

Book Reviews

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Botany

GUIDE TO THE WOODY PLANTS OF THE MOUNTAIN STATES, by Michael Treshow, Stanley L. Welsh, and Glen Moore. 1970. Brigham Young University Press, Provo, Utah. 178 p. \$4.95.

This book probably is intended to be a key to the native and cultivated woody plants of part of the western United States. The introduction (of less than one page) neglects, however, to establish the region covered (whether continent, country, or physiographic province). The topic sentence states, "There has long been a need for a manual . . . in the Great Basin and Rocky Mountain states." Perhaps this is it, but the introduction does not really say so, and only by a perusal of the contents does one gather that Utah and Nevada (and perhaps parts of Colorado, New Mexico, Wyoming, and Arizona) constitute the region covered.

The glossary at the beginning is replete with nondefinitions, particularly adjectives and adverbs defined as if they were nouns; for example, "acute: leaf apex tapering to an acute tip." Using the names defined as part of the definition also obfuscates the meaning, as in "acuminate: sharply tapering to a point at the leaf apex," versus "attenuate: tapering to an acute, slender tip or base." The glossary defines the term cell but does not define the term meristematic, which is used in the definition of areole.

Although the format of the book is not at all crowded, the authors felt obliged to abbreviate oft-repeated morphologic terms—bk, br, brt, flrg, frt, frtg, lft, some of which are self-evident but others not (lt = light and dk = dark)—and thus have given the work a quite unnecessary telegraphic style. At the same time, useful notes on recognition, ecology, and whether indigenous or cultivated—notes that one might expect in a book of this kind—are strangely absent.

For some strange reason the authors treat only 100 of the native species (ignoring the myriad borderline "subshrubs" that abound in the West) but handle over 300 cultivated ones. 46 of the 63 black-and-white photographs—they are by far the most satisfactory part of the work—depict cultivars. This fact suggests that the book was devised for the use of students enrolled in a course in plant identification on the

campus of Brigham Young University and was not seriously intended for use in the "Mountain States" generally.

Inconsistencies of capitalization of names, abbreviations of authors' names, and other examples of sloppy proof-reading are common but not as serious as misspellings of the names and terms. These are so abundant as to indicate serious botanic illiteracy: *acuminate* for *acuminate*, [*Ostrya*] *virginia* for *virginiana*, [*Catalpa*] *bignonioides* for *bignonioides*, Engelman for Engelmann, tubercules for tubercles, honeysuckel for honeysuckle, Ritt. & Rose for Britt. & Rose.

This thoroughly undistinguished book is hardly worthy of a university press.

William A. Weber
University of Colorado
Boulder

A GLOSSARY OF MYCOLOGY, by Walter H. Snell and Ester A. Dick. 2nd ed., 1971. Harvard University Press, Cambridge, Mass. 212 p. \$6.50.

The revised edition is essentially like the 1957 version except that it has been expanded and updated. As before, there are 15 plates of valuable illustrations, by Henry A. C. Jackson, but the number of terms defined has been increased to well over 7,000—an increase of over 300 terms. Numerous words that are not strictly mycologic are included because of "their usefulness to students of mycology, their presence in mycological literature or general literature of interest to mycologists," according to the authors. The book is remarkably free of error, and definitions are clear, authoritative, and concise. Anyone who works with fungi would find it to be a most valuable reference source.

O. Neil Ray Collins
University of California
Berkeley

Environmental Biology

EVERYMAN'S GUIDE TO ECOLOGICAL LIVING, by Greg Cailliet, Paulette Stezer, and Milton Love. 1971. Macmillan Co., New York. 127 p. 95¢.

This paperback is probably the best 95¢ investment any student can make. The foreword clearly states the book's objective: to tell the individual what he can do. The book is brief, direct, and hard-hitting. It deals with specifics. It tells how each of us can effect

change. The cartoons are well selected. One of the last sections points out that even if we change our "irrational, costly throwaway lifestyle" we will still be lost unless population curbs are instituted.

Martin Borko
Orange County Community College
Middletown, N.Y.

THE BIOSPHERE, ed. by the editors of *Scientific American*. 1970. W. H. Freeman Co., San Francisco. 142 p. \$3.25 (softback), \$6.50 (hardback).

This book contains 11 articles that appeared in the September 1970 issue of *Scientific American*, together with a foreword by the editors, short biographies of the authors, a bibliography, and an index. The articles (chapters) are mainly concerned with the effects of man and technology on the environment. The topics include natural cycles of energy, water, carbon, oxygen, nitrogen, and minerals, and the human production of food, energy, and materials.

In chapter 1, "The Biosphere," G. Evelyn Hutchinson, of Yale University, discusses the entire biosphere as it was, is, and may be in the future. This chapter is an enlightening introduction to those that follow. Hutchinson defines the biosphere as that part of the earth in which life exists and where liquid water must exist in substantial quantities with an ample supply of (solar) energy.

Abraham H. Oort, of the Environmental Science Services Administration, discusses the energy cycle of the earth. This is an excellent description of the solar radiations, of reflectivity, and of the absorption and transfer of heat between, land, and air.

George M. Woodwell, of the Brookhaven National Laboratory, discusses the energy cycle of the biosphere. This chapter goes into some of the basic principles of ecology, such as energy flow within communities, food chains, and ecosystems, and man's effect upon them. Woodwell discusses methods for measuring the metabolism of communities by respiration, the accumulation of toxic substances, pesticides, industrial and municipal waste, oil production on the continental shelves, and other exploitation and polluting.

H. L. Penman, of the Rothamsted Experimental Station, discusses the water cycle. He tells about the peculiar properties of water, and he brings in ocean currents, discharge of rivers, ground water, the erosive power of water, and the transit and residence of water in green plants. Bert Bolin, of the University of Stockholm, describes the carbon cycle: its movement into and out of living tissues and its storage in huge amounts in sedimentary rocks. Preston Cloud and Aharon Giber, of the Uni-