

## BOOK NOTICES

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### The Modern Study of Botany

The "Textbook of Botany" by Transeau, Sampson, and Tiffany is not just another text, but a book full of interesting reading, a text which combines the "fundamentals" with the realities of life. One finds in it the usual material contained in most college texts, but the arrangement is new, the approach is alive. The book is remarkably well illustrated, with numerous attractive halftones and several reproductions of kodachrome pictures, as well as the usual line drawings. An examination of the 424 figures (with their legends) gives a comprehensive view of the contents.

Wherever possible, the approach is physiological or ecological, as is to be expected from these authors. The arrangement of topics is pleasing; one thing leads logically to the next. Although the essential sequence is here, the book is not conspicuously divided, as are so many texts, into a part primarily structure and physiology, followed by a part primarily morphology of the several phyla. In fact, about two-thirds of the book is devoted to carefully inter-related treatments of physiology and anatomy together with the influences of environment and heredity. For example, "the tissue system of leaves" is followed by "environment and leaf development," and "hereditary differences in leaves." "A bit of useful chemistry" should be really useful before embarking upon the several chapters concerned with food manufacture. A general treatment of "non-green plants" is followed by chapters on the "biology of bacteria," "bacteria of the soil," and "fungi," with a chapter on "plant diseases" in which the student discovers the role of bacteria and fungi in causing diseases of higher plants. "Under-water environments" is a pleasing prelude to the consideration of "algae." A brief but profusely illustrated chapter on the vegetation of North America gives a clear picture of the major plant formations.

It is true that this text is not adapted to the usual routine followed in many colleges, but the "routine" could be adapted to the text. The use of such a text should help to revitalize college botany.—*E. L. Braun.*

**A Textbook of Botany**, by E. N. Transeau, H. C. Sampson, and L. H. Tiffany. 812 pages. New York, Harper and Brothers, 1940. \$4.00.

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### This Living World

One of the major objectives, if not the chief objective of the general course in biological science taught in many colleges, is to aid the student in acquiring a more accurate concept of living organisms and his own relation to the world of life. The paths which are followed in attempting to achieve this objective are almost as numerous as the men and women who teach such courses. No "best" procedure has yet been developed, nor probably ever shall be. Each teacher strives constantly to find a "better" plan and out of these strivings new books develop which are submitted for the approval and use of others.

Another admirable attempt at a *better way* is presented in the present volume. This book is designed for use with a companion volume, "This Physical World," in "cultural" or "exploratory" type courses. The book reads like a novel. The scene is set with a word picture of the changing concepts of life, the nature of the earth's crust, and the turbulent domain which life inhabits. From this point the plot is developed first in a general way with consideration of "living chemicals," "patterns of life," life in the seas, and life on the land. Then more particularly with reference to man; his racial development, his similarity to other vertebrates, his physiology and finally a short discussion of human culture.

Such a book is not intended for use as a text in the usual laboratory course in Zoology, but it surely could be used with profit as supplementary reading. At the end of each chapter is a list of references for more extended reading, each of which is annotated.

The mechanics of the book are excellent. The heavy black type is restful to the eye. The illustrations are superb. Many of these are Louise Waller Germann's black and white semi-diagrams resembling wood cuts. Others are actual photographs which show an expert's touch.—*Paul E. Schaefer.*

**This Living World**, by C. C. Clark and R. H. Hall. 519 pages. New York, McGraw-Hill Book Company, Inc. 1940. \$3.25.

### A New Bird Guide

This little book is intended to give the bird student a simple but adequate pocket guide for the identification of birds in the field. About half the book consists of an analytical key, and the rest of illustrations and descriptions.

The characters given in the key are for the most part adequate for field identification. The first divisions of the key are based on habitat. Although many species are keyed out in two or three of the six different habitat groupings, the student may occasionally have to look for a bird under a somewhat different habitat in the key than that in which he sees the bird. The surface-feeding ducks, for example, are keyed out in only one habitat grouping, "marshes, reeds, wet meadows," and not in "open water: lakes, ponds, streams."

The illustrations are by Roger T. Peterson, and depict 184 species in 27 line drawings, 4 colored plates, and 14 monochrome plates. They are similar to those in Peterson's "Field Guide to the Birds." The descriptions are brief and concise, and include information on the size, field markings, residential status in northern Ohio, and habitat. No attempt is made to designate or distinguish between subspecies.

The book covers the more common birds of the Lake Erie region, but will be usable for the more common birds throughout northeastern United States. It keys out 188 species (including different plumage variations) and contains descriptions of these and some 30 others. While nearly every bird which a student might see in northern Ohio is included, there are some, which are rare in northern Ohio but more common in central or southern Ohio, which are omitted. For example, the Carolina chickadee, Bewick's wren, summer tanager, prairie warbler, and a number of others are not mentioned.

This guide is pocket size and is printed on a good grade of paper and bound with a flexible binding. It should prove particularly helpful to the beginning bird student, but even experienced bird students will find it a good book to own.—*D. J. Borror.*

**A Field Key to Our Common Birds**, by Irene T. Rorimer. 160 pp. Cleveland Museum of Natural History, Pocket Natural History No. 8. 1940. \$1.50.

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### Physico-Chemical Methods

Reilly and Rae

The third edition of this well known and authoritative work is presented in two volumes and the authors intend to later add a supplementary volume before bringing out a fourth edition. Volume I, *Measurement and Manipulation*, is concerned chiefly with the principal types of measurement and essential apparatus. The inclusion of a new chapter on Measures and Units written by Professor A. O'Rahilly of University College, Cork, should prove of great value to both students and teachers of Physical Chemistry laboratory courses.

Volume II, *Practical Measurements*, deals mainly with practical applications, covering such topics as separation processes, optical measurements, spectrometry, electrochemistry, indicators, hydrogen in concentration and electrolytic conductivity. Included also are new chapters on Colloids and Radioactivity together with a revised and rewritten chapter on Thermionic Vacuum tubes.

A new and worthwhile feature of the present edition is the inclusion of literature references covering each section under the heading of "Suggestions for Further Reading." While the authors have succeeded in the difficult task of preventing the work from assuming encyclopedic proportions, it does seem that some of the more elementary material could still further be curtailed or eliminated, so as to provide a more extended treatment of the advanced physical-chemical methods, all contained in a single volume.—*Wesley G. France.*

**Physico-Chemical Methods:** Joseph Reilly and William Norman Rae. Volume I, *Measurement and Manipulation*, 686 pp. Volume II, *Practical Measurements*, 580 pp. D. Van Nostrand Co., Inc. December, 1939. Price, \$17.50.