

New Terms - The Diversity of Life

- taxonomy** - the classification of organisms, which generally classifies them according to their reproductive parts.
- binomial nomenclature** - basis for naming organisms, particularly plants and animals. Is the scientific naming used to identify the genus and the species - the two items that distinguish one organism from another. Like *Homo sapiens* (the first is the genus, the second is the species).
- species** - organisms that interbreed under normal circumstances, like horses with horses, people with people.
- genus** - groups of similar species the plural form is genera.
- family** - groups of similar genera
- order** - groups of similar families
- class** - groups of similar orders
- divisions** - in the plant kingdom they are groups of similar classes
- phyla** - phylum is the singular form and in the animal kingdom is the groups of similar classes.
- kingdom** - groups of similar organisms (like animals, plants, etc.)
- animalia** - kingdom of animals that is divided into two parts, invertebrates (animals without backbones) and vertebrates (animals with backbones).
- plantae** - kingdom of plants including mosses, ferns, and seed producing plants.
- fungi** - kingdom of fungi like yeasts, molds, and mushrooms
- protista** - includes the protozoa and other one-celled eukaryotic organisms like one-celled algae.
- monera** - the bacteria and cyanobacteria, single-celled organisms that are prokaryotic
- cocci** - type of spherical bacteria, there are 3 types (staphylococci - irregular clusters of cocci, streptococci - chains of cocci bacteria - the cause of strep throat, and diplococci - pairs of cocci).
- bacilli** - rod-shaped bacteria
- spirochetes** - rigid spiral bacteria
- spirilla** - flexible spiral bacteria
- heterotrophic** - describes an organism that gets its food from organic matter
- saprobic** - describes organisms that feed on dead or decaying organic matter - describes most of the bacteria.
- autotrophic** - organisms that are able to produce their own food - especially by photosynthesis.
- photosynthetic bacteria** - autotrophic bacteria with pigments that permit them to produce food by photosynthesis.

chemosynthetic bacteria - autotrophic bacteria that use chemical reactions as a source of energy.

psychophilic - describes bacteria that live in very cold temperatures.

mesophilic - describes bacteria that live at human body temperatures.

thermophilic - describes bacteria that live at very high temperatures.

facultative - describes bacteria that can live either with or without air.

pathogenic - describes bacteria that cause human disease

cyanobacteria - blue-green algae, a major part of the plankton in the oceans.

virus - acellular particles that lack properties of living things but are able to replicate inside living cells.

genome - the core of the virus that contains the genes

capsid - the protein coating of a virus

Protozoa - single-celled or colonial organisms, subdivided into 4 different phyla according to their method of movement.

Mastigophora - characterized by a single whip-like flagella, *Euglena* is a good example.

Sarcodina - characterized by movement with pseudopodia which are simply extensions of the cytoplasm. Typical examples are the amoebas.

Ciliophora - move by means of small "hairs" called cilia. The *Paramecium* is a well-known member of this phyla.

Sporozoa - exclusively parasites, they produce spore-like bodies. Plasmodium is a good example of this phyla and is the cause of malaria.

Algae - refers to a large number of photosynthetic organisms that are not considered plants, though they have chlorophyll. Most live in the oceans.

Rhodophyta - the red algae

Pyrophyta - represented by the dinoflagellates, which are single-celled organisms surrounded by a plate of armor and they have two flagella - when reproducing in large numbers create the condition known as red tide.

Chrysophyta - the golden algae and are represented by the diatoms which consist of cell walls containing silica.

Phaeophyta - brown algae

Chlorophyta - green algae

Oomycetes - called water molds and have special sexual spores called oospores. Also in sexual reproduction they form a special cell called a zoospore which has a flagella and is able to move like an animal cell.

Zygomycetes - commonly called the terrestrial fungi. They are coenocytic - meaning the hyphae have no cross walls. Sexually opposite hyphae form zygospores. Commonly represented by the grey or white mold on bread.

Ascomycetes - members range from mildews to cottony molds to large cup-like fungi. During sexual reproduction they form a sac known as the ascus that is

Basidiomycetes - filled with ascospores.
contain basidiospores, sexual spores on basidia (a club-like structure).
Mushrooms are a well-known member of this class.