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CLASSIFICATION OF PLANTS ACCORDING TO EICHELER’S GROUPING OF 1883

1)THEY ARE CRYPTOGAMAE AND PHANEROGAMAE

#### 2)Manufacture of soaps and alums

 They are used as fertilizers in many countries

 Manufacture of iodine

####  A source of agar

####  Direct use of algae as food for man

* 3) Motile unicellular algae.
* Generally oval.
* Cell wall is made up of a glycoprotein and non-cellulosic polysaccharides instead of cellulose.
* Two anteriorly inserted whiplash flagella. Each flagellum originates from a basal granule in the anterior [papillate](https://en.wikipedia.org/wiki/Papillate%22%20%5Co%20%22Papillate) or non-papillate region of the cytoplasm. Each flagellum shows a typical 9+2 arrangement of the component fibrils.
* Contractile vacuoles are near the bases of flagella.
* Prominent cup or bowl-shaped chloroplast is present. The chloroplast contains bands composed of a variable number of the photosynthetic thylakoids which are not organised into grana-like structures.
* The nucleus is enclosed in a cup-shaped chloroplast, which has a single large [pyrenoid](https://en.wikipedia.org/wiki/Pyrenoid%22%20%5Co%20%22Pyrenoid) where starch is formed from photosynthetic products. Pyrenoid with starch sheath is present in the posterior end of the chloroplast.
* Eye spot present in the anterior portion of the chloroplast. It consists of two or three, more or less parallel rows of linearly arranged fat droplets.

4) **Chlamydomonas**'s asexual **reproduction** occurs by zoospores, by aplanospores, by hypnospores or by a palmella stage; sexual **reproduction** through isogamy, anisogamy or oogamy.

5) When a colony has a defi­nite number of cells with a definite shape and arrangement, it is called coenobium but when the cells are aggregated irregularly showing a colonial mass of various size and shape, it is referred to as aggregate form.

6) **Spirogyra**, (genus Spirogyra), any member of a [genus](https://www.britannica.com/science/genus-taxon) of some 400 species of free-floating [green algae](https://www.britannica.com/science/green-algae) (division Chlorophyta) found in freshwater [environments](https://www.merriam-webster.com/dictionary/environments) around the world. Named for their beautiful spiral [chloroplasts](https://www.britannica.com/science/chloroplast), spirogyras are filamentous [algae](https://www.britannica.com/science/algae) that consist of thin unbranched chains of cylindrical [cells](https://www.britannica.com/science/cell-biology). They can form masses that float near the surface of streams and ponds, buoyed by [oxygen](https://www.britannica.com/science/oxygen) bubbles released during [photosynthesis](https://www.britannica.com/science/photosynthesis). They are commonly used in laboratory demonstrations.

Each cell of the filaments features a large central [vacuole](https://www.britannica.com/science/vacuole), within which the nucleus is suspended by fine strands of [cytoplasm](https://www.britannica.com/science/cytoplasm). The chloroplasts form a spiral around the vacuole and have specialized bodies known as pyrenoids that store [starch](https://www.britannica.com/science/starch). The [cell wall](https://www.britannica.com/science/cell-wall-plant-anatomy) consists of an inner layer of [cellulose](https://www.britannica.com/science/cellulose) and an outer layer of [pectin](https://www.britannica.com/science/pectin), which is responsible for the slippery texture of the algae.

Spirogyra species can reproduce both sexually and asexually. Asexual, or vegetative, reproduction occurs by simple fragmentation of the filaments. Sexual reproduction occurs by a process known as [conjugation](https://www.britannica.com/science/conjugation-sexual-process), in which cells of two filaments lying side by side are joined by outgrowths called conjugation tubes. This allows the contents of one cell to completely pass into and fuse with the contents of the other. The resulting fused cell ([zygote](https://www.britannica.com/science/zygote)) becomes surrounded by a thick wall and overwinters, while the vegetative filaments die.

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