

**Molecular Basis of Drug Action.** Edited by THOMAS P. SINGER and RAUL N. ONDARZA. Elsevier/North-Holland, New York, NY 10017. 1981. 408 pp. 16 × 24 cm. Price \$55.00.

This book contains the proceedings of the International Symposium on the Molecular Basis of Drug Action held in Queretaro, Mexico in October 1980. The editors have dedicated the book to the memory of Dr. Eugene C. Jorgensen. The warmth of the picture of Gene in the front of the book and the clear sparkling quality of his chapter brings us poignant reminders of the humanistic and scientific qualities of this man.

The book is divided into five sections; each section having three to six chapters. The section topics are: Drugs Against Microbial Invaders, Suicide Inhibitors, New Directions in Molecular Pharmacology, Ionic Channels and Pumps, and Mechanisms of Drug Resistance.

The book is unusual for a symposium volume for several reasons. The chapters have been carefully guided and edited so that there is more than the usual background information found in symposia volumes. Most chapters are mini reviews. The tables, schemes, figures, and art work are well-designed and attractive. Most importantly, they enrich the information content of the chapter. The choice of sections and articles covers quite thoroughly most of the current work in this dynamic approach. The distinguished contributors bring together in one volume a valuable collection of articles on the molecular basis of drug action.

The book is of such significant quality that individual drug scientists may want to purchase it for their libraries. It is certainly a fitting memorial to Gene Jorgensen, one of the pioneers in this field.

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**The Alkaloids. Chemistry and Physiology, Vol. 19.** Founding Editor, R. H. F. MANSKE, Edited by R. G. A. RODRIGO. Academic Press, Inc., New York, NY 10003 1981. 227 pp. 15 × 23 cm. Price \$39.00.

Volume 19 of *The Alkaloids* marks the continuation of this classic series, which reviews advances in alkaloid chemistry. Included in this volume are groups of alkaloids which have not been reviewed for over 10 years. These new groups are *Sceletium*, *Solanum* steroids, and phenanthroindolizidine and phenanthroquinolizidine alkaloids.

Peter W. Jeffs has written an excellent comprehensive review of the *Sceletium* (Fam. *Aizoaceae*) alkaloids. The number of alkaloids from this genus has increased to more than 25. They fall into four structural classes based on four different ring systems: the mesembrine, joubertamine, pyridine-dihydropyridone, and tortuosamine. Detailed descriptions are given of chemical and spectral methods of structure elucidation, synthetic methods, chemical transformations, and biosynthetic studies.

A chapter by Helmut Ripperger and Klaus Schreiber reviews the *Solanum* steroid alkaloids. This well-organized chapter presents work since 1966 in tables which supplement similar surveys in Volume 10. There are tables of the occurrence of *Solanum* glycoalkaloids and alkalamines, composition of the glycoalkaloids, and physical constants of all the glycosides, alkalamines, and their derivatives (over 500) described since 1967. The physical constants are arranged by tables according to the five different C<sub>27</sub>-carbon skeletons comprising the *Solanum* steroidal alkalamines.

The structure elucidation of new alkalamines, syntheses, and chemical degradations are described in detail. Interest has been renewed in these alkaloids as a source of starting material for making hormonal steroid drugs.

In another chapter Ralph C. Bick and Wannee Sinchai review all 16 phenanthroindolizidine and two phenanthroquinolizidine alkaloids that are known. The phenanthroindolizidines are often called *Tylophora* alkaloids, since they frequently occur in this genus (Fam. *Asclepiadaceae*). Spectral methods are described in separate sections with specific examples of how the techniques are used for structure characterization. The chapter also features a section on the various synthetic schemes which have been developed for these alkaloids. The large interest in syntheses stems from reported biological activities of these compounds, including antitumor activity.

This volume of *The Alkaloids* maintains the high quality of the series and should be added to the collections of alkaloid chemists.

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**The Alkaloids. Chemistry and Physiology, Volume 20.** Founding Editor, R. H. F. MANSKE, Edited by R. G. A. RODRIGO. Academic Press, Inc., New York, NY 10003. 1981. 341 pp. 15 × 23 cm. Price \$59.50.

This 20th volume of the excellent series on advances in alkaloid chemistry is devoted to bisindole and eburnamine-vincamine alkaloids. The exacting thoroughness with which these groups of alkaloids are covered is characteristic of the reviews in this series.

Geoffrey A. Cordell and J. Edwin Saxton have combined discussions of various bisindole alkaloids into a single review, whereas in previous volumes the dimeric alkaloids have been a part of more specific reviews on alkaloids of a particular genus or structural type. The unifying factor of the bisindoles lies in their containing two tryptophan-derived nuclei. The sections of the review are organized based on progressing biosynthetic pathways from simple tryptamine units to two monoterpenoid indoles. Special sections on <sup>13</sup>C-NMR data or various synthetic schemes of particular groups of alkaloids are also included. References for plant sources and physical data of all structurally identified bisindoles are summarized by table.

The other group of alkaloids covered in this volume is the eburnamine-vincamine type which is reviewed by Werner Döpke. Much of the recent work on these pentacyclic indole alkaloids is in the area of establishing absolute configurations. New stereoselective syntheses have been achieved, especially for vincamine, which has recently been found to have medicinal uses. Extensive discussions on specific alkaloids are restricted mainly to the new alkaloids of this type which have been isolated since the last review in Volume 11.

Volume 20 continues the well-organized style of this outstanding series. It should be of particular interest to indole alkaloid chemists and others who wish to have exceptional reviews of these important classes of alkaloids.

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