ARJUNA NEET BATCH

Biological Classification

Lecture - 07

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Today's objectives

chrysophytes

Dinoflagellates

Euglenoids

Slime moulds

Chrysophytes

→ includes desmids (golden algae) and diatoms

→ microscopic and float passively along with water current.
↳ due to presence of light lipid

↓

chrysophytes are called planktons

→ mostly photosynthetic

→ aquatic
- fresh water (mostly)
- marine

Diatoms

→ chief producers of oceans.

→ bioindicator of water pollution
↳ ∝ 1/no. of diatoms

diatomite is for
↙
polishing, filtration of oil, group, gritty
↑ nature

diatomite / diatomaceous earth / kieselguhr
↑
soil
↑ forms
CW gets accumulated over billions of years after death
↑
indestructible
↑ makes CW
Silica

Structure of diatoms

epitheca ← [ ] → hypotheca

① Flagella
↳ absent except reproductive phase

② Cell wall
→ made of 2 thin (shells)
↳ overlapping like in → soap box
↳ epitheca
↳ larger, always parental
↳ hypotheca
↳ smaller, always newly formed
↳ made of cellulose and embeded with silica
↳ covers primordial utricle
↳ peripheral cytoplasm

Auxospore

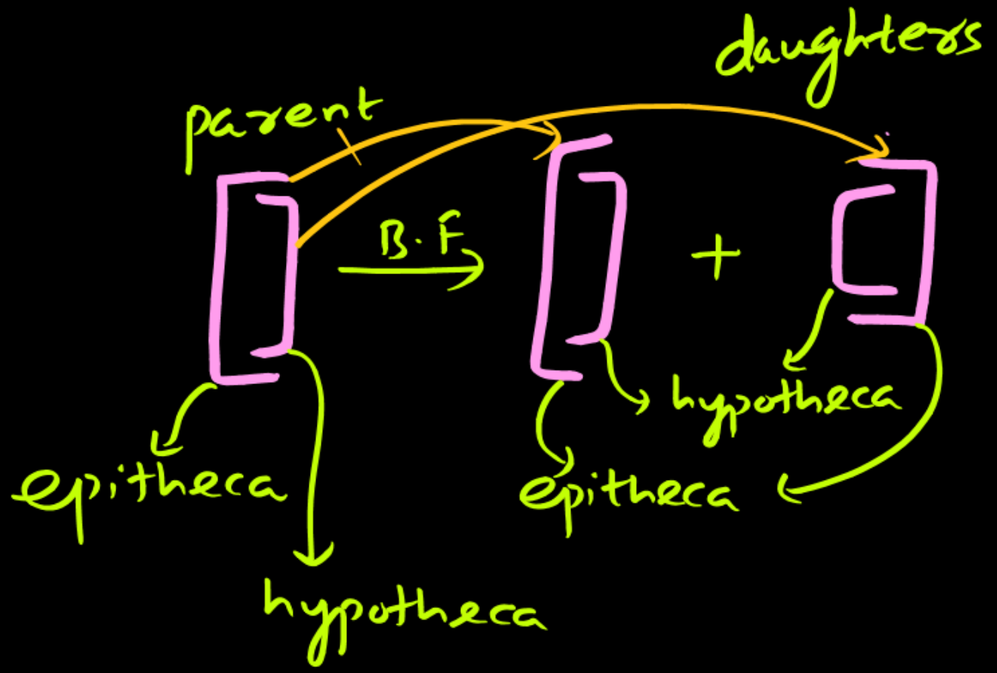
→ 2n (diploid), unicellular
→ formed from zygote
→ sexual spore
→ walled
→ helps the diatoms to retain their normal size.
→ called rejuvenescent spore
→ found in several of diatoms

hormocyst

→ multicellular spore.
→ found in few BGA

Statospores

↳ produced in diatoms
↳ asexual spore


daughters
parent
B.F
+
hypotheca
epitheca
epitheca
hypotheca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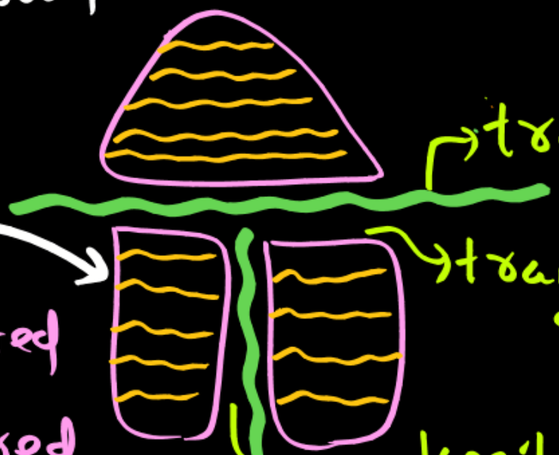
Dinoflagellates

→ mostly marine
→ mostly photosynthetic
→ mostly flagellated (biflagellated) → 2 flagella → 90° angle
→ color varies depending upon its main pigments.
↳ Red/ green/ yellow/ blue/ brown

dinoflagellates cause whirling movement → dinoflagellates are called whirling whips

Cell wall
↳ made of stiff cellulosic plates (act as armor)
↳ contains pectin also
↳ articulated or sculptured
↳ b/w plates furrows (grooves) are present



transverse flagellum
↳ c/d cingulum, annulus, girdle
transverse groove
↳ c/d Sulcus
longitudinal groove
longitudinal flagellum

Nucleus

↳ mesokaryon

↳ has chromosomes even in interphase

↳ nuclear membrane persists in M phase

↳ histone -ve

Chloroplast

↳ envelope → 3 layered (3 membranes)

↳ contains 3 thylakoids

Gonyaulax

→ dinoflagellate

→ marine

→ multiply rapidly ↓ result

make water red ↓ called

Red tide

→ release toxin ↳ Saxitoxin

→ toxin in large quantity can kill aquatic animals like fishes.

Euglenoids

→ includes both chloroplyllous (photosynthetic) and nonchloroplyllous (nonphotosynthetic) members.

→ mostly found in stagnant fresh water.

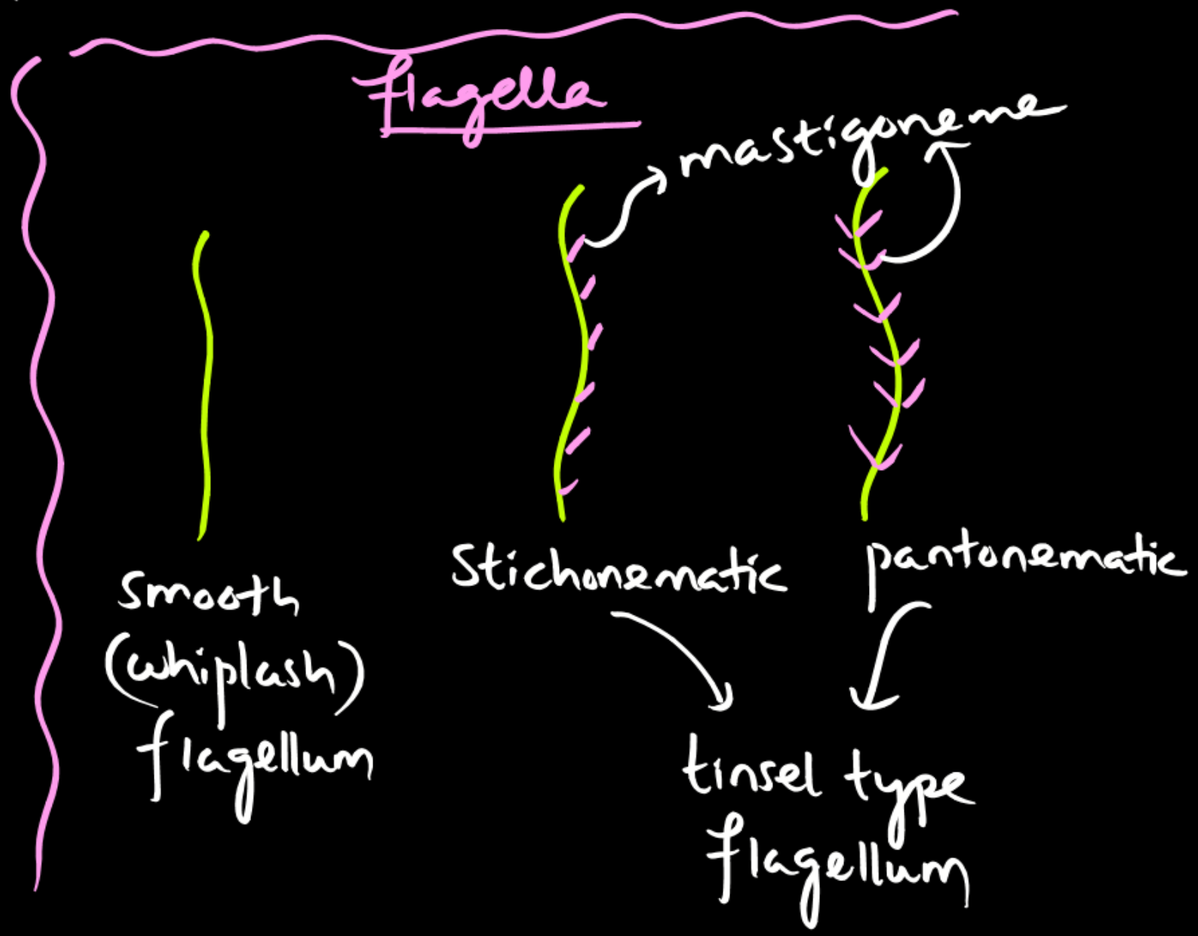
Euglena

→ major genus of euglenoids

→ cw → -ve

→ pellicle +ve
↳ protein rich
↳ makes Euglena flexible

→ flagella
↳ 2, heterokont
↳ one → larger, Stichonematic
and → smaller, smooth



Nutrition in Euglena

* + Sunlight

Euglena → photosynthesis

↓

photoautotrophic

* − Sunlight

↳ Euglena predates on other smaller organisms

↓ means

Euglena becomes heterotrophic

Euglena → autotrophic + heterotrophic

↓

mixotrophic

Reproduction in Euglena

favourable cond^{n}

↓

longitudinal B.F.

unfavourable cond^{n}

↓

- cyst
- Pamella stage

thanks
for watching