Book Reviews

Untersuchungen über die Tiergemeinschaften des Bodens: Die Oribatiden und ihre Synusien in den Böden Norddeutschlands. Karl Strenzke. *Zoologica,* Band 37, Heft 104, Stuttgart, 1952. 172 pp.

Because of the increasing realization of the importance of mites in relation to man and animals and agriculture, this publication is timely. It deals with the oribatid fauna of North Germany and is an outstanding contribution to the study of the role of mites and their relation to the soil.

Few people realize that among the dominant inhabitants of the upper layer of the soil are the tiny oribatid mites (Oribatei) which feed on litter, reducing it to usable organic matter. These mites are found by the thousands and, as Strenzke has pointed out, a study of the oribatid species is indispensable as a foundation for understanding the soil-biological processes in land and forest economy. Since populations are limited by ecological factors, the species can be used as indicators of soil condition. Two factors which regulate the distribution of a large number of species are the degree of humidity and the pH of the substratum. Strenzke has divided the soil into 6 major categories, each characterized by a dominant mite species. The oribatids include species that have been shown to be carriers for various tapeworms such as those found in sheep and other pasture animals.

With so little known about mites, this publication on their ecology, covering 240 species and subspecies of North Germany, with detailed notes and a complete bibliography, is a necessary tool for anyone interested in soils or arthropods, as well as for those interested only in the taxonomy of mites. It is hoped that more American workers will soon turn to the biological aspects of the Acarina, especially of this group so little known in our country.

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The Sulfapyrimidines. Lawrence H. Sophian, David L. Piper, and George H. Schneller. New York: A. Colish, for the Lederle Laboratories, 1952. 180 pp.

This book was compiled for the use of the practicing physician, and the last half is devoted to the general utility of the sulfapyrimidines, individually and as the triple-sulfa mixture, in the management of clinical infections. It should be a useful handbook in clinical practice. The first 90 pages, concerned with the history, chemical and physical properties, and mode of action of sulfa drugs, are of more interest to the research scientist. The pharmacology of these drugs, their absorption, metabolism, excretion, and toxic effects, are discussed separately.

The sulfapyrimidines have been chosen as the subject of a monograph because of the belief that, in this series, the sulfa drugs have reached the highest possible degree of activity. Although there is good chemical and physiological evidence to back up this belief (for example, Bell and Roblin, *J. Am. Chem. Soc.,* 64, 2905 [1942]) these authors have not cited it. They have reported instead numerous tests on infected animals which show that these compounds are highly active, but do not necessarily imply that the peak of activity has been obtained.

In the first paragraph of the book, an interesting problem in semantics is raised by the statement "[No one] feels that the antibiotics are threatening to supersede chemotherapy." This implies that treating infections with antibiotics is not chemotherapy. If treating infectious diseases with natural products (antibiotics) differs from treatment with synthetic products (chemotherapy), what then is the process involved when synthetic chloromycetin is used?

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Visceral Circulation. A Ciba Foundation Symposium. G. E. W. Wolstenholme, Ed., with assistance of Margaret P. Cameron and Jessie S. Freeman. Boston: Little, Brown, 1953. 278 pp. Illus. + plates. $6.50.

This interesting volume contains the papers and general discussions of the symposium on visceral circulation held in London in July, 1951. In it are represented the efforts and the varied points of view of many internationally outstanding authorities in the field of the circulation. Composed of 25 scientific papers, together with the opening and closing remarks of symposium chairman J. McMichael, the book presents a many-sided approach to the general problem of circulation and introduces a wealth of techniques currently applied to its study in various tissues and organs.

The volume is logically divided into four parts, the first of which is devoted to anatomical studies of Visceral Vascular Architecture, opening with a general survey of visceral vascular structures by J. D. Boyd. Following this are four papers dealing in order with details of the vascular architecture of the alimentary canal, lungs, kidney, and liver. Throughout these presentations, attempts are made to correlate anatomical structure and functional activity.

Part II, dealing with General Factors in Blood Flow Regulation, opens with an excellent article of fundamental importance on the laws of physics and flow in blood vessels, by A. C. Burton. Discussing the problem of the relation between rate of blood flow and the pressure which drives it, Burton carries the reader from the early physical experiments of Poiseuille through his own ingenious biophysical investigations. Subsequent articles in this section are concerned with the roles of adrenaline, noradrenaline, and amine oxidase in the regulation of blood flow, and with pain perception by dilated visceral arteries.

In Part III, entitled Regional Blood Flow Regulation, are 11 of the 25 papers which comprise the book. In a sense it is an elaboration from a more physiological aspect of Part I. This is introduced by a scholarly résumé of afferent pathways of cardiovascular reflexes by D. Whitteridge, and a related account of reflex reactions evoked from lung receptors by G. S. Dawes. Following these are articles dealing with the regulation of blood flow in the aorta and coronaries, lungs, extremities, skin, kidney, ovaries and uterus, stomach and liver. Part IV contains four papers relating to the Interaction of General and Visceral Circulations. A highlight of this section is G. M. Bull's challenging consideration of possible mechanisms by which renal regulation of total body water is effected.

Although some of the papers in this volume are little more than summaries and others are highly speculative, the majority are of excellent quality, enhanced by the inclusion of carefully selected figures and references. Discussions are maintained at a high caliber throughout the book and provide much stimulating material for the thoughtful reader. Considered as a whole, *Visceral Circulation* constitutes a valuable and fascinating contribution to the current literature on the circulation. It leaves the reader with an acute awareness of the tremendous scope and complexity of the subject and an admiration for the worthy efforts of the investigators represented between its covers.

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Deformation and Flow in Biological Systems. A. Frey-Wyssling, Ed. Amsterdam: North-Holland Pub.; New York: Interscience, 1952. 552 pp. $11.50.

This volume is a collection of reviews on subjects not particularly related to each other, but most have something to do with either macroscopic or microscopic flow. A list of the reviews is as follows: The Rheological Properties of Protoplasm, Seifriz (153 pp.); The Rheology of Muscle, Pryor (36 pp.); Deformation of Plant Cell Walls, Frey-Wyssling (62 pp.); Movement of Water in Higher Plants, Preston (64 pp.); Latex Flow, Frey-Wyssling (21 pp.); Viscous Flow through Elastic Capillaries, Hermans (10 pp.); Rheology of Blood and Lymph, Bayliss (63 pp.); Cerebrospinal Fluid and Intraocular Fluid, Amsler and Huber (27 pp.); Secretions, Scott Blair (18 pp.); Diffusion Phenomena in Biology, Eggleton (14 pp.); and a report on the First International Colloquium on Rheological Problems in Biology (35 pp.).

The use of 153 pages of this volume for a review of the rheological properties of protoplasm would seem quite unjustifiable; the other articles are reasonably concise and bring together for discussion a good bit of physiological literature not ordinarily included in reviews.

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Scientific Book Register

Rudolph Virchow: Doctor, Statesman, Anthropologist. Erwin H. Ackerknecht. Madison: Univ. Wisconsin Press, 1953. 304 pp. + plates. $5.00.

Adrenal Cortex: Transactions of the Fourth Conference, November 12–14, 1952, New York. Elaine P. Ralli, Ed. New York: Josiah Macy, Jr. Fdn., 1953. 165 pp. Illus. $3.50.

A History of Astronomy: From Thales to Kepler. 2nd ed. Reissue. J. L. E. Dreyer. New York: Dover, 1953. 438 pp. Illus. $1.95; cloth, $3.95.

Problems in the Anatomy of the Pelvis: An Atlas. Eduard Uhlenhuth, with assistance of DeWitt T. Hunter; illus. by William E. Loechel. Philadelphia–London: Lippincott, 1953. 206 pp. Illus. $10.00.

Science and Fruit. Commemorating the Jubilee of the Long Ashton Research Station, 1903–1953. T. Wallace and R. W. Marsh, Eds. Bristol, Eng.: Univ. Bristol, 1953. 308 pp. Illus. + plates. $4.50.

Glacier Variations and Climatic Fluctuations. H. W.:Son Ahlmann. New York: American Geographical Society, 1953. 51 pp. Illus. $2.50.

An Introduction to Symbolic Logic. 2nd ed. Susanne K. Langer. New York: Dover, 1953. 367 pp. $1.60; cloth, $3.50.

Along the Great Rivers. Gordon Cooper. New York: Philosophical Library, 1953. 159 pp. + plates. $4.75.

Vergleichende Physiologie: Nervenphysiologie, Vol. II. W. von Buddenbrock. Basel: Verlag Birkhäuser, 1953. 396 pp. Illus. Sw. fr. 34.30; clothbound Sw. fr. 38.50.

Dislocations and Plastic Flow in Crystals. A. H. Cottrell. New York: Oxford Univ. Press, 1953. 223 pp. Illus. + plates. $5.00.

Communication: From Cave Writing to Television. Julie Forsyth Batchelor. New York: Harcourt, Brace, 1953. 116 pp. Illus. $2.50.

Experiments, Theory, and Problems in General Chemistry. Hosmer W. Stone and James D. McCullough. New York–London: McGraw-Hill, 1953. 352 pp. Illus. $6.00.

Fossil Plants of the Florissant Beds, Colorado. Harry D. MacGinitie. Washington, D. C.: Carnegie Inst. of Washington, 1953. 198 pp. + plates. $5.25; clothbound, $5.75.

Advances in Catalysis and Related Subjects, Vol. V. W. G. Frankenburg, V. I. Komarewsky, and E. K. Rideal, Eds. New York: Academic Press, 1953. 487 pp. Illus. $11.00.

Franz Boas. The science of man in the making. Melville J. Herskovits. New York–London: Scribner's, 1953. 131 pp. $2.50.

The Tools of Social Science. John Madge. London–New York: Longmans, Green, 1953. 308 pp. $4.75.

The Structure of Human Personality. H. J. Eysenck. London: Methuen; New York: Wiley, 1953. 348 pp. Illus. $5.75.

The Works of Archimedes and ***The Method of Archimedes.*** Reissue. T. L. Heath, Ed. New York: Dover, 1953. 377 pp. Illus. $1.95; cloth, $4.95.

How Animals Move. The Royal Institution Christmas Lectures 1951. James Gray. New York: Cambridge Univ. Press, 1953. 114 pp. Illus. + plates. $3.00.

Dislocations in Crystals. W. T. Read, Jr. New York: McGraw-Hill, 1953. 228 pp. Illus. $5.00.

Existential Psychoanalysis. Jean-Paul Sartre. Trans. by Hazel E. Barnes. New York: Philosophical Library, 1953. 275 pp. $4.75.