

III. Animal-Like Protists

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Diversity of Animal-Like Protists

Phylum Name	Common Name	Traits/Characteristics
1. Rhizopoda	Amoeba	- Use <u>Pseudopods</u> (fake feet) for movement
2. Actinopoda	Foraminiferans, Actinopods	- Have highly perforated shell of calcium carbonate - Move with cytoplasmic extensions "ray foot" that go through the perforated shell - <u>Ray foot</u> of microtubule covered by cytoplasm - Fossil shells form in marine sediments - Many Planktonic
3. Zoomastigina	Zooflagellates	- Flagellated protozoans - Undulating Membranes - mostly unicellular - Free-living, parasitic, or endosymbionts - ex. Giardia (from feces infected water) - ex. Trichomonas vaginalis (vaginal infections) - ex. Trichonymphs digest cellulose in termites - ex. Trypanosoma (parasitic) causes African Sleeping Sickness
4. Ciliophora	Ciliates	- use cilia to move and feed - most solitary, live in freshwater - 2 or more nuclei: - <u>macronucleus</u> w/50 or more copies of the genome, and <u>micronuclei</u> that are required for conjugation (sexual process) - very complex organism: <u>contractile vacuoles</u> (for water balance), mouth, anal pore ex. Stentors, paramecium
5. Apicomplexa	Sporozoa	- Parasitic, form <u>sporozoites</u> (infectious cells that have specialized structures at the apex to help penetrate into host.) ex. Plasmodium (causes malaria)

IV. Algae and Plant-like Protists



Diversity of Algae and Plant-Like Protists

Phylum Name	Common Name	Traits/Characteristics
1. Euglenophyta	Euglenoids	<ul style="list-style-type: none"> - unicellular - 1-3 flagella - common in freshwater - has <u>pellicle</u> (protein strips that wrap over membrane) - eyespot for phototaxis - photoautotrophs, but some can become heterotrophs w/o light
2. Dinoflagellata	Dinoflagellates	<ul style="list-style-type: none"> - major component of photosynthetic phytoplankton - 2 flagella → spinning movement - blooms cause red tides (red from xanthophylls red pigment) - can produce toxins that kill fish - some are bioluminescent
3. Bacillariophyta	Diatoms	<ul style="list-style-type: none"> - glass shells of silica - freshwater/marine plankton - major constituents of marine sediment - asexual reproduction is most common
4. Chrsophyta	Golden Algae	<ul style="list-style-type: none"> - yellow/brown carotene and xanthophylls pigment - 2 flagella - unicellular or colonial - freshwater or marine plankton
5. Chlorophyta	Green Algae	<ul style="list-style-type: none"> - closely related to land plants - both chl a, b, carotenoids - have cellulose cell walls - use starch to store polysaccharides - single celled to colonial - most produce flagellated cells at some part of

		its life - can be very diverse (volvox colonies, ulva sea lettuce, etc.) - some form mutualistic rltip with fungi → <i>lichens</i> - complex asexual and sexual life cycles <i>isogamous</i> – 2 flagellated gametes of equal size <i>anisogamous</i> – gametes differ in size <i>oogamous</i> – non mobile large egg w/ small flagellated male
6. Phaeophyta	Brown Algae	-multicellular -flagellated sperm -same pigments as golden algae - Most have alternation of generation life cycle <i>thallus</i> = body <i>holdfast</i> = rootlike system <i>stipe</i> = stemlike system <i>blades</i> = leaf like ex. Giant kelp
7. Rhodophyta	Red Algae	-multicellular - <i>phycobilin</i> red accessory pigment -no flagellated stage; dependent on ocean currents for fertilization

V. Fungal-like Protists



Diversity of Fungal-Like Protists

Phylum Name	Common Name	Traits/Characteristics
1. Acrasiomycota	Cellular Slime Molds	-fungal-like and amoeba like characteristics -unicellular amoeboid feeding stage - multicellular slug-like aggregation stage -multicellular stage forms fruiting bodies that produce “spores” that germinate into amoebas -cAMP released by amoebas that experience food deprivation signals the aggregation stage
2. Myxomycota	Plasmodial Slime Mold	-brightly pigmented yellow or orange - <i>plasmodium</i> = amoeboid feeding mass that is NOT multicellular; its unicellular, but multinucleated – caused by multiple mitotic division w/o cytokinesis - plasmodium dries up and form <i>fruiting bodies</i> .

		<p>Meiotic division within the fruiting bodies create haploid spores that are amoeboid or flagellated. Fertilization allows for plasmodium formation</p>
Oomycota	Water molds, downey mildews, white rust	<ul style="list-style-type: none"> -parasitic or <u>saprobic</u> (obtain Energy from dead matter) -closest to actual fungi -have <u>mycelium</u> (main body) made up of <u>hyphae</u> (threadlike filaments that secrete enzymes for digestion. -they are <u>coenocytic</u> (they have many nuclei within a single cell) – lacking the “cross walls” or <u>septa</u> which partition the filaments into cellular components, as found in true fungi.