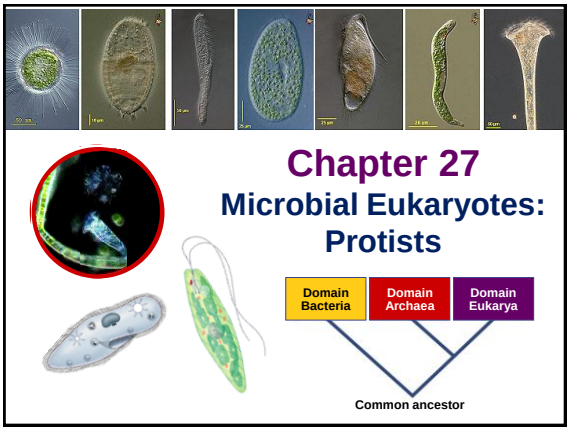
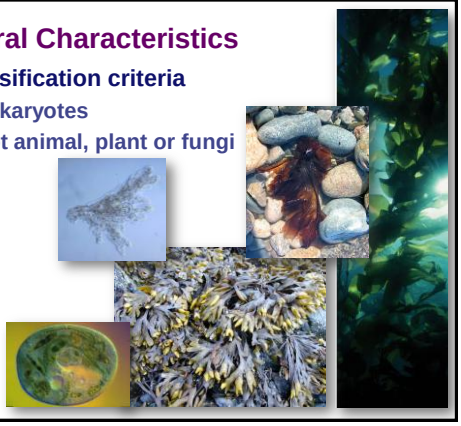
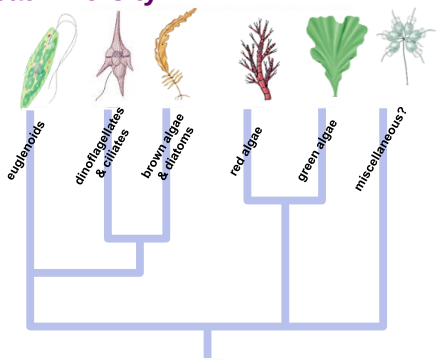


General Characteristics

- Classification criteria
  - eukaryotes
  - not animal, plant or fungi

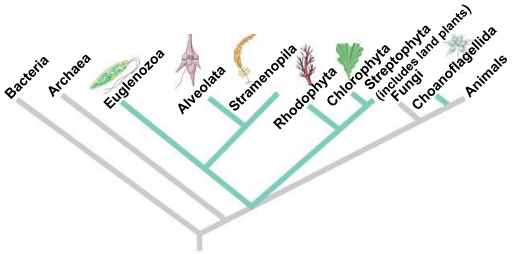


Great Diversity

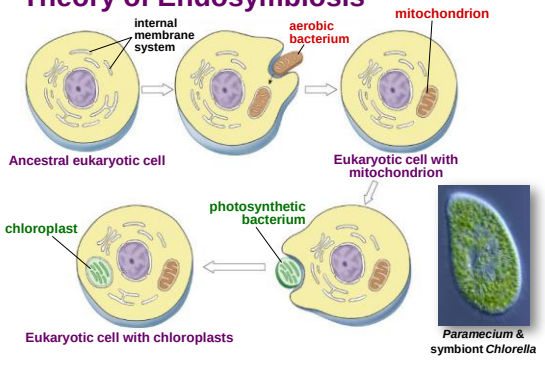


Problems with Protist Classification

- Too Diverse!

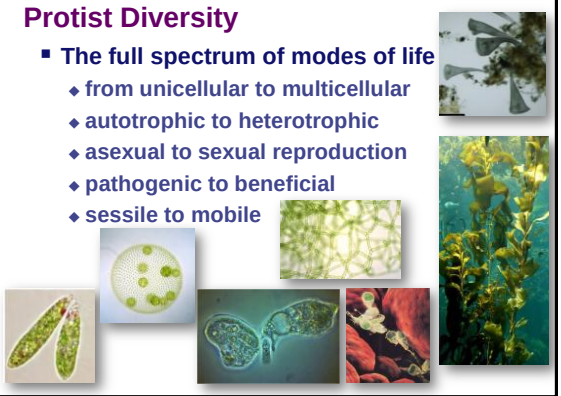


Theory of Endosymbiosis



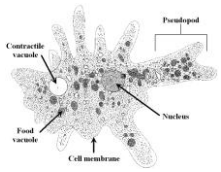
Protist Diversity

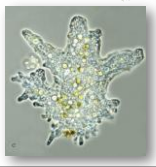
- The full spectrum of modes of life
  - from unicellular to multicellular
  - autotrophic to heterotrophic
  - asexual to sexual reproduction
  - pathogenic to beneficial
  - sessile to mobile



Mobility

- How protists move
  - flagellum
  - cilia
  - pseudopod





Protist Diversity

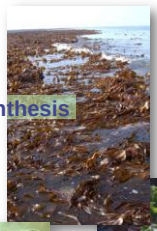
- Animal-like protists
  - heterotrophs, predators
    - Amoeba
    - Paramecium
    - Stentor

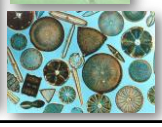
Paramecium with food vacuoles stained red

Amoeba ingesting a Paramecium

Protist Diversity

- Plant-like Protists
  - autotrophs, photosynthesis
    - Euglena
    - algae
    - diatoms

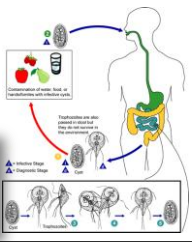




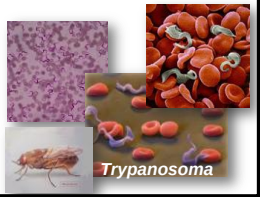
Protist Diversity

- Parasitic & pathogenic Protists
  - malaria
  - Giardia
  - trypanosomes

Plasmodium



Giardia



Trypanosoma

Protist Diversity

- Beneficial & necessary Protists
  - phytoplankton
    - small algae + diatoms
    - much of the world's photosynthesis
    - produces ~90% of atmospheric oxygen
  - zooplankton
    - heterotrophic protists +
    - key ecological role at base of marine food web