The present volume is derived from a symposium held by the Phytochemical Society of Europe in London in April 1984. There are details of other alkaloids besides those of poppies—indeed isoquinoline alkaloids occur in the Annonaceae, Cactaceae and Leguminosae (*Erythrina*) and the alkaloids of these plant groups receive up-to-date reviews. In summary, this is an attractive, well-illustrated and reasonably priced review volume and I am sure it will interest many other phytochemists besides those working immediately in this field.

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Biosynthesis and Biodegradation of Wood Components: edited by TAKAYOSHI HIGUCHI. Academic Press, London, 1985. 679 + xvi pp. £99.00.

Like 'All Gaul' this substantive and comprehensive book, the first on wood biochemistry, is divided into three parts: (i) the structure and chemistry of the major components of wood cell walls; (ii) the metabolism and synthetic function of cambial tissue, the function of organelles involved in biosynthesis, and the biosynthesis both of the major cell wall components of wood and wood extractives; and (iii) the microbial degradation of cellulose, hemicelluloses and lignins and of wood extractives.

This is a useful book. Granted there is occasional repetition but it is no more than is to be expected in a compilation of this kind. The whole book to which the editor, Takayoshi Higuchi himself has made elegant and knowledgeable contributions in his chapters on 'The Biosynthesis of Lignin' (Chapter 7) and on 'Degradation Pathways of Lignin' (Chapter 20) is well annotated and indexed.

The section on structure of wood cell walls (Chapters 1–3) is well documented pictorially with good quality photographs of scanning and transmission electron micrographs and ultraviolet photomicrographs, techniques available for investigating lignin distribution. The second section (Chapters 4–15) is, not surprisingly with such a wide range of topics and with a corresponding number of authors, a little uneven in depth. However, several chapters are timely reviews of recent developments in their respective fields; those particularly relevant and up-to-date are written by the reigning masters in the respective subjects, for example 'Biosynthesis of Flavonoids' (Hans Grisebach), 'Biosynthesis and Metabolism of Phenolic acids and Monolignols' (G. G. Gross), Biosynthesis of Stilbenes' (H. Kindl). An excellent, readable and well referenced chapter on the 'Biosynthesis of Terpenoid Wood Extractives' (Chapter 15) concludes this section.

In many ways, the third section (Chapters 16–22) is from a biotechnological point of view the most exciting. These chapters, on biodegradation of cellulose (Chapter 17), of hemicellulose (Chapter 18) and the degradation of wood by microorganism (Chapter 16), contain full references to 1984. Contributions and complementary approaches to the chemistry of lignin biodegradation demonstrate clearly the rapid progress in this field. It is evident that some discrepancies exist between the results from studies on the fungal degradation of lignin model components (Chapter 20) and from studies on the fungal degradation of lignins in wood (Chapter 19).

This book is well produced, but even by present day standards the unit cost of the book is high; nonetheless, the information content more than compensates for the price. In my view the authors have achieved their objective of writing a useful up-to-day reference book for professional chemists, biochemists and wood technologists and conceivably some final year undergraduates.

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Advances in Botanical Research Vol. 11: edited by J. A. CALLOW and H. W. WOOLHOUSE. Academic Press, Orlando, 1985. 205 pp. £42.

The latest volume in this now well established review series has four diverse topics: Laser light scattering in biological research, the transport and fixation of inorganic carbon by marine algae, the biochemistry of seed gums and hemicelluloses and *Welwitschia mirabilis*. There is thus something here for most plant scientists. Laser light scattering is a new technique which permits the study of dynamic events within the plant without destruction and with regular samplings at very short time intervals. The basic principles are explained and some biological applications, e.g. to the observation of cytoplasmic streaming in plant cells, are discussed. The second chapter deals with the experimentally difficult photosynthetic system of marine algae. Recent work on the properties of algal RUBISCOs and on variations in carbon assimilation among the different algal groups is reviewed in some detail.

The third chapter considers that problematical group of