

PROTISTA AND FUNGI

* ANIMAL LIKE PROTISTS (PROTOZOA)

1. Zooflagellates or Kinetoplastids
- 2. Amoeba
3. Foraminifera
4. Apicomplexes / Sporozoa
5. Ciliates

* PLANT LIKE PROTISTS

1. Euglenozoids
2. Dinoflagellates
3. Diatoms
4. Brown Algae
5. Rhodophyta
6. Chlorophyta

* FUNGUS LIKE PROTISTS

1. Plasmodial slime molds
2. Oomycota (water molds)

* FUNGI

1. Zygomycota
2. Ascomycota
3. Basidiomycota

Koracademy.com

* Zooflagellates or Kinetoplastids

→ Trypanosomes

→ Trachonymph

* Apicomplexes

→ Malarial parasite plasmodium

* Ciliates

→ Paramecium

→ Balantidium coli

* Dinoflagellates

→ Red Tides

Koracademy.com

* Brown Algae

→ sea weeds e.g kelps

* Chlorophyta

→ Chlamydomonas

→ Volvox

→ Spirogyra

* Oomycota (water molds)

→ Phytophthora infestans

* Zygomycota

→ Rhizopus stolonifer

* Ascomycota (Sac Fungi)

→ Pencillium

→ Yeast

* Basidiomycota (club Fungi)

→ Mushrooms

→ Puffballs

→ Shelf fungi

→ Rusts and smut

MALARIAL PARASITE PLASMODIUM

1. Saliva of female anopheles mosquito → sporozoites (n)

2. Liver of ^{host} → Merozoites (n)

3. RBCs of host → Merozoites (n)

4. Merozoites develop into male and female gamete

5. Mid gut of mosquito → oocyst (2n)

Oocyst divide by meiosis to produce haploid sporozoites and move to salivary glands

* Cell wall of dinoflagellates → cellulose

* Cell wall of diatoms → silica

* Dinoflagellates ^{and diatoms} possess chlorophyll a, c and carotenoids

* Pellicle: Pellicle is a very thin layer of protein that protects cell membranes in many types of protozoa (ciliates, euglena).

In euglena pellicle lies beneath the plasma membrane

Koracademy.com

REPRODUCTION

1. Amoeba : Binary Fission

2. Paramecium:

→ Asexual : Transverse Fission

→ Sexual : conjugation

3. Chlorophyta :

→ Asexual : Through zoospores

→ sexual : conjugation

4. Oomycota (Water molds)

→ oogamous reproduction

5. Zygomycota

→ through zygospores (sexual)

6. Ascomycota

→ through ascospores (sexual)

→ Asexual : through conidia

Koracademy.com

→ In oomycota, cell wall is made of cellulose

✦ oogamous reproduction: Reproduction by the union of mobile male and immobile female gametes.

→ Chitin is a nitrogen containing polysaccharide

→ More than 40% of ascomycota live with green algae and cyanobacteria in beneficial symbiotic associations forming lichens.

→ Some ascomycota form mycorrhizae with roots of higher plants

✦ Basidiomycota:

1. Primary Mycelium → Monokaryon (n)

2. Secondary Mycelium → Dikaryotic cell ($n+n$)

3. Tertiary Mycelium → more complex and gives rise to fruit bodies (basidiocarps)

→ Basidiocarp contains basidia

→ Basidia are microscopic spore-bearing structures.

→ Karyogamy occurs in basidium which is followed by meiosis forming four haploid nuclei which are incorporated in basidiospores.

Koracademy.com

→ Sexual Reproduction:

Monokaryon → Dikaryon

* **Karyogamy:** Karyogamy is the final step in the process of fusion of two haploid eukaryotic cells and refers specifically to the fusion of two nuclei. Before karyogamy, each cell has one complete copy of the organism's genome.

* **Plasmogamy:** A stage in the sexual reproduction of fungi in which the cytoplasm of two plant cells fuses without the fusion of nuclei, effectively bringing two haploid nuclei close together in the same cell.

* **haustorium:** A slender projection from the root of a parasitic plant, or from the hyphae of a parasitic fungus, enabling the parasite to penetrate the tissue of its host and absorb nutrients from it

Koracademy.com