

BOOK REVIEWS

Enzyme Handbook: THOMAS E. BARMAN, Springer-Verlag, Berlin, 1969 (in two volumes, not sold separately), 928 pp. Price \$19.50.

THIS excellent compilation sets out to provide in concise form the molecular data on enzymes. To qualify for inclusion in the handbook, the molecular weight, specific activity, specificity or kinetic properties of an enzyme have to be known. Thus the list is restricted to some 800 of the 1300 or so known enzymes. This means for example that the key enzyme in higher plant aromatic metabolism phenylalanine ammonia lyase (PAL) is in but that the related but less well characterized tyrosine ammonia lyase is not.

After a short but valuable introduction to enzyme properties, nomenclature, etc. there follows the main section in which each enzyme is described according to its sources, Michaelis constants, specificity, inhibitors, molecular weight and kinetic properties where these are known. Key references are given to the original literature and especially to the two standard multivolume works *The Enzymes* and *Methods in Enzymology*. Enzymes are arranged according to the Enzyme Commission Numbering System so that the alphabetical index provided at the end of Vol. II is a great convenience.

The book is offset printed from typewritten manuscript, which is not as easy on the eye as standard print, but this is justified in that the price is at a level that the research scientist can afford. As Dr H. Gutfreund puts it in the Foreword, this handbook is "a labour of love" and there is no doubt that all research workers interested in enzymes will be grateful to the author for providing them with this valuable key to the enzyme literature, a book which will prove its worth both at the laboratory bench and on the library shelf.

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Chemistry of Plant Protection and Pest Control: edited by R. WEGLER, Vol. I, Springer-Verlag, Berlin, 1970, 671 pp. Price DM. 180 or £20 12 6.

ONE OF the rapidly growing areas of phytochemical research at present has to do with plant-animal interactions. The major economic reason for the interest in this 'chemical ecology' is the need for developing new more selective methods of controlling insect and other plant pests, now that it has been realized that many of the earlier successful insecticides cause natural pollution on a devastating scale. This book, the first of two on the topic, is, of course, largely concerned with summarizing the successes of the past and the main concerns in this volume are the synthetic chemicals developed for controlling insects since the Second World War. In many ways, it is a monument to the synthetic versatility of the organic chemist in producing a vast range of related structures for biological testing against plant predators. Thus, there is a chapter on DDT and other chlorinated hydrocarbons which runs

to over 100 pages. There are also chapters on carbamates, phosphoric acid esters, insect repellents, chemosterilants and nematicides.

Natural plant products are by no means neglected and there are useful informative chapters on naturally occurring insecticides (by U. Claussen) and on insect sex hormones (K. Eiter). Other chapters mention *inter alia* examples of where natural products have been of value. One learns for example in the chapter on rodenticides that scilliroside, the cardiac glycoside of the red squill, *Urginea maritima* (Liliaceae), is effective, having an LD₅₀ in rats of 0.7–2.6 mg/kg body wt.

This volume is written by 27 contributors, all but one from Germany and most from the Bayer AG, Leverkusen. It is lavishly produced, liberally illustrated with chemical structures, and fully documented; there is, for example, a 14 page table relating trade names and synonyms to chemical names for the phosphoric ester insecticides. Both this volume and the second one which is scheduled to cover fungicides, herbicides and natural plant hormones will be of considerable interest not only to research workers in these respective fields but also to phytochemists generally. Their high price and the fact that they are in German will perhaps limit their sales in England and North America to libraries.

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