

- 6a. Petals oboval or suborbicular, 10-15 mm. long by 8-14 mm. wide, 1-1½ times as long as wide; flowers solitary or few (1-5); terminal leaflet or floricane leaves 1.1-2.2 times as long as wide, oblong-lanceolate to rhombic or elliptic-ovate; E. Oak Belt west to W. Cross Timbers . . . 6. *R. oklahomus*
- 6b. Petals oblong-elliptic to obtusely oblanceolate or oboval, 6-15 mm. long by 3.5-10 mm. wide, 1½-2½ times as long as wide; flowers usually few to many (4-15 on most branchlets, rarely 1-3); terminal leaflet of floricane leaves 2-2.8 times as long as wide, oblong-lanceolate to elliptic-lanceolate or ovate-lanceolate; E. Oak Belt and Pine Belt . . . 7. *R. louisianus*

### Botanical Notes

CAREX CAROLINIANA Schwein. var. *cuspidata* (Dewey) Shinners, comb. nov.—*C. hirsuta* var. *cuspidata* Dewey in Wood, Class-Book of Botany (edition copyrighted 1860), p. 758. "Ill. (Vasey)"; type not seen, variety listed as synonym of the following by Mackenzie in N. Am. Fl. 18 (pt. 6): 325, 1935. *Carex Bushii* Mackenzie, Bull. Torr. Bot. Club 37: 241. 1910. Type from Fulton, Arkansas; not seen. In Northern Texas, var. *caroliniana* occurs east of the Blackland Prairie; *cuspidata* and forms with glabrous or glabrate leaves (placed here because of the prominent awned pistillate scales, and perigynia of intermediate size) are found west to the East Cross Timbers.—Lloyd H. Shinners.

CYPERUS VIRENS Michx. var. *arenicola* (Steudel) Shinners, comb. nov.—*C. arenicola* Steudel, Syn. Pl. Glum. p. 51, 1855. *C. cyrtolepis* var. *arenicola* (Steudel) Boeckeler, Linnaea 35: 558, 1868. *C. pseudovegetus* var. *arenicola* (Steudel) Kuenthal in Engler, Pflanzenreich IV. 20 (Heft 101): 176, 1936. Intergrades with var. *virens* (which has generally been called *C. pseudovegetus*; cf. Fernald, Rhodora 47: 109-110, 1945); our plants usually referred to *C. acuminatus* Torr. & Hook., described as an annual species, but they are distinctly perennial.—Lloyd H. Shinners.

HYPNUM LINDBERGHII Mitt. var. *americanum* (Ren. & Card.) Whitehouse, comb. nov.—*Hypnum arcuatum* Lindb. var. *americanum* Ren. & Card. Bot. Gaz. 14: 99. 1889. In compiling a catalogue of the mosses of Texas, I find that this transfer is necessary. I am indebted to Dr. W. C. Steere for calling to my attention the fact that *Hypnum arcuatum* Lindb. is synonymous with *Hypnum lindbergii* Mitt.—Eula Whitehouse.

### News Notes

On January 16, 1954, a meeting was held in Fondren Science Building, Southern Methodist University, to consider the formation of a wildlife and conservation society for the Dallas area. The meeting, called to order by Dr. Eula Whitehouse of the Southern Methodist University Herbarium, organized a Dallas Audubon Society; and the National Audubon Society accepted the group as a branch society in February. The charter membership roll contains more than eighty

names. Evening meetings will be held once a month at Southern Methodist University, with several field trips planned for each month.

The officers elected at the meeting in March include Edward C. Fritz, president; Dr. Eula Whitehouse, vice-president; Mrs. Bille Hileman, secretary; Miss Ethelene Jackson, treasurer; Directors: S. M. Melton, president, and Dr. E. P. Cheatum, W. B. Stallcup, A. B. Jolley, Mrs. A. A. Krueger, Dr. W. H. Potts, C. E. McIntire, T. J. Holcomb, and Mrs. A. G. Guard.

The society has already made a small contribution to ornithology in reporting the presence of the red crossbill for the first time in this area. Several of these birds were seen on a branch of Turtle Creek feeding on the seeds of the American elm, contrary to their usual feeding habits in the pine belt.

The society hopes to bring the Audubon Screen Tours to Dallas during the coming year. Dr. C. D. Ogilvie is Screen Tour Chairman. The address of the Secretary of the society is "Box 516, Southern Methodist University, Dallas 5, Texas."

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It is with profound regret that we record the death, on January 1, 1954, of Dean ELLIS W. SHULER, Professor of Geology in Southern Methodist University from 1915 to his retirement in 1952. A biographical sketch of Dean Shuler, with portrait, was published in the January, 1953, issue of *FIELD & LABORATORY*.

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### Book Review

WILLIAM H. PETERSON & F. M. STRONG, *General Biochemistry*, Prentice-Hall, New York, 1953. Pp. ix, 469, \$6.50.

This is a most significant addition to the Prentice-Hall Chemistry Series. It is appropriate that this book should have originated in class rooms and laboratories of the University of Wisconsin, long recognized for its leadership in teaching and research in biochemistry. Dr. William H. Peterson, senior author and emeritus-professor of biochemistry, is an international authority on the chemistry of fermentation, nutrition, the biochemistry of fungi, and the growth factors required by bacteria. During World War II he made outstanding contributions to the production of penicillin and other antibiotics. The researches of Dr. Strong, professor of biochemistry, have been largely concerned with the microbiological determination of vitamins, the amino acid and vitamin content of foods, and the chemistry of natural pigments.

This book represents the outgrowth of the combined sixty years of teaching experience by Professors Peterson and Strong. The chapters on Digestion and Enzymes were written by Professor Plaut of the Institute of Enzyme Research, University of Wisconsin. Professor Burris of the biochemistry department contributed the chapter on Plant Metabolism.

The book, *General Biochemistry*, is a truly general survey of the entire field of biochemistry rather than the typical, highly specialized medical school biochemistry, based on the physiological approach as applied to man. This book considers the chemical activities not only of animals, but also those of microorganisms and higher plants. As a useful text for those desiring a general background covering the whole field of biochemistry, it is warmly recommended to students majoring in pre-medicine, pre-dentistry, pharmacy, biology, chemistry, agriculture, home economics, and veterinary science. The pre-medical student will find that a course based on this book will not be duplicated in medical school; rather it will be an excellent preparation for the more specialized medical course in physiological chemistry.

Chapter 1 relates biochemistry to the other sciences and presents some of the methods used in biochemical research. The next ten chapters describe the nature, occurrence, and more important chemical and biological properties of the chief materials in living organisms: Water, Carbohydrates, Lipids, Proteins, Nucleic Acids, Acidity, Minerals, Vitamins, Enzymes, and Hormones. Chapter 12 covers Digestion, and is followed by chapters on the Intermediary Metabolism of Animals, of Microorganisms, and of Plants. The latest developments in carbohydrate-, protein-, and fat metabolism are well presented and beautifully summarized in several carefully prepared charts. Photosynthesis and nitrogen fixation are discussed in considerable detail. The final chapter, Biological Energetics, shows how energy is derived from the metabolism of foodstuffs, and how this energy supports vital processes. It includes brief treatment of such physicochemical concepts as heat of combustion, free energy, entropy, and high energy bonds of physiologically important compounds. The problem of energy requirements is much more extensively treated than in most elementary text books of biochemistry, and the chapter concludes with an excellent discussion of obesity.

The book is well illustrated with 88 figures, 14 of them colored, and 47 tables. The color-prints illustrate nitrogen-, potassium-, and phosphorus deficiency in plants, clinical symptoms of vitamin C deficiency, and response of pernicious anemia patients to vitamin B-12. The 15-page Appendix gives four tables on the composition, energy value, mineral constituents, and vitamin content of foods. Excellent references to the original literature and review articles are listed at the end of each chapter. With the exception of Chapter 1, a good selection of review questions is included with each chapter.

When one attempts to cover the whole field of biochemistry in 469 pages it is obvious that certain topics must be omitted. Peterson and Strong have done a remarkable job of concentrating this voluminous subject-matter in a short text, and are to be highly commended for their success and courage in this effort. However, it does seem to this reviewer that a modern treatment of biochemistry should include more physical chemistry. Topics which are omitted or only briefly discussed include the properties of colloids, transport of gases, osmotic pressure, water balance, zwitter ions as applied to amino acids, buffer systems of the blood, iso-electric point, and the measurement of pH. The addition of several titration curves to the chapter on acidity would be beneficial.

HAROLD JESKEY