13: *The Tiny Plants*

We have already mentioned microphyta. These tiny plants inhabit moist environments. Among the microphyta are the **phytoplankton** (meaning "suspended plants") that live suspended in lakes, streams and oceans. Phytoplankton include the organisms shown in the following Figures. There are many organisms which make up each of the phyla introduced in this lesson. (See the Table for technical names.) We present only a few examples so that you can get a feel for the similarities and differences among the phyla.

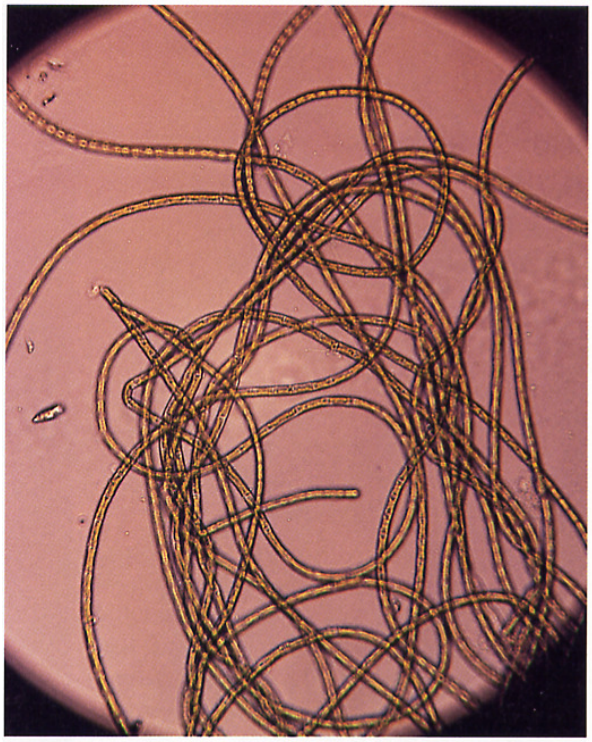
TABLE: PHYLA OF MICROPHYTA (TINY ALGAE)

Phylum	Organism
Pyrrophyta ("fire" + "plants")	dinoflagellates
Chrysophyta ("gold" + "plants")	coccolithophorids, diatoms
Euglenophyta ("good" + "eyeball" + "plants")	*Euglena* species (possess an eyespot)
Chlorophyta ("green" + "plants")	*Volvox* species, spirogyra

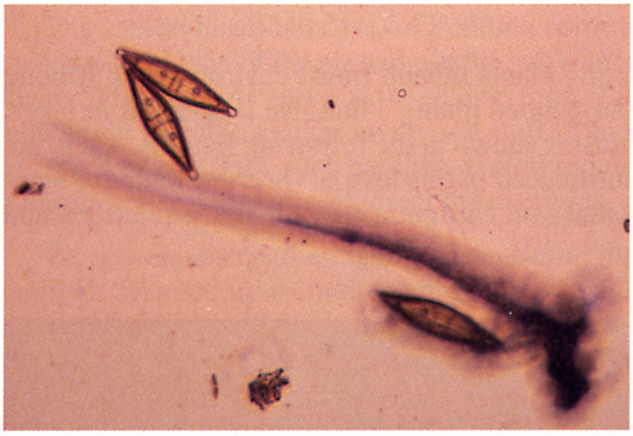
Some of the more famous phytoplankton include the dinoflagellates (sometimes called "red tide"). These little monsters can grow in great numbers within an area and produce toxins that kill fish and other animals. They can even be deadly to humans who swim in infested waters.

A second phylum includes many important phytoplankton. One group of these organisms, called coccolithophorids [KOK-kō-lith-ō-FOR-idz], die and settle to the bottom of the ocean. Their dead cell walls are made of calcium carbonate and accumulate into layers of chalk at the bottom of the ocean.

Another group in this phylum, called diatoms, consists of fascinating little organisms that build cell walls out of silica. Under the light of a microscope these "glass houses" of different shapes bend light, so they look colorful. Sometimes these organisms don't detach as they grow, so they remain stuck together, forming a variety of geometric patterns.



Green algae are aquatic plants that grow in long, thin strands



Diatoms *have outer cell walls made of the same silicaceous material (material containing silica) that glass is made of. They grow in lots of neat shapes.*

Volvox *are simple colonies of algae in the shape of hollow spheres that travel around using their flagella.*

A third phylum common in fresh water includes the *Euglena*. These organisms have lots of big **plastids** which are sacs that hold their pigments. Like many other microeukaryotes, they have an eyespot that senses light and a whip-like **flagellum** that they thrash to propel them through water.

The final group of microphyta consists of the **green algae**. Some of the most famous green algae are the *Volvox*, which are colonies of cells forming hollow spheres. Each sphere has two flagella that help direct its motion through water. Other organisms in this group include the slimy **filamentous** algae (algae that grow in long strands) that we see floating in the edge water of ponds.