

L. Berland, C. Dawydoff, L. Fage, W. Millot and M. Vachon, all of Paris, L. Cuénot of Nancy, L. Störmer of Oslo, A. Vaudel of Toulouse, and G. Waterlot of Lille. These authorities are sufficient guarantee of the standard of the work. The first three sections deal with the Onychophora, Tardigrada and Pentastomida as groups, the relationships of which to the Arthropoda *sensu stricto* are not clear. This is followed on pp. 79-158 by a useful discussion on the general characters of the Arthropoda, and this in turn by a treatment of the Trilobitomorpha and the Chelicerata, the latter being synonymous with the Arachnida of English text-books. There are a number of slips that have escaped correction: for example, p. 96, Eastman instead of Eastham as it is correctly spelled in other places; p. 122, the legend of the plate refers to figures *A*, *B* and *C*, but these letters do not appear on the plate itself; p. 124 gives references to a special Chapter 20, but none of the volumes so far published is divided into chapters, and the subject-matter is not treated in the present volume; Lankester's classical paper is quoted, pp. 261 and 892, as "I mulus and [instead of 'an'] Arachnid"; the works of Meglitsch and Thomsen on the corpus cardiacum are mentioned in the text, but do not appear in the list of references, etc.

Turning now to Volume 9, as is to be expected with such a vast amount of material to be dealt with, the Insecta occupy three volumes of which this is the middle one. The volume contains 1,118 pages and is divided into two sections; the first is illustrated by 109 line blocks and a double-page coloured diagram to show the classification and phylogeny of the Insecta, and the second is illustrated by 728 line blocks, 24 half-tones and two excellent coloured plates. The outer cover is provided with an effective, lightly embossed representation of the beetle *Enneopausus nova* in gold and black. Its contributors are L. Chopard and R. Jeannel of Paris, R. Denis of Dijon, R. Despax of Toulouse, E. Paulian of Madagascar, and the general editor, Pierre-P. Grassé of the Sorbonne, deals with the termites. The first section is concerned with the classification of insects, including a brief historical survey, and indicates that the classification adopted is that proposed by Martynov with slight modifications. It also discusses the fossil insects and their position in classification, and the phylogeny, evolution and spread of the major groups of insects in general. The second section deals, in order, with the various lower groups and also the Coleoptera. Again, as in the previous volumes issued, slips have remained uncorrected; for example, p. 9, the name is given as Martinov, whereas on pp. 6, 13-19 it is correctly given as Martynov; on p. 591 miss Ford instead of Miss Ford, etc. In view of the considerable interest now taken in chromosomes, it is a pity that, as they are mentioned, those of Orthoptera and Coleoptera do not receive fuller treatment and illustration. Particularly is this the case in the former group, where the relatively large size of the germ cells has resulted in a great deal of attention being paid to them.

The criticisms of both volumes are only minor ones; but the general standard is so high that it is a pity such blemishes have been left. Both volumes are provided with full indexes and a table of contents right at the end. The value of such large works as these can only be determined by continuous use, but they are to be strongly commended and should find a place in every zoological library.

C. H. O'DONOGHUE

FISHES OF THE WESTERN NORTH ATLANTIC 316

Fishes of the Western North Atlantic

Part 1: Lancelets, by Henry B. Bigelow and Isabel Pérez Farfante; Cyclostomes, by Henry B. Bigelow and William C. Schroeder; Sharks, by Henry B. Bigelow and William C. Schroeder. (Sears Foundation for Marine Research, Memoir No. 1.) Pp. xvii+576. (New Haven, Conn.: Yale University, 1948.) 10 dollars.

FROM the time of its appearance half a century ago, Jordan and Everyman's "Fishes of North and Middle America" has until to-day remained the only comprehensive descriptive account of the fishes of the western Atlantic Ocean. Much new knowledge has become available during this long period, and the time is now ripe for a new and up-to-date publication covering approximately the same field. The appearance of Volume 1 of "Fishes of the Western North Atlantic" is therefore most welcome and will supply a much-felt need. This volume, the first of a projected series, brings to fruition the initial part of a plan conceived in New Haven a considerable time ago. With the establishment of the Sears Foundation for Marine Research at Yale University in 1937, funds became available for publication on quite an ambitious scale, and a group of expert ichthyologists met to discuss the preparation of a work such as is now appearing.

The various sections will be written by specialists in their particular fields and will be critical reviews, or even revisions, of each group based on the latest and most up-to-date information and ideas. The schemes of classification will be compiled with especial care, and standards for both text and illustrations have been formulated so as to achieve as much uniformity as possible throughout the different volumes. The scope of the publication will embrace the sea- and brackish-water fishes of the western half of the North Atlantic, including the adjoining gulfs and seas from Hudson Bay to the Amazon River. Although written by specialists, "Fishes of the Western North Atlantic" is designed to be of interest and value not only to professional but also to amateur biologists, such as fishermen and sportsmen and all others interested in the lives and habits of fish.

Volume 1, now published, describes the lancelets, hag-fishes, lampreys and sharks. For each group, adequate and well-conceived keys are provided to families, genera and species. An attempt is made to describe clearly and succinctly the distinctive characters which separate each species from its nearest relatives. In general, this is successful and is a very useful feature of the book. The specific descriptions are comprehensive (including, for the sharks, long lists of proportional dimensions of selected specimens, the value of which may perhaps be doubted) and are followed by extensive discussions of colour, size, habits, abundance, range, occurrence and distribution in the western North Atlantic, and economic importance. There are full lists of synonyms with references.

The book is well produced, well illustrated in black-and-white and handsomely bound. The size is royal quarto. This, and each succeeding volume of the series, as it becomes available, should most assuredly find a place in the libraries of all institutions and individuals interested in the fishes of the region.

G. A. STEVEN