

# Book Reviews

## Botany

### INTRODUCTION TO THE ALGAE: STRUCTURE AND REPRODUCTION

by Harold C. Bold and Michael J. Wynne. (Prentice-Hall, Inc. Englewood Cliffs, New Jersey 07632). 706 p. \$24.

Drs. Harold C. Bold and Michael J. Wynne have published an interesting text, *Introduction to the Algae: Structure and Reproduction*, which will draw many students to the field of phycology. The text, which emphasizes structure and reproduction, may be used as a one-semester course in phycology for upper-level undergraduates or first-year graduate students. Physiology and biochemistry are not covered in depth, but the authors cite many references that cover these topics more completely.

The authors have cited over 2,000 references, most of which have appeared in print within the past ten years. These references complement the phycological literature published in the texts of Smith (1950) and Fritch (1945). The format includes a brief introduction (Chapter 1); Chapters 2 through 10 are devoted to the major divisions of algae.

The text is well written and readable. Important terms are printed in boldface type. Each chapter is subdivided into sections that will aid the student in her/his study. The keys in the text are simple, accurate, and easy to use. The classification schemes are excellent. The book is replete with photographs, micrographs, and line drawings that complement the discussion. Also of importance is the appendix that includes useful information on cultivating algae in the laboratory.

In summary, this text is the best in phycology that I have had the pleasure to read. The concise, precise language is easy to follow and the relevant, up-to-date literature will be welcomed by the student and serious scholar as well. The authors should be commended for preparing a masterful text in phycology that will stimulate student interest in the field. Every university and college library should have this useful book.

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### THE GREENHOUSE ENVIRONMENT: THE EFFECTS OF ENVIRONMENTAL FACTORS ON THE GROWTH AND DEVELOPMENT OF FLOWER CROPS

By John W. Masterlerz. 1977. John Wiley and Sons (605 Third Avenue, New York 10016). 629 p. Price not given.

This book was written for students whose career aspirations lie in greenhouse management and for growers wishing to know more about plant growth under greenhouse conditions. Its major emphasis is on flower crops and their response to environmental factors, such as temperature, solar energy, carbon dioxide, and relative humidity. It will be of interest to high school biology teachers and amateur horticulturalists who have greenhouses to care for.

The book is readable and presents lucid details on the effects of each of the environmental factors discussed. Each chapter has an extensive list of literature. There are many black-and-white illustrations, clear charts, and diagrams.

In addition, there are chapters on nutrients and fertilizers and on growth regulating chemicals. In the latter chapter, Masterlerz gives some helpful information on controlling weeds and algae in the greenhouse and on potting materials.

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## Ecology and Environmental Biology

### BIOGEOGRAPHY: A STUDY OF PLANTS IN THE ECOSPHERE

by Joy Tivy. 3rd impression, 1st paperback ed. 1977. Longman Group, Ltd. (19 West 44th Street, New York 10036). 390 p. \$7.

This fine college level (or high school honors course) textbook bears the unmistakable mark of a scholar. The author draws her insight and knowledge from many years of teaching biogeography at the Universities of Edinburgh and Glasgow, and from her intensive worldwide research into the complex interactions that occur between plants, and between plants and their physical environment.

The first two chapters entitled, "Scope and Development of Biogeography," and "The Organic World" provide an excellent background for the rest of the book. In the first chapter Professor Tivy defines biogeography and explains why she chose plants as the main vehicle for her studies, and for this book. (Microbial organisms and animals are not neglected). In the chapter on "The Organic World," Professor Tivy defines the biosphere and most (I hesitate to say all) of the major interactions that occur within the biosphere including: food webs and chains, photosynthesis, the role of minerals, energy flow and nutrient circulation, decomposition, and a plethora of other introductory topics, all of which are considered in more detail in following chapters.

Major topics include: atmospheric, edaphic, biotic and anthropogenic factors of the ecosphere; plant evolution and distribution; the effect of humans on plant evolution and distribution; vegetation change and stability; marine, forest and grassland ecosystems; biological deserts; and the exploitation and conservation of organic resources.

Each major topic is covered in considerable detail with many subtopics. Numerous charts and flow diagrams expand upon the text. The book contains no photographs. Perhaps a few full color illustrations would appeal to some readers.

The writing style is crisp, clear, and concise. In my opinion, anyone interested in understanding the complexities of ecology (in its broadest sense) should study this textbook. Biology teachers from the junior high school level through college or university graduate levels should have this book available for immediate reference.

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### THE LIMITS OF ALTRUISM: AN ECOLOGIST'S VIEW OF SURVIVAL

by Garrett Hardin. 1977. Indiana University Press (Bloomington, Indiana 47401). 159 p. \$10.

In this volume, ecologist Hardin reasons out his social philosophy, given the