Phytochemistry, 1976, Vol 15, p 849. Pergamon Press Printed in England.

BOOK REVIEWS

Plant Carbohydrate Biochemistry. Edited by J. B. PRIDHAM. Academic Press, London, 1974. pp. 268. £7.20.

Another volume of the Annual Proceedings of the Phytochemical Society. This, for 1973, can be welcomed by phytochemists, although one may note that this has not kept the track record of preceding volumes in respect to time. Nevertheless, the authors of the 14 chapters include almost all the leaders in the carbohydrate field and the subjects chosen run the whole gamut of present-day research. Personally, I found something of interest in each chapter; sometimes stimulating me to cries of "Balls!" but mainly finding the authors' ideas novel and extremely interesting. Indeed, it is interesting to find how many new aspects of carbohydrate research are being pursued, especially since the doldrums of the early 1960s.

It would be invidious (a favourite phrase of reviewers) to select any individual chapter for praise, so we will not. Instead, let us congratulate all the authors, the Editor and the publishers on the production of this book, which surely represents an important stepping stone in the development of the subject.

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The Catharanthus Alkaloids. Edited by W. I. TAYLOR and N. R. FARNSWORTH; Marcel Dekker Inc., New York, 1975. 323 pages. $29.50.

Initially, the Madagascan periwinkle was chosen for pharmacological evaluation because of its folklore use as an oral hypoglycaemic agent and because it had been reported to contain hypotensive alkaloids. Crude extracts were found to prolong the life of mice with leukaemia and this led to the isolation of several complex dimeric indole alkaloids. To date over seventy alkaloids have been reported as constituents of *Catharanthus roseus* G. Don. Six of the twenty three reported dimeric alkaloids possess oncolytic activity and two of these, vinblastine and leurocristine, are used clinically for the treatment of human neoplasms. Undoubtedly the whole *Catharanthus* story represents one of the most exciting successes in the continuing search for new compounds which can be used in the chemotherapy of cancer.

This book, the companion volume to *The* Vinca *Alkaloids* is edited by W. I. Taylor, formerly Director of Biochemistry at CIBA Pharmaceutical Company and Professor N. R. Farnsworth, head of the Department of Pharmacognosy and Pharmacology at the College of Pharmacy, University of Illinois. The editors are well known for their research on indole alkaloids and their pharmacological applications. The eight chapters cover the botanical, chemical, biosynthetic, biochemical and clinical aspects of the genus *Catharanthus* and of its alkaloids. The chapters are written by knowledged experts and it is therefore disappointing that not all of the chapters are of a uniform high standard. Chapter 1 deals with the botanical aspects of *Catharanthus* and makes fascinating reading, not only for botanists, but also for anyone interested in chemicals derived from plants. It clearly explains, for example, why *Catharanthus roseus* G. Don. is the correct name for the plant which is listed frequently in the chemical literature as *Vinca rosea* L. and which formerly has also been referred to as *Lochnera rosea* L. In the 2nd and 3rd chapters, the phytochemistry and pharmacology of *Catharanthus* species are reviewed and the reader is able to see that a tremendous research effort has been undertaken in order to isolate and determine the structures and the pharmacology of these alkaloids. The chapter on the structure elucidation of the dimeric alkaloids is followed by one lucidly written on the biosynthesis of *Catharanthus* alkaloids and another one on tissue culture studies with *C. roseus*. The last two chapters are concerned with the biochemistry and the clinical aspects of the dimeric alkaloids and are written so as to be of interest to biologists and non-biologists alike.

One of the difficulties which the editors have had to face in the compilation of this book has been to organise all the contributors to produce their chapters at about the same point in time. This has not proved possible unfortunately so that some chapters have no references beyond 1969, while others have references up to 1973. Some of the space could have been used more effectively; for example it is not necessary to produce tables of accurate masses or of the exact composition of tissue culture media in such a volume. It is true that all of the information given in this book can be readily obtained from the literature, but there can be few scientists whose breadth of knowledge enables them to range from botany, chemistry and biochemistry through to the clinical effectiveness of natural products. This book should, therefore, be of interest to all who work with natural products since it enables people of one discipline to read intelligently about the problems and discoveries of other disciplines. The book is expensive and its price will unfortunately prevent it adorning many private bookcases, particularly in the United Kingdom. It is hoped, however, that all organisations concerned with natural products will be able to purchase a copy for their library, and to all who seek new medicinal agents from the plant kingdom, it should make interesting reading.

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