بسم الله الرحمن الرحيم

Kingdom protista* part 1

Main class	Phylum	examples	Nutrition type	Locomotion (movement)	Other notes
Euglenozoa (contains a spiral or crystalline rod inside the flagellum)	**Euglenophyta**	**Euglena**	**Mixotrophic**(both auto and hetero trophic)	Single flagellum	• **Eyespot** for light reception • **Contractile** vacuole for **osmoregulation** • No cell wall, but an outer covering called **pellicle**
	Kinetoplastids (has single large mitochondrion and a kinetoplastid that houses the extranuclear DNA)	**Trypanosoma** (causes **sleep sickness** disease)	Heterotrophic → Parasitic !	Single flagellum	• Sleep sickness disease is spread by **testes fly** • Trypanosome is an **intercellular** parasite (found between blood cells) • Not the **undulating membrane, flagellum** and **nucleus**
Alveolata (has membrane-bound cavity called alveoli that has an unknown function)	**Ciliophora (ciliates)**	**Paramecium**	Heterotrophic → parasitic or free living	Cilia!	• **Macronucleus**: control "day to day activity" • **Micronucleus**: involved in reproduction process • Asexual Reproduction: **binary fission** • Sexual reproduction: **Conjugation**
	Apicomplexa	**Plasmodium**	Hetertrophic → parasitic	Non-motile (that's why it has two hosts)	• Two hosts: **Anopheles** mosquito and **humans** • Sexual reproduction: in anopheles ONLY. • Asexual reproduction: in humans = **schizogony** in anopheles = **sporogony** • Plasmodium is **an intra cellular** parasite (inside red blood cells) • Plasmodium lifecycle page 286
Amoebozoa	**Entamoeba**	**amoeba**	parasitic	Pseudopodia	Notice the contractile vacuole, nucleus, pseudopodia

*kingdom protista is a very very diverse kingdom. Most protists are unicellular and a few are multicellular or colonial. They could be either autotrophs or heterotrophs or even both (mixotrophs as is euglena).they also vary in means of locomotion such as flagella (many examples), cilia (cilliophora), pseudopodia (ex: amoeba) some are nonmotile (ex:plasmodium). ALL of them reproduce a sexually and some can reproduce sexually.

Kingdom Protista Part 2

Main class	Phylum	Example	Nutrition type	Habitat	Other notes
Stramenopila (stramen = flagellum, pilos = hair)	**Bacillariophoria**	Diatoms	autotroph	-Marine →centric -Fresh water→pin nate	•Their walls are called **shells** and consists of **silicon** •When diatoms sink they accumulate forming **diatomaceous** earth •Two types: centric and pinnate
	Phaeophyta (brown algae)	Kelps and seaweed and **fucus**	autotroph	Marine	• Contain **chlorophyll a and c** • **Fucoxanthin** gives the brown color •At their tips they contain **conceptacles** that contains **antheridia** (contains male's sperms) OR **oogonia** (contains females eggs)
Chloprophyta* (green algae)	Not divided to phylums; only three examples	**Chlamydomonas** (unicellular)	Not in the syllabus		
		Volvox (colonial)	autotroph	Fresh water	•Asexuall reproduction: formation of **daughter colonies (gonidia)** •Sexual reproduction:**oogamous** (large non-motile eggs and a small motile sperm)
		Spirogyra (filamentous(	autotroph	Fresh water	•Asexual reproduction: **fragmentation** •Sexual reproduction: **conjugation** (method explained page 293 manual)
Rhodophyta (red algae)	Not in the syllabus				

*Chlorophyta: 90% live In fresh water environment, all are autotrophs, could be unicellular →(chlamydomonas), filamentous → (spirogyra) or colonial →(volvox)
also chlorophyta has characteristics common to plants (cell walls of cellulose, food stored as starch and chlorophyll a and b)

Done by your colleague: Mahmoud Masnour