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Book Reviews

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Teachers of courses in "Plant Biosystematics" or "Experimental Taxonomy" should welcome this book, if for no other reason than that it is the only text on the subject suitable for classroom use.  As the author points out, "...most systematic books adequately cover the morphological and anatomical techniques used by the plant systematists, but cover in much less detail the genetical, cytological, chemical, and statistical approaches used in systematic work."

The contents are divided into two parts, the first dealing with the process of speciation and the second with methods for studying species.  The seven chapters in the first part treat the Introduction and Historical Background, Synthetic Theory of Evolution, Patterns of Phenetic Variability, Breeding Systems, Speciation, Hybridization, and The Species Problem and Classification.  In the second part the chapters focus on discussions of four techniques: Genetics, Cytology, Chemistry, and Mathematics and Statistics.

The introductory paragraphs of each chapter are excellent for providing the necessary conceptual framework for the student-oriented material, and the summaries at the ends of the chapters are concise and effective.  In the glossary at the back of the text, some of the definitions are not clearly worded, and they may turn out to be more confusing than helpful.  The illustrations throughout the text are good; particularly valuable are the operational flow-charts for each of the techniques described for studying species.

Most of the chapters are well written, but the chapter on chemical techniques is limited and in my opinion seems to be the weakest part of the entire book.  There is a good discussion of the informational content of all types of molecules, but, except for a brief treatment of phenolic compounds, the specific emphasis centers entirely on macromolecular data.  More consideration should have been given to other secondary metabolites, particularly monoterpenes, which are often more useful in systematic studies than are phenolic compounds.  Comments on alkaloids or betalains also could have been included without markedly enlarging the text.

Errors exist in Solbrig's book that should have been eliminated.  Most are trivial, such as the misspelling of Dithyrea on page 137, or the lack of labels on the bottom photograph of Fig. 8-7.  However, one more serious error caught my attention; the comment in a footnote on page six that 'Linnaeus is a Latinization of the name Linné' is a misconception; actually Linné is a shortened version of Linnaeus (cf. W. T. Stearn, 1966, Botanical Latin, p. 291).  In all fairness, however, these oversights do little to mar the total presentation.

In summary, Solbrig's book has many good points that make it a desirable and welcome volume for the library of all teachers of systematic botany.  I believe the text will be best utilized in the classroom when supplemented with additional literature readings and appropriate background material.  It is in this fashion that I intend to use the book myself.

Tod F. Stuessy


This, the first of a two-volume treatise on the mammals, brings together a great amount of useful information about this group that previously has been scattered and difficult to find.  It is written in a style that is, unfortunately, not common in scientific books; it is easy to read and the contrived words so frequently substituted for the mother tongue in technical writing are absent.  Technical terms are kept at a minimum and it is surprising how little they are missed.  Because of this, the interested amateur will find this a most informative and useful source book.  Zoologists will find the lucid descriptions and explanations a delight.  Occasional interjections of the author's refreshing philosophy and wit add to the pleasure of reading.

No one with a serious interest in mammals can afford to be without this book in his library.  I know of no other that covers the material included here.  Although there is another estimable book by the same title, this volume represents an entirely different approach.

It has a bibliography of 171 titles and is well indexed.  One must wait impatiently for Volume II.

E. E. Good