



Is there a neocolonial stance in ethnobiology?

Ulysses Paulino Albuquerque^{1,4*} , Romulo Romeu Nóbrega Alves^{2,4} 

and Rodrigo Felipe Rodrigues do Carmo^{3,4} 

1 Laboratório de Ecologia e Evolução de Sistemas Socioecológicos, Centro de Biociências, Universidade Federal de Pernambuco, Recife, Brazil.

2 Departamento de Biologia, Universidade Estadual da Paraíba, Av. das Baraúnas, 351/Campus Universitário, Campina Grande, PB, Brazil.

3 Synthetic Ecology and Biodiversity Conservation Laboratory, Department of Biology, Universidade Federal Rural de Pernambuco, Recife, Brazil.

4 Graduate Program in Ethnobiology and Nature Conservation, Universidade Federal Rural de Pernambuco, Recife, Brazil.

* Corresponding author ✉. E-mail address: UPA (upa677@hotmail.com)

As a discipline intricately woven into rambling interactions between human societies and their natural environments, ethnobiology plays an important role in understanding biocultural diversity and appreciating traditional ecological knowledge (TEK). Therefore, even while presenting a discourse of embracing alterities and diversity, the ethnobiology academic community must engage in introspection to confront scientific neocolonialism — an often imperceptible dynamic perpetuating inequalities and injustices.

We can understand scientific neocolonialism from two perspectives. However, before stating them, it is important to contextualize the construction of this concept, which is closely related to the capitalist model of human development. While old colonialism was based solely on mercantile capital and, therefore, pecuniary profit (Fanon 1952, 1964), neocolonialism is immersed in industrial capital (Sartre 2001). Thus, neocolonialism exploits and appropriates not only the pecuniary wealth of the colonized but also everything that can be transformed into a commodity, including the human person and all dimensions associated with it, such as knowledge, culture, and customs. Thus, scientific neocolonialism sells knowledge produced in academia to civil society based on the erasure of traditional knowledge. This is especially true for ethnobiology, considering that its study base is predominantly Indigenous People and Local Communities (IPLC).

The first concerns about scientific neocolonialism are the silencing and invisibility of other voices within academia and science. In this sense, scientific knowledge is the hegemonic voice, holding the power of decision-making, which historically has marginalized indigenous, local, or traditional knowledge as inferior, backward forms of knowledge that have nothing

to offer to the advancement of humanity. Furthermore, many contributions of native peoples in the construction of scientific knowledge that has been built throughout history, particularly those related to the natural sciences, have been disregarded (Alves and Souto 2015).

As was exemplified by Moreira (2002), in the 19th century, naturalists dispersed across the globe, significantly expanding the scientific knowledge of that era — and the success of their scientific expeditions frequently relied heavily on collaboration with native or local communities and the utilization of their TEK. Since then, this knowledge has been extremely useful for biodiversity studies, and many descriptions have likewise been based on specimens collected by native people accompanying researchers during their expeditions (Alves and Souto 2015). Unfortunately, the contribution of TEK in scientific research has not been properly acknowledged.

Of course, tackling this criminal, outdated, and dominant agenda has received significant attention from ethnobiology and related fields (Martinelli and Euzebio 2022; Vandebroek et al. 2023). We have made great strides in confronting this stance that persists in academic circles, but we are still grappling with the challenges of implementing a diversity, equity, and inclusion agenda. Implementing an inclusive agenda implies not only raising awareness within academia but also ensuring the openness of doors to promote the participation of people from diverse ethnic and geographic backgrounds in the construction of scientific knowledge, stemming from a shift in political will.

The other type of neocolonialism operates within academia itself and leads to a prejudiced distinction

of researchers based on geographical origin, ethnicity, or race. This is also an insidious form of discrimination that ultimately affects careers and the construction of scientific knowledge. As a scientist from the Global South, one of us (UP Albuquerque) had the opportunity to edit a book through a publisher based in the Southern Hemisphere. When confronted with critiques, one of the primary concerns was related to the presence of "people of color" among the authors (Albuquerque *et al.* 2021; see also Wyndham *et al.* 2021). This observation prompted us to ponder the relevance of such criteria in a scientific context.

The initial question arises: Since when should the racial identity of authors be highlighted in scientific work? After all, science seeks objectivity and quality of contributions, regardless of ethnic origin. Upon reading the critique, a question emerged about what it truly means to be a "person of color." At this moment, Albuquerque recalled a passage from the poem by Victoria Santa Cruz, an Afro-Peruvian poet. In the poem, she questions herself: "¿Soy acaso negra? (Am I perhaps black?). She answered this question affirmatively. The poem continues with a profound inquiry into the nature of this identity: "¿Qué cosa es ser negra?" (What is it black? and the revelation of the sad truth hidden behind that question. The poet expresses the weight of racial identity imposed by society and how this perception impacts her: "Y me sentí negra, ¡Negra! Como ellos decían ¡Negra!" (And I felt black, black! As they said, black!).

This passage evokes deep resonance, shedding light on the intricate and often distressing experiences associated with racial identity. However, in the scientific realm, recognizing contributions should surpass racial classifications, aiming for excellence, diverse perspectives, and mutual respect. While this may seem evident, someone reading this editorial might argue that we have generalized a particular case to bolster our argument (see discussion in Gray *et al.* 2020). However, this appears to be a significant challenge for Black, Indigenous, and Other People of Color (BIPOC) populations.

Ensuring access for underrepresented populations in academia is an indispensable starting point for addressing the segregation and elitist historical nature of traditional academic training, as well as the consequences of scientific knowledge production, such as promoting human development policies (Almeida 2011). As a Black Brazilian researcher, one of us (RFR Carmo) noted that access to traditional scientific media for the Black population is a significant political act on several scales. For example, ecological restoration is currently recognized as an important strategy for combating the effects of climate change (Bustamante *et al.* 2019).

However, this tool requires not only formal sci-

entific knowledge about plant species diversity but also an understanding of the society-nature relationship, fundamentally requiring the direct involvement of people who depend on natural resources (Sena *et al.* 2021). Thus, ecological restoration encompasses a human aspect involving multiple forms of knowledge (scientific and traditional), currently referred to as biocultural restoration. Therefore, ensuring that BIPOC populations have access to scientific training processes ensures the sovereignty of the human development process.

Buchanan *et al.* (2021) succinctly outlined compelling evidence pointing to a systemic pattern of white supremacy in psychological science. The discipline heavily depends on theoretical models crafted by predominantly white scholars for white populations. Research on sexual harassment has predominantly concentrated on white women, overlooking the intersectionality of race and gender, thereby presenting unique challenges for women of color. Crucial editorial positions in academic journals witness minimal representation of BIPOC individuals, with more than 90% occupied by white individuals. Studies led by white researchers tend to employ predominantly white samples, and research by BIPOC scholars faces higher rejection rates in specific journals (see citations in Buchanan *et al.* 2021). Even when accepted, articles on BIPOCs often end up in specialized journals. Moreover, research by white scholars on white populations is more likely to involve high-impact outlets. Moreover, we can be confident that this is not related to the quality of science produced by BIPOC individuals.

One crucial issue revolves around the frequent neglect of research conducted by scientists in the Global South. These investigations are often perceived merely as data sources or exotic research locations, overlooking the inherent complexity and richness of such studies, as well as the intellectual capacity of Global South scientists. It is imperative to transcend this view by recognizing South Global scientists as minds capable of analyzing, understanding, and solving problems—integral components in constructing scientific knowledge. Geographic disparities in access to advanced technology and research infrastructure can further contribute to scientific neocolonialism. Researchers from less privileged regions may face challenges in conducting cutting-edge research due to limitations in resources and infrastructure.

However, the perpetuation of (scientific) colonizing practices make international collaborations between the Global South and North a science of data expropriation and the silencing of scientific capabilities in the Global South, often based on the priorities of research funded by agencies from Global North countries. This inequality in decision-making, from

the conception of the research idea to the location and methodology to be addressed, creates room for the intellectual displacement of Global South partners in the face of the (fallacious) intellectual emancipation of Global North partners, who define — through economic and political power — the rules of the game, ultimately perpetuating more inequality.

The low citation rate of Global South authors by researchers from the Global North is yet another facet of scientific neocolonialism. For instance, Meneghini *et al.* (2008) found that articles by Latin American authors receive fewer citations than those produced by their counterparts from the Global North. Even when groundbreaking ideas emerge from these regions, a lack of recognition perpetuates an unequal system. It is crucial to rethink citation practices, ensuring that contributions are duly credited regardless of the authors' geographical origin. For example, in an online promotion of an international book by a group of researchers from the Global South, acknowledged as one of the most prolific contributors to the field of ethnobiology worldwide, an influential scientist from the Global North raised a question in the comments: 'Apart from books, do they publish articles?' Without making any accusations, it is impossible not to wonder why this is being brought up.

We propose several hypotheses that may explain these phenomena: 1) an inferior quality of articles produced in the Global South; 2) nonsignificant hypotheses and theories produced in the Global South that are not deemed worthy of recognition; 3) citation bias and recognition of authors from the Global South by their counterparts from the Global North; and 4) deficient scientific training in the Global North that hinders the proper recognition and exploration of academic production from the Global South. What would be the most parsimonious hypothesis?

The journal *Ethnobiology and Conservation*, committed to disseminating ethnobiological knowledge, recognizes the responsibility of leading positive change in this scenario (see Albuquerque *et al.* 2022). We encourage the submission of works that reflect on inclusive practices and actively incorporate all expertise as a vital part of ethnobiological research. Our commitment extends beyond rhetoric, aspiring to create a space for dialog and reflection that transcends geographical boundaries, fostering genuine collaboration among scholars worldwide.

Confronting the challenge of scientific neocolonialism requires collective acknowledgment that change must begin from within. Ethnobiology has the power to transform our relationships with IPLC/BIPOC and redefine academic practices, promoting true collaboration and equity. We can build a fair, inclusive, and respectful ethnobiology where every voice is heard and genuinely valued.

In conclusion, the ethnobiological academic community must recognize and overcome scientific neocolonialism, aiming for transformative practices that value all perspectives and contributions. Inclusion, equity, and diversity should be incorporated at every research stage, from planning to dissemination of results. Only through this collective commitment can we move toward a genuinely fair and collaborative ethnobiology, where all forms of knowledge are equally recognized and respected.

REFERENCES

- Albuquerque UP, Ferreira Júnior WS, Vandebroek I, Bussmann RW, Paniagua-Zambrana NY, Ladio AH, Voeks R, Melo F, Jacob MCM, Gonçalves-Souza T, Lopes AV, Soldati GT (2021) A Reply to Pierotti's (2018) Review of "Evolutionary Ethnobiology": Decolonizing Latin American Science. *Ethnobiology Letters* 12(1): 79-81. doi: [10.14237/ebl.12.1.2021.1763](https://doi.org/10.14237/ebl.12.1.2021.1763).
- Albuquerque UP, Jacob MCM, Alves RRN (2022) **Celebrating the 10th Anniversary of Ethnobiology and Conservation**. *Ethnobiology and Conservation*, 11. doi: [10.15451/ec2022-08-11.27-1-4](https://doi.org/10.15451/ec2022-08-11.27-1-4).
- Almeida, SL (2011) **Sartre: direito e política: ontologia, liberdade e revolução** [tese]. São Paulo: Faculdade de Direito. doi: [10.11606/T.2.2011.tde-19092012-144850](https://doi.org/10.11606/T.2.2011.tde-19092012-144850).
- Alves RRN, Souto WMS (2015) Ethnozoology: a brief introduction. *Ethnobiology and Conservation*, 4. doi: [10.15451/ec2015-1-4.1-1-13](https://doi.org/10.15451/ec2015-1-4.1-1-13)
- Buchanan NT, Perez M, Prinstein MJ, Thurston IB (2021) Upending racism in psychological science: Strategies to change how science is conducted, reported, reviewed, and disseminated. *The American Psychologist* 76(7): 1097-1112.
- Bustamante MMC, Silva JS, Scariot A, *et al.* (2019) Ecological restoration as a strategy for mitigating and adapting to climate change: lessons and challenges from Brazil. *Mitig Adapt Strateg Glob Change* 24: 1249-1270. doi: [10.1007/s11027-018-9837-5](https://doi.org/10.1007/s11027-018-9837-5).
- Fanon F (1952) **Peau noire, masques blancs**. Paris: Editions du Seuil.
- Fanon F (1964) **Pour la révolution Africaine**. New York, NY: Grove Press.
- Gray DM, Joseph JJ, Glover AR, *et al.* (2020) How academia should respond to racism. *Nat Rev Gastroenterol Hepatol* 17: 589-590. doi: [10.1038/s41575-020-0349-x](https://doi.org/10.1038/s41575-020-0349-x).
- Martinelli BM, Euzebio U (2022) Contributions of Decolonial Thinking about Science and its Praxis in the

Context of Indigenous People and Local Communities. [Contribuições do pensamento decolonial sobre a ciência e sua práxis no contexto de povos e comunidades tradicionais] *Desenvolvimento e Meio Ambiente* 60: 214–232. doi: [10.5380/dma.v60i0.78111](https://doi.org/10.5380/dma.v60i0.78111).

Meneghini R, Packer AL, Nassi-Calò L (2008) Articles by Latin American Authors in Prestigious Journals Have Fewer Citations. *PLoS ONE* 3(11): e3804. doi: [10.1371/journal.pone.0003804](https://doi.org/10.1371/journal.pone.0003804).

Moreira IC (2002) O escravo do naturalista - O papel do conhecimento nativo nas viagens científicas do século 19. *Ciência Hoje* 31: 40–48.

Sena PHA, Gonçalves-Souza T, Gonçalves PHS, Ferreira PSM, Gusmão RAF, Melo FPL (2021) Bio-cultural restoration improves delivery of ecosystem services in social-ecological landscapes. *Restoration Ecology*. doi: [10.1111/rec.13599](https://doi.org/10.1111/rec.13599).

Sartre, JP (2001) **Colonialism and Neocolonialism**, translated by Azzedine Haddour, Steve Brewer,

and Terry McWilliams. Routledge.

Vandebroek I, West J, Otero-Walker K, Silvestrini SM (2023) Fostering greater recognition of Caribbean traditional plant knowledge. *Trends in Ecology & Evolution*. doi: [10.1016/j.tree.2023.10.007](https://doi.org/10.1016/j.tree.2023.10.007).

Wyndham FS, Baker J, Bannister K, Bruno M, Flachs A, Fowler C, Gillreath-Brown A, Olson E, Wade K, Walshaw S (2021) When is it Appropriate to Reference Identities, Relationships of Belonging, or Knowledge Lineages in Ethnobiological Scholarship? *Ethnobiology Letters* 12(1): 73-78. doi: [10.14237/ebl.12.1.2021.1779](https://doi.org/10.14237/ebl.12.1.2021.1779).

Received: 03 January 2024

Accepted: 04 January 2024

Published: 05 January 2024