral (or sea fan), sea pen and coral of the phylum Coelenterata. Most of these soft-bodied animals are built on a radial body plan, radiating from the center like spokes on a wheel.


Jellyfish


Anemone


Soft coral (sea fan)


Sea pen


Coral

Notice how each of the different phyla is identified by the basic body plan of the organisms making it up. The next two phyla, called **Coelenterata** [sē-LEN-tuh-RĀ-tah] and **Ctenophora** [ten-AH-for-ah], include animals that are laid out on the **radial** body plan. Radial bodies have a center and "radiate" from the center like the spokes of a wheel. These simple animals have many cell types that do different things. They are no longer groups of tissues but are arranged into simple systems, including digestive, nervous and muscular. Organisms included in these phyla are hydra, medusa (jellyfish), sea anemones [a-NEM-ō-nēz] and corals.

The next step up the supposed evolutionary ladder is composed of a large number (perhaps a hundred thousand) of different types of worms. Perhaps because radial symmetry is not a workable plan to support more complex digestion, the worms' body plan is what we call **bilateral**, or "two-sided." The left halves of their bodies are mirror images of their right halves (more or less).

Many "higher" organisms are bilaterally symmetrical. In the simpler ones, the body plan is like a sac that has a single opening through which everything enters and exits. In the more complex ones it's more like a drinking straw, where everything goes in one end and out the other.

These simple worms include flatworms, ribbon worms, the tiny rotifers, nematodes (which include several human parasites such as hookworms, pinworms and trichina worms), and several kinds of worms that are not well studied because they don't seem to have much impact on humans or ecology.

Comb jelly of the phylum Ctenophora. This is a football-shaped, translucent, jelly-like blob that glows in the dark. You would hardly think that anything fitting that description could be a living animal.

Because of the bilateral symmetry in the simple worms, evolutionists hold that they are our closer evolutionary relatives than sponges and jellyfish.

This is a photograph of a large, tropical flatworm of the phylum Platyhelminthes. This one is about 5 centimeters in length. Flatworms may be found under rocks in streams in North America, but they are best viewed under a microscope because they are usually only a fraction of a centimeter in length.

Exercises:

True or false?

1. Metazoa include all animals that are not considered microzoa (or protozoa).
2. Mesozoa are a type of metazoa.
3. The terms protozoa, mesozoa and metazoa represent three different groups of organisms.
4. Metazoa represent a higher level of organization than protozoa.