

listed by me after considerable searching of the literature). His list ranges from such mildly irritating shore anemones as *Actinia equina* and *Anemonia sulcata* to the deadly sea wasp (*Chiropsalmus*) that can kill in 3-8 min. Moderately severe stingers, like the coral reef hydroid *Lytocarpus*, the medusae *Chrysaora*, *Pelagia*, *Lobonema* and the *Stephanoscyphus* stage of *Nausithoe* are not mentioned.

Likewise, we lack precise information for many other invertebrate groups on how many species are potentially dangerous. This is mentioned here, not in criticism of Dr. Halstead's most useful and up-to-date synopsis, but to indicate that our knowledge in this field is far from complete.

W. J. REES

Insects and their World

By Harold Oldroyd. Pp. viii+139 (60 plates). (London: British Museum (Natural History), 1960.) 7s. 6d. net.

SO MUCH is known about the teeming millions of insects that to write about them both accurately and simply is by no means easy. Mr. Oldroyd is therefore to be congratulated on providing for the general public and for elementary students of insects a very useful introductory text. He touches lightly on their classification, structure, physiology, behaviour, adaptations and their importance to man. The style is always lucid, avoids technical jargon and is pleasantly illuminated by shafts of wit.

The only disappointment was to find in so lavishly illustrated a book that the plates had so little relation to the interesting stories told in the text. Scarcely any of the drawings or photographs show living insects in their natural environment, or attempt to illustrate points in the life-history. Many of the photographs show pinned insects, or dead ones awkwardly posed on rather unsuitable backgrounds. May we hope that in future editions some of the less-suitable photographs will be replaced by appropriate drawings? The drawings already used are good, but rather formal, however; that by Terzi of the blue-bottle makes the photograph facing it appear very crude. The figures and plates should also be numbered in a single series.

The book is well printed on glossy paper and is free from typographical errors. The very few minor errors of fact or interpretation will doubtless be corrected in the future editions which the book deserves.

G. C. VARLEY

Advances in Pest Control Research

Vol. 3. Edited by R. L. Metcalf. Pp. vii+448. (New York: Interscience Publishers, Inc.; London: Interscience Publishers, Ltd., 1960.) 109s.

THIS, the third volume in the series "Advances in Pest Control", consists of nine articles by different authors who each examine a limited aspect of pest control research. There is a surprisingly extensive inter-relationship between individual essays which enhances their value by providing a wider view of the subject. The volume should prove to be a useful one.

Three essays written around groups of chemicals (organic halide nematocides by W. Moje, dithiocarbamate fungicides by R. A. Ludwig and G. D. Thorn, triazine herbicides by H. Gysin and E. Knüsel) differ in emphasis according to the characteristics of the chemicals, pests and crops involved and the reactions between them. The essay on translocation

by J. W. Mitchell, B. C. Smale and R. L. Metcalf clearly shows the wider knowledge of plant structure and function than of the properties which determine the penetration and movement of chemicals in plants. The empirical nature of the use of mixtures of biologically active materials is illuminated by P. S. Hewlett, who discusses the varied investigations on the joint action of insecticides with balanced emphasis. The general lack of understanding of the complexities of the interaction between chemicals and organisms can again be seen in the essay on DDT-dehydrochlorinase by H. Lipke and C. W. Kearns, who barely hint at other possibilities of biological detoxication of DDT. F. P. W. Winteringham describes the labelled pool-technique as a way of searching for the effects of an interaction between chemicals and living organisms together with techniques which make the approach possible. The search for chemicals attractive to insects is reviewed by N. Green, M. Beroza and S. A. Hall, who classify attractants according to the type of response elicited (sex, food) and discuss their possibilities for controlling, or obtaining information about, insect pests. Knowledge and imagination are the bases of the procedure, described by R. C. Bushland, of controlling insects by male sterilization.

K. A. LORD

Blakeslee

The Genus *Datura*. By Aamos G. Avery, Sophie Satina and Jacob Rietsema. Pp. xli+289. (New York: The Ronald Press Company, 1959.) 8.75 dollars.

AN unfortunate title, for this is not, as one might imagine, a revision or monograph of the genus *Datura*, but rather a special kind of *Festschrift* compiled in honour of the late Dr. Albert F. Blakeslee, dealing with various aspects of the biology of a number of *Datura* species. Dr. Blakeslee devoted almost forty years to the study of the 'Jimson weed' (*Datura stramonium*) and its near allies, and this book shows just what can be accomplished by such intensive cultivation of a limited field. The results are certainly impressive, at least so far as genetical and cytological researches are concerned, and, for the taxonomist, it is especially interesting to have minute details of the mechanisms of variation explained on the whole lucidly and with some degree of consideration for those who are not professional geneticists. In this connexion the chapters on polyploidy, extra chromosomal types and gene mutations are particularly enlightening: it is surely by such studies of mechanisms rather than by controversy and hypothesis that the secrets of evolution and phylogeny will be revealed. Readers more concerned with practical problems of plant breeding will find much to interest them in the succeeding chapters on seed development, growth, processes in the embryo and seed, and barriers to crossability. The discourses on chinaras and radiation experiments should appeal equally to the theorist and practitioner. It is perhaps the taxonomist who fares worst in this symposium, for, making all due allowances, it cannot be pretended that the chapters on taxonomy and nomenclature are more than cursory. The section *Brugmansia* is almost wholly neglected, and we are not given any clear guidance as to the status of this group in relation to other species of *Datura*. The phytogeographers are not much better served; the geographical distribution of *Datura* species raises all