

## BOOK REVIEWS

**Flora of the Venezuelan Guayana. Volume 1. Introduction.** Volume Editors: Paul E. Berry, Bruce K. Holst & Kay Yatskievych. General Editors: Julian A. Steyermark, Paul E. Berry & Bruce K. Holst. Oregon: Timber Press, Inc. 1995. 320pp. ISBN 0 88192 313 3. US\$49.95 (hardback).

The flora of the Venezuelan Guayana comprises an estimated 10,000 species of vascular plants. Of these, over 20% are endemic to the region and its tabletop mountains, *tepuis*, for which it is most famous. Despite luring some of the great early plant explorers such as Humboldt, Bonpland and the Schomburgk brothers over a hundred years ago, no comprehensive inventory of the plants or Flora exists for the region. The *Flora of the Venezuelan Guayana* – an enterprise of the Missouri Botanical Garden – tackles this elusive region and its highly diverse and unusual flora.

Volume One acts as a companion volume to the multi-volumed taxonomic treatments of the 230 families of vascular plants of the region, placing the flora in context by giving a detailed overview of the geography, vegetation and conservation of the region. This is an excellent way of starting a Flora, and one that hopefully will be standard in the future. By itself, the volume is a highly desirable book for anyone with a love of botany and South America. The prose is both unpretentious and accessible, whilst being thoroughly researched. This is mostly due to the efforts of Otto Huber, an expert on the ecology of Venezuelan plants, and the main contributor to this volume. The text, together with the many illustrations and colour photographs accompanying the volume, enthuse the reader; it is the kind of book you are constantly picking up and reading when you should be doing other things.

Chapter One initially defines the geographical area covered by the Flora, and then describes the principal geographical and physical features that define Guayana's extraordinary plant life, including a section on the indigenous and recent immigrants living in the region. Everything is covered in great depth and with abundant references for those who wish to research further. Chapter Two continues by documenting the history of botanical exploration of the region, from the pioneer explorers and their river-based expeditions of the upper Río Orinoco in the mid-18th century, to the helicopter explorations of the inaccessible tepuis of the last decades. It provides an interesting account of the development of botanical exploration of the region, and at times reads as a *Who's Who* of the great South American botanists, encompassing as it does Humboldt, Bonpland, the Schomburgk brothers and Richard Spruce. Particularly important in the 20th century is the American botanist Julian Steyermark, who collected some 138,000 plant specimens during his life. The *Flora of the Venezuelan Guayana* was initiated by him and is testament to his enthusiasm. Steyermark died in 1988 before seeing its completion.

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Chapter Three describes the general vegetation of the Venezuelan Guayana, and comes complete with separate colour vegetation and topographical maps. From the forest formations of the lowlands, covering approximately 83% of the total surface area, to the highland scrub and meadow vegetation of the tepui summits, this chapter summarizes in great detail the principal vegetation types together with their defining characteristics and dominant species. For plant ecologists this chapter is particularly fascinating as it documents the exceptional diversity of vegetation formations to be found, many beautifully represented in the 84 colour plates that are one of the most striking features of the book.

Chapter Four examines floristics and phytogeography, setting the scene for the taxonomic treatments which will comprise the future volumes of the Flora. It examines the diversity of the vascular plant taxa present (just under 10,000 species), evaluates the level of endemism (20% of the species are restricted to the Flora area, with 40% endemic to the Guayana Shield), and discusses in detail the origins of the flora and its floristic links with other regions. It also sets out a hierarchical phytogeographical classification of the region based on floristic and vegetation criteria.

Finally, Chapter Five considers the conservation status of the Venezuelan Guayana, which fortunately is still relatively undisturbed by human activities. It lists the main categories and status of protected areas before discussing the human activities presenting the most serious environmental threats; these include mining, logging, hydroelectricity, burning, agriculture, population pressure, tourism and exploitation of natural products. If there are any criticisms of the volume they lie in the rather shallow coverage of the threats to the region. One is left with the opinion that all is well in the Venezuelan Guayana. However, it is impossible for a single volume to cover all these various aspects in depth. As an overview the book is invaluable.

The appendices list all the vascular plant families, the angiosperm families following Cronquist's system of classification, and provides a key to the families of Spermatophytes; keys and treatments of ferns and fern allies will appear in Volume Two of the Flora. The key initially divides the families into eight distinct groups based on easily observable characters before using floral and fruit characters to arrive at the families. The dichotomous keys are simple and understandable, although lack of a glossary may deter those without an in-depth knowledge of botanical terminology.

This first volume of the *Flora of the Venezuelan Guayana* is a great addition to the literature on South American botany. It is an essential reference work for all those interested in the plants and conservation of the region, and is most definitely worth having close at hand, even if you baulk at the thought of buying the other anticipated nine volumes of the Flora. It represents the book you wished was available for all regions, look for in the library but can never find, or the one you dream of writing but never do.

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