

UC Merced

Frontiers of Biogeography

Title

Re-articulation and re-integration of publications: monographs in biogeography

Permalink

<https://escholarship.org/uc/item/1r69v6t1>

Journal

Frontiers of Biogeography, 6(2)

Authors

Lomolino, Mark V.
Field, Richard

Publication Date

2014

DOI

10.21425/F5FBG22930

Copyright Information

Copyright 2014 by the author(s). This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

Re-articulation and re-integration of publications: monographs in biogeography

Biogeography—the study of all patterns in geographic variation, from the characteristics of individuals to those of communities, ecosystems and biotas of entire regions, continents and ocean basins—is arguably one of the most inclusive and integrative disciplines of all the natural sciences. Yet we as biogeographers are no less subject to the siren's call and, more pragmatically, the tenure- and promotion-related pressures to publish in quantity than are our colleagues in other fields. At least in some academic circles, a book, monograph or extensive review paper is deemed no more significant than are more focused research articles. This disincentive from publishing a more limited number of expanded works clearly flies in the face of the continuing and, we believe, intensifying calls for reintegration of biogeography (e.g. Lomolino and Heaney 2004, pp. 1–3). Perhaps compounding this is the lack of any outlet for expanded reviews and monographs specific to biogeography.

A limited review of the bibliography of one of the current biogeography texts (Lomolino et al. 2010) reveals over 35 monographs and over 90 reviews on biogeography and related subjects, many of these being seminal or otherwise important works that strongly influenced the development of our field (Table 1). Perhaps most notable among these are the reviews and monographs by Philip Darlington (1938) and Sherwin Carlquist (1966) on long-distance dispersal and insular biotas, by Robert MacArthur and Edward Wilson (1967) articulating their equilibrium theory of island biogeography, and on geographic gradients and clines in species and ecological communities by John Endler (1977), Howard Odum (1957), Eric Pianka (1966), Robert MacArthur (1965) and Robert H. Whittaker (1967). Not one of the works listed in Table 1, however, was published in a biogeography journal, the main reason simply being that such expansive works do not fit the format of these journals.

Despite the deep history (including the seminal works of Darwin, Wallace and von Hum-

boldt) and continuing influence of monographs in book form, and the sustained success of expanded-format journal publication series (e.g. *Ecological Monographs*, *Quarterly Review of Biology* and *Annual Reviews*), the trend over recent decades has been toward shorter and shorter articles. The pitfalls of this include relegating much of the otherwise essential descriptions of methods and detailed results to supplementary material (SM). It is now common in biogeography for the SM to be very lengthy, often longer than the paper itself. It can be helpful, particularly for non-specialists, for the more technical details to be omitted from the main text, but available if required (i.e. in the SM; *Nature* and *Science* are good examples). But when biogeographers are writing for biogeographers, we often have to read SM in parallel with the main paper in order to make sense of the research. What of the quality? The SM is typically much less rigorously peer reviewed, if at all, and is rarely scrutinised by copy-editors. Often it is much longer than it needs to be: ironically, in the drive for brevity, the result is often long-winded, rambling and inaccurate passages in the SM, taking much longer to interpret (or give up on) than a properly scrutinised, longer paper.

The pitfalls also include salami slicing—splitting what should have been one extensive, integrative thesis into bite-sized, partially redundant articles, where the now disarticulated contributions just don't sum up (see also Marhold and Stuessy 2013). We shudder to imagine MacArthur and Wilson being forced to publish their seminal monograph in eight separate papers (i.e. one for each chapter). It is worth noting that Robert MacArthur, recognizing the value of integrative reviews and monographs, was instrumental in establishing the distinguished series *Monographs in Population Biology*, becoming its inaugural editor with its first contribution being *The Theory of Island Biogeography* (MacArthur and Wilson, 1967).

The International Biogeography Society and, in particular, the editors of *Frontiers of Biogeography* have decided to follow MacArthur's lead and

Table 1. A far-from-exhaustive sample of influential monographs and reviews in biogeography and related disciplines published over the past century. It includes many of the seminal works in our field.

- Abbott, I., L. K. Abbott and P. R. Grant. 1977. Comparative ecology of Galapagos ground finches (*Geospiza* Gould): Evaluation of the importance of floristic diversity and interspecific competition. *Ecological Monographs* 47: 151–184.
- Adler, G. H. and R. Levins. 1994. The island syndrome in rodent populations. *The Quarterly Review of Biology* 69: 473–490.
- Awise, J. C., J. Arnold, R. M. Ball, E. Bermingham, T. Lamb, J. E. Neigel, C. A. Reeb and N. C. Saunders. 1987. Intraspecific phylogeography—The mitochondrial-DNA bridge between population-genetics and systematics. *Annual Review of Ecology and Systematics* 18: 489–522.
- Boucher, D. H., S. James and K. Kesler. 1984. The ecology of mutualism. *Annual Review of Ecology and Systematics* 13: 315–347.
- Brown, J. H., G. C. Stevens and D. M. Kaufman. 1996. The geographic range: Size, shape, boundaries and internal structure. *Annual Review of Ecology and Systematics* 27: 597–623.
- Bush, G. L. 1975. Modes of animal speciation. *Annual Review of Ecology and Systematics* 6: 339–364.
- Carlquist, S. 1966. The biota of long-distance dispersal. I. Principles of dispersal and evolution. *The Quarterly Review of Biology* 41: 247–270.
- Carson, H. L. and A. R. Templeton. 1984. Genetic revolutions in relation to speciation phenomena: The founding of new populations. *Annual Review of Ecology and Systematics* 15: 97–131.
- Carson, H. L. and K. Y. Kaneshiro. 1976. *Drosophila* of Hawaii: Systematics and ecological genetics. *Annual Review of Ecology and Systematics* 7: 311–346.
- Cody, M. L. and H. A. Mooney. 1978. Convergence vs. nonconvergence in Mediterranean-climate ecosystems. *Annual Review of Ecology and Systematics* 9: 265–321.
- Connor, E. F. and D. Simberloff. 1978. Species number and compositional similarity of the Galàpagos flora and avifauna. *Ecological Monographs* 48: 219–248.
- Darlington, P. J. Jr. 1938. The origin of the fauna of the Greater Antilles, with discussion of dispersal of animals over water and through the air. *The Quarterly Review of Biology* 13: 274–300.
- Dayton, P. K. 1971. Competition, disturbance and community organization: The provision and subsequent utilization of space in a rocky intertidal community. *Ecological Monographs* 41: 351–389.
- Endler, J. A. 1977. *Geographic Variation, Speciation and Clines*. Monographs in Population Biology, no. 10. Princeton, NJ: Princeton University Press.
- Estes, J. A. and D. O. Duggins. 1995. Sea otters and kelp forests in Alaska: Generality and variation in a community ecology paradigm. *Ecological Monographs* 65: 75–100.
- Hallam, A. 1984. Pre-Quaternary sea-level changes. *Annual Review of Earth and Planetary Sciences* 12: 205–243.
- Horn, H. S. 1974. The ecology of secondary succession. *Annual Review of Ecology and Systematics* 5: 25–37.
- Jablonski, D. 2008b. Species selection: Theory and data. *Annual Review of Ecology, Evolution, and Systematics* 39: 501–524.
- Lomolino, M. V. and J. H. Brown. 2009. The reticulating phylogeny of island biogeography theory. *The Quarterly Review of Biology* 84: 357–390.
- Lubchenco, J. and B. A. Menge. 1978. Community development and persistence in a low rocky intertidal zone. *Ecological Monographs* 48: 67–94.
- MacArthur, R. H. 1965. Patterns of species diversity. *Biological Reviews* 40: 510–533.
- MacArthur, R. H. and E. O. Wilson. 1967. *The Theory of Island Biogeography*. Monographs in Population Biology, no. 1. Princeton, NJ: Princeton University Press.
- Mayr, E. 1944a. Wallace's Line in the light of recent zoogeographic studies. *The Quarterly Review of Biology* 19: 1–14.
- Menge, B. A., E. L. Berlow, C. A. Blanchette, S. A. Navarrete and S. B. Yamada. 1994. The keystone species concept: Variation in interaction strength in a rocky intertidal habitat. *Ecological Monographs* 64: 249–286.
- Odum, H. T. 1957. Trophic structure and productivity of Silver Springs, Florida. *Ecological Monographs* 27: 55–112.
- Pianka, E. R. 1966. Latitudinal gradients in species diversity: A review of concepts. *The American Naturalist* 100: 33–46.
- Schoener, T. W. 1975. Presence and absence of habitat shift in some widespread lizard species. *Ecological Monographs* 45: 233–258.
- Simberloff, D. S. 1974a. Equilibrium theory of island biogeography and ecology. *Annual Review of Ecology and Systematics* 5: 161–182.
- Templeton, A. R. 1981. Mechanisms of speciation: A population genetic approach. *Annual Review of Ecology and Systematics* 12: 23–48.
- Whittaker, R. H. 1956. Vegetation of the Great Smoky Mountains. *Ecological Monographs* 22: 1–44.
- Whittaker, R. H. 1960. Vegetation of the Siskiyou Mountains, Oregon and California. *Ecological Monographs* 30: 279–338.
- Whittaker, R. H. 1967. Gradient analysis of vegetation. *Biological Reviews* 42: 207–264.
- Whittaker, R. J., M. B. Bush and K. Richards. 1989. Plant recolonization and vegetation succession on the Krakatau Islands, Indonesia. *Ecological Monographs* 59: 59–123.
- Wiens, J. J. and C. H. Graham. 2005. Niche conservatism: Integrating evolution, ecology, and conservation biology. *Annual Review of Ecology, Evolution, and Systematics* 36: 519–539.
- Wiley, E. O. 1988. Vicariance biogeography. *Annual Review of Ecology and Systematics* 19: 513–542.
- Willig, M. R., D. M. Kaufman and R.D. Stevens. 2003. Latitudinal gradients of biodiversity: Pattern, process, scale and synthesis. *Annual Review of Ecology, Evolution and Systematics* 34: 272–309.
- Willis, E. O. 1974. Populations and local extinctions of birds on Barro Colorado Island, Panamá. *Ecological Monographs* 44: 153–169.

encourage more expanded contributions specific to biogeography by modifying the journal's format to include monographs and expanded reviews in biogeography. In talking to colleagues, we have increasingly noticed the desire for an outlet in biogeography for substantial articles that would suffer if shoe-horned into 5,000 to 7,000 words, but which do not merit an entire book. In response to this, the journal's management team will accept submissions of monograph-sized contributions, beginning immediately, and is now amending the Instructions for Authors to include this important expansion of format. In the meantime, if you have ideas, suggestions, or questions regarding monographs, including how to submit them, please contact the editorial board at frontiersofbiogeography@gmail.com.

Mark V. Lomolino¹ and Richard Field²

¹College of Environmental Science and Forestry, Syracuse, New York, USA 13210. island@esf.edu

²School of Geography, University of Nottingham, NG7 2RD, UK. richard.field@nottingham.ac.uk

References not in Table 1

- Lomolino, M. V. & Heaney, L.R. (2004) *Frontiers of biogeography: new directions in the geography of nature*. Sinauer Associates, Sunderland, Massachusetts.
- Lomolino, M.V., Riddle, B.R., Whittaker, R.J. & Brown, J.H. (2010). *Biogeography*, 4th edition. Sinauer Associates, Sunderland, Massachusetts.
- Marhold, K. & Stuessy, T. (eds.) in collaboration with Agababian, M., Agosti, D., Alford, M.H., et al. (2013) *The future of botanical monography: report from an international workshop, 12–16 March 2012, Smolenice, Slovak Republic*. *Taxon*, 62, 4–20.

Your participation in **frontiers of biogeography** is encouraged. Please send us your articles, comments and/or reviews, as well as pictures, drawings and/or cartoons. We are also open to suggestions on content and/or structure.

Please check <http://www.biogeography.org/html/fb.html> for more information, or contact us at ibs@mncn.csic.es and frontiersofbiogeography@gmail.com.