

is as a handbook for scientists engaged in making tracer measurements with radioactive isotopes. The review of the techniques is broad, the principles that govern each technique are clearly and succinctly explained, and the references to the original literature are wide and varied. Consequently an introduction, as it were, is provided to each technique, and it is possible to choose between the various methods of measurement and chemical manipulation from the material presented. Indeed it might well serve as required reading for many scientists in adjacent fields who make use of radioactive tracers.

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The Aphid Genus Periphyllus: A Systematic, Biological, and Ecological Study. E. O. Essig; illus. by Frieda Abernathy. Berkeley: Univ. California Press; London: Cambridge Univ. Press, 1952. 166 pp. \$3.00.

This volume presents the results of several years' intensive and meticulous study of some nine species of aphids belonging to the genus *Periphyllus*. The introductory chapter presents a discussion of the genus, its origin, distinguishing characteristics, the historic background of the species placed in it, their world distribution, plant hosts, and their various body forms, with the variability of accompanying structures.

After this general discussion there are ten chapters, in which one of the following species is treated in the following sequence: The sycamore maple aphid, *P. aceris* (Koch); the American maple aphid, *P. Americanus* (Baker); the Colorado maple aphid, *P. brevispinosus* (Gillette & Baker); the California maple aphid, *P. californiensis* (Shinji); the Formosa maple

aphid, *P. formosanus*; the Koelreuteria aphid, *P. koelreuteriae* (Takahashi); the Japanese maple aphid, *P. kuwanaii* (Takahashi); the Norway maple aphid, *P. lyropictus* (Kessler); the box-elder aphid, *P. negundinis* (Thomas); and the European maple aphid, *P. testudinacea* (Ferne). In each case the synonymy of the species, a description of its various stages and forms, its life history, and the host plants upon which it lives are presented, together with data regarding its occurrence in various world collections.

Three species, *P. californiensis*, *P. negundinis*, and *P. testudinacea*, were studied in detail as to their biology and anatomical characters. The author has shown that within a species as many as 15 unusual types of individuals may occur, one of which, a dimorphic stage in the young of the fundatrigeniae in April and May, continues in the first instar as a tiny disklike individual appressed to the leaf surface through the hot summers, and resumes its development in September and October.

Many apparent specific but complex forms are often difficult to distinguish or separate from closely related species by morphological characters. A study of their biology, life cycle, and ecology is often of great assistance in determining their specific status as biological forms, and is a valuable contribution to our knowledge of this group.

A complete bibliography of some 275 references is furnished.

This monographic paper is an excellent example of a thorough, intensive study of a few species of closely related insects wherein all phases of their biology, behavior, and structures are combined in a single work.

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Scientific Book Register

Blood Clotting and Allied Problems. Transactions of the Fifth Conference, January 21-22, 1952, New York. Joseph E. Flynn, Ed. New York: Josiah Macy, Jr. Fdn., 1952. 368 pp. Illus. \$4.95.

Chemistry of Food and Nutrition. 8th ed. Henry C. Sherman. New York: Macmillan, 1952. 721 pp. Illus. \$6.00.

Biology and Language: An Introduction to the Methodology of the Biological Sciences including Medicine. The Tarnier Lectures, 1949-50. J. H. Woodger. New York: Cambridge Univ. Press, 1952. 364 pp. \$8.00.

Introduction to the Theory of Games. A Rand Corporation Research Study. J. C. C. McKinsey. New York-London: McGraw-Hill, 1952. 371 pp. Illus. \$6.50.

Metabolic Maps. Wayne W. Umbreit. Minneapolis: Burgess Pub., 1952. 439 pp. Illus. \$6.00.

Inorganic Chemistry: An Advanced Textbook. Therald Moeller. New York: Wiley; London: Chapman & Hall, 1952. 966 pp. Illus. \$10.00.

Textbook of Physiology. 11th ed. William D. Zoethout and W. W. Tuttle. St. Louis: Mosby, 1952. 692 pp. Illus. \$4.75.

Statistical Thermodynamics: A Course of Seminar Lectures. 2nd ed. Erwin Schrödinger. New York: Cambridge Univ. Press, 1952. 95 pp. \$1.75.

The Principles of Physical Metallurgy. 3rd ed. Gilbert E. Doan. New York-London: McGraw-Hill, 1953. 331 pp. Illus. \$5.50.

Methods of Statistical Analysis. 2nd ed. Cyril H. Goulden. New York: Wiley; London: Chapman & Hall, 1952. 467 pp. Illus. \$7.50.

Human Milk: Yield, Proximate Principles and Inorganic Constituents. S. D. Morrison. Farnham Royal, Bucks., Eng.: Commonwealth Agricultural Bureaux, 1952. 91 pp. Illus. 10s. 6d. or \$1.50.

Hydrogen Ion Concentration: New Concepts in a Systematic Treatment. John E. Ricci. Princeton, N. J.: Princeton Univ. Press, 1952. 460 pp. Illus. \$10.00.