Book Reviews

The Trematoda of British fishes. Ben Dawes. London: Ray Society, 1947. Pp. 364. (Illustrated.) 45/-.

The author's aim was to describe the trematodes of British fishes more fully than was possible in his book *The Trematoda* (*Science*, March 7, p. 268), but not to presume to treat the subject exhaustively. The author is to be credited with a laborious task well done.

Ninety species of monogenetic and 101 species of digenetic trematodes are listed by taxonomic groups. Some of the species are not known to occur in fish from British waters but are included because they occur in those from adjacent waters. In most cases the information for each species includes synonymy, a list of hosts, the location in the host, notes on geographical distribution, and a brief description of the species. Keys to 16 families in the Monogenea and to 17 families in the Digenea are provided. There is a bibliography of over 650 titles which reflects a thorough coverage of the pertinent literature, an alphabetical list of hosts, a list of hosts with their trematode parasites, and a general and systematic index.

This book may be considered as essentially a compilation of information from other sources, supplemented from first-hand experience with many of the species mentioned. Although the book is not a critical reference work on the subject, it will be of considerable value as a handbook and as a guide to the extensive literature on the subject.

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The rare-earth elements and their compounds. Don M. Yost, Horace Russell, Jr., and Clifford S. Garner. New York: John Wiley; London: Chapman & Hall, 1947. Pp. viii + 92. $2.50.

By monotonously laborious procedures of fractionation, the chemist achieved the separation and discovery of the rare-earth elements. Related chemically so closely, these puzzling elements did not fit into the then-existing periodic system. Their nature as well as the reason for their existence was hazy and confusing, and interest in them gradually waned almost to the vanishing point.

With the discovery and investigation of electrons, X-rays, and spectral lines, and the introduction of the quantum theory of atomic structure, combined with thermodynamics and statistical mechanics, the interesting magnetic and spectroscopic properties of the rare earths were explained, and the similar chemical behavior of these elements was clarified. A second shot of new life was recently injected into the rare earths through finding some of them as fission products of thorium and uranium, while nuclear research brought forward the concept of a second rare-earth-like series, beginning with Element 89 (actinium) and termed the actinide series.

The subject matter of the present monograph is divided into six chapters which discuss the electronic structures and oxidation states of the rare-earth elements, the paramagnetic properties and absorption spectra of rare-earth compounds, evidence for the existence of Element 61, separation of the rare earths, and their chemical and physical properties. Nuclear properties of the rare-earth elements, general physical constants, and the periodic system of the elements are given in three appendices.

The material of the book, carefully and critically chosen, constitutes reliable, modern information.

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The nature and prevention of the cereal rusts as exemplified in the leaf rust of wheat. (***Annales Cryptogamici et Phytopathologici,*** Vol. IV. Frans Verdoorn, Ed.) K. Starr Chester. Waltham, Mass.: Chronica Botanica; New York: Stechert-Hafner, 1946. Pp. xvi + 269. (Illustrated.) $5.00.

This book represents the first attempt to bring together and summarize in English the literature on the rusts of cereal crops in general and the leaf rust of wheat in particular. The author not only presents complete published information on various phases under discussion, but also makes a commendable effort to analyze, interpret, and coordinate masses of information, some of which is in mimeographed form or in reports and similar material seldom cited. Those interested in rust research will be particularly grateful for the excellent summary of the Russian rust literature which, due to the language difficulties and appearance in obscure journals, often is not accessible and therefore is not well known in the Western Hemisphere.

The book is primarily a treatise on the leaf rust of wheat, although the other cereal rusts sometimes are discussed as illustrations of similar phenomena in leaf rust. In 15 chapters the history, origin, distribution, host range, effect on host plant and yields, symptomatology, etiology, physiologic specialization, survival and development, dissemination, epiphytology, and control of leaf rust are discussed at length. Investigators will find the chapters on physiologic specialization and control by rust resistance particularly interesting. The author's suggestion that the number of differential host varieties be reduced, thereby reducing the number of physiologic races by grouping similar races, presents a concept often discussed by uredinologists but seldom mentioned in literature. This suggestion will be favored by some investigators and condemned by others.

A list of 423 articles on rust appears at the end, and special praise is due for an excellent job of summarizing and bringing rust literature up to date in a single publication readily accessible to students and investigators.

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