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Title

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Journal

Frontiers of Biogeography, 5(2)

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Publication Date

2013

DOI

10.21425/F5FBG19023

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Whither biogeography, and whence? Bringing our subject together

Biogeography encompasses the study of all patterns of life on Earth in both space and time. As such, although it is typically classified within 'Ecology and Evolution' (e.g. Figure 1), it is arguably broader than its category; certainly it extends beyond. Biogeography represents one of the most transdisciplinary (and often interdisciplinary) fields within science, for it merges information from current environment and distribution of species with palaeontological and molecular data on their historical distribution and evolutionary relationships, as well as information about the geological evolution of islands and continents, and past and future trends in climate. Biogeographers use information from all these fields of science, illustrated by the fact that both *Global Ecology and Biogeography* and *Journal of Biogeography* are classified within the Physical Geography category of Thomson Reuters' JCR¹, which is predominantly 'Geosciences' (see Figure 1). There are increasingly frequent links with journals specializing in computer science, climatology, microbiology and geophysics (mostly not captured by Figure 1, which uses a dataset ending in 2005). Research in biogeography, then, is not only broad but also highly diverse.

The great diversity of approaches to research in biogeography is reflected by the general aim of the *International Biogeography Society* (IBS) of fostering communication between researchers working on all aspects of biogeography. Apart from *Frontiers of Biogeography*—which is an integral part of the IBS strategy along with the blog², twitter³ and facebook⁴ pages—a key tool used by the IBS for strengthening links between biogeographers is international conferences. During the next six months there will be two international IBS meetings: the *IBS Special Meeting on the Geography of Species Associations*⁵ (Montreal, 15–17 November 2013) and the *IBS Early Career*

*Conference 2014*⁶ (Canberra, 08–10 January 2014). More information on these conferences is in the announcements section of this issue. The 'main', biennial conference—the *IBS International Meeting*⁷—is perhaps the main event in many biogeographers' calendars. It aims to bring together researchers from all fields within biogeography, who present their most exciting and cutting-edge research. The abstract book of the last IBS conference (Hortal et al. 2012) provides an overview of the wide variety of topics, study subjects and methodological approaches used by biogeographers, though some subjects were under-represented (e.g. deep-time biogeography). This conference is therefore the best showcase for the subject as a whole, and an excellent opportunity to get up to date with the latest advances across its breadth. But is also a place for discussion; both the symposia and the parallel sessions that are held during the conference are intended to allow scientific debate and set up the basis of future research in biogeography. Needless to say, many personal meetings over a coffee or (more frequently, to tell the truth) a beer are also an integral part of this process. This makes the IBS biennial conference the perfect melting pot for the research ideas that will drive our science forward through the next years.

Frontiers of Biogeography has previously tried to provide an update of the IBS conferences through symposium summaries that covered the main discussions and trends in each session (Dawson et al. 2011; see e.g. Jenkins and Ricklefs 2011; Sfenthourakis and Svenning 2011). But in this issue, for the Miami meeting held in January 2013, we are offering something quite different. Rather than collecting a series of separate summaries of the discussions held in the meeting, Michael Dawson has coordinated the chairpeople from all the sessions (symposia and parallel ses-

1 <http://thomsonreuters.com/journal-citation-reports/>

2 <http://biogeography.blogspot.co.uk/>

3 <https://twitter.com/Biogeography>

4 <https://www.facebook.com/groups/6908354463/>

5 <http://ibsmontreal.webs.com/>

6 <http://www.biogeography.org/html/Meetings/2014ECC/>

7 <http://www.biogeography.org/html/Meetings/index.html>

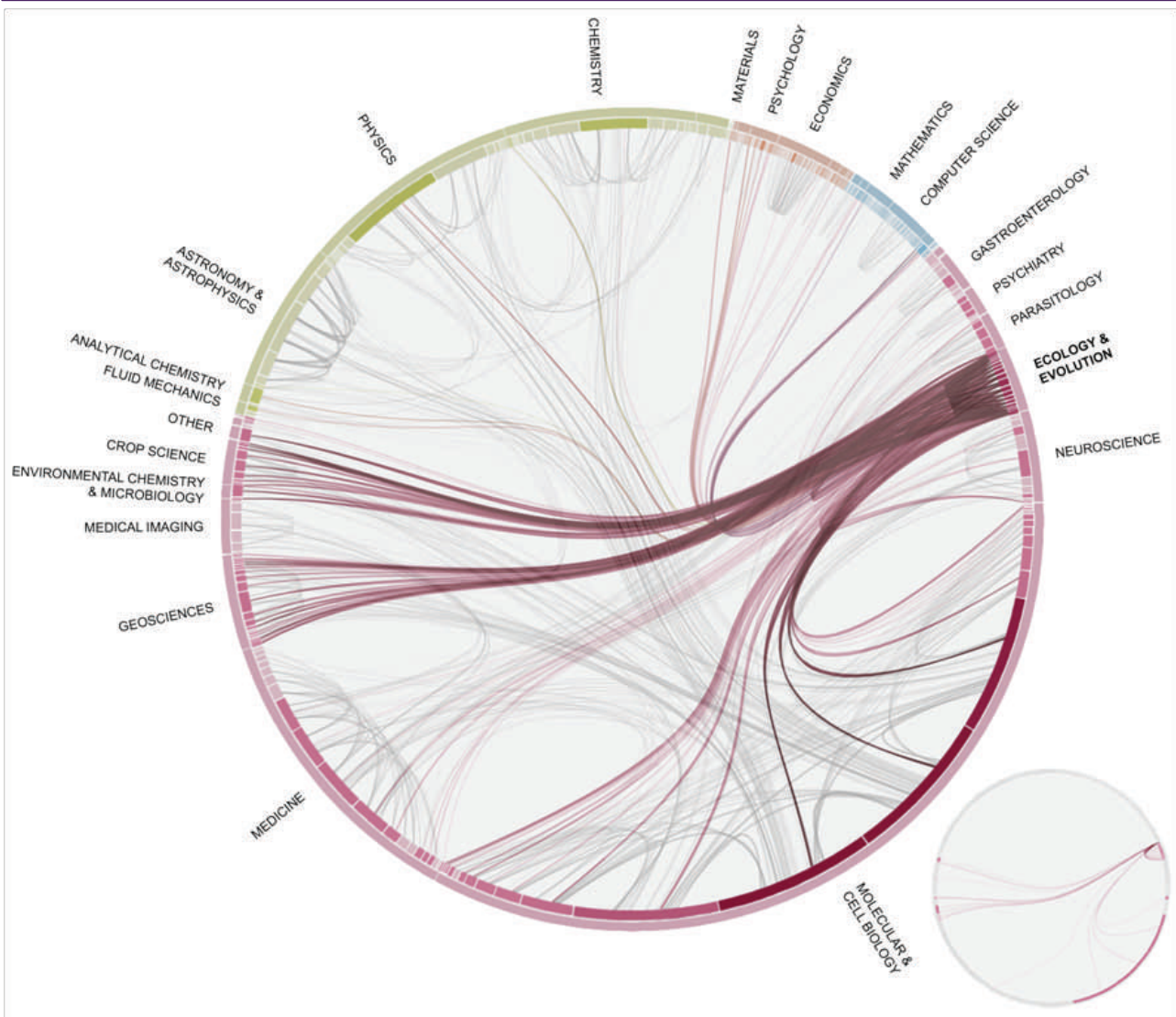


Figure 1. Journal-to-journal citation linkages with the field ‘Ecology and Evolution’, including biogeography, in the scientific literature for the period 1997–2005, using data from the Web of Knowledge⁸ JCR Science Edition and the method set out by Rosvall and Bergstrom (2008). Taken from Well-formed.eigenfactor.org⁹. The scientific fields are shown by the outer ring, proportional to their ‘Eigenfactor’ score, and labelled. The inner ring shows 25 leading journals in each field (judged primarily by their ‘Article Influence’ scores in 2005), again scaled by their Eigenfactor score. Links in grey show the top 1,000 journal-to-journal citation links within science, based on the 25 journals from each field. The main ‘trunk’ of this citation tree in grey comes from the three journals coloured dark burgundy (bottom-right)—*Nature*, *Science* and *Proceedings of the National Academy of Sciences of the USA*, all of which are classed as ‘Molecular and Cell Biology’ journals by the metrics used. Links highlighted in burgundy all emanate from the ‘Ecology and Evolution’ field, and illustrate the journal-to-journal citation links for the 25 selected journals in this field, which are approximately those heading the list for the ‘Ecology’ subject category in the JCR Science Edition. Of these, the only ‘biogeography journal’ is *Global Ecology & Biogeography* (*GEB*, inset bottom right¹⁰). The ‘Ecology and Evolution’ research field of Thomson Reuters includes topics commonplace in biogeography¹¹. The biogeography journals (*GEB*, *Diversity & Distributions*, *Ecography* and *Journal of Biogeography*) are all classed by JCR as both ‘Ecology’ and either ‘Geography, Physical’ or ‘Biodiversity Conservation’. Journal-to-journal links specific to *GEB* (inset) are mainly with journals within ‘Ecology and Evolution’ and ‘Geosciences’, but also ‘Molecular and Cell Biology’, ‘Crop Science’ and ‘Environmental Chemistry and Microbiology’.

⁸ <http://admin-apps.webofknowledge.com/JCR/JCR?RQ=HOME>

¹⁰ <http://well-formed.eigenfactor.org/radial.html#/?id=2290>

⁹ <http://well-formed.eigenfactor.org/radial.html>

¹¹ <http://archive.sciencewatch.com/about/met/fielddef/>

sions) to scan what is currently being researched in biogeography (Dawson et al. 2013). Perhaps more importantly, Dawson et al. (2013) try to characterize the relationships with other scientific disciplines and set out the future prospects of biogeographical research. In a sense, the article tries to articulate who we are, where we come from and where are we going. The paper provides a necessarily light (though still quite lengthy) digest on the current situation of biogeography; an in-depth perspective on all aspects of biogeographical research would require at least a mid-sized book. Despite not being exhaustive, Dawson et al. (2013) offer perhaps the most comprehensive review of current trends in biogeography written in the last few years. This includes stronger representation of marine biogeography than is common, though we note that Cox & Moore's (2010) eighth edition contains a chapter dedicated to this field of research, partly redressing the lack of coverage in biogeography textbooks.

But biogeography is not only a cutting-edge discipline. After decades, if not centuries, of research on the geography of nature, many biogeographical topics have developed strong foundations. These serve as good starting-points for newcomers, who may also bring fresh approaches to the study of old biogeographical questions or supposedly well-known regions. In this issue, we are also celebrating the birth of the *biogeography compendium*, a section aiming to provide handy reviews of the basics for key general research topics in our subject, or of biogeographical knowledge of specific regions or taxa. We leave Roy Erkens, the editor of this section of *Frontiers of Biogeography*, to explain the motivations and intentions of this new section (Erkens 2013). Even so, we cannot resist pointing to the nice kick-off of the section provided by Malhado et al. (2013), which reviews what is known about the macroecological patterns within Amazonia, in the light of the relationships between trees and soil and

climate. This represents another good example of the transdisciplinary nature of biogeography.

Acknowledgements

We thank Mike Dawson for providing us with the figure and bibliographic research presented in Figure 1.

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The abstract book of the 6th IBS Biennial Meeting is already available at <http://escholarship.org/uc/item/3kb4c5jr> and <http://www.biogeography.org/html/Meetings/2013/program.html>.