

5. Difference between Volvox and Spirogyra

Volvox	Spirogyra
a. Reproduction is both sexual and asexual	Reproduction is sexual
b. Spherical colonies of up to 50,000 cells.	few cells in colonial

6. Spirogyra is a filamentous Charophyte green algae of the order Zygnematales, named for the helical or spiral arrangement of the chloroplasts that is characteristic of the genus. It is commonly found in freshwater habitats, and there are more than 400 species of Spirogyra in the world.

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Medicine and Health Science

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Biology (Bio 102)

### Assignment

1. A system of plant taxonomy, the Eichler system was the first phylogenetic (phyletic) or evolutionary system. The grade system of classification for the whole plant kingdom. Eichler classified the plant kingdom into sub-kingdom. They are cryptogams and phanerogams.

a) Cryptogams are flowerless and seedless plants. They are simply and flowerless plants like algae, mosses and ferns which do not produce flowers, fruits and seed. Cryptogams are considered as lower plants.

b) Phanerogams are seed bearing plants. So they are also known as spermatophytes. They are higher plants. The plant's body is differentiated into roots, stem and leaves with well developed vascular system. Examples are angiosperms and gymnosperms.

2. Importance of algae to man

- i. Direct use of algae as food for man
- ii. As a source of agar in the production of ice cream, dessert, etc.

- iii) medicine and minerals
- iv) used as fertilizer
- v) ornamental uses
- vi) Manufacture of iodine
- vii) Manufacture of soaps and alums
- viii) alginate acid, agar and carrageenan which is used in the production of buttons and combs

3. Unicellular form of algae are also called acellular algae as they function as complete living organism. Unicellular forms are common in all the groups of algae except Rhodophyceae, Phaeophyceae and Charophyceae. The unicells may be motile or non-motile.

4. Cell division or fission is the simplest method of reproduction for the unicellular forms of algae it is often called binary fission as found in Chlamydomonas. In this method the two vegetative cells divide mitotically into two daughter cells. These finally divide as new individuals. This reproduction is asexual.

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