

The Chemistry of Organophosphorus Pesticides C FEST and K -J SCHMIDT Springer, Berlin, 1973 339 pp U S \$32 60

WITH the decline in the use of persistent organochlorine insecticides it seems likely that biodegradable organophosphorus pesticides will occupy a position of prime importance in crop protection and public health for at least the next decade or two. Here for the first time between the covers of one book is a very readable review of all aspects of organophosphorus pesticides. Written by two Bayer chemists, the book is intended as an introduction to the field. However, with over 1000 references and a liberally illustrated text the book will undoubtedly find use as a source of reference for workers already active in this field. The book is divided into four main sections. The first two minor sections give an historical background and briefly review the chemistry of organophosphorus esters. A rather chaotic third section describes the synthesis of individual pesticidal organophosphorus compounds with an emphasis on their industrial production. There is also a brief account of the biological activity for each compound. The final section discusses the mechanism of action, structure-activity relationships, metabolism, resistance, and toxicity of the pesticides. An appendix gives a bibliography, a list of trade and common names, as well as an author and subject index. The few errors in the text do not detract from the usefulness of the book.

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Naturally Occurring Acetylenes by F BOHLMANN, T BURKHARDT and C ZDERO, Academic Press, London, 1973 547 pp £13 00

AMONG certain classes of natural product, the rate of discovery and structural elucidation of new compounds is truly amazing, and nowhere is this more so than among the polyacetylenes. Until fairly recently, these compounds appeared to be a chemically restricted group of long chain hydrocarbon derivatives, present mainly in one plant family, the Compositae, and also in a handful of fungi. As is apparent from this book, the first monograph devoted entirely to these substances, this situation has been radically altered during the last decade. No less than 650 different acetylenes have now been reported from natural sources and besides the more usual compounds of fatty acid origin, terpenoid, phenolic, alkaloidal and amino acid derived acetylenes have recently been described. In addition, these compounds have now been found quite widely in nature in 19 angiosperm families, in one gymnosperm, in yeast and several algae, in 54 basidiomycetes and also once in animals, in the Colombian frog, *Dendrobates histrionicus*. Much of the credit for the discovery and description of these new compounds rests with the senior author of this book and his team of workers in Berlin and we must be very grateful to him for sparing the time from his researches to collaborate in writing this account of such a fascinating group of natural plant substances.

The introductory chapter describes the isolation, structural identification and biogenesis of acetylenes. A valuable feature here is the wealth of UV spectral curves included for illus-

trative purposes. There then follows the main section of the book (4 chapters) on the chemistry of the many different natural acetylenes, discussed in order according to their structural complexity. The chapter on their distribution contains a complete listing of structures according to their natural sources and includes a discussion of their chemotaxonomic significance. The listing of these compounds in the Compositae alone takes 120 pages, listing is on a tribal basis and differences at the tribal level are pointed out and elaborated. Detailed listings of polyacetylenes in the Umbelliferae, Araliaceae, Pittosporaceae and Campanulaceae are also included. Unfortunately, little is known of the biological function of acetylenes and the final chapter 'Physiological and Pharmacological Aspects' is only two pages long. The book concludes with author and botanical indexes.

While one is grateful to the German authors for writing the book in English, it must be pointed out that there are occasional infelicities in the text: e.g. *tribus* for *tribe*, *acetale* for *acetal*, *oxydative* for *oxidative*, etc., the publisher, perhaps, bears the responsibility for allowing these through. The book is rather expensive at £13.00, but considering that there are on average ten chemical formulae per page, this is not too unreasonable. This book should sell well not only to libraries but also to phytochemists, since many will want to have their own copies on their book-shelves.

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