

SHORT REVIEWS

Pharmacognosy: by G. E. TREASE and W. C. EVANS, 12th edn. Bailliere Tindall, London, 1983. 912 pp. £25.

This twelfth edition coincides with the fiftieth anniversary of the first and a textbook which has remained the standard work for half a century hardly needs any further recommendation from a reviewer. This is a treatise written specifically for students in pharmacy and has few rivals in the English-speaking world. For a phytochemical audience, its merits may be less familiar. It does, in fact, encapsulate within its pages a considerable part of the phytochemical literature and provides an excellent reference to anyone interested in the active principles of medicinal plants.

One part of the book deserves special mention: following a tradition set in earlier editions, there is a long section giving Chemical Abstracts references to the literature of secondary plant metabolism over the period 1978–1983, set out on a taxonomic basis. This is a valuable direct entry into the research literature and allows one quickly to see which plant species have been worked on recently and what classes of compound have been characterised from them. Other chapters cover cell cultures as sources of drugs, microbiological conversions of drugs and aberrant biosyntheses in higher plants. There is an excellent guide to all the major classes of plant drug and also details of a computer programme which can be applied to crude drug identification via microscopic characters.

Secondary Metabolism in Micro-organisms, Plants and Animals: by MARTIN LUCKNER, 2nd edn. Gustav Fischer, Jena and Springer, Berlin, 1984. 576 pp. DM 124.

Secondary metabolites are now numbered in their tens of thousands and include almost all the more interesting organic structures produced by living organisms. The adjective 'secondary' suggests subsidiary or unimportant and it is unfortunate that no one has yet devised a better term for these invaluable products of cellular synthesis, which as shown by this author are formed in all living organisms by similar pathways. It is to the credit of Professor Luckner that the unifying principles of biosynthesis, set out in the first edition of this handbook, allow one to understand and comprehend the diversity of complex structures elaborated by plant and animal cells. This first edition, published in 1969, received such general acclaim that it was soon translated into English, Japanese and Russian.

This new edition, published in English and issued simultaneously from presses in East and West Germany, has been thoroughly updated to include the research findings of the 1970s. In the original edition, the emphasis was on biosynthetic pathways whereas here the scope has been significantly broadened and there are chapters on the functions of secondary metabolites and on their economic importance to man. This book, with its many illustrations,

excellent summary tables and invaluable reference lists, remains the best general introduction available to the more specialised constituents of cellular metabolism.

Natural Product Chemistry, Volume 3: edited by K. NAKANISHI, T. GOTO, S. ITO, S. NATORI and S. NOZOE. University Press, Oxford, 1983. 700 pp. £60.

Those who have perused the two earlier volumes by Nakanishi will only need to be told that this third volume is very much the same mixture as before. Professor Nakanishi and his Japanese colleagues have once more picked out from the natural product literature illustrative examples of novel organic structures, of new procedures of structural determination, of new syntheses of natural molecules and of new biosynthetic pathways. For a book published in 1983, the references are not entirely up-to-date, but as the editors stress in their preface, they are not attempting a comprehensive coverage of the natural product literature. The choice of examples is often guided by the fact that a particular compound, or class of compound, has significant biological activity and certainly biological properties are enumerated along with the spectral and other data. This emphasis on biologically active natural constituents and the very concise mode of presentation (the chemistry is relatively painless) makes this book an attractive one and it should interest a wider audience than simply natural product chemists.

Photosynthesis: by CHRISTINE FOYER. John Wiley & Sons, Chichester, 1984. 219 pp. £29–65.

This is the first volume in a new series of cell biology monographs, edited by Edward Bittar, and what more suitable theme is there than that of photosynthesis. The authoress, a member of the Sheffield photosynthesis group, has provided a concise outline of the subject in the limited space available. The chapter headings indicate the scope of the book: general concepts, the photosynthetic membrane, interactions between thylakoids and stroma, the pentose phosphate pathway, the chloroplast envelope, the end products in the leaves, C4 metabolism, CAM and photorespiration. Christine Foyer accomplishes what she sets out to do and provides a straightforward, factual account, with emphasis on the biochemistry. One misses something in that there is no historical introduction to put it into perspective and also the wider implications of photosynthesis in its biological context are omitted. Within its rather narrow limits, however, it is excellently done and nicely illustrated with diagrams, figures, metabolic pathways and pictures of plants. At present, it is too expensive for an undergraduate audience but hopefully a cheaper paperback version will be produced later.

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