Reviews

Botany

ONE THOUSAND AMERICAN FUNGI, by Charles McIlvaine and Robert K. Macadam. 1973. Dover Publications, Inc., New York. 791 p. $6.50 (softback).

It has been 72 years since this book was originally published and it has stood the test of time. No other single volume has proven to be as useful to the field biologist, the amateur mushroom hunter who hunts for the pleasure of the find, or the Julia Childs of American cooking. Based on general usefulness and the recent rekindling of interest in the natural, Dover has republished this book in paperback and added a table of nomenclatural changes.

Still present are the clear, concise descriptions of species accompanied by excellent drawings. The 31 pages of color plates are well reproduced and a valuable asset to the user. The chapters on "Toadstool Poisoning and Its Treatment" and "Recipes for Cooking and Preparing for the Table" remain useful to both the experimental and the practiced connoisseur. Perhaps the most useful feature of the book is the glossary. Terms are defined in a clear and concise manner. The greatest tribute one can pay a book such as this is to say that it will not only to layman but to the professional mycologist. This is just such a book.

Dover claims that this edition, although softback, will also stand the test of time. The paper is opaque and has little show-through, and the claim is made that it will not discolor or become brittle with age. If so, this volume is indeed a bargain at the price and has more than earned a deserved place on the shelves of high school and college libraries.

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FUNGI THAT DECAY PONDEROSA PINE, by Robert L. Gilbertson. 1974. University of Arizona Press, Tucson. 207 p. $9.50 softback.

Most useful to the forest pathologist and professional mycologist, this book could serve the general biologist or botanist as an occasional reference for the identification of wood-decaying fungi or the morphology (illustrated) of microscopic structures within the basidiocarp. Each of the 228 species is accompanied by beautiful line drawings of hyphae, basidia, spores, and often cystidia and an adequate technical description. Dichotomous keys separate the orders, families, genera, and species. Also included are a section on materials and methods, a checklist of Basidiomycetes that decay Ponderosa pine in Arizona and Mexico, a glossary, a bibliography, and an index of scientific names. The book would be of very limited usefulness in high schools.

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Cell and Molecular Biology

INQUIRIES INTO BIOLOGY: THE CELL, by H. Murray Lang, Edwin G. Palfery, and Ed L. R. Van Nieuwenhove. 1974. Macmillan Co. of Canada, Toronto. 43 p. $2.75 softback.

Although part of a series, this book stands by itself as a laboratory block on cellular biology. It can be used at the high school level or as a self-instruction book for junior high students who are given some help with vocabulary.

Beginning with the history of cellular biology, the book covers the usual topics, such as osmosis and active transport, but goes beyond most high school textbooks on the subject to devote a part of its coverage to those organelles that can be examined only through electron micrographs. This section is prefaced by a chapter on interpreting electron micrographs. The book blends an understanding of physical processes with biological ones.

Necessary reading is minimal; the emphasis is on doing. Each of the "Inquiries" is self-explanatory and students should be able to proceed at their own rates with a minimum of teacher direction. The inquiries include the usual type of exercise, such as looking at onion cells and human cheek cells, and a good exercise explaining resolving power is also included. The use of controls and other aspects of good scientific methods are emphasized along with the use of the metric system.

The only weakness of the book other than the somewhat traditional treatment of the topic is its question section at the end of each chapter. The titles "Questions To Test Your Understanding" and "Research Problems" are misleading. Over half the questions in the former test factual knowledge and the latter are, for the most part, questions that require application or synthesis of information rather than research.

The book is attractively and adequately illustrated. Its price is in line, although durability in a laboratory situation might be questioned. It can be recommended as a laboratory block for self-instruction or class use on basic cell biology.

Barbara Ferrell
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INTRODUCTION TO MOLECULAR BIOLOGY, by G. H. Haggis. 2nd ed., 1974. Halsted Press, New York. 428 p. $8.95 (softback).

This second edition is a thorough revision; many sections and chapters have been rewritten in an understandable fashion. The organization and approach of the book is logical. To explain the concepts of molecular biology, the author has included discussions of a number of classical experiments as well as many modern techniques with explanations of difficult and confused materials and very useful diagrams, electron photomicrographs, and charts.

The book has ten chapters and four appendixes. Chapter 1 deals with basic processes and functions of cells, cell organelles, and cellular components. Chapters 2 and 3 describe structures of protein molecules, protein component of viruses, and various structures of the body and mechanisms of protein function. Chapter 4 discusses the molecular models and molecular mechanisms of the permeability of the cell surface. Recent knowledge from biochemical investigations and electron microscopy is utilized. Chapter 5 provides an eloquent discussion on the structure and function of most of the cell organelles. The classical and modern discoveries in genetics are included in chapter 6. The chemical nature of genes, structure and function of nucleic acids, and nucleoprotein and protein synthesis processes are given in chapters 7 and 8. Chapter 9 is devoted to normal and abnormal hemoglobins, sickle-cell anemia, and the evolution of proteins. The evolutionary changes of cytochrome *c* are discussed

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