



The Global Biogeography Initiative

1 | INTRODUCTION

Biogeography is inherently a search for patterns and processes that link the local occurrences of organisms (often, but not solely, species [Mishler, 2023]) with local, regional and global drivers of their dynamics. Increasingly, such information is critical for informing biodiversity conservation and management decisions in the current period of extreme global change. One might expect, therefore, that biogeography should bring a global perspective from a diverse set of practitioners working locally and collaborating globally. However, a global perspective is hindered by the uneven distribution of biogeographical studies and of biogeographers themselves, which leads to systematically biased gaps in data availability (e.g. see maps of ignorance; Rocchini et al., 2011) and shortfalls in knowledge (Hortal et al., 2015). While these shortfalls are increasingly obvious—skimming just this journal's pages will quickly illustrate published papers are not representative of the full spatial diversity of important biogeographical questions, nor of the people who might ask them—our ability to fill the gaps remains limited because opportunity and resources also are unevenly distributed. Addressing these shortfalls is an essential consideration for the future of biogeography. Self-evidently, we cannot understand how the world has changed or predict how it will change if our sampling of it is geographically, taxonomically or otherwise biased, which is currently the case (Vasconcelos, 2023). Moreover, addressing systematic biases has the potential to unearth substantial epistemological benefits (Fehr, 2011). More research from understudied areas and systems will both increase knowledge of biogeographical patterns globally and enrich our understanding of processes; it also has the potential to change perspectives and generate new paradigms.

The *Journal of Biogeography* (JBI) has a long-standing commitment to intellectual pluralism (Dawson et al., 2023; Linder, 2016; Watts, 1974; Whittaker, 2005) and, for the aforementioned reasons, marked its 50th anniversary by announcing a new initiative in *Global Biogeography*, which seeks to better represent the geographical diversity of biogeography and biogeographers (Dawson et al., 2023). This initiative began with a [virtual issue on Global Biogeography](#), compiling most-cited studies from JBI's back-catalogue that were conducted in countries around the world by biogeographers employed at institutions in those same countries. The same principles underwrite the new recurring 'Global Biogeography' section debuting in this issue. Our intention is to raise the profile of novel and underrepresented perspectives on biogeography such as studies in underrepresented areas, systems and taxa with a density and intensity of knowledge that reveals intimate understanding. Such studies may span a continuity of spatial and/or temporal scales

that is difficult to acquire through occasional visits for data collection, and promotes integration, not mere inference, of pattern and process. This may require stronger coupling with local scientific and Indigenous knowledge (*sensu* Petzold et al. 2020; e.g., [Indigenous Contributions to Molecular Ecology](#)), a rethinking of collaborations that leads to mutual benefits beyond data collection, and embracing knowledge generation and transfer across world regions (e.g., Carroll et al. 2021). It is worth noting that while this work may most easily address the largest gaps in poorly covered parts of the world, it is also work that could benefit from being done on the doorsteps of prestigious institutions.

It should be clear, however, that a new section highlighting more diverse publications is only the tip of the iceberg: much else that precedes publication needs enhancement—for example, inclusive epistemic communities, training and resources—while the changing climate of publishing continues to raise new problems (Hortal et al., 2019; McGill et al., 2018; Peterson et al., 2019). The suite of issues that require attention extends far beyond the scope of this editorial, but we highlight four key challenges at the intersection of pre-publication processes and the changing publishing environment as examples.

2 | SOME KEY CHALLENGES

2.1 | Open Access (OA)

While open access publishing has certain merits, and 'flipping' subscription based or 'hybrid' journals to 'gold' OA appears imminent (Rieseberg et al., 2023), the associated Article Processing Charges (APCs) are beyond the means of many biogeographers in many nations, across low- to high-income countries. Moreover, in the minority of cases that funds may be available, they present startling trade-offs even for researchers from middle-income economies. For example, an APC of ~\$2000 (i.e. the mean APC for 2022 according to [OpenAPC](#)) would displace 5 months of graduate student salary in India, over 2 months salary for a postdoc or 6 months of a graduate level bursary in South Africa, and is roughly equivalent to a month's salary for a mid-career researcher in many middle-income countries in South America and Africa. Higher APCs can seem detached from reality: for ~\$5k authors might publish one paper (e.g. in *Journal of Biogeography*) or less (e.g. in a panoply of second tier 'Nature' journals) or build a house-extension in South Africa (Dawson, 2023). While publishers may offer waivers, full waivers are usually limited to articles with a lead author based in a low-income country (as per the World Bank classification based on GDP) which generates very

few requests while marginalizing a much larger cadre of researchers from middle-income economies (Kwon, 2022); also, in our experience, requests have been rejected. Thus, in practice, the number of waivers offered is a **minuscule fraction** of the papers published. Likewise, while 'transformational deals' are being promoted by large for-profit publishers, they cover few countries and often few institutions within a country, typically the **more prestigious** ones. The barriers created by APCs (e.g. *Evol Appl*, 2023; Smith et al., 2022) therefore shunt papers from aspiring biogeographers and institutions into lower-profile journals where they have lower visibility and attract fewer citations. Changes towards OA, in the current publishing environment, therefore exacerbate the kinds of inequity that *Global Biogeography* aims to redress.

2.2 | Funding and training

Inequities in funding (such as the ability to pay for OA) and its consequences (such as lower research profile) also affect other kinds of opportunity. The chances provided at more affluent institutions in richer nations—for bigger projects, the latest techniques, higher profile work, international fellowships, etc.—mean that the options for training students also are highly unequal. Many talented students therefore emigrate, at least temporarily, if not permanently. This 'brain drain' has indirect consequences that create a negative feedback loop, widening the gap between local researchers and international ones due to depletion of local expertise. For those who stay, educational and research opportunities are reduced. Even international collaborative grants are often unevenly funded by the national partner agencies, providing fewer training opportunities for collaborators in low- and middle-income (LMI) countries. Insufficient local funding then hinders the ability of biogeographers to fully pursue their research questions in their own countries and may be compounded by higher teaching or service loads (among institutions within and between countries).

2.3 | Language

For biogeographers who are based in LMI countries, the local barriers are substantially compounded by language. For example, English fluency is an issue for many researchers in Latin America, which impacts writing papers and grants but also training since books, papers and online courses are predominantly in English. The problem is intensifying as publishers have reduced the support they provide to editorial teams, including copyediting and technical editing during production, while introducing 'language services' wherein authors—who already find APCs prohibitive—are asked to pay extra for the publisher to edit language pre-submission or during revisions. Ad hoc analyses of JBI's recent submissions show some evidence of slightly higher rejection rates for papers from the 'global south' and on average more revisions prior to acceptance, which may have many causes including language, leaving a strong impression on non-native English authors of added burdens (Rodríguez Mega, 2023). To be more equitable, and to

support *Global Biogeography*, publishers could better bridge this gap by offering free language services to authors based in LMI countries.

2.4 | Scope

Inequities in funding, training and language can compound in an apparent mismatch between the scope of research being conducted and the scope of highly ranked journals, where emphasis is placed on global datasets and global narratives. Studies from small geographical areas can be misinterpreted as being provincial: readers or reviewers unfamiliar with a place or system may mistakenly interpret them as idiosyncratic and lacking broader relevance. Indigenous knowledge may similarly be marginalized despite scientific relevance. But diversity arises from biogeographical processes that often are quite local—adaptation, ecological interactions, habitat heterogeneity and so on—and we are interested in understanding the full diversity of biogeographical processes, their frequencies and variations. Likewise, data collection using established, rather than novel, tools can be misconstrued as being anachronistic or poor quality work and undervalued by journals. What is important, therefore, is that a study of any grain, extent and approach be assessed based on relevant biogeographical context, that the methods be able to answer the questions posed, and the novelty and relevance is assessed relative to current conceptual, empirical and theoretical understanding. In this context, bigger and newer is not always better: there remains an urgent need for more detailed ecological and life-history data in biogeographical studies. After all, these are life blood for 'big data' and the meta-analyses that generate new knowledge of large-scale patterns.

3 | GLOBAL BIOGEOGRAPHY: GOALS & CURRENT CONTRADICTIONS

The goal of the *Global Biogeography* special section, therefore, is to (1) immediately increase the quantity and profile of the full geographical diversity of biogeography and biogeographers in this journal and (2) make explicit the need for far greater efforts at other points in the publication pipeline: ranging from the earliest stages of training, through inclusive communities for early career biogeographers and beyond, to manuscript preparation, and equitable publication options. *JBI* has made some progress in these areas—introducing an award to support underrepresented biogeographers (Dawson, 2023), establishing an **Editorial Academy**, making explicit our commitment to diversity as well as our achievements and shortfalls (e.g., Meynard et al., 2021; **JBI diversity statement, 2021**), and increasing the breadth of our **editorial board** which is the most diverse in the journal's history reflecting both the dynamic nature of the discipline and its rapidly expanding scope—but much more needs to be done. Particularly, much of the benefit of these efforts led by the editorial board will be rendered ineffective if journal publishers continue to commoditize support for authors and publication. To

meet the scientific community's aspirations, a more symbiotic orientation by publishers is desperately needed. For example, language editing services for authors from countries where English is a second language should be at no additional cost; APC waivers need to be provided not only to some of those who ask but actively promoted for a much broader swathe of authors in LMI countries and institutions. Publishers need to start re-investing not divesting in their scientific partners.

Thus, the *Global Biogeography* initiative is a seed, the start of a much bigger programme to reshape and rejuvenate biogeography. By explicitly emphasizing the scientific benefits of a more inclusive and outward looking strategy, we expect that *JBI* can build on its legacy as a pluralistic premier publication for biogeographers and increasingly attract ground-breaking papers that help define the future of the field while also better supporting the biogeographical community. It will necessarily be a multi-year initiative, as it asserts a commitment to increase capacity at all stages from training, through inclusion in the teams that design and conduct the research—at all stages from data collection, through analyses and writing—to publication. It is the editorial team's intention to advocate for all stages of the process to the best extent we can. Doing so is part of essential capacity building that looks forward to the next 50 years of biogeographical research during which many of the studies performed by new biogeographers will provide much needed descriptions of and answers for a planet in transition.

KEYWORDS

biogeography, diversity, epistemic community, equity, open access, philosophy, scientific publishing

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Michael N Dawson¹ 

Rosemary Gillespie² 

V. V. Robin³ 

Krystal A. Tolley^{4,5} 

Thais Vasconcelos⁶ 

¹Life & Environmental Sciences, University of California, Merced, California, USA

²Essig Museum of Entomology & Department of Environmental Science, Policy, and Management, University of California, Berkeley, Berkeley, California, USA

³Indian Institute of Science Education and Research Tirupati, Tirupati, AP, India

⁴South African National Biodiversity Institute, Cape Town, South Africa

⁵Centre for Ecological Genomics and Wildlife Conservation, University of Johannesburg, Johannesburg, South Africa

⁶Department of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, Michigan, USA

Correspondence

Michael N Dawson, Life & Environmental Sciences, University of California, Merced, California, USA.

Email: mdawson@ucmerced.edu

Handling Editor: *JBI* Editorial Office

ORCID

Michael N Dawson  <https://orcid.org/0000-0001-7927-8395>

Rosemary Gillespie  <https://orcid.org/0000-0003-0086-7424>

V. V. Robin  <https://orcid.org/0000-0003-3109-5498>

Krystal A. Tolley  <https://orcid.org/0000-0002-7778-1963>

Thais Vasconcelos  <https://orcid.org/0000-0001-9991-7924>

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BIOSKETCH

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