

Recent developments in *Diversity and Distributions* and trends in the field

Diversity and Distributions, which was founded as Biodiversity Letters in 1993, is a leading journal in the Web of Science (WOS) categories of Ecology and Biodiversity Conservation. In this editorial, we want to address the revised scope of the journal, the impact of the Open Access transition and associated waiver policy on the journal progress, and the recently established data accessibility policy.

1 | SCOPE

Diversity and Distributions was founded under the editorial leadership of David M. Richardson. The journal started with a broad focus on biogeography and conservation, particularly on invasion science (Richardson, 2005). Since 2005, the scope of the journal has been defined as conservation biogeography, the application of biogeographical principles to address conservation issues (Richardson & Whittaker, 2010; Whittaker et al., 2005). The further emphasis on conservation biogeography by the second chief editor, Janet Franklin, in 2016 has defined a unique place for *Diversity and Distributions* in the constellation of biodiversity journals (Franklin, 2016).

Conservation biogeography is a very active field of research where new branches and approaches emerge continuously. Hence, the criteria for selection of manuscripts that undergo the peer-review process change accordingly over time. Here we elaborate on how the recently established senior editorial board assesses the suitability of incoming submissions for peer review. As a journal of conservation biogeography, we publish papers that deal with the application of biogeographical principles, theories, and analyses to problems concerning the conservation of biodiversity, regardless of the taxa or ecosystem considered. To fit the scope of *Diversity and Distributions*, conservation implications should be at the heart of a biogeographic study beyond simply carrying out research on a threatened species or mentioning potential conservation implications. Hence, papers must have a strong biogeographic focus with clear application for conservation, or a strong conservation focus applied to biogeographic patterns or principles. We seek papers that go beyond descriptive biogeographic patterns or local to regional conservation assessments. Instead, papers should derive novel insights from biogeographic patterns and processes and biodiversity

status and trends. Research is also expected to be conducted across broad spatial, temporal, or taxonomic scales, to have clear and important implications for our understanding of conservation biogeography or conservation, to be relevant beyond the specific study system, and to be of interest to the broad readership of the journal. We welcome papers that propose or adopt novel methodological approaches that can be replicated beyond the used case studies and have the potential to foster new research. Finally, we expect submitted papers to have a solid theoretical underpinning, a clear study design, robust methods, and clearly presented findings.

Under the umbrella of conservation biogeography, *Diversity and Distributions* covers a broad range of topics, including, among others, identifying the agents of global change (how climate change, land use change, overexploitation, pollution, and invasive alien species affect the abundance, distribution, spatial genetic composition, range boundaries of species, community composition, and ecosystem functioning), the application of island biogeography principles to conservation, phylogeography or landscape genetics/genomics studies with clear conservation implications, developing paradigms, models and frameworks for conservation planning and risk assessment, and investigating ecological and anthropogenic factors favouring the spread of infectious diseases or invasive alien species.

Diversity and Distributions also welcomes papers based on innovative species distribution modelling (SDM) or mechanistic, process-based modelling approaches that are of broad interest for readers of *Diversity and Distributions* because of their potential application to other taxa and ecological systems, their methodological advancements, or the conservation implications derived from the analyses. Over the years, *Diversity and Distributions* has become known for publishing cutting-edge SDM research. In fact, papers using SDMs are among the most commonly submitted manuscripts. As such, we are particularly stringent on the quality, innovation, breadth, and robustness of these works. We also expect authors to be particularly transparent on the modelling settings that are often not fully reported (Zurell et al., 2020). We encourage authors to complete and provide an ODMAP (Overview, Data, Model, Assessment and Prediction) protocol (Zurell et al., 2020) to ensure full transparency.

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2 | IMPACT OF TRANSITION TO OPEN ACCESS

The classic paywall model where publishing companies make a profit through institutional subscriptions has seen a decline over time due to the increase in illegal sharing of published papers, the widespread emergence of online-only journals that drastically reduced the costs for scientific publishers, and the increasing success of Open Access (OA) publishing journals (Essl et al., 2020). Simultaneously, there have been calls by academics, funding bodies, and governments to make science fully accessible, both to abate the inaccessibility to science by institutions from middle- and low-income countries and to make science more accessible to the wider public and non-academic stakeholders. Hence, the OA model that ensures accessibility to published papers but charges authors a fee to publish their manuscript without accessibility restrictions has become increasingly common over the last decade. This OA model has been criticized for favouring authors with sufficient research funding, who are often based in institutions in high-income countries, while disenfranchising researchers from poorer institutions and lower-income countries (Gray, 2020). In this context, initiatives such as granting waivers for authors based on low-GDP countries or who justify limited funding to cover Article Publishing Charges may alleviate any potential inequalities created by the OA model while ensuring that science is fully accessible.

In 2019, *Diversity and Distributions* switched to an OA publishing model (Burns et al., 2019), followed by the reorganization of the editorial team led by Kevin Burns, Luca Santini, and Aibin Zhan as senior editors. The new editorial team considers that *Diversity and Distributions* would largely benefit from an expanded senior team with different research backgrounds, and diverse visions and expertise. Currently, the senior editorial team is led by Luca Santini, Aibin Zhan, Céline Bellard, Orly Razgour, and Ana Benítez-López, who work closely with 48 Associate Editors from all around the globe and with Wiley staff to ensure that *Diversity and Distributions* continues to be a prestigious leading journal in the categories of Biodiversity Conservation and Ecology.

The Wiley transition to gold OA in 2019 has largely boosted *Diversity and Distributions's* scientific influence and overall reach among the academic world, conservation practitioners, policy makers, science communicators, and members of the public. This can be readily seen from the substantial increase in downloads from 268 K in 2018 to 1.09 M in 2021 and the increase in 2-year citations from 955 in 2018 to 1720 in 2021. After the transition to OA, the journal became fully accessible to readers. To ensure it does not become off-limits to many potential authors who could not afford the article publishing charges, we initiated an inclusive waiver policy that supports authors irrespective of their geographic origin or their available funding. In the light of new transformational agreements of many countries and institutions with Wiley (2022), the new editorial policy on waivers was revised in 2021. During that year, 10 waivers were issued for the 185 papers eventually published by the journal (of which 3 were for associate editors), which is a significant decrease

compared to the 19 (3 for associate editors) issued the previous year. This indicates that transformational agreements are providing authors with the possibility to publish OA, but it may also indicate a decrease in submissions from countries that lack such agreements. Starting from 1st May 2022, Wiley decided to streamline the waiver process by allocating a predefined number of waivers per year (e.g., 20 in 2022). Authors can continue to request a waiver to publish their research in *Diversity and Distributions* if no funding is available. If more than the set number of waivers are approved in one calendar year, Wiley will honour any additional waivers above the threshold should the paper(s) be accepted for publication, but exceeding this threshold will trigger another review process to readjust the number of waivers granted per year. Additionally, *Diversity and Distributions* editors will continue to receive one waiver per calendar year in addition to the allocated waivers as long as they are the corresponding authors of the manuscript. Our current waiver policy thus ensures that (i) *Diversity and Distributions* editors are acknowledged for their contribution as assessors of the scientific quality of the manuscripts we receive, and (ii) that authors submitting high-quality science will continue to publish in *Diversity and Distributions* regardless of whether they can afford the article publishing charges, which helps thus ameliorate previous claims of academic elitism and colonial science (Burgman, 2019; Peterson et al., 2019).

3 | OPEN DATA POLICY

Recent high-profile cases of scientific misconduct through data fabrication and p-hacking have emphasized the need to make science as transparent as possible (O'Dea et al., 2021). Wiley is currently moving towards minimum standards of open data policy for all journals, and journals are currently developing their own standards. As part of *Diversity and Distributions's* commitment to a more open research landscape that facilitates reproducibility and verification of data, the journal has adhered to the Mandates Data Sharing policy, which requires that authors provide access to the data underlying their paper as a condition for publication. The reasons behind the push for open data are two-fold, to ensure the reproducibility of science and to make data available for future studies. Therefore, the data shared should not simply allow replicability but also be reusable, e.g. species names cannot be anonymized even if the analysis of the study is fully replicable without species names. Making data available is particularly important for the progress of biogeography and macroecology that rely on vast biodiversity databases. Since some data are of public access, non-public data become particularly precious for authors who avoid direct competition. However, while this may be advantageous for researchers, it goes against the progress of science and conservation. Besides, authors should not see data as their property, because typically, data collection has been funded with public money, so publications should not only produce results but also the data generated to foster new research (Gomes et al., 2022).

Locality and environmental data are expected to be provided at the same resolution at which the research has been conducted.

However, concerns have been expressed regarding the release of locality data for species at risk of extinction (Lindenmayer & Scheele, 2017). If sharing the species locality data might exacerbate the exposure of a species to certain threats, authors should get in contact with the editor prior to submission to discuss alternative options. For instance, coordinates can be provided at a coarser resolution, which does not allow the identification of the specific location in the field, but still enables researchers to reuse those data for future research. Under this specific exemption of data sharing, the authors will need to justify the status of the species in the data accessibility statement (e.g. citing the relevant agreements or laws protecting the species). Note that a threatened status does not automatically qualify a species for data-sharing exemption because species may be threatened by a variety of factors that would not be exacerbated by data sharing. Besides, threats may vary across the species' geographic range.

Diversity and Distributions has partnered with Dryad as the main repository where the authors can archive the dataset supporting the results in their paper and covering the full costs up to 50 Gb of data storage. We also accept storage in other appropriate public repositories as long as they provide comparable access and guarantee of preservation. Authors are required to provide a data availability statement, including a link to the repository they have used, which, for citation purposes, should have an associated Digital Object Identifier (doi). We also encourage authors to share the scripts and other tools used to generate the analyses presented in the paper to promote research accessibility, reproducibility, and reusability. Since the Mandates Data Sharing policy was adopted in 2020, we have had requests from authors for data sharing exemption by referring to previously published papers in *Diversity and Distributions* that did not provide an appropriate data availability statement. This has prompted us to revise our Open Data policy to clarify the circumstances under which exemptions might be granted. Note that (i) all data used in the study should be made available (public or private data), (ii) data only available upon request from the authors or any other organization is not acceptable, and that (iii) the data provided must be immediately accessible by the community upon publication without embargo to ensure confidence and reproducibility of results upon publication. With these final clarifications we hope that *Diversity and Distributions*'s commitment to data sharing is fully embraced by prospective authors and can help promote wider adoption of open data-sharing standards in the fields of ecology, biogeography, and conservation biology.

4 | CONCLUDING REMARKS AND LOOK TO THE FUTURE

In this editorial, we outline the current scope of *Diversity and Distributions*, the transition to Open Access and associated waiver policy, and the reasoning behind the new data accessibility policy. The guidelines provided in this editorial are dynamic and will be subject to change to adapt to new developments in the field of


conservation biogeography and in the publishing system. For example, *Diversity and Distributions* is now participating in an initiative on Peer Review Transparency which gives authors the option to have their papers reviewed under the transparent peer review model. By submitting to *Diversity and Distributions*, authors agree that if the article is accepted, the reports of the reviewers, the responses of the authors, and the editor's decision letter will be linked from the published article to where they appear on Publons. Authors will have the opportunity to opt out during submission, and reviewers may remain anonymous unless they would like to sign their report. This ensures a greater accountability in the peer-review process and recognition for the work of peer reviewers and editors. *Diversity and Distributions* is currently pioneering the transition to Open Access, Transparent Peer Review, and mandating open data sharing. While some of our requests might seem stringent and challenging for researchers using private data owned by companies or NGOs, we are confident that they will become the norm in the short- to mid-term, with many other journals adhering to the same principles. These and other initiatives that promote transparency, full data accessibility, accountability and recognition of authors, reviewers and editors are dramatically shifting the academic publishing landscape towards more open research. We will continue along this path in *Diversity and Distributions* to maintain its status as a prominent outlet in the fields of Ecology and Biodiversity Conservation.

CONFLICT OF INTEREST

The authors declared no conflict of interest for this article.

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