

DESMIDS – THE MOST BEAUTIFUL ALGAE IN THE WORLD

Summary

Desmids (*Desmidiaceae*) belong to green algae, the second, in terms of the amount of taxa, class of algae. This class is considered to be the most diverse in terms of the size and the shape of cells and the organization of the thallus. Desmids are also a peculiar group of algae which settle mainly acidic, oligotrophic bog ecosystems. Only small group of taxa can also appear in eutrophic or mesotrophic habitats.

Desmidiaceae are mainly represented by the benthic forms, rather than planktonic. There are also known aerophytic species which live on the tree bark, rocks and edaphophytic species which live on the soil surface. Apart from the single-celled desmid species, these algae can also appear in the form of filiform colonies.

The main taxonomic features, which are essential to the identification of the taxa, are: the shape

and the size of the cell, the size of *isthmus* and the shape of *sinus*, the structure and sculpture of the cell wall (plain, nodular, thorns). The other very important taxonomic feature in the genus *Closterium* is the shape of the cell endings (*apex*) and the number of the pirenoids in the chloroplasts. In the desmids identification process it is essential to take into consideration the top view of the cell.

Desmids can reproduce either by the division of the cell or sexually by conjugation. However the sexual reproduction is characteristic only in small group of desmid species.

Desmids are primary organic matter producers in water ecosystems considered to be the basis of the food chain in waters.