Between a prologue, "Population Crisis", and an epilogue, "Food Crisis", a series of diseases or groups of diseases are dealt with in ten chapters. Three of these cover ergot and ergotism, South American leaf blight of rubber and miscellaneous diseases of forest and ornamental trees. The other seven, the essence of the book, deal with a representative selection of diseases of food plants: rusts and smuts of cereals, mildews of the grapevine, Panama and Sigatoga diseases of banana, and various bacterial and virus diseases—notorious outbreaks of all of which have occurred during the past two hundred years. Most chapters also include interesting, and sometimes curious, information on the history and uses of the commodities affected.

The approach is broadly based, although I should have liked to see the stock examples of plant disease supplemented by accounts of more recent epiphytotics, well documented in the technical literature, such as maize rust (*Puccinia polysora*), which spread through West Africa to East Africa and beyond during the nineteen-fifties, and blue mould of tobacco which since its introduction into Europe a decade ago has done vast damage and established itself as a perennial hazard on a continental scale. There are a number of minor errors in the text and a few major blunders; as, for example, in the account of Linnaeus's involvement with the nomenclature and taxonomy of the coffee plant, and professional plant pathologists could well be upset by some of the purple passages which distort rather than clarify or add interest to the matters under discussion. The authors' intention, however, is propaganda in a good cause, and even if they do tend to exaggerate and to an impressionistic style, so long as this is borne in mind and their reconstructions are treated with a little scepticism, the result can be commended as a lively introduction which should help to stimulate interest in both the scientific and social impacts of plant disease. G. C. AINSWORTH

USEFUL ENEMIES

The Cockroach

A Laboratory Insect and an Industrial Pest. Vol. 1. By P. B. Cornwell. Pp. 391. (The Rentokil Library.) (Hutchinson: London, December 1968.) 63*s*.

IN times past, several species of cockroach have adopted man as their neighbour. This relationship is largely one-sided, but some advantage has been taken of this readiness to tolerate man's environment and they have been exploited as experimental animals. Cornwell's book sets out to deal with these two facets of the relationship: the cockroach as an industrial pest, and as a laboratory animal. It is to be followed by a second volume on insecticides and control.

The scope of the book is broad and it includes cockroach evolution, known back to the coal measures. The species associated with man are described, together with their supposed countries of origin and their present-day distribution (considerably influenced by their being inveterate mariners). Then follows a section on the experimental biology of the animals. The remaining third of the book is devoted to ecological aspects of cockroach populations.

With the vast field to cover in one book, selective omission has, of necessity, been practised; but the "Laboratory Insect" aspect suffers in consequence. The preface says that the book provides, "for teaching establishments, research physiologists and insecticide chemists"; however, the treatment of the basic features of morphology and physiology is not really elementary and systematic enough for a teaching handbook, while the coverage is insufficient for the research physiologist.

Biochemistry has been ruthlessly pruned, but, even if one accepts the author's decision that this was necessary, one might have expected matters that offer the promise of practical application to receive full coverage. In a volume that is the forerunner to one on insecticidal techniques, surely acetylcholinesterase justifies more than one line? Yet again, when a great deal of thought is being given to the possibility of using hormones as a means of controlling insects, there is a distinct absence of information on this subject. The account of the functions of ecdysone is peremptory and inexact.

The final five chapters relate to the cockroach as a potential pest. Consideration is given to diet, growth statistics, predators, parasites and environmental effects —factors that influence the balance between increase and decrease in numbers. Examples of the animals' own activity and propensity for passive transport show how they can spread. The diseases for which they are potential vectors are listed. The last chapter is an interesting account of a comprehensive unpublished survey of the incidence of cockroaches in the British Isles.

This is a useful book, but it is a pity the author stopped so far short of completely covering the literature. Perhaps it was too optimistic to combine the two aspects of cockroach biology in one book. They share, after all, less a natural than a fortuitous connexion, with man as a common factor. It might have been better to treat them separately in two volumes. The industrial aspects could advantageously have been based on field ecology and ethology, and the laboratory manual could have been an amplification of this text. P. C. J. BRUNET

MALAYSIAN MOSQUITOES

Anopheline Mosquitoes of Malaya and Borneo

By J. A. Reid. (Studies from the Institute for Medical Research, Malaysia, No. 31.) Pp. xiii + 520. (Institute for Medical Research: Kuala Lumpur; High Commission for Malaysia; London, 1968.) M $30.00; US $10.00; 80*s*.

IT is more than 30 years since Gater published his monographs on the anophelines of Malaya and during the past 20 of these Dr John Reid has been occupied in a considerable volume of field, laboratory and museum research on this subject. Many of the thirty-two species that have been added to the anopheline fauna of Malaya and Borneo since Gater's day (when thirty-five species were recognized in all) have been described by Reid, who has now incorporated his own experience and that of other workers in this area in a single comprehensive monograph. After a valuable chapter on the anatomy of the various stages that is restricted to those aspects required for species identification, there is a summary of the classification of the genus *Anopheles* that follows in general the system adopted by Starcke, Knight and Stone in their 1959 catalogue of world mosquitoes. The systematic sections are introduced by simple primary keys for separation of the adult males and females, the larvae and the pupae into their main species groups, or, where practical, actual species. Clear diagrams facilitate this task considerably.

These keys are followed by the detailed descriptions of the sixty-seven species in the next 300 pages which are abundantly illustrated with many new figures (mainly by Mrs C. A. O'Brien) as well as the familiar and now classical drawings of Terzi and others. The species are dealt with according to subgenus and species group (where this is applicable). In the subgenus *Anopheles* are the *hyrcanus*, *barbirostris*, *albotaeniatus*, *umbrosus*, *asiaticus*, *lindesayi*, *culiciformis* and *aitkenii* groups. The subgenus *Cellia* includes the *leucosphyrus* group as well as individual species. Keys are provided to each of these groups as well as to the Oriental *Myzomyia* and *Pyretophorus* series and the South-East Asian members of the *Neocellia* series. The description of each species is brief but adequate and covers the diagnosis, main features of the female, male, pupa,