



The New Face of Ethnobotany: Tradition Meets Scientific Method

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Editorial

Today, ethnobotany and ethnopharmacology bridge ancestral knowledge of traditional curative and therapeutic practices with current scientific understanding. Ethnobotany has undergone significant transformation over the past several decades. It has evolved from primarily documenting traditional medicinal uses, vernacular names, and plant-based activities to a multidisciplinary, hypothesis-driven field. Modern ethnobotany now serves as a vital bridge between traditional knowledge and modern scientific methodologies. This editorial examines the impact of these developments on ethnobotanical research and discusses the likely future direction of the discipline.

The Foundational Role of Descriptive Ethnobotany

Historically, ethnobotanical research aimed to chronicle the reliance of Indigenous and local communities on plants for sustenance, healing, and ritual. Although often dismissed as “folklore,” these inventories have played a pivotal role in conservation and drug discovery. However, industrialization, environmental degradation, and urbanization have greatly accelerated the loss of both biocultural diversity and traditional knowledge, making documentation an urgent scientific and ethical imperative.

The Rationale and Significance of Research

A common rationale for ethnopharmacological research is that a particular region or community has not previously been studied. While this may justify documentation, it is now essential to specify why the chosen area or group is relevant to the research question. Studies must move beyond description to articulate specific research questions and testable hypotheses, contributing meaningfully to disciplinary debates and conceptual frameworks (see Heinrich et al. 2009).

Generic claims such as “80% of people in developing countries use traditional medicine as their primary source of healthcare” are often unsubstantiated and do not provide a compelling theoretical motivation for a particular study. Instead, research should focus on well-founded questions with global and local relevance.

Many studies highlight the importance of documenting traditional herbal knowledge for local healthcare, preservation for future generations, or drug discovery. Yet the assumption that ethnopharmacology must be directly tied to drug discovery is increasingly being re-examined (Gertsch 2009). Recent scholarship emphasizes the dynamic nature of traditional medical knowledge, suggesting that integration with new knowledge systems can support adaptation and resilience rather than undermine tradition.

Crucially, ethnopharmacological and ethnobotanical research must clarify its impact beyond academia. Ideally, research should be conducted in partnership with local communities, aiming to improve livelihoods and facilitate meaningful knowledge exchange (e.g., Jäger 2005). Adherence to ethical best practices—including Free Prior Informed Consent (FPIC; ISE 2006), compliance with national and international frameworks (e.g., CBD 1992), and robust agreements for dissemination and benefit-sharing—is now essential for responsible fieldwork (Gamborg *et al.* 2012).

Key questions for researchers include:

- What new knowledge will this study provide, considering the global context of ethnopharmacological research?
- How will it advance scientific understanding of traditional medicine and herbal remedies?
- How will the research contribute to cultural documentation and improve local livelihoods?

Research Questions: The Engine of Rigorous Science

All impactful research is driven by well-defined questions that address knowledge gaps and guide inquiry. Unfortunately, many manuscripts submitted to the Ethnobotany Research and Applications lack substantive research questions or interpretative quantitative analyses relevant to traditional healthcare (Yebouk 2025). Conversely, a focus on quantitative data can sometimes result in the uncritical use of indices without meaningful interpretation. The formulation of clear, hypothesis-driven questions—rooted in local realities and global scientific debates essential to the field’s advancement.

Beyond Description and Explanation: Toward Pluralism

For the sake of knowledge preservation, cultural resilience, and community development, descriptive community-based studies remain essential—especially those using multimedia and local languages. Yet, the field must reject the artificial division between “description” and “explanation.” Modern ethnobotany must champion both the rescue and archiving of traditional knowledge and the analysis of the patterns and processes underlying human–plant interactions.

A Pluralist Approach for Applied Ethnobotany

The future of ethnobotany lies in pluralism, embracing descriptive, quantitative, and experimental methods. Pluralism encourages genuine community participation and benefit-sharing, ensuring that research addresses both local needs and global challenges such as health, sustainable development, and biodiversity loss. Open access, ethical archiving, and meaningful local participation should be guiding principles for researchers, journals, and funders alike. High-quality descriptive research must be valued alongside hypothesis-driven investigations.

Knowledge of the local names of plants, how they are prepared, in fact what varieties are used to treat stomach disorders, which plants are utilized for specific illnesses, and so on are examples of descriptive weak study aims in ethnobotanical research. Strong research objectives, in contrast, employ a hypothesis-driven or comparative strategy. Among these goals are the investigation of the factors that influence medicinal plant selection, the study of cultural and gender differences in plant use patterns, the study of cross-group transmission of plant knowledge, and the study of the effects of environmental factors, such as drought or changes in market dynamics, on plant use practices. Ethnobotanical research can shed light on the social, cultural, and ecological factors that influence plant knowledge and usage by going beyond simple description to offer explanations and comparisons.

To move the field forward, authors are encouraged to situate their research within comparative or theoretical contexts and to formulate clear, hypothesis-driven questions. Even descriptive studies should contribute meaningfully to larger scientific and policy dialogues, especially concerning the protection of biocultural heritage. At this pivotal moment, modern ethnobotany can only fulfill its promise to safeguard plant diversity and the cultural knowledge that sustains it by combining its dual missions: documentation and explanation

Literature cited

- Convention on Biological Diversity (CBD).1992. Online: <https://www.cbd.int>
- Gamborg C, Parsons R, Puri RK, Sandøe P. 2012. Ethics and research methodologies for the study of traditional forest-related knowledge. *Traditional forest-related knowledge: Sustaining communities, ecosystems and biocultural diversity* 535-562.
- Gertsch J.2009. How scientific is the science in ethnopharmacology? Historical perspectives and epistemological problems. *Journal of Ethnopharmacology* 122: 177-183.
- Heinrich M, Edwards S, Moerman DE, Leonti M.2009. Ethnopharmacological field studies: a critical assessment of their conceptual basis and methods. *Journal of Ethnopharmacology* 124: 1-17.

International Society of Ethnobiology.2006. International Society of Ethnobiology Code of Ethics (with 2008 additions)
<http://ethnobiology.net/code-of-eth>.

Jäger AK.2005. Is traditional medicine better off 25 years later?

Yebouk C. 2025. Ethnobotany Research and Applications: Required standards for manuscripts based on field research -
Editorial 2025. Ethnobotany Research and Applications 30: 1-3. doi: 10.32859/era.30.19.1-3