Marine Molluscs of Victoria

By J. Hope Macpherson and C. J. Gabriel. (Handbook No. 2.) Pp. xv+475. (Victoria, Australia: Melbourne University Press; London and New York: Cambridge University Press, 1962.) 63*s*.

THERE is no doubt that students of the marine biology of south-eastern Australian shores will find this book of considerable help in their investigations. For amateurs taking their first steps into conchology, it will also be of great value. There are comprehensive, and yet not over-powering, introductions to each of the five classes of the phylum Mollusca and sensible notes on methods of collecting. The descriptions are basically sound, and provide adequate comparisons between different genera and species; these compensate for the lack of keys which would have made the book much more useful to everyone. There is a very good glossary.

This work, however, is not intended as an introductory text-book, and it is beyond the elementary stage that some features could have been improved. It is regrettable that measurements have been presented only in inches and too frequently as, 'size 1½"'. This is not sufficient. Size ranges must be available for collectors and students. Although executed with a high degree of technical skill some of the black-and-white figures could have been more accurate—in *Xenogalea thomsoni*, for example, the columella callus plate is ridged, not smooth as illustrated in Fig. 177. This shell is also much more handsome than this figure shows—indeed, it is doubtful if there is a place to-day for a shell-book which does not at least have some of the illustrations (certainly the cowries and murex shells) in colour. The value of a good coloured photograph of a shell to a working systematist cannot be over-estimated.

Greater detail of distribution outside Victorian and Australian waters would have been a useful addition and a map showing the principal localities in Victoria itself a great help. There can be no virtue in making up common names for all shells, some of which are far from common, as has been done in this book. This does not present a good example to students and amateurs, who must become familiar with the binominal system of nomenclature from their earliest days if their collecting is intended to be at first purposeful and then scientific. Norman Tebble

Destructive and Useful Insects

Their Habits and Control. By C. L. Metcalf and W. P. Flint. Fourth edition. Revised by Prof. R. L. Metcalf. (McGraw-Hill Publications in the Agricultural Sciences.) Pp. xii+1087. (New York: McGraw-Hill Book Company, Inc.; London: McGraw-Hill Publishing Company, Ltd., 1962.) 135*s*. 6*d*.

METCALF and Flint has been a standard reference book since its original appearance in the 'twenties. Dr. R. L. Metcalf, professor of entomology at Riverside, California, has carefully revised the whole book and entirely re-written the chapters on "Insect Control" and "The Applications of Insecticides", as well as greatly increasing the size of the sections on classification and on the morphology, physiology and biochemistry of insects. Most of the illustrations of the earlier editions are retained but all have been printed from new blocks which, with the improved paper, give the new edition a refreshingly clean and tidy appearance. Only a very few of the figures (for example, the fly in Fig. 2.16) are less pleasing than the old. All have been re-lettered and labelled in full. A small error has been introduced into Fig. 4.15, where two different structures are called the hypopharynx.

The thinking in the book remains rather old-fashioned—you name your pest and spray it according to the recipe. Perhaps in future editions more attention could be given to the long-term ecological effects of continued insecticide treatment. Where insecticides have caused pest outbreaks it is not enough to term them 'side-effects' and explain them away as the result of 'improper' application of insecticides. At present one cannot tell what long-term effects treatment may have on other species, beneficial or otherwise. Obviously there is still much to learn in this rapidly advancing field in which the full testing of one new insecticide would take years of careful experiment.

This book should have at least as good a run of useful life as the earlier editions it so worthily replaces.

G. C. Varley

Animal Ecology

By Prof. S. Charles Kendeigh. Pp. x+468. (London: Prentice-Hall International, 1961.) 70*s*.

THIS volume is intended for undergraduates with at least one year's training in zoology and appears to form the basis of a lecture course in animal ecology given by the author at the University of Illinois. It would be easier to assess its full worth if one could also attend the practical course at which one hopes the major defect of the book would be remedied. Here is a large work with approximately 1,500 references and an astronomical number of facts. It could have been of more value to the student had there been fewer facts and more guidance on how to assess their worth. As in all branches of biology, the value of any ecological work relies on a full understanding of the methods and techniques utilized and the rigorous interpretation of the results obtained. It is a pity that this is not communicated to the reader.

Nevertheless, this comprehensive and reasonably well-illustrated account may be read with interest. Following introductory chapters devoted to the scope and history of the subject and the general nature of environmental responses, there are accounts of different habitats (streams, lakes, ponds, forests, etc.), ecological processes, and community dynamics (dispersal, migration, food and energy relationships, speciation). The final part deals with the geographical distribution of communities (temperate deciduous forest, coniferous forest, tundra, grassland, desert, tropical and marine communities).

R. H. Hedley

South African Lepidoptera

By L. Vári. Vol. 1: Lithocolletidae. (Transvaal Museum Memoir, No. 12.) Pp. xix+238+112 plates. (Pretoria: The Transvaal Museum, 1961.) n.p.

THIS is the first volume of a proposed series of taxonomic revisions of the world genera and southern African species of the lepidopterous superfamily Tineoidea. The family Lithocolletidae is characterized, and keys are provided to genera and species. Twenty-four new genera and more than a hundred new species are described. Where knowledge of a species permits, an account is given of the type of leaf-mine formed by the larva. Mention is also made of the distribution of each species, but not of some of the genera. Critical examination of the type species and the previously included southern African species of each genus has resulted in the lumping or splitting of many genera, the transference of many species from one genus to another, and the discovery of many synonyms, necessitating many changes in nomenclature. The descriptions of new species are unfortunately not accompanied by a differential diagnosis, and there is no clear statement that type material of species other than new has been examined. It is disputable whether there is much advantage to be gained from quoting the sometimes long original descriptions of previously described species. The selection of a male from a Meyrick syntype series of one male and one female and its designation as holotype, instead of lectotype, is incorrect.

The numerous drawings of wing-venation and genitalia and the excellent coloured reproduction of paintings and colour-photographs merit special mention.

From the outset, this work will be indispensable to those engaged in taxonomic work on the group and to collectors of African microlepidoptera. A. Watson