# Traditional resources and tools for modern drug discovery – Book Review

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**Ethnobotany Research and Applications 30:39 (2025)** - http://dx.doi.org/10.32859/era.30.39.1-3
Manuscript received: 09/03/2025 – Revised manuscript received: 16/03/2025 - Published: 16/03/2025

## Book Review

A review of Traditional resources and tools for modern drug discovery: ethnomedicine and pharmacology. Springer Nature Singapore Pte Ltd. pp 662. EUR €199.99 (Hardcover). ISBN 978-981-97-4599-9 (hardcover), ISBN 978-981-97-4602-6 (softcover), ISBN 978-981-97-4600-2 (eBook).

The book *Traditional resources and tools for modern drug discovery: ethnomedicine and pharmacology* is a well-structured and insightful exploration of how traditional medicinal resources continue to shape modern drug discovery. It gradually builds from foundational ethnobotanical concepts to advanced pharmaceutical applications, offering a cohesive narrative that demonstrates the importance of integrating indigenous knowledge with contemporary scientific research.

The book is structured into multiple comprehensive chapters, each exploring a distinct aspect of traditional medicinal resources and their role in modern drug discovery

Chapter one opens with an introduction to ethnobotany and traditional medicine, where the authors outline the deep historical connections between human societies and medicinal plants. This foundation is essential for understanding the evolution of medicinal resources, which is explored further in Chapter two. In this section, the discussion shifts toward the transformation of traditional remedies into pharmaceutical drugs, illustrating how plants like willow bark gave rise to aspirin and how artemisinin revolutionized malaria treatment.

As the book progresses, the discussion digs into the methodologies that modern science employs to harness these resources. Chapter three introduces a range of analytical tools used in drug discovery, from chromatography to metabolomics, while Chapter four highlights the critical role of traditional knowledge in modern pharmaceutical research. The need for ethical collaboration with indigenous communities is a key concern, especially in the context of intellectual property rights, a topic further explored in Chapter five.

The exploration of ethnomedicine takes center stage in Chapter six, where traditional healing systems such as Ayurveda, Traditional Chinese Medicine, and African herbalism are examined. These systems not only provide insight into disease treatment but also offer alternative perspectives on health and wellness. In Chapter seven, the focus narrows to metabolic disorders, including diabetes and obesity, demonstrating how plant-based compounds contribute to treatment strategies.

The therapeutic potential of ethnic plants is further explored in Chapter eight, with case studies showcasing their role in combating infections, inflammation, and chronic illnesses.

A fascinating shift occurs in Chapter nine, which introduces the concept of biomarkers derived from medicinal plants. These naturally occurring compounds hold significant promise in diagnosing and treating diseases. Building on this, Chapter 10 presents metabolomics as a powerful tool for identifying and analyzing plant-based drug candidates, offering new avenues for pharmaceutical research.

The book then transitions into a discussion on reverse pharmacology in Chapter 11, a concept that flips the traditional drug discovery model by starting with well-established traditional remedies before moving to scientific validation. This approach has proven particularly effective in streamlining drug development from traditional medicine. Chapter 12 expands on this theme by examining neurodegenerative diseases, illustrating how plant-derived compounds are being studied for their potential in treating conditions such as Alzheimer's and Parkinson's.

Nutraceuticals, an emerging field that merges nutrition with medicinal benefits, are the focus of Chapter 13. Here, the discussion revolves around how dietary components of traditional medicine contribute to overall health and disease prevention. Chapter 14 shifts attention to antimicrobial agents sourced from medicinal plants, addressing the global challenge of antibiotic resistance.

The role of phytochemicals in cancer therapy is thoroughly examined in Chapter 15, where the authors discuss plant-based compounds with anticancer properties, such as curcumin and vinca alkaloids. This theme is extended in Chapter 16, which investigates the anti-inflammatory and immunomodulatory properties of ethnomedicinal plants, shedding light on their applications in autoimmune disorders and chronic inflammation.

In Chapter 17, the discussion moves toward cardiovascular health, showcasing traditional remedies that have demonstrated effectiveness in managing hypertension and heart disease. Similarly, Chapter 18 explores the potential of medicinal plants in respiratory diseases, including asthma and chronic obstructive pulmonary disease (COPD). These insights pave the way for Chapter 19, which focuses on hepatoprotective agents derived from plants, highlighting their significance in liver health and detoxification.

One of the most intriguing discussions comes in Chapter 20, which examines psychoactive and hallucinogenic plants. These substances have been historically used in spiritual and healing practices, and recent research is uncovering their potential for treating mental health conditions such as depression and PTSD. Expanding on this, Chapter 21 discusses the role of ethnomedicine in neurological disorders, providing further evidence of the neurological benefits of plant-based compounds.

As the book nears its conclusion, Chapter 22 highlights the impact of climate change on medicinal plant availability, raising concerns about sustainability and conservation. This issue is linked to the discussions in Chapter 23, which examines bioprospecting and the search for novel bioactive compounds from unexplored ecosystems. The importance of standardizing herbal medicines is explored in Chapter 24, where the challenges of quality control, regulation, and safety assessments are discussed.

At the end, Chapter 25 provides a comprehensive reflection on the future of traditional medicine in modern healthcare. The authors emphasize the importance of integrating traditional knowledge with scientific advancements while ensuring ethical research practices and sustainable resource management.

The book is structured in a way that each chapter builds upon the previous one, forming a cohesive narrative that connects ethnomedicine, scientific validation, and pharmaceutical application. By weaving together historical, cultural, and scientific perspectives, the editors have created a resource that is not only informative but also highly relevant for researchers and healthcare professionals.

The book demonstrates that traditional medicine holds significant value as a vital contributor to modern drug discovery rather than being merely outdated folklore. While some chapters assume a level of technical knowledge, the book remains accessible and provides ample references for further reading.

In conclusion, *Traditional resources and tools for modern drug discovery: ethnomedicine and pharmacology* serves as an essential reference for anyone interested in the intersection of traditional and modern medicine, providing a well-rounded and insightful perspective on how ethnomedicine continues to shape the future of healthcare.

## Acknowledgements

We are deeply thankful to Lembaga Pengelola Dana Pendidikan (LPDP), Indonesia Endowment Fund for Education, a division of Indonesia's Ministry of Finance, for their essential financial support that made our master's program achievable.

## Book Reviewed

Talukdar AD, Patra JK, Das G, and Nath D. 2024. Traditional Resources and Tools for Modern Drug Discovery: Ethnomedicine and Pharmacology. Springer Nature, Singapore, Singapore.