

BOOK REVIEWS

Biology and Chemistry of Plant Trichomes: edited by E RODRIGUEZ, P L HEALEY and I MEHTA Plenum Press, New York, 1984 255 pp US price \$39 50, elsewhere \$47 40

This slimish volume contains eight review lectures given at a symposium held in July 1980 on different aspects of plant hairs, especially those with glandular secretions. The two key chapters are the introductory one by Behnke on taxonomic variation in trichome type and the final one by Kelsey, Reynolds and Rodriguez on the chemistry of the secretions. In between are more specialised contributions on cannabis trichomes, on flavonoid and terpenoid secretions, and on the histochemistry and ultrastructure of trichomes. The remaining chapter by Ehleringer on the adaptive value of leaf hairs in desert plants for reducing leaf temperature and for providing protection from water loss is perhaps of general interest to all plant biochemists. The other function suggested for leaf hairs, that of secreting toxins which deter insect feeders, is touched upon by several contributors but it is disappointing to find

there is no specific review of the evidence for and against such a function.

A gap of nearly four years between a symposium and its publication reflects badly on the publishers and in some instances can mean that the book has little value to the potential reader. Indeed, some of the topics mentioned here have been the subject of more recent review. However, in spite of the delays, I still believe this book will be a useful one. It does provide the first general account of a research area which is rapidly developing and thus will serve as a basic reference. There are also many illustrations of trichomes, which will be an eye-opener to anyone unfamiliar with the contrasting shapes of these particular plant appendages. The excellent review by Croteau and Johnson on the biosynthesis and turnover of the volatile terpenoids of the trichome also deserves a special mention.

*Plant Science Laboratories,
University of Reading*

JEFFREY B HARBORNE

Carbohydrate Metabolism in Plants: by C M and J H DUFFUS, Longman, London, 1984 Flexicover £7 50

The most surprising thing about this book is that no one has tried before to produce a simple, concise introduction to such an important area of plant biochemistry. This is what these two authors have set out to do and in my view they have successfully achieved this object. In a highly readable, lucid account of the major pathways of sucrose, starch and cellulose biosynthesis and degradation, the authors have not been afraid to indicate the many remaining areas of ignorance. Other topics included are respiration, regulation of metabolism, the chemical structures of sugars and techniques of carbohydrate analysis. Anyone setting out to write a student text with a strict

limitation on the number of pages will be criticized for omitting or dealing too cursorily with this or that particular topic. In this case, I find the overall balance to be very satisfactory although personally I would have preferred some expansion of the section on cell wall structure. However, the authors have thoughtfully provided some general references at the end of each chapter which allow the student to follow up particular themes.

This book should be a useful teaching tool in any plant biochemistry course and can be especially recommended for biology students generally.

*Plant Science Laboratories,
University of Reading*

JEFFREY B HARBORNE