

The Great Cacti: Ethnobotany & Biogeography

David Yetman. 2007. The University of Arizona, Tucson. Pp. 320, 366 color photographs, 17 maps. \$59.95 (cloth). ISBN 9780816524310.

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David Yetman sets out to describe his fascination with columnar cacti in the hope that readers will also become interested in these plants. By using photographs, detailed information on cacti distribution, biology, utilization, and personal impressions, Yetman succeeds in describing these plants' diversity. Columnar cacti, as the author defines them, are cylindrical plants with ribs, whose height exceeds breadth, often making them significant components of landscapes.

The book has three chapters. Chapter One, *The Great Cacti*, is an overview of columnar cacti evolution, ecology, biogeography, physiology and ethnobotany. In Chapter Two, *The Cacti*, Yetman presents species accounts. The last chapter, *The Hot Spots: Where the Great Cacti Are*, provides information on locations of high diversity or particularly interesting species.

The species accounts are organized by genera. Most genera are grouped first by ethnobotanical importance and then according to geographic distribution. Ethnobotanically important plants either are used by many different cultures or have contributed to the development of a culture. Genera that occur throughout Latin America, are discussed in sections of the book that contain other plants found only in Mexico, which reflect differences in how columnar cacti have been utilized throughout the region. Cacti have been widely incorporated into the cultures of Mexico, whereas South American cultures utilize a small number of columnar diversity. The choice of placing genera that have a continental distribution with the region of highest cultural use reflects the author's interest in stressing the relationships between columnar cacti and people. Usually within each genus the first species discussed is one that is used most frequently by local people.

The species accounts are not broken into different subsections and lack typical headers such as range, life

history, food, medicine, and material uses. Instead, Yetman writes descriptions that flow from one topic to another. The lack of subsections allows for more flexibility in how Yetman presents information. A typical pattern that he uses is to start with the species distribution and possible factors that have limited its range. Then, Yetman describes the plant's appearance, natural history, and method of pollination. Ethnobotanical information is located at the end of the account. For the majority of the cacti, descriptions of fruits and their distribution smoothly transition into how local people harvest and prepare the fruit for consumption, or notes about propagation lead into information about ethnobotanical uses. In the profile of *Pachycereus marginatus* (DC) Britton and Rose, for example, Yetman begins with a comment about how common this species is in central Mexico, which he believes is caused by the wide use of plants as living fences, and then makes a quick transition into ethnobotanical information. Although in a few instances Yetman's transitions from one topic to another are too abrupt, his organization works well for the most part.

The information presented in the species accounts are based on Yetman's years of studying columnar cacti, searching for populations of different cacti, and talking to local people about their knowledge and use of these plants. Secondary sources are used to expand on current taxonomic debates, or to reinforce his observations about the plants' natural history, and ethnobotany. Because of his experiences with all of the cacti presented in the book, Yetman includes personal impressions on attractiveness, taste of edible fruits, and difficulties in locating some populations. By providing this aesthetic perspective, Yetman is trying to inspire readers to form their own personal connections to columnar cacti.

Because of the density of observations found within Chapter Two, the book represents the starting point for hundreds of research projects. For example, *Myrtillocactus schenckii* (Purpus) Britton and Rose, a cactus of central and southern Mexico, is used for firewood in the fuel-limited areas of Puebla and Oaxaca. The author expresses his concern for the species' futures under current overexploitation. When I read Yetman's concern about overexploitation of *M. schenckii*, I asked myself: Is the species really overharvested? I assume that the cactus has been a fuel source for thousands of years; so was it overharvested in the past, or is this a new phenomenon? Do cultural factors exist to regulate use of the cactus? These questions among others could lead to hypotheses and research plans for their testing. Yetman and others may be able to quickly provide data to support his claim, but my point is that aspiring ecologists, biogeographers, and ethnobotanists wanting to work with columnar cacti or in the regions occupied by these plants should read this book because it can lead to many possible topics for theses and dissertations.

The final chapter of the book, *The Hot Spots: Where the Great Cacti Are*, is only twelve pages long. As indicated by its title, the chapter is a list of places where people can find the highest diversity of cacti or particularly spectacular species. Choosing to end the book in this way, instead of providing information on how readers can help conserve columnar cacti or ethnobotanical knowledge of cacti, is a reflection of the author's philosophy. For Yetman, the best way to motivate people to help conserve cacti is by having his readers connect on personal and emotional levels through physical contact with these cacti.

Throughout the book, hundreds of photographs illustrate the characteristics of these plants. While the photographs are impressive, I was frustrated with how they are referenced in the text. In many instances, a paragraph may be focused on the fruit or some ethnobotanical topic and the photograph associated with the text shows the cactus's habitat. This is the only major drawback to the book, however.

After telling my coworkers at the University of Montana's Plant Ecology lab about *Pachycereus pringlei* (S. Watson) Britton and Rose, a cactus that can reach a height of 20 meters in an area that averages 200 mm of precipitation per year, I realized that Yetman's book conveys his excitement about cacti. Whether you have merely a passing interest in the great cacti or have spent an entire career studying them, reading *The Great Cacti*

will provide new knowledge and a desire to share it with others.