

Taxonomy of Phytoplankton Chlorophyta

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2019

Genus: Haematococcus

- Cells are oval, 10-30 micron length
- There is a small area between protoplasm cells inner walls and outer walls.
- This area is full of gel.
- Green chloplast sometimes is hidden by red lipids.
- Sexual and asexual reproduction.
- Distribution Range:
- Birds washing puddles.
- Wet rocks cavity.
- Green or mold coloured or red coloured water.
- Two equal length flagellats.
- Flagellate length is half of the cell.
- There are radial endoplasmic strings passing through from cell protoplasm to cell walls.



Astaxanthin is important for industrial applications.

Earth's Biggest Haematococcus Farm (China)



Genus: Phacotus

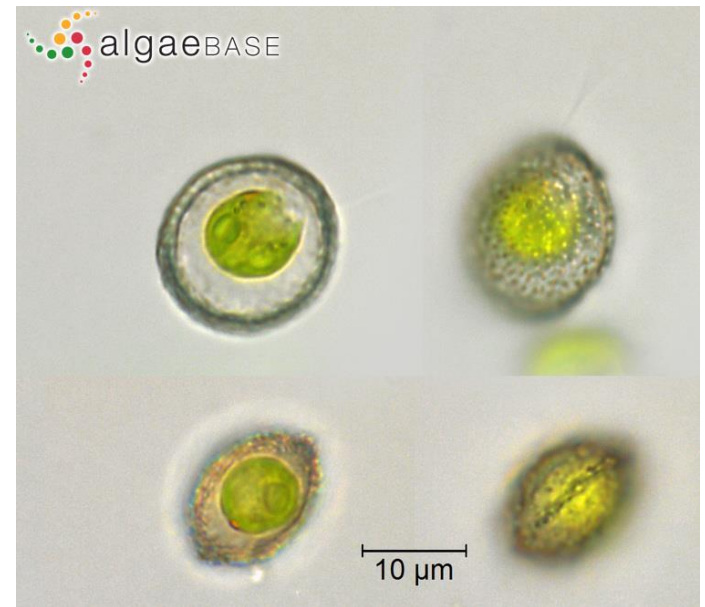
- Look like Chlamydomonas but exists between two lids (lorika).
- There is distinct space between Lorika and the cells.

Reproduction:

- Sexually
- Asexually

Range Distribution:

- Pools
- Wetlands, puddles.



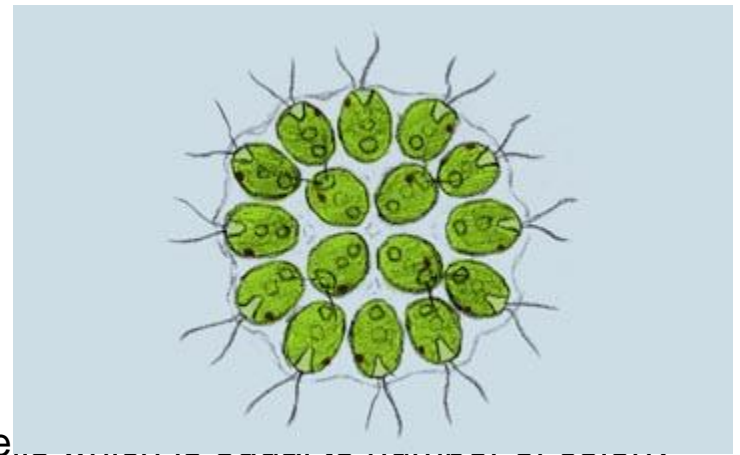
Genus: Gonium

- Cells, nearly round shaped, 5-25 micron
- Colonial, these are consisted of 4-16 flagellats.
- Cells in the mucilage are connected to each other with plasmoderm.
- Colony: 100 micron
- Shape: Square, curved (flat), disc shaped
- 2 pieces of flagellats extend from the cell with a vertical angle from the colony

Reproduction:

- Sexually: Isogamy (Each cell produce 4-16 gametes)
- Asexually: Each main cell is divided into number of cells (Zoospor)
- When new colony cells are leaving the colony, they are not seperated from each other. They form a colony while growing.
- Distribution Range:

Ponds, lakes, puddles, slow-flowing streams.



Genus: Eudorina

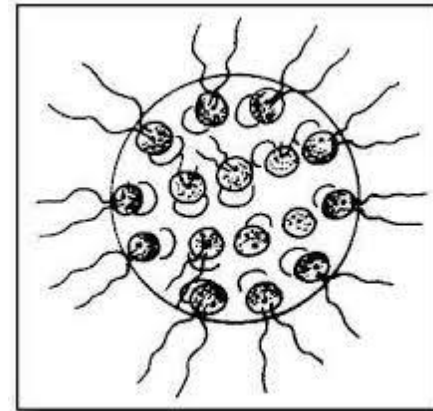
- Cell : Round, 5-15 micron
- Colony : 16-32 or 64 cell with 200 microns
- Cells in the colony have similiar length
- and sequentially arranged
- Musilageous structure araound the colony.
- Flagellats: 2 flagellates,length is 2-4 times of the cell wall diameter
- Vakuoles: Is in the site of 2 flaggellates are connected to each other
- Eye dot: Front(anterior)side of the cell

Reproduction: Sexually (Oogamy)

- Asexually (cell are divided into four)

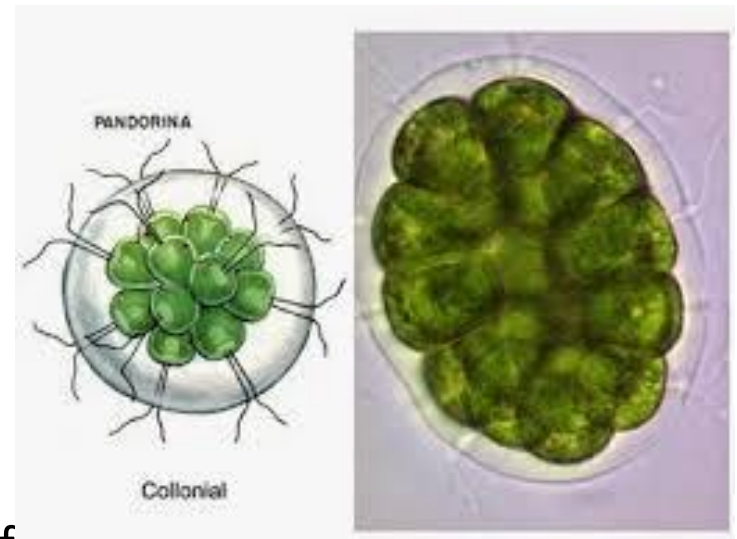
Distribution Range:

- Pond, pool, lakes, slow-flowing streams.



Genus: Pandorina

- Cell: One side of the cell is wider, pear shaped
- 8-20 micron length.
- Colony: Cell are tightly connected to each other
- (Different from Eudorina) 50 micron
- Cell number in one colony: 8-32, mostly 16 cells.
- Reproduction: Sexual (Isogamy)
- Asexual (Cells are formed a colony by dividing 4 times then 16 celled colony are formed)
- Distribution: Puddles, lakes, pools, slow-flowing streams
- Plankton lives in waters of high degree of stiffness (stagnant waters)



Genus: Volvox

- Cell: Oval or round cells
- Each cell has 2-5 vakuoles
- 1 nucleus
- 2 flagellates
- There is a work sharing between cells.
- One part of the cells provides reproduction,
- other part of the cells provides motion
- and photosynthesis.
- Thousands (500-60000) of cells are coming
- together to settle in envelope full of mucilag
- Cells are round.
- Colony: Round, 1-1.5 mm, seen by eyes.

