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Bridging Gaps in Ethnobotany

Crafting Impactful Research Questions and Strong Journal Submissions

Ina Vandebroek

Caribbean Centre for Research in Bioscience (CCRIB)

ina.vandebroek@uwimona.edu.jm

Editor-in-Chief, *Economic Botany*

Society for Ethnobotany Online Fall Symposium (19 October 2024)

Aim of this Presentation



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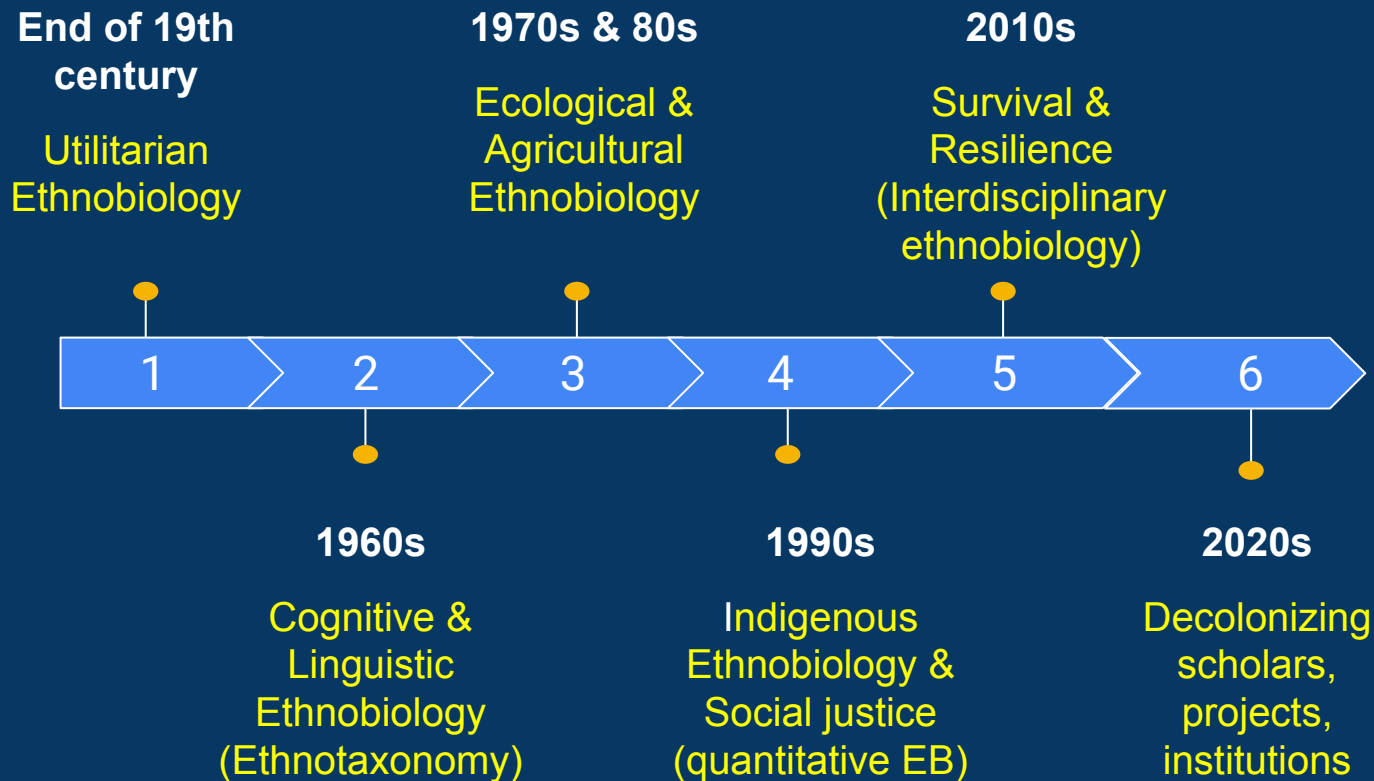
1. Reflect on past and present research directions in ethnobotany / ethnobiology...

- ...to stimulate introspection and debate
- ...to envision impactful future research questions
- ...that advance the discipline
- **Descriptive versus analytical studies?**

2. Reflect on the **process** of crafting scholarly papers

- Addressing gaps in the literature
- Tips for enhancing submission quality of manuscripts

The Roots: 6 Phases of Ethnobiology

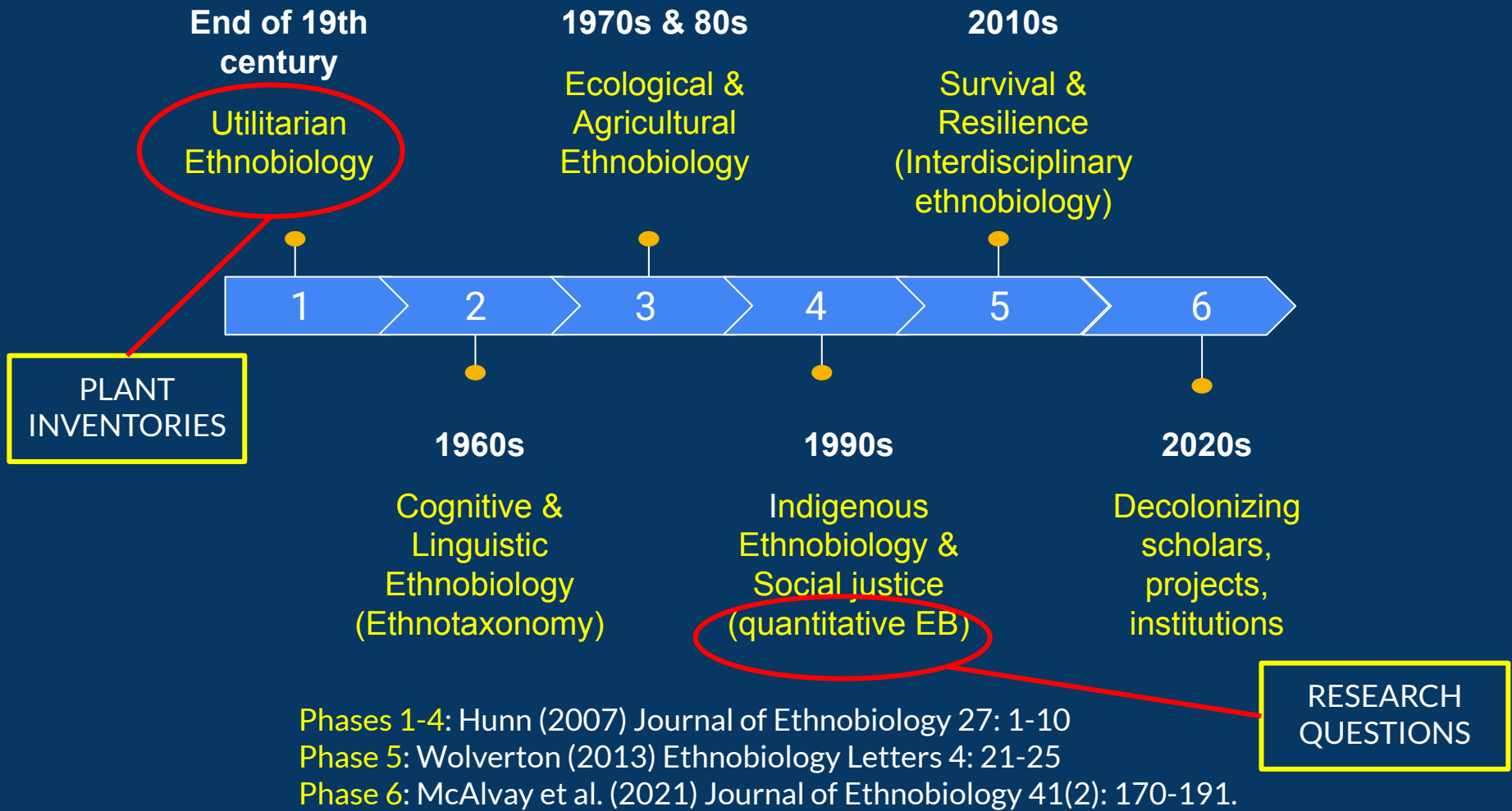


Phases 1-4: Hunn (2007) *Journal of Ethnobiology* 27: 1-10

Phase 5: Wolverton (2013) *Ethnobiology Letters* 4: 21-25

Phase 6: McAlvay et al. (2021) *Journal of Ethnobiology* 41(2): 170-191.

The Roots: 6 Phases of Ethnobiology



Phases in the history of ethnobiology 1950-2014 (D'Ambrosio, 2015 - DOI: 10.2436/20.7010.01.188)

Phase	Period	Fields and Topics	Journals and top 10 countries
Descript. Cognitive	1950s-1970 Phase 1-2	Ethnoscience; Linguistics; Terms & taxonomies; Popular medicine; Phytochemistry; Ethnopharmacology	<i>Economic Botany</i> (1947 -)
Ecology Pharmacology	1970s-1991 Phase 3	Ecology & conservation; Ethnotaxonomy; TEK and its change; Political economy & post-colonialism Bioprospecting Entheogens Archaeobiology	<i>Economic Botany, Journal of Ethnopharmacology, Social Science & Medicine, Fitoterapia, Human Ecology</i> Top 10 countries: USA, UK, India, Canada, France, Netherlands, Brazil, Sweden, Mexico, China
Biocultural Quantitative Reflexive	1992-2014 Phases 4-6	Indigenous rights & community development; Globalization; Sustainable development; Food, medicine, health & agroecology; Biocultural diversity; Migrations & history; Intracultural variation; Global change; Systems thinking; Political ecology; Research ethics & reflexivity	<i>Economic Botany, Journal of Ethnopharmacology, Journal of Ethnobiology and Ethnomedicine, Indian Journal of Traditional Knowledge, Journal of Ethnobiology, South African Journal of Botany, Pharmaceutical Biology, Biodiversity and Conservation, Acta Horticulturae</i> Top 10 countries: India, USA, Brazil, UK, China, <u>South Africa</u> , <u>Italy</u> , <u>Spain</u> , Mexico, Canada

Debate: Should ethnobiology and ethnomedicine more decisively foster hypothesis-driven forefront research able to turn findings into policy and abandon more classical folkloric studies?

2023 - 2024

Guest Editor:

Andrea Pieroni, PhD, University of Gastronomic Sciences, Italy

Key expert authors argue for and against the need to de-emphasise the role of classical folkloric studies in research in ethnobiology and ethnomedicine.

Descriptive ethnobotanical studies are needed for the rescue operation of documenting traditional knowledge

In this debate, Łukasz Łuczaj claims that the primary aim of ethnobiological research is now to document disappearing traditional knowledge, as a priority due to the rate at which biocultural biodiversity in the world is disappearing.

Beyond artificial academic debates: for a diverse, inclusive, and impactful ethnobiology and ethnomedicine

Victoria Reyes-García argues that a major strength of ethnobiology and ethnomedicine is their ability to bridge theories and methods from the natural sciences, the social sciences, and the humanities, and that fragmentation through opposing different approaches might weaken the discipline.

Integrating depth and rigor in ethnobiological and ethnomedical research

In this rebuttal, Ulysses Paulino Albuquerque and Romulo Romeu da Nóbrega Alves argue for a synergistic approach where both descriptive ethnobiology and hypothesis-driven research are valued for their unique contributions to understanding human–nature interactions and informing policy.

Descriptive/Utilitarian Studies (Plant Inventories)



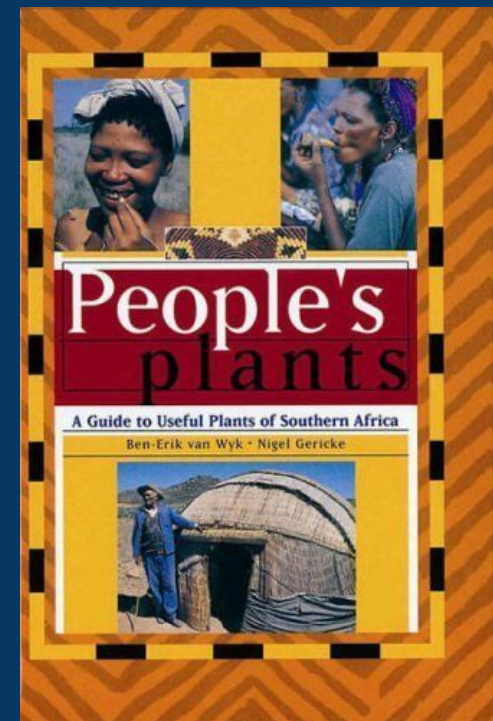
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Strengths:

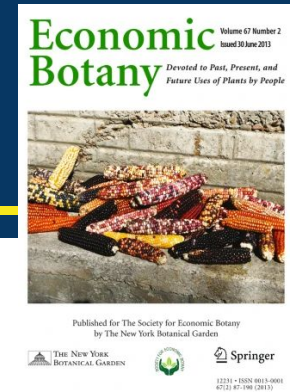
- To record useful plant diversity (descriptive)
- Anchor research **locally**
- Provide **baseline data** (snapshot in time)
- Data for future comparisons

Potential weaknesses:


- Often **limited contextual** understanding provided
- **Scalability?** Relevance of results outside the study area?
- No or **limited analytical** results
- **Innovation?**
- **Ethical** issues?
- Research papers versus **other venues to publish** inventories?



Inventories with Cultural Context



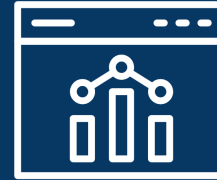
The Inextricable Link between Ecology and Taste: Traditional Plant Foraging in NW Balochistan, Pakistan

MUHAMMAD ABDUL AZIZ¹ , ARSHAD MEHMOOD ABBASI², SHAZIA SAEED³,
ALIA AHMED³, AND ANDREA PIERONI^{1,4}

Economic Botany, 76(1), 2022, pp. 34–59
© 2022, by The New York Botanical Garden,

This study uses inventories of wild food plants and **cross-cultural comparisons** to examine plant foraging **patterns** among different ethnic groups in Pakistan, revealing that the Hazara community uniquely relies on cross-border resources (with Afghanistan), which shapes their distinct food preferences. The findings also emphasize the role of **taste** (sour/bitter) as sensory attributes in shaping WFP choices.

Analytical Studies



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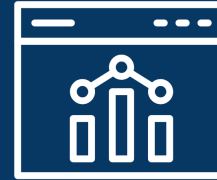
Strengths:

- Answer research **questions / hypotheses**
- Allows for understanding **hidden patterns** in data
- Can provide **richer insights** in people-plants relationships through understanding **drivers** of human behavior
- Make **advances** to the discipline through generalizable findings

Potential weaknesses:

- Indiscriminate or repetitive use of **indices**
- Limited or biased data can lead to incomplete or misleading conclusions (**data quality**)
- **Variability in knowledge** among community members may complicate data analysis and interpretation

Quantitative analysis



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nature
plants

LETTERS

PUBLISHED: 23 JANUARY 2017 | VOLUME: 3 | ARTICLE NUMBER: 16220

Fundamental species traits explain provisioning services of tropical American palms

Rodrigo Cámara-Leret^{1*}†, Søren Faurby^{2,3}, Manuel J. Macía⁴, Henrik Balslev¹, Bastian Göddel¹, Jens-Christian Svenning¹, W. Daniel Kissling⁵, Nina Rønsted⁶ and C. Haris Saslis-Lagoudakis⁶

The study explored the relationship between palm traits and their provisioning services, incl. food and medicine, analyzing data from 2,201 interviews across 68 communities in S. America. Findings: **Larger, widespread** species are preferred for meeting **basic human needs**, while smaller, narrow-ranged species are less commonly used. **Plant size** and **geographic range** are stronger predictors of essential services (safety, physiological needs) than non-essential needs (e.g. ritual uses).

What is the goal of research and publishing?

- Impact: To **contribute to the existing body of knowledge**, by:
 - Filling gaps
 - Challenging existing assumptions
 - Proposing new hypotheses
 - Providing evidence that supports or refines current theories

- To **advance understanding** in a particular field, or contribute to **solving a problem**
 - Includes new data, novel methodologies, and/or theoretical advancements



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Limitations (Instructions for Authors *Economic Botany*)

Papers that are essentially lists of useful plants from some part of the world are ordinarily not considered for publication. They may be publishable if this is the first description of their use in a particular culture or region, but this uniqueness must be specified and characterized in the paper. Even in such a special case, however, such a descriptive paper will require an analysis of the context of use of plants. How is plant use similar to or different from that of other cultures? Why is a particular species or group of species used? Is there a difference in use patterns between native and introduced species? Etc. Note that it is not a sufficient justification for publication to report that botanical knowledge is being lost in the region of study. And it is not necessary to explain to the readership of *Economic Botany* that "plant use is important."

Possible Solutions?

- Mixed methods studies
- Plant inventory + cultural context + research question(s)
- Consider a theoretical framework to amplify meaning of results to a global readership
- Explore data analysis (quantitative or qualitative)
- Do not rely on indices without justifying their relevance
- Establish a process for communities to decide what data is sensitive / proprietary / should not be published
- Tell a compelling story using your data accessible by a broad audience (impact)



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Ethnobiology's Audience and Mission

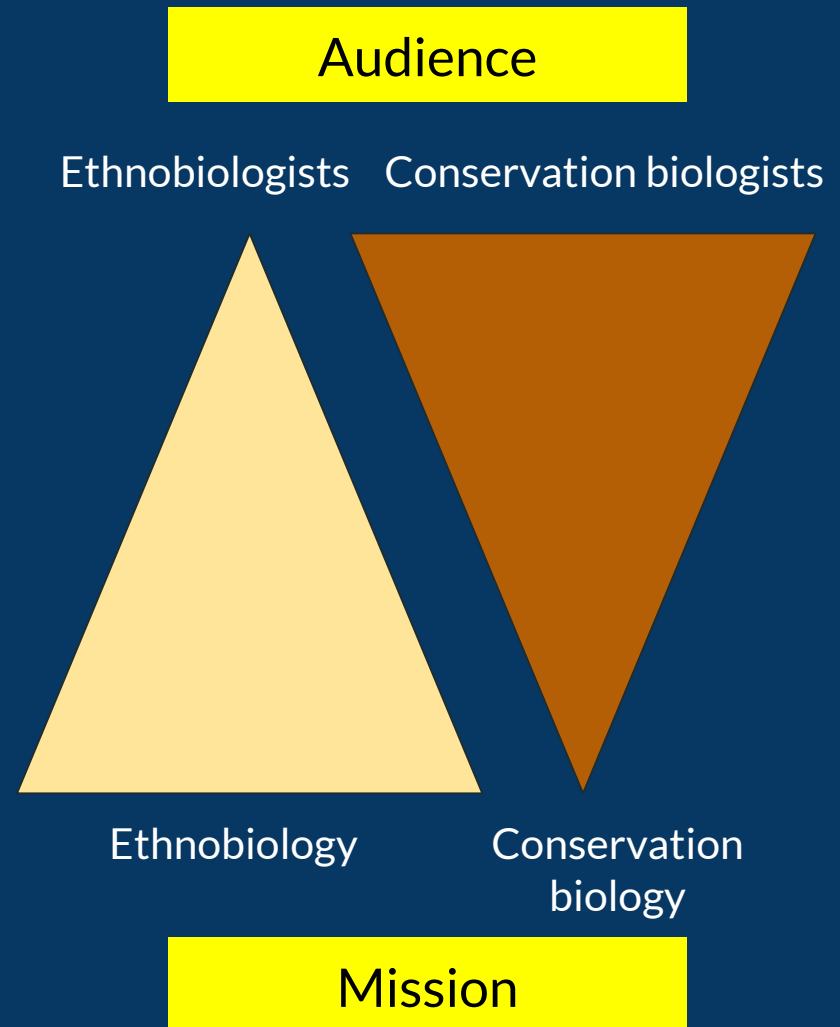
Wolverton (2013) *Ethnobiology* 5: Interdisciplinarity in an Era of Rapid Environmental Change. *Ethnobiology Letters* 4: 21-25

Ethnobiology

- Small audience, broad mission (to study the Earth's human-environmental interactions in time and space)

Conservation biology

- Large audience (clear relevance), focused mission (support of continued evolution of biological systems, from populations and species to communities and ecosystems)



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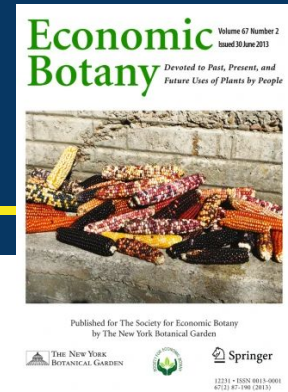
Addressing Research Gaps



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- WHAT?
 - **Strategy** for developing future research studies, publications
- HOW?
 - **Review** the literature to identify under-researched topics/areas
 - Read **foundational** studies (“classics”), debates, viewpoints in your area/topic of interest
 - Brainstorm about a **theoretical framework**, including from other disciplines
- WHY?
 - Will help you: (1) **frame** research question(s), (2) **discuss** the findings in your manuscript, (3) incorporate relevant theory

Consult Foundational Literature



Theories and Major Hypotheses in Ethnobotany

OROU G. GAOUE^{*,1,2,3,4}, MICHAEL A. COE¹, MATTHEW BOND¹, GEORGIA HART¹,
BARNABAS C. SEYLER¹, AND HEATHER McMILLEN^{1,5}

Economic Botany, 71(3), 2017, pp. 269–287


© 2017, by The New York Botanical Garden Press, Bronx, NY 10458-5126 U.S.A.

Ethnobotany has evolved from documenting plant uses to a more rigorous, hypothesis-driven discipline aiming to understand how and why people select plants for various uses. The paper synthesizes **17 major theories and hypotheses**, emphasizing the need for stronger theoretical foundations to advance ethnobotanical research. Testing these theories can provide valuable insights into the dynamic relationships between people and plants, helping to move the field beyond descriptive studies and towards **more systematic understanding**.

Consult Viewpoints and Debates

Debate | [Open access](#) | Published: 15 February 2024

Advancing ethnobiology for the ecological transition and a more inclusive and just world: a comprehensive framework for the next 20 years

[Ulysses Paulino Albuquerque](#) , [Alfred Maroyi](#), [Ana H. Ladio](#), [Andrea Pieroni](#), [Arshad Mehmood Abbasi](#), [Bárbara Arias Toledo](#), [Farid Dahdouh-Guebas](#), [Gustavo Hallwass](#), [Gustavo Taboada Soldati](#), [Guillaume Odonne](#), [Ina Vandebroek](#), [Joan Vallès](#), [Julio Alberto Hurrell](#), [Manuel Pardo de Santayana](#), [María de los Ángeles La Torre-Cuadros](#), [María Teresa Pulido Silva](#), [Michelle Cristine Medeiros Jacob](#), [Viviane Stern da Fonseca-Kruel](#) & [Washington Soares Ferreira Júnior](#)

Journal of Ethnobiology and Ethnomedicine **20**, Article number: 18 (2024) | [Cite this article](#)

This opinion piece highlights the critical role of ethnobiology in advancing biodiversity conservation, sustainable development, and fostering an ecological transition toward a more just and inclusive world. It emphasizes the importance of collaborating with Indigenous Peoples and Local Communities to develop locally relevant solutions for sustainable resource management. The authors aim to **guide the future of ethnobiology** by integrating diverse perspectives and **addressing complex global challenges over the next 20 years**.

Consult papers that Bridge Research Gaps

PNAS

RESEARCH ARTICLE

SUSTAINABILITY SCIENCE
BIOLOGICAL SCIENCES

 OPEN ACCESS

Language extinction triggers the loss of unique medicinal knowledge

Rodrigo Cámara-Leret ¹ and Jordi Bascompte 

Edited by B. L. Turner, Arizona State University, Tempe, AZ, and approved May 9, 2021 (received for review February 24, 2021)

June 8, 2021 | 118 (24) e2103683118 | <https://doi.org/10.1073/pnas.2103683118>

This article analyzed three ethnobotanical datasets from North America, northwest Amazonia, and New Guinea, covering 3,597 medicinal plants and 12,495 uses across 236 indigenous languages. The results highlight the **link between language extinction and the loss of medicinal plant knowledge**, emphasizing the need to preserve both cultural and biological diversity. The study calls for research questions **addressing the link between cultural heritage and biodiversity conservation**.

A Few Tips for Strengthening Submissions

Author Instructions for *ECONOMIC BOTANY*

Current SEB Members can access *Economic Botany* issues by clicking the white login button found above and entering your SEB ID and Password. For help accessing *Economic Botany* please email seb@ethnobotany.org.

Thinking of submitting a paper? Please read [Accelerating Peer Review: Ten Tips for Swift Publication](#) for guidance, and follow instructions 1 to 22 in the text below. Manuscripts that do not adhere to the submission guidelines will be returned to the authors before entering the review process. To avoid unnecessary delays, please ensure your submission carefully follows all the guidelines.

Journal expectations: Editors and Reviewers expect...

- Clarity
- Originality
- Rigorous methodology

A Few Tips for Strengthening Submissions

- **Key sections** of the paper:
 - Abstract: Detailed, Specific, Succinct
 - Methods: Detailed, Specific, Complete
 - Conclusion: Take home message (pertaining to YOUR findings)
- **Common pitfalls** to avoid:
 - Lack of clarity in the research **objectives**
 - **Unstructured** manuscript
 - Lacking info in **methodology**
 - **Requested revisions** added in *Reply to Reviewers* **but not** in the manuscript text
 - Formatting of references **not** according to journal requirements

Pillars of a strong research paper



Created by Arie Ichwan Nurdin
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- Has a solid theoretical and/or methodological **foundation**
- Has identified and responds to a **research gap**
- Justifies **relevance** of the topic on a global scale
- Avoids re-inventing the wheel
- Writes with clarity
- Does **not** use excessive acronyms
- Tells the **story** of the research findings

Final Recommendations

1. **Always** perform a deep dive in the **literature**
2. Use **mixed methods** to expand the scope and depth of research
3. Write a compelling **story** supported by the study findings
4. Envision how to **expand your readership**
5. Write your way into future inter- and transdisciplinary **collaborations**
6. Embrace this **lifelong learning process!**



Caribbean Centre for Research in Bioscience (CCRIB)
Faculty of Science and Technology
The University of the West Indies, Mona, Jamaica

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R^G Ina Vandebroek

Questions?
editor@ethnobotany.org

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