

Ecological Roles of Protists

Plant-like Protists

Harmful:

1. Euglenophytes thrive where sewage is discharged because they can absorb nutrients
 - Large masses of cells can result and are known as blooms
 - When they run out of nutrients, they die and add to the waste matter. This can decrease the oxygen of lakes, which will affect fish & other creatures.



Harmful plant-like protists continued:

2. Red Tide: blooms of dinoflagellates

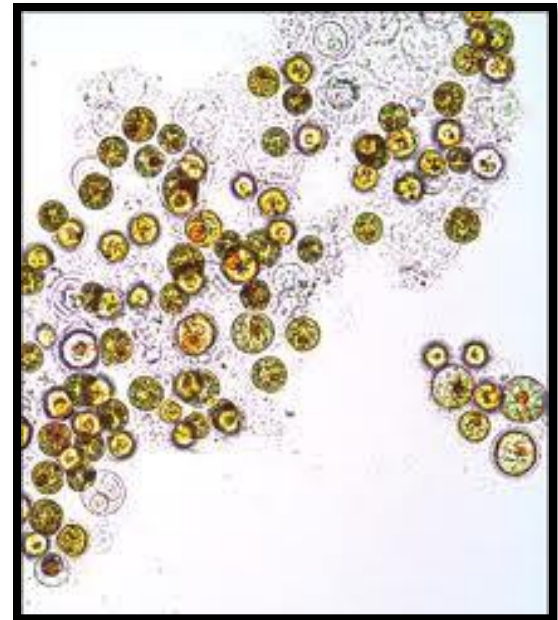
(Pyrrophyta) occur

- They produce a toxin that can **become concentrated in the tissues of shellfish** (clams, mussels, oysters)
- The toxin affects the **nervous system causing illness, paralysis, or death** of humans, fish and other marine animals.



Beneficial Plant-like Protists

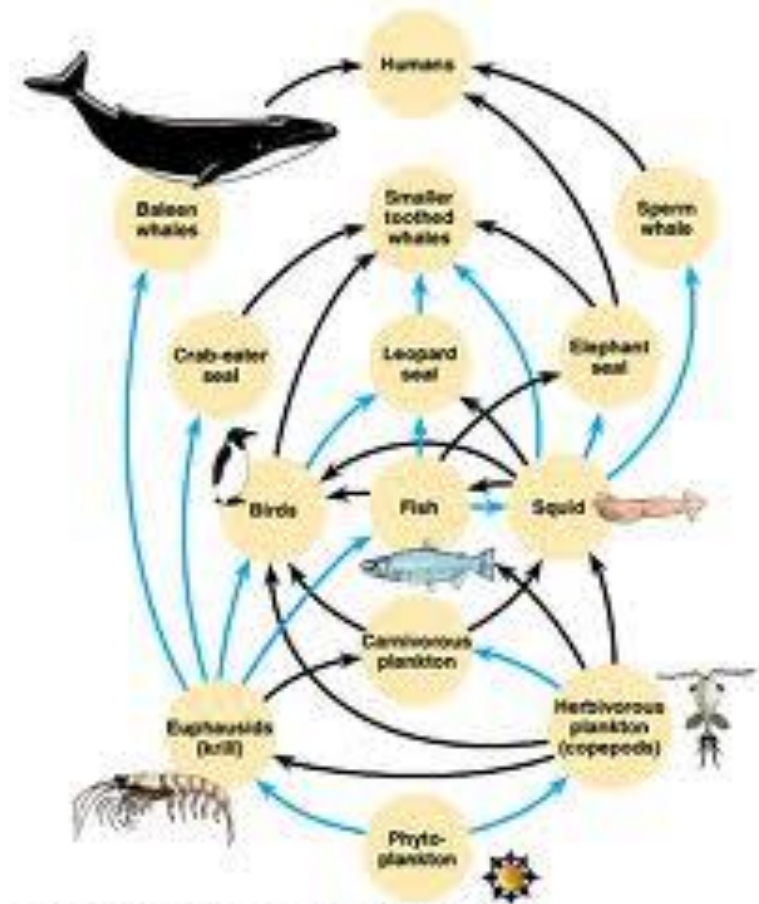
1. Coral can contain dinoflagellates which photosynthesize. Coral can live off of the products of photosynthesis and therefore, can live where there are not many nutrients in the water.



Beneficial plant-like protists continued:

2. Phytoplankton is an important **part of the food chain for many organisms** (whales, shrimp, & squid)

3. Phytoplankton produces **oxygen** for the Earth.



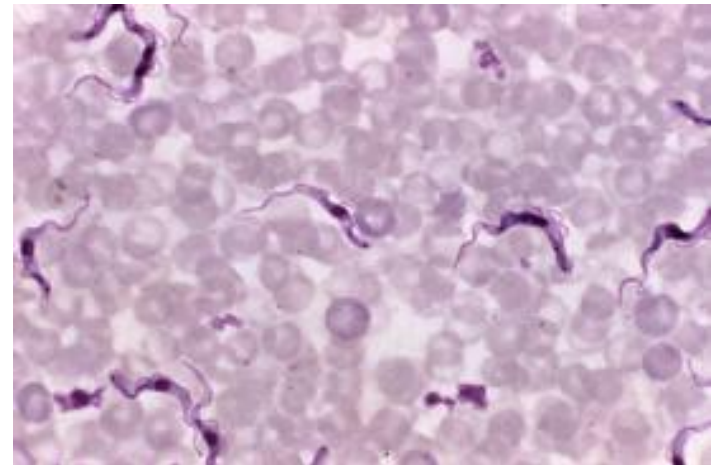
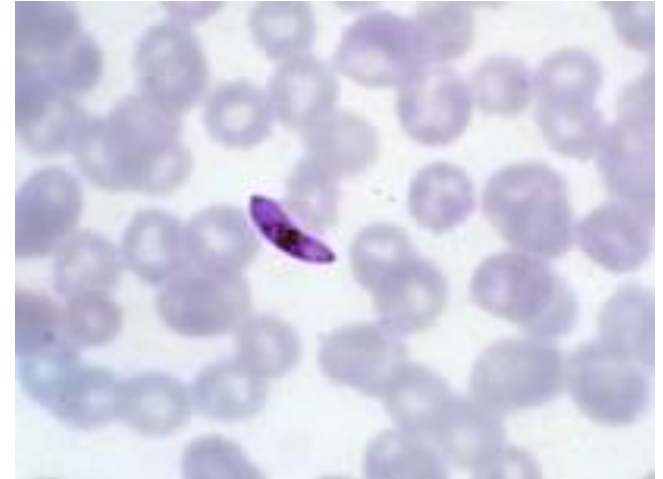
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Animal-like Protists

Harmful:

1. *Plasmodium* (Sporozoa)
causes Malaria – passed on
by a mosquito (vector =
method of transfer)

2. *Trypanosomiasis*
(Mastigophora/Zoomastigina)
– causes African sleeping
sickness – passed on by
tsetse fly



Harmful animal-like protist continued:

3. *Entamoeba* (Sarcodina) – amoeba that lives in the digestive tract and causes dysentery.
- Spread through contaminated water sources.

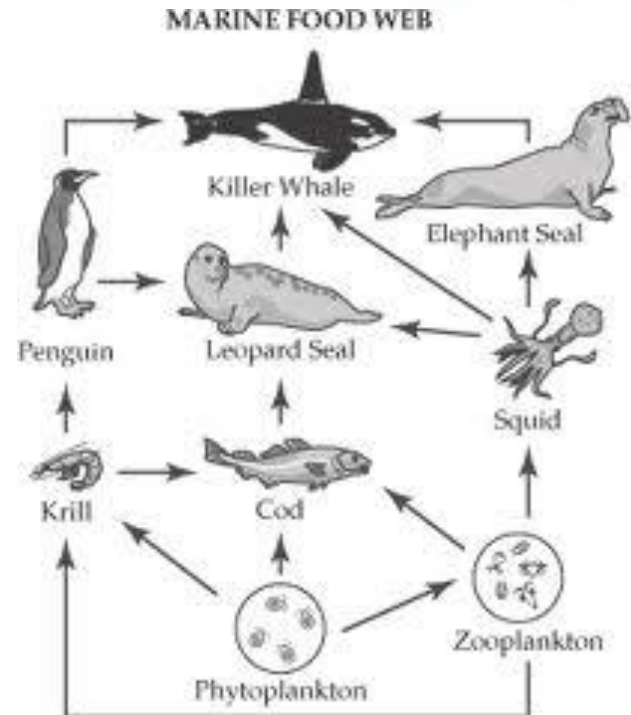


Beneficial Animal-like Protists:

1. *Trichonympha* (Mastigophora / Zoomastigina) lives in the intestines of termites to digest wood. (Termites cannot digest wood without them! = symbiotic)



2. Zooplankton are an important part of the food chain.



Controlling Pathogenic Protists

- By knowing how the protist reproduces, you can control their spread. This shows where the organism is vulnerable in their life cycle.

Ex. To control Malaria, they spray mosquitoes – same with Tsetse fly for African Sleeping sickness

Slime Molds = Fungi-like Protists

- 2 parts of their life cycle:
 - A) Produces spores from fruiting bodies (reproductive structure).
 - These spores help spread the slime mold to new areas.
 - B) It is able to move to new areas by cytoplasmic streaming – like an amoeba.



Slime mold life cycle

