

van den Hoek, C., Mann, D.G., Jahns, H.M.(ed.): **Algae. An Introduction to Phycology.** - University Press, Cambridge 1995. ISBN 0-521-31687-1. 623 pp., GBP 24.95 (paperback).

The book provides a wealth of information useful for all those who study algal taxonomy, ecology, and phylogeny. Moreover, such a comprehensive source of information on algal morphology, ultrastructure, cell reproductive events, algal evolution, *etc.* is desirable for every algal cell student.

The book begins with an introduction to theories of evolution and phylogeny and their importance in systematics. The following 29 chapters are devoted to detailed description of main algal groups. The authors included into the system of algae two chapters describing division of *Cyanophyta* and *Prochlorophyta*, the organisms of prokaryotic nature. The association of prokaryotic organisms to the eukaryotic ones under one systematic group called algae could arise discussions among taxonomists. However, from the point of the right understanding of phylogeny of eukaryotic algae, origin, structure, and function of their chloroplasts the inclusion of these two prokaryotic divisions is fully entitled. The following chapter describes *Glaucochyta*, the group of problematic taxonomic classification, with a symbiotic cyanelle. The description of taxonomic groups of „real“ algae starts with *Rhodophyta* (red algae). The group *Heterokontophyta* (usually called *Chromophyta*) is described in six chapters, where the following algal classes are dealt with separately: *Chrysophyceae* (golden algae), *Parmophyceae*, *Sarcinochrisidophyceae*, *Xanthophyceae*, *Eustigmatophyceae*, *Bacillariophyceae* (diatoms), *Raphidiophyceae*, *Dictyochophyceae*, *Phaeophyceae* (brown algae). The system of eukaryotic algae continues by chapters dealing with *Haptophyta* (= *Prymnesiophyceae*), *Cryptophyta*, *Dinophyta*, *Euglenophyta*, *Chlorarachniophyta*. The classes of the biggest algal group *Chlorophyta* (green algae) are described in eleven chapters.

Each of the chapters provides valuable information taking into account recent re-evaluation in algal systematics and phylogeny utilizing techniques of molecular genetics and electron microscopy as well as traditional approaches. Students will probable appreciate concise principal characteristics of each main algal group at the beginning of the chapter as well as very illustrative and numerous pictures. Detailed description of cellular structure and ultrastructure, types of flagellate cell architecture, the life cycle with characterization of types of mitosis and cytokinesis, pigment composition, morphology and ultrastructure of chloroplasts, and characterization of ecological peculiarities completed by discussion on phylogenetic relationships provide both broad and deep insight into each of the algal group described. A final chapter summarizes the phylogeny of algae in relation to other phyla. The respectable list of 1937 citations at the end of the book is followed by a detailed Species Index and by General Index which make possible (particularly the latter one) an easy approach to any specific problem or topic reviewed.

Taking into account the informative and comprehensive value of the book it seems probable that the book will serve as an indispensable source of reference for many years to come.

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