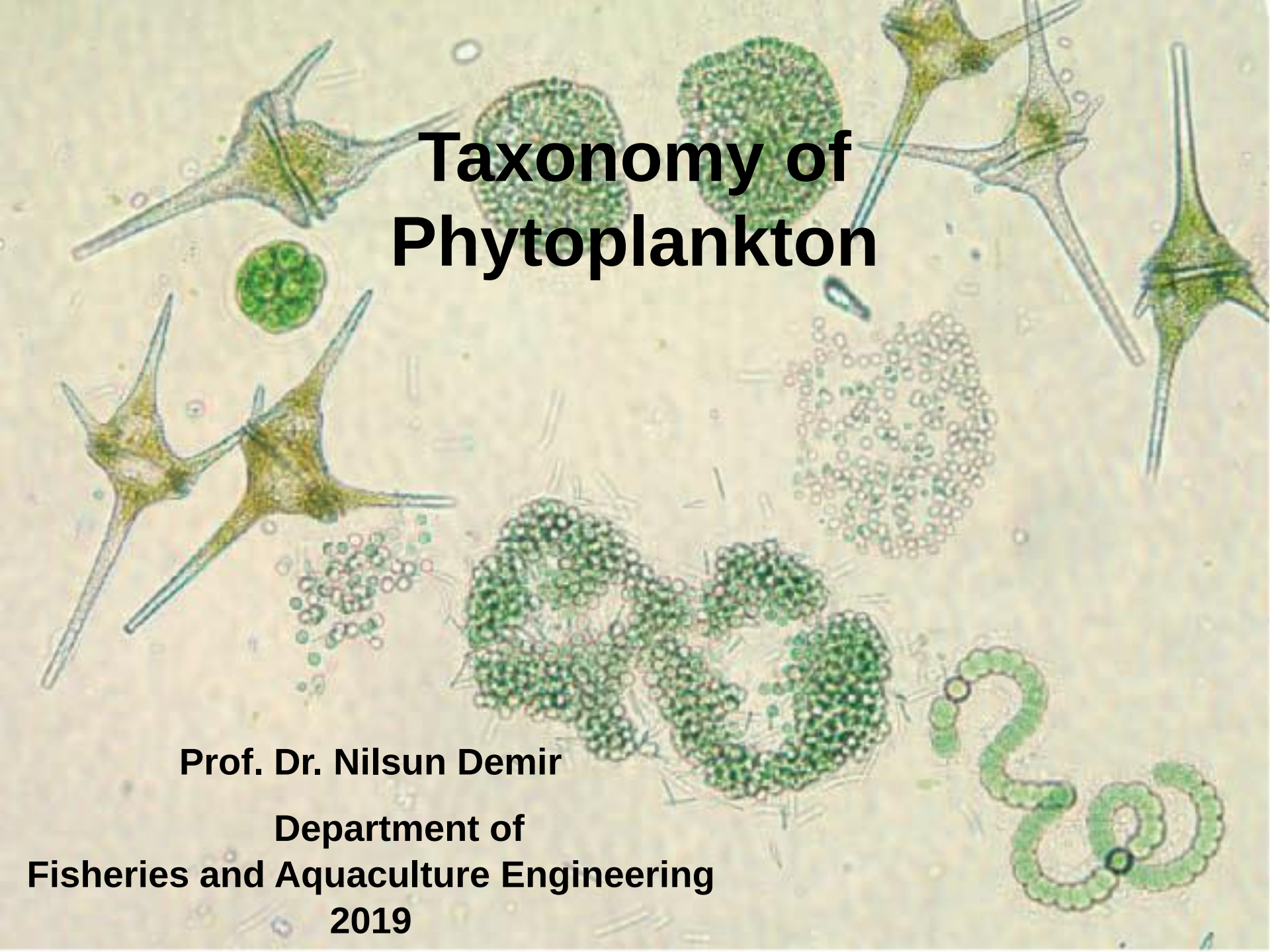

Taxonomy of Phytoplankton

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DIVISIO (Phylum): PYRRHOPHYTA
Dinoflagellats
Colour: Fire Colour

Chloroplast (Pigment):
Chlorphyll:
Chlorophyll a-c (+)
Carotenoid:
ß -Carotene (+)
Diadinoxanthin (+)
Dinoxanthin (+)
Peridinine (+)

Tallus Shape: Usually single-celled sometimes a colony or branched fibrous
Flagellate: 2 piece of heterokonts
Storage Material: Starch (Poliglukoz) and lipid
Cell Wall: Cellulose
Reproduction:

- Asexually—Dividing longitidunally
- Sexually—Bazı familyalarda görülür. Isogamy and anisogamy

Dispersion Range: Freshwater, brackish waters, most of them in seas.

Genus: Desmophyceae (Desmokontae)

- Mobile cells
- Two pieces of characteristic flagella
- Flaggellas are go out from front side (sideways).
- Cells are covered with a periplast or cellulose cover
- Cell wall is seperated with a line

Ordo: Prorocentrales

- Cell shape can be changed from round to oval
- They are curved (flat)
- There are two pieces of flagella
- Chloroplast 2 adet (yellow-coffee coloured)
- Pirenoid exists
- Many numbers of trikosists (cytoplasmic organel)

Reproduction: Cells are growing longitudinally when reproduce

Genus: Prorocentrum

Cells are oval and have a sharp end in anterior side Cells round side 2 pieces of flagellates consists of and one piece sharp thorn-like end.

***Prorocentrum micans*: The most common specie (Creates Red-Tides)**

Genus: Exuviella

- Cells anterior view is curved (flat)
- Each cell has 2 flagellats
- Cell wall is 2 seperate half moon shaped
- 2 pieces of brown chloroplast

Reproduction

- Asexually (dividing)
  Exuviella marina

Class: Dinophyceae (Dinokontae)

- Dinoflagellate represents growing.
- Cell wall is naked (thin membrane) typical cellulose is
- covered with (periplast).
- Cover is thin flat or armoured like plaque.
- Cell wall (if there is) is not divided with vertical line.
- Cell wall contains in the cell's anterior piece there is a transversal groove (Epicone).
- Cell wall contains groove in the posterior (back) (Hypocone)
- 2 pieces of mobile flagellates
- One of the flagellates is band like and spirally shaped and found in flat (curved). Other one is fibrous elongated longitidinually
- Movements are helezonious at longitidinual axis
- Cell wall is ornamental in flagellated, is regularly plaquated
- Chloroplast is one piece or more
- With pyrenoid or without pyrenoid
- This algae's colours turns from yellow-green to golden-brown
- Feeding, photootototroph, but holozoic and saprophytic
- Mobile cells contain eye dots
- Nucleus exists in the middle

Reproduction:

Asexual

- Dividing (Flagellated form)
- Aplanospore (Flagellate form)
- Zoospore (Gymnodinium type)

Sexual:

- Isogamy

Order: Gymnodiniales

- Naked cells
- Cell wall makes the cell shape tighten-shaped (Pellicle).
- Cells are mostly round shaped
- Cells are curved (flat) ventrally or laterally
- Major species don’t contains chloroplast and these are holozoic
- Chloroplasts are regulated radially
- 2 pieces of flagellates

Trichocyst was found in certain species

- Nucleus is located in the center of the cell
- Cell reproduction is performed by dividing from one longitudinal end from another (in mobile forms and immobile forms)

Genus: Gymnodinium

Cells have grooves usually equatorial

Groove divides the cell into two equal pieces.

Chloroplast yellow-orange and green

There are more than 20 of this species in the genus

They exist in freshwaters and salty waters

Species which are in exist in freshwaters mixing with other types of algaes

This genus makes red-tides in the seas.

Order: Peridiniales

- Cells are covered with aromoured cellulose
- Cells are polygonal shaped
- Two flagellates
- Cells are in two grooves one longitidunally and one laterally
- Chloroplast exists

Trichocyst exists

Reproduction:

Asexually: Cell dividing (mobile, immobile)

Sexually

Genus: Peridinium

Cells are round, sphere-like, helmet-like shaped , slightly curved (flat)

Cell wall is made of cellulose, armoured shaped wtih plaques

Brown - green

2 pieces of flagellates

In inland waters as moderate and torus-like appearance, there are 200 of species in the seas

Reproduction:

Asexual:

Sexual:

Genus: Ceratium

- In the cell's anterior side there is one, in the posterior 2-3 long horn (changes from species to specier) exist.
- Cells can be reached to the size of 400 micron.
- 2 pieces of flagella exist. One is elongated longitunially, other is in the transversal groove.
- Chloroplast is numerous, brown coloured

Reproduction:

Asexual: dividing, plazma's oblique dividing

Sexually

Distribution Range:

- Real plankton (Euplankton)
- Exists in lakes and pools.
- When reproduced in small lakes, they transform the colour of water grey-chocolate colour.
- They creates colonies in seas, they lead to sea-sparks

Genus: Glenodium

- Cells are round shaped, or oval like shaped
- Cell wall is thin, thin armoured. Easily broken.
- Transversal groove covered the cell

Reproduction:

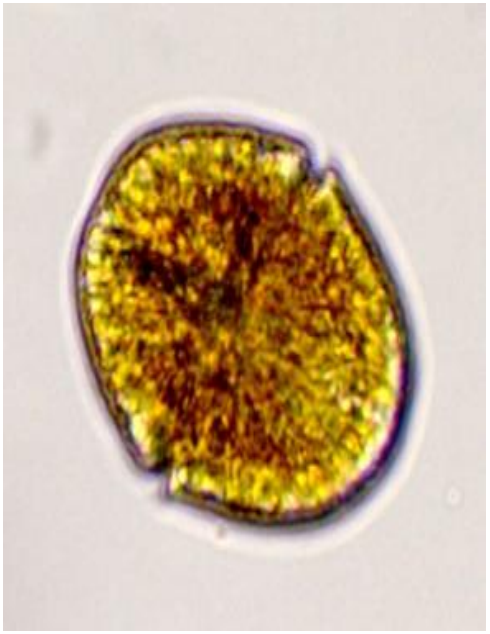
Asexually: Dividing

Sexually: Isogamy

Distribution Range:

Freshwaters

In Seas (Producing Toxins)



DIVISIO: CRYPTOPHYTA
Class: Cryptophyceae (Crytomonad)

Colour: Red-coffee, olive green – blue green

Chloroplast:

Chloropyll; chlorphyll a-c (+)

Caretonid:

- Carotene (+)
- B carotene (eseri)
- Alloxanthin (+)
- Crocoxanthin (+)
- Monadoxanthin (±)
- Biliproteins (+)

Tallus shaped: Single-celled, oval or beans

Flagellate: 2 pieces very light in different length

Storage material: benzeri Starch-like accumulation

Cell Wall: Naked

Reproduction: Only by dividing

Dispersion Range: freshwaters and seas

Order: Cryptomonodales
Genus: Cryptomonas

- Cells are assymetric heart or oval shaped
- Cells 10-80 micron length
- Chloroplast brown-like
- In different lengths 2 pieces of flaggellates, cell wall naked armoured and olive-green coloured

Reproduction:

-Asexual: dividing (mobile cells)

Distribution Range:

-Seas, freshwaters