REVIEW

PETER K. ENDRESS: Diversity and evolutionary biology of tropical flowers. Cambridge Tropical Biology Series. Cambridge University Press, 1994. xiv + 511 pp. Hardback. Price £ 55.00, US$ 84.95. ISBN 0-521-42088-1.

In this volume the author concentrates on the comparative study of tropical flowers. He gives a practical approach (see Introduction, page 3) to recognize tropical flowers at three levels: a) Organization ('Bauplan'), with emphasis on history and macroevolution (see Chapter 2); b) Construction ('Gestalt'), i.e. architecture (see Chapter 3); and c) Mode, with emphasis on ecology and microevolution (see Chapters 4 & 5). Its scope is the understanding or biological interpretation of characters and character variation of flowers for the phylogenetic reconstruction of the angiosperms at these levels. The author claims that knowledge of the phylogenetic history and of the interactions between animals and plants may be of vital importance for the evaluation of conservation actions and that the modern threats to biodiversity urges more and better knowledge of the biology of flowers in the widest sense.

In Chapters 2–7 an enormous number of facts about flowers have been brought together, most from literature but also from original sources, providing a unique insight into the (reproductive) morphology, biology and evolution of flowers, as much as possible indicating the major presumed evolutionary trends.

Chapter 8 deals with flowers of selected important plant families and their special biological idiosyncrasies.

In Chapter 9 salient aspects of a large array of tropical flowers are described and evolutionary trends outlined. Personally, I feel happy about the fact that not all strange constructions and shapes found in flowers need to have a sensible evolutionary explanation. At any rate, the functional significance of many aspects is yet to be explained. The need for further synthesis of research at all levels is discussed in Chapter 10.

An ample list of references and a glossary is given, as well as an appendix with a taxonomic classification and two indices (taxonomic and general), and they render the book a true manual on tropical flowers.

Rightly, the book ends with the paragraph: "One of the most valuable and important things to do is to observe plants and their interactions in the tropics with an open mind as to the potential meaning of the observations and the role the organisms play. The observation of the flowering behaviour of a plant during a short period, combined with the study of floral structure, may give a preliminary idea about its ecological relationships and help in designing more profound studies, which, in turn, will reveal chapters of its evolutionary biology." Endress' book on tropical flowers may serve as the basis for most of these studies. The abundant and excellent illustration, in the form of (micro)photographs and line-drawings, is largely new and original.

Surely the wealth of valuable information presented in this book should be within easy reach of those interested in botany, taxonomists included, and in tropical biology in general.

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