



Ethnobotany of the Mountain Regions of Brazil - Book Review

Imelda Zahra Tungga Dewi, Anggi Mei Indah Sari, Intan Riani Solo

Correspondence

Imelda Zahra Tungga Dewi^{1*}, Anggi Mei Indah Sari², Intan Riani Solo³

^{1,3}Department of Physics, Gadjah Mada University, Yogyakarta, Indonesia

²Department of Chemistry, Gadjah Mada University, Yogyakarta, Indonesia

*Corresponding Author: imeldazahratudgadewi@mail.ugm.ac.id

Ethnobotany Research and Applications 31:2 (2025) - <http://dx.doi.org/10.32859/era.31.2.1-3>

Manuscript received: 21/03/2025 – Revised manuscript received: 25/03/2025 - Published: 25/03/2025

Book Review

Ethnobotany of the Mountain Regions of Brazil, edited by Reinaldo Farias Paiva de Lucena and Denise Dias da Cruz. 2023. Springer Nature Switzerland AG, 2023, pp 796, €2799.99 (Hardcover), €299.59 (eBook), ISBN 9783030872502 (Hardcover), 9783030872519 (eBook).

As highlighted in *Ethnobotany of the Mountain Regions of Brazil*, edited by Reinaldo Farias Paiva de Lucena and Denise Dias da Cruz, which is part of the *Ethnobotany of Mountain Regions* series published by Springer, this book presents an in-depth study of ethnobotany in Brazil's semi-arid regions, particularly within the Caatinga ecosystem. With 105 plant species covered, this book explores the close relationship between traditional communities and local biodiversity. It primarily focuses on the utilization of plants for various purposes, such as medicine, food, and construction, while also highlighting the role of traditional knowledge in conservation and sustainable development. Although the Caatinga is not a typical mountain region, the book explores formations such as the região serrana (500–1000+ m) unique ecosystems like brejos de altitude integrate species from both the Caatinga and the Atlantic Forest.

The book is divided into three main parts with 13 chapters covering 105 plants, each focusing on a different aspect of ethnobotany. The first part explored the medicinal properties of various plant species and their significance in traditional healing practices. The second examines the integration of indigenous knowledge with modern scientific approaches, highlighting the value of preserving biocultural traditions. The final part discusses the challenges in plant identification, conservation, and sustainable use in different cultural and environmental contexts.

The first part provides a comprehensive exploration of the Caatinga ecosystem from a geo-environmental and human-interaction perspective. This chapter examines the characteristics of Brazil's largest dry ecosystem, which spans approximately 10% of the country's territory and is characterized by low annual rainfall (300–900 mm) and an extended dry season lasting between six and eleven months. By addressing key aspects, such as geography, climate, hydrogeography, and vegetation, this part highlights the unique biodiversity of the Caatinga and the adaptive strategies employed by local communities to cope with challenging environmental conditions. Furthermore, this chapter provides an in-depth analysis of how local populations utilize plant resources for various purposes, including fuel, construction, medicine, and food. The authors also emphasized the major threats to biodiversity, such as deforestation, overgrazing, and climate change. A particularly noteworthy aspect of this part is the discussion on the ecological interactions between the endemic species of Caatinga and adjacent ecosystems, such as brejos de altitude, which harbor a distinct biodiversity due to the convergence of

species from both the Atlantic Forest and the Caatinga. Overall, this part offers valuable insights into the complex interplay between human communities and semiarid ecosystems, shaping patterns of resource utilization. While the scientific analysis presented is robust, a more extensive discussion on the socioeconomic dimensions of local communities would further enhance the understanding of sustainable resource management in the Caatinga.

The second part discusses various aspects of plant utilization by local communities, including wood usage, food plants, and sociocultural factors influencing plant knowledge and practices. The research methodology is clear and involves extensive fieldwork, participatory approaches, and interviews with community members. The authors also highlighted threats to plant diversity, such as deforestation, overgrazing, and climate change, which have significant impacts on biodiversity conservation and local livelihoods.

The third part discusses the ecological and socioeconomic significance of 105 plant species native to the Caatinga biome, highlighting their diverse growth forms, from herbs to trees. These species have demonstrated substantial potential for utilization and are actively integrated into the daily lives of human populations in semiarid rural regions. The diversity of the species covered shows the rich botanical heritage of the region and highlights plants with medicinal, nutritional, and economic potential. This part not only explores their traditional and contemporary uses, but also reviews the description of plant species, including their distribution and uses, along with a systematic account of their taxonomic classification, vernacular names, and ecological roles. Furthermore, it examined their interactions within the ecosystem, their contributions to local biodiversity, and their implications for conservation strategies and sustainable management practices.

This book is based on over a decade of research (2009–2019) conducted by a multidisciplinary team. The methods used included field observations, interviews with local communities, and taxonomic analysis of the species. This approach ensures that the presented data are scientifically valid and socially relevant. Many of the species described in this book have significant economic and cultural value for local populations. The book also reflects the changing dynamics of traditional knowledge due to modernization and social change.

Globalization and expansion of herbal medicine markets have altered how local communities utilize their natural resources, making this one of the book's intriguing themes. This book explicitly highlights the importance of conservation and sustainability in biodiversity utilization. By providing detailed information on economically valuable species, this book can serve as a reference for policymakers and conservation practitioners in designing more sustainable natural resource management strategies.

One of the key strengths of *Ethnobotany of the Mountain Regions of Brazil* is its multidisciplinary approach integrating ethnobotany, ecology, pharmacology, and anthropology. This provided a rich and comprehensive reference. Each part is supported by innovative academic research, strengthening its validity and scientific foundation. A key highlight is its emphasis on Brazil's biodiversity, which plays a crucial role in preserving traditional knowledge and conserving the local flora. This book also provides extensive documentation of various plant species with a high level of scientific accuracy. Furthermore, it offers valuable case studies and practical applications for conservation efforts, making it a useful reference for researchers and policymakers. Contributions from multiple research institutions further enhanced the credibility of the findings and broadened the perspectives presented.

This book provides significant insights into plant utilization and biodiversity conservation, but certain limitations should be acknowledged. One of the main drawbacks of this method is a lack of clinical data. Although many plants are claimed to have medicinal benefits, further clinical studies are necessary to confirm their effectiveness. Furthermore, while the book is part of the *Ethnobotany of Mountain Regions* series, its primary emphasis is on semi-arid ecosystems rather than mountainous landscapes. Additionally, a highly academic writing style may pose challenges for readers unfamiliar with scientific language.

Ethnobotany in the Mountain Regions of Brazil is an essential book for anyone interested in ethnobotany, ecology, and biodiversity conservation. With its multidisciplinary approach and extensive field research, this book provides rich insights into the relationship between humans and plants in Brazil's semi-arid ecosystems. This book is highly recommended for academics, students, policymakers, and conservation practitioners seeking to deepen their understanding of the crucial role of biodiversity in traditional communities. Although it has some limitations, its contribution to ethnobotany and conservation is substantial. Given the growing threats to biodiversity due to climate change and resource exploitation, this book remains highly relevant as a reference for environmental conservation and sustainable development.

Acknowledgement

We are deeply grateful to Lembaga Pengelola Dana Pendidikan (LPDP), which is a division of the Republic of Indonesia's Ministry of Finance, for providing us with the crucial financial assistance that made our master's program possible.

Book Reviewed

Lucena RFP de, Cruz DD da, editors. 2023. Ethnobotany of the Mountain Regions of Brazil. Springer Nature, Switzerland.