

Biotoxicology

Poisonous and Venomous Marine Animals of the World. Vol. 1, Invertebrates. BRUCE W. HALSTEAD, with sections on chemistry by DONOVAN A. COURVILLE. Government Printing Office, Washington, D.C., 1965. 1030 pp., illus. \$50 for the set of three volumes.

This amazingly complete compilation of information relative to what might be called "dangerous" invertebrates is the culmination of some 20 years of work. It is a definitive monograph that will probably remain unrivaled for some time to come.

The volume begins with a historical account, which traces the recognition of poisonous marine invertebrates and the treatment of their effects from the time of ancient Egypt to the present. The eight most common marine invertebrate groups are then dealt with (Protozoa, Porifera, Coelenterata, Echinodermata, Mollusca, Platyhelminthes, Annelida, and Arthropoda). (It is because of the broad scope of this work that five reviewers, each a specialist in one of these groups, has participated in this review of it.) Each treatment begins with a taxonomically arranged listing of those animals reported as toxic or venomous, with

notes on distribution and with literature citations. Then a general account is given of biotoxicological research on the group, comments on the biology of the animals, and a morphological description of the poison glands, venom apparatus, or mechanism of intoxication, as applicable. There follow discussions of the medical and public-health aspects of the effects of the animal and consideration of toxicological assay methods and chemical analyses for the various toxins.

In almost all extensive undertakings such as this, it is inevitable that a number of minor errors survive editing procedures. Here, there are some occasional misspellings, and the captions for a few plates are reversed. In the chapter on the Mollusca there are errors in some ordinal and subclass names. The overall quality of the editing is high, however.

The treatment of all groups but the sponges is uniformly good. It is felt that there is an overemphasis on the commercial species and a relative neglect of the remaining sponges; this may well be a reflection of the amount of research that has been done on the two categories.

The book is well illustrated. The first

chapter, on history, contains 175 figures, most of which are photographs of workers in the field of biotoxicology. There are about 20 line drawings and over 200 plates which serve to cover the animal groups. About half of the plates are in color; although they are well done from the standpoint of color, a number are not quite in focus, and there appears to be some repetition and superfluity. Those plates which are reproductions of illustrations from older scientific papers are of questionable value, since they are often so generalized that little detail is apparent.

In summary, it is felt that Halstead has done a great service in overseeing the drawing together of a vast amount of information on biotoxicology. It is to be hoped that, in addition to being a valuable source of specific information, the book will act as a stimulus for intensified research in this relatively neglected field.

MEREDITH L. JONES
RAYMOND B. MANNING
DAVID L. PAWSON
JOSEPH ROSEWATER
KLAUS RÜTZLER

*Museum of Natural History,
Smithsonian Institution,
Washington, D.C.*