

## BOOK REVIEWS

Smith, N., Mori, S.A., Henderson, A., Stevenson, D.W.M. & Heald, S.V. 2004. **Flowering Plants of the Neotropics**. 594 pp. Princeton University Press, Princeton, Oxford, UK. ISBN 0-691-11694-6 (hardcover) Price: USD 75.-.

The diverse flora of tropical America represents 30% of the plant species of the world. They comprise the most diverse terrestrial ecosystems on earth. The *Flowering Plants of the Neotropics* is an extraordinary compendium of this magnificent array of natural diversity. The geographic scope of the book is vast. It covers many different biomes including the warm Amazonian lowlands, the harsh deserts of the Pacific coast, as well as the exceptional Andean páramos, and tepuis of the Guyana shield. Accordingly, it gathers information on plant families with representatives of extraordinary forms, sizes, and natural history. The 150 experts in Neotropical botany contributing to each family treatment of the book have done a great job presenting a complete overview of their diversity, geographic distribution, taxonomic classification, and interesting topics on natural history and economic importance.

The book has an Introduction, an Editor's note, 284 sections on plant families and their genera, a Glossary, five Appendices, more than 300 fabulous colour illustrations, and 250 botanical line drawings. The Introduction examines the diversity and endemism of families, genera and species of Neotropical angiosperms by comparing figures of the findings of this book, and by contrasting them with earlier taxonomic works. It provides various tables that summarize information and are very useful to illustrate the results. In addition, the Editor's note explains the reasons for the organization of the book, and the information contained within each family treatment. The body of the book is made up by the alphabetically organized treatments of the plant families as recognized by Cronquist's (1981) classification system for the dicots, and Dahlgren et al. (1985) for monocots along with modifications done by the various contributors. For instance *Apocynaceae* includes *Asclepiadaceae*, and the *Avicenniaceae* is distinguished from taxa within *Verbenaceae*. The last sections of the book include a Glossary that provides descriptions and illustrations for botanical terms useful for the identification of the plants; a taxonomic key for the identification of the families in the book, and four Appendices indicating the positioning of the families treated in this book within the classification systems for angiosperms developed by Cronquist (1981), Dahlgren et al. (1986) and Judd et al. (2002).

The various sections of each family treatment give to the reader a comprehensive view of the plant group. They

include a list of family characters useful for identification such as habit, organization of the leaves, floral characters, fruit and seed morphology, and features unique to the family. The section on the number of genera and species provides an idea of the diversity of these taxa in the Neotropics, in comparison with their relatives existing elsewhere. Accordingly, the distribution and habitat section also gives details on the origins and diversification centres of the family. The family classification offers an overview of the status of the knowledge on the systematics of the family and its genera. I find this part especially fascinating since it covers the transition from a classification system based on morphological characters that has been developed in the last centuries, towards a new classification system that assimilates information from phylogenetic analyses based on characters defined by modern techniques of molecular biology. This is certainly a step toward integrating plant morphological and molecular characters in a new classification. In the *Piperaceae*, molecular data has provided information supporting the debated fusion of *Piper* and *Pothomorphe*, and the separation of the challenging genus *Peperomia* in its own family, the *Peperomiaceae*. It still remains to be seen if systematists adopt other contributions from molecular data, such as placing the *Bromeliaceae* within the *Poales*, together with the *Poaceae*, and with other families that were also thought to be unrelated. Subsequently, a section on the features of the family describes morphological characters found only among the family's sub-taxa growing in the Neotropics. The natural history section presents aspects such as reproduction, pollination, seed dispersal, and interactions with animals. The economic uses present facts on the past and present use of the species of each family. This section varies considerably in the length and type of information offered. While some authors provide interesting historic facts on exploitation, or curious details about the uses of plants by tropical American indigenous groups; others highlight the species current importance on the international market. The reference section includes a list of the most relevant publications on a given plant family. Finally each family treatment is enriched by brilliant line drawings that illustrate fine details on the plant's morphology, and by wonderful colour plates.

This book is a greatly needed definitive guide to the flowering plant families of the Neotropics. Its comprehensive approach to the most relevant aspects of each plant family makes it a useful field and desk guide for vegetation scientists working in the Neotropics, as well as for professional biologists, and conservation practitioners. Its entertaining fashion and clear language make scientific information accessible to students, and amateur naturalists in-