

BOOK REVIEW

Biologie et phylogénie des algues. Bruno de Reviers. Vol. 1: 352 pp., 2002; vol. 2: 255 pp., 2003. Belin, 8 rue Férou, 75278 Paris cedex 06, France. www.editions-belin.com. Vol. 1., €19.90 [ISBN 2-7011-3083-2]; vol. 2, €16.90 [ISBN 2-7011-3512-5].

Biologie et phylogénie des algues is the first modern phycological textbook written primarily for the French-speaking world, which includes over 80 million people in more than 25 countries where French is an official language. It will become a standard text in French language universities but, in addition, constitutes an important addition to the phycological literature as a general reference on algae.

Volume 1, focusing on the evolutionary biology of algae, includes four chapters. The first chapter reviews the development of ideas about algae, their place in the living world, and the realization that organisms commonly called algae belong to a number of very diverse evolutionary lineages whose relationships to one another remain unclear. The concepts of phylogenetic classification and monophyletic groups are introduced, as well as a classification scheme showing how the currently recognized classes of algae relate to some other groups of living organisms.

The second chapter deals with algae at the cellular level and focuses on current ideas relating to the endosymbiotic origin of various components of algal cells. Chapter 3 opens with a presentation on the bases of classification of the major evolutionary lineages containing algae, emphasizing pigments, energy reserves and structures such as membranes, flagella and the photoreceptor. This is followed by a section dealing with the functional role of pigments and finally by a section outlining how factors such as light, temperature, salinity, dissolved substances, etc. influence the environmental distribution of algae. The final chapter deals with reproduction in algae, with an emphasis on the principal types of sexual cycles found in algal organisms. Cellular reproduction, vegetative reproduction, ecophysiological aspects of reproduction, and longevity are also dealt with.

Volume 2 provides accounts of all known algal lineages, each in a separate chapter. For each lineage, information is provided (in order) on the number of included taxa, the derived common characteristics, the vegetative diversity, reproduction, habitat, affinities, occurrence in the fossil record, evolutionary divergence and classification. Classification is considered only at the Order level and above. In chapters dealing with the larger lineages, some of these topics are further subdivided to provide fuller information. For most groups, information on human utilization also is mentioned. For a few lineages, one or several further topics are added (e.g. ecological importance, nuisance problems). The consistent manner in which information is organized within each chapter makes cross comparisons between groups extremely easy, and this greatly enhances the value of this publication as a general reference.

In addition to its value as a general reference on algae,

Biologie et phylogénie des algues has a number of excellent attributes as a university text. Firstly, the work is deliberately published in two independent volumes to reduce the cost to students who might require only one of them. Each volume contains a unique introduction, and unique glossaries, bibliographies, taxonomic indices and subject indices. Secondly, the work does not overwhelm the student by attempting to provide a comprehensive treatment of all aspects of algal biology. Rather, it introduces students to algal organisms in the context of their evolutionary biology and in terms of the living lineages of algae and their features. The contents provide a firm foundation for students who decide to pursue further study or research on almost any aspect of phycology.

Thirdly, the text in both volumes is clearly organized in a manner that facilitates easy cross comparisons. Fourthly, the text is supplemented by numerous drawings, charts and schematic diagrams designed to facilitate an understanding of concepts and information given in the text. Initially, I felt somewhat disappointed by the lack of photographic illustrations; but then I came to feel that, for students, the use of drawings has the distinct advantage of facilitating an initial understanding of a particular point, uncluttered by all sorts of other information normally present in photographic illustrations. By first learning from drawings, most students will probably be better placed to interpret fully more complex photographic illustrations found in the journal literature, which is amply referred to in the text. Fifthly, the glossaries contain clear, easy-to-understand explanations for the plethora of terms that confront students first learning about algae. There is, however, virtually no overlap in the content of the glossaries in the two volumes, and this means that students reading Volume 2 will have to use the glossary for Volume 1 for a number of terms relating to vegetative and reproductive features.

Both volumes also contain a series of text boxes in which selected topics are dealt with in somewhat greater depth. Each text box is numbered and titled and is explicitly referred to in the main text of the chapter, and each is flagged with the word 'appofondissement', signifying that more in-depth information is enclosed, including references to pertinent publications. I found these appofondissements very informative, but also, at times, somewhat disruptive to the flow of the main chapter text. After reading a text box, one invariably has to return to the beginning of the main chapter text paragraph to regain the main flow of information being presented. In future editions, it would be useful to have a complete list of text boxes after the Table of Contents of each volume to facilitate locating them in the book.

Bruno de Reviers is to be warmly congratulated on the publication of an algal text that not only will stimulate French-speaking biology students but also accurately reflects our knowledge of the evolutionary biology and biodiversity of algae in 2003. It is an excellent textbook and a very informative addition to the general algal literature.

William J. Woelkerling, Department of Botany, La Trobe University, Victoria 3086, Australia (w.woelkerling@latrobe.edu.au)