

page 73. C. A. Weatherby is repeated on page 226 after the first notation on page 224.

The author, unfortunately, in the second paragraph of the introduction eliminates the Filicineae from the true ferns. This separation is, I am sure, an unintentional error in writing.

In spite of the errors and omissions this is an excellent bibliography and will be very useful to any one interested in ferns or the vegetation of Mexico.

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THE MUSHROOM HUNTER'S FIELD GUIDE, Alexander H. Smith, 304 pp. \$6.95, University of Michigan Press, Ann Arbor, 1963.

Even though revised in 1963, this stunningly illustrated book has undergone several reprintings. It has been written by an expert in the field whose wide experience in collecting, exchanging notes with other collectors, and in classification has provided just the background which makes this an invaluable guide for mushroom hunters.

There are many colored plates at the end of the book plus many black and white photographs with each writeup. Each writeup tells of edibility, habitat, and all the other information so necessary for collections.

By all odds, this is the finest handbook for collectors of fungi this reviewer has seen, and is highly recommended for the field biologist, biology students at all levels, and for the general library for the amateur enthusiast.

A MONOGRAPH OF LEMNACEAE, Edwin Horace Daubs, 118 pp., Cloth, \$4.50, Paper, \$3.50, University of Illinois Press, Urbana, 1965.

This monograph includes keys and descriptions of 4 genera, 28 species, and 1 variety, plus twenty plates of illustrations and distribution maps. According to information available, only Hegelmaier (1868) and Daubs have attempted a comprehensive study of the Lemnaceae. However, because of his meager use of specimens (only those of *nine* herbaria were examined), and the obviously incomplete information on the distribution maps even in North America, not to mention the other continents, Daubs' work can in no way be considered a comprehensive world-wide study. A world monograph should include a detailed study of specimens from abroad. There is no information that foreign specimens were borrowed for examination.

The keys and illustrations should provide help in determining identifications. They include characteristics which can be observed on dried material. It would have been desirable to include

EUGLENA: AN EXPERIMENTAL ORGANISM FOR BIOCHEMICAL AND BIOPHYSICAL STUDIES

2nd. ed. By Jerome J. Wolken, Carnegie Mellon University.

A detailed presentation of the microorganism *Euglena* as a research tool by biologists, biochemists, and biophysicists in seeking answers about structure, growth and metabolism of cells; pigment biosynthesis, photosynthesis; photoexcitation and the behavior of living organisms. An experimental approach to understanding the relationships between the plant/animal, and the energetics of living cells. Highly illustrated with photomicrographs, electron micrographs, spectroscopy and other analytical tools. Text also contains an appendix with recipes for growth.

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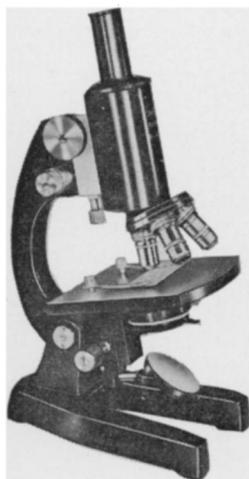
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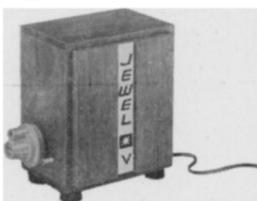
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methods of collecting and preservation for later identification, a problem I encounter and undoubtedly others do too.

This treatment of the Lemnaceae, although of some value, does not meet my concept of a monograph because of the rather limited number of specimens examined and collected. I therefore seriously question the reliability of the ranges of distribution indicated.

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THE CHEMISTRY OF PHOTOSYNTHESIS, Meredith E. Ackley and Philip B. Whitford, 74 pp., Appleton-Century-Crofts, New York, 1965.

A programmed text, this is designed to assure an instructor his class is homogeneous in its background knowledge on photosynthesis. The student is programmed through the areas of work and energy, organic compounds, and the photo phase and synthetic phase of the photosynthesis, in preparation for further class discussion and laboratory work.

The program consists of a divided page which has the programmed questions on the right hand side and the answers on the left hand side of the page. "Skip sections" are used so students with some background in chemistry can spend less time with the program. The book is designed to fit in one week's class work and the authors state the text may be accomplished in as little as 1½ hours with an average completion time of 3 hours. The small size of the pages and blanks to be filled in might encourage the student to read the entries rather than fill in each blank program space.

Each instructor will have to decide if this text supplies the necessary background content for his course. The *Chemistry of Photosynthesis* should interest those instructors who are using a variety of teaching tools to teach the facts of biology, in order to have more time to teach biological science as a creative enterprise.

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Zoology

INTEGRATED PRINCIPLES OF ZOOLOGY, 3rd Ed., Cleveland Hickman, 965 pp., \$8.50, C. V. Mosby Company, St. Louis, 1966.

A massive, encyclopedic review of zoology for the collegiate undergraduate course in general animal biology. The fact that the book is in its third edition attests to its use throughout the country. There isn't much left out, at least it must appear so to the student who is confronted with this hefty tome. But for the secondary