

statistical mechanical discussions, Dr. Wilks is paying tribute to the Third Law on the cover but deserting it inside. If the applications of the Third Law as such are not very fruitful or exciting this might be the wisest course, and in this light the book is an interesting compendium which includes phenomena (like the behaviour of glasses) which only rarely find their places in text-books.

D. H. MARTIN

South African Animal Life

Vol. 8. Edited by Bertil Hanström, Per Brinck and Gustaf Rudebeck. (Results of the Lund University Expedition in 1950-1951.) Pp. 557. (Stockholm: Almqvist and Wiksell, 1961.) 75 Swedish kr.

THE eighth volume of results of the Swedish Expedition to South Africa during 1950-51 again contains contributions by workers from a number of countries. South Africa itself is represented by H. Andreae (Coleoptera: Cossyphodidae), A. C. van Bruggen (Diptera (Brachycera): Diopsidae), J. C. van Hille (Coleoptera: Anthicidae), and B. R. Stuckenberg (Diptera (Nematocera): Thaumaleidae). Swedish contributors are H. Kauri (Opiliones) and B. Tjeder (Neuroptera Planipennia IV: Hemerobiidae). G. Heslop-Harrison (England) deals with the Hemiptera (Homoptera): Psyllidae and R. Linnavuori (Finland) with the Hemiptera (Homoptera): Cicadellidae. The Hemiptera (Heteroptera): Anthocoridae are described by J. Carayon (France), the Coleoptera (Staphylinidae): Paederinae, by G. Fagel (Belgium), the Hymenoptera (Aculata): Vespidae by A. G. Soika (Italy), and the Diptera (Brachycera): Nemestiniidae by F. M. Hull (United States).

The volume is—like its forerunners—excellently produced, and the illustrations are of a commendably high standard. The numerous zoo-geographical maps deserve special mention.

O. LOWENSTEIN

Soil Animals

By Prof. D. Keith McE. Kevan. (Aspects of Zoology Series.) Pp. xv + 237 + 5 plates. (London: H. F. and G. Witherby, Ltd., 1962.) 30s. net.

THIS is an introduction to the zoological side of the complex and rapidly expanding subject of life in the soil. It brings up to date the excellent book, *Soil Zoology*, edited by Prof. Kevan in 1955, which has done much to stimulate interest in soil animals. Though not so exhaustive as Prof. Kuhnelt's book, *Soil Biology*, it will serve well those who require a general view of the subject. It is unfortunate that the extremely full and competent account of how to collect animals from soil samples is not accompanied by an equally full account of the statistical problems encountered in population estimation. Many students of soil zoology to-day are more than a little perturbed by the unwillingness or inability of some soil fauna ecologists to use even simple statistical methods.

In the penultimate chapter a praiseworthy attempt has been made to describe how agriculture and land use affects soil animals. Perhaps it is because soil biology is still in its infancy that this and the final chapter, where the effects of animals on the soil are discussed, do not have the clarity of the rest of the book. Selection of the references could have been more critical and the addition of recent work on soil insecticides would have helped. In spite of all the work done, it is still impossible to explain the precise part played by soil animals in the cycles and processes of soil fertility, and to express the significance of their presence in terms of crop yield.

This book will show many people that soil animals are a group the further study of which must be rewarding.

G. W. HEATH

British Miniature Electronic Components and Assemblies Data Annual, 1962-63

Edited by G. W. A. Dummer and J. Mackenzie Robertson. Pp. xvii + 1140. (London and New York: Pergamon Press, 1962.) 140s.; 25 dollars.

THE ever-increasing use of the transistor in electronic circuits has in recent years stimulated the development of a wide variety of miniature components and devices of comparable size, and much of the circuit designer's problem is to know what is available. The present annual has been produced to help overcome this problem, and it is envisaged that, together with its two companion annuals covering transistors, diodes and semiconductors, and miniature and sub-miniature valves, it will provide a complete designer's library. The word 'miniature' has been interpreted to mean less than 1 cubic inch in volume, although some larger items have been included which are the smallest of their type.

Since its first appearance in 1961 the annual has more than doubled in size, listing a variety of components not included in the first volume. These include, among many other devices, accelerometers, batteries, crystal devices, fans, hydrophone assemblies, motors, neons, pot cores, semiconductor networks, solid circuits, strain gauges and warning devices, as well as larger sections on those components included originally.

In the new edition the acknowledgments to manufacturers is replaced by a more useful "Index to Manufacturer's Products", but no prices are included.

E. M. DEELEY

Annual Review of Entomology

Vol. 7. Edited by Edward A. Steinhaus and Ray F. Smith. Pp. viii + 536. (Palo Alto, Calif.: Annual Reviews, Inc., 1962. Published in Co-operation with the Entomological Society of America.) 7 dollars.

THE seventh volume of this now well-established series contains the following reviews: Photoperiodism in insects and mites (J. de Wilde); some physical aspects of insect respiration (J. Buck); metabolic aspects of insect diapause (W. R. Harvey); entomological aspects of radiation as related to genetics and physiology (D. S. Grosch); chemical defenses of arthropods (L. M. Roth and T. Eisner); the comparative anatomy of the insect nervous system (J. B. Schmitt); genetics of sex determination (W. E. Kerr); control systems of orientation in insects (H. Mittelstaedt); microclimates and the distribution of terrestrial arthropods (J. L. Cloudsley-Thompson); dispersal and migration (F. Schneider); use of mathematics in population ecology (K. E. F. Watt); ecology of aquatic insects (T. T. Macan); biology and ecology of predaceous Coccinellidae (K. S. Hagen); ecology of Scolytidae (J. A. Rudinsky); significance of parthenogenesis in the evolution of insects (E. Supmalainen); the integration of chemical and biological control of arthropod pests (R. van den Bosch and V. M. Stern); trends in applied biological control on insects (B. P. Beirne); the bionomics and control of *Culicoides* and *Leptoconops* (D. S. Kettle); mosquito behaviour in relation to disease eradication programmes (P. F. Mattingly); uses of bioassay in entomology (W. M. Hoskins and R. Craig); detoxication mechanisms