

Apart from faults in theory such as have been noted in the previous paragraph, the chief reason why this book fails to satisfy is that its aims are too many. It appears to be intended as a general description of the potentialities of statistical science in industrial experimentation, as an elementary manual of instruction, and also as an introduction to the use of various more advanced analytical techniques. Whether the combination of these within a single book is desirable may be doubted; its successful accomplishment in 116 pages is impossible.

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account. The main criticism is that the author plunges too suddenly into a specialized subject without an adequate preliminary account of insects as a whole. No references are given to general works on entomology, while a short list of the leading textbooks of medical entomology would be useful to the reader who desires to widen his point of view beyond the confines of this book. These omissions, however, are minor features in a good reliable volume, the author of which is to be congratulated on his efforts.

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## 8/6 MEDICAL ENTOMOLOGY

### Entomology (Medical and Veterinary)

By Prof. D. N. Roy. Pp. xii + 358. (Calcutta: Saraswati Library, 1946.) 30 rupees.

THE author of this book is professor of medical entomology in the Calcutta School of Tropical Medicine. His object in writing it, he informs us, is to ease the scarcity of works of a technical nature now available in India. It is intended for the use of medical and veterinary students as well as for public health officials, all of whom require up-to-date information on insects in relation to disease. It is a matter of interest that the book has been written, printed, illustrated and published in India by Indians.

As is usual in preparing works of this kind, the scope of entomology has been extended so as to include ticks and various other animals that are implicated, in some way or other, with disease transmission. The importance of *Anopheles* mosquitoes in the tropics needs no comment, and this feature accounts for these insects receiving fuller treatment than any of the other groups. Keys and tables for the identification of both the adults and the larvae are given; methods of conducting malarial surveys and of the preparation of blood-films are explained, and there is an interesting account of the different means for malaria control in its various aspects—chemical, biological or otherwise. The account of Culicine mosquitoes, notwithstanding their great importance from the medical point of view, is much more condensed, and the chapter concludes with a bibliography of about 270 titles.

The Psychodidæ follow, and a short but useful account of the flies is given, with a good bibliography of the relevant literature. A good and, on the whole, adequate account of the Cyclorrhapha as exemplified by the house-fly is given. The habits of all more important species are referred to and the essential details of the most modern methods of prevention and control are provided. The next twenty-four pages deal with the fleas and their relations to bubonic plague, together with certain other diseases. The account of the Anoplura gives the chief facts regarding the medical importance of *Pediculus* and methods of disinfection. It is interesting to note that the almost incredible number of 9,020 individual lice (adults and immature forms) is recorded from one female patient. Passing over several groups, we come to the ticks and other Arachnida, etc.; the book concludes with a chapter on entomological technique, including section-cutting and staining.

Viewed as a whole, it is a useful volume, well adapted for the purposes intended. The subject-matter is concisely expressed and well up to date. A good feature is the bibliographies at the end of each

## 7/6 PROTOZOOLOGY

### Protozoology

By Prof. Richard R. Kudo. Third edition. Pp. xiii + 778. (Springfield, Ill.: Charles C. Thomas, 1946.) 8 dollars.

IT is now fifteen years since Kudo, who occupies one of the very few university chairs of protozoology in the world, produced his "Handbook of Protozoology"; the second edition appeared in 1939, and now a third edition has been issued.

This third edition, much of which has been rewritten, contains two new chapters, one on the major groups and phylogeny of the Protozoa, and one on the collection, cultivation and observation of them. The author, rightly believing that adequate illustrations are important, has added sixty-nine figures, forty-seven of which are new, while twenty-two are taken from his "Manual of Human Protozoa", which was published in 1944. The result is a book which will be valuable to all biologists who wish to study the Protozoa. It is well printed and tastefully produced, but here and there the language is quaint, and there are misprints which could have been eliminated; and the definite article is sometimes omitted. Most of the illustrations are in line and stipple, and the majority are good or excellent. The coloured figures of the human malarial parasites are better than many that have been published. A few of the illustrations, however, are too small. The beauty and clarity of Bělař's figure of the paedogamy of *Actinophrys sol* on p. 164 have suffered in this way; and students of parasitic Protozoa will feel that the figures of *Crithidia*, *Herpetomonas*, *Giardia*, *Trichomonas*, *Trypanosoma gambiense*, *T. rhodesiense* and of some other parasitic species compare unfavourably with those published in books of medical parasitology.

These are, however, relatively unimportant criticisms. More important is the fact that, in this book, one of the few volumes dealing with the Protozoa from the biologist's point of view, only 176 of the 710 pages are devoted to the general biology of the Protozoa, which raises so many problems of fundamental biological importance. The second part of the book, devoted to taxonomy and special biology, gives some further notes about the biology of some species, but these are notes only. On the other hand, the reader who desires further information about particular points can obtain it by following up the references given at the end of each chapter.

It is likely that this book, like other books of equally wide scope, will grow with the years and become more and more valuable to the biologist.

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