



A new data archiving policy for *Biotropica*

Emilio M. Bruna^{1,2,7}, Marielos Peña-Claros^{3,4}, Bryan Finegan⁵, and Beth A. Kaplin⁶

¹ Department of Wildlife Ecology and Conservation, University of Florida, Gainesville, FL, U.S.A.

² Center for Latin American Studies, University of Florida, Gainesville, FL, U.S.A.

³ Forest Ecology and Forest Management Group, Wageningen University and Research Centre, Wageningen, the Netherlands

⁴ Instituto Boliviano de Investigación Forestal (IBIF), Santa Cruz de la Sierra, Bolivia

⁵ Production and Conservation in Forests Programme, Tropical Agricultural Centre for Research and Higher Education (CATIE), 7170 Cartago, Turrialba 30501, Costa Rica

⁶ Center for Tropical Ecology and Conservation, Department of Environmental Studies, Antioch University New England, 40 Avon Street, Keene, NH 03431, U.S.A.

RECENT YEARS HAVE SEEN AN UPSURGE IN THE VALUE PLACED BY THE SCIENTIFIC COMMUNITY on archiving in permanent repositories the data that serve as the foundation of published articles. Many reasons have been put forward for why archiving data are valuable (Bruna 2010, Whitlock *et al.* 2010, Wenburg 2011), with some of the most compelling including:

1. **Reduced Data Loss:** Data are irreplaceable and can be lost to the scientific community due to accidents or when researchers leave the field for reasons ranging from career changes to retirement (Michener *et al.* 1997, Vines *et al.* 2014).
2. **Reuse for New Analyses:** Archived data can be used in meta-analyses, to address novel questions beyond those for which they were originally collected, or be analyzed with methods unavailable when the data were first collected or the original article was published. Archived data also provide an invaluable baseline for analyzing long-term trends—clearly a critical concern for tropical ecosystems.
3. **Availability to Conservation Professionals and Decision-makers:** The data collected by *Biotropica's* authors provide an invaluable resource to scientists and decision-makers studying global change phenomena and designing conservation and management strategies.
4. **Increasing author and article impact:** Papers with archived data have more impact in the community, evidenced by the fact that they are more often cited by other scientists (Piwo-war *et al.* 2007). Datasets can be listed on *curriculum vitae*, and one can get quantifiable metrics of their impact including number of downloads and citations.
5. **Capacity building:** Archived data can play a critical role in training students and early career scientists—students and postdoctoral researchers with limited financial resources can do high quality research as long as they have access to a computer with an Internet connection. As such they are a very

cost-efficient means of increasing a country's scientific productivity and developing a cadre of highly trained and productive postdoctoral scientists.

6. **Increased transparency:** Publicly archiving data could help assuage concerns regarding the export of intellectual property, 'biopiracy', and the failure to include local scientists in data collection efforts that often plague foreign scientists working in tropical countries (Stocks *et al.* 2008). They can also be used to verify results, correct mistakes, and detect fraud.
7. **Meeting funder and government mandates:** It is the policy of many government agencies that 'data obtained through public funding are a public trust' (U.S. Department of Energy Office of Science 2015) and must therefore be made publicly available by grantees. By encouraging and facilitating the archiving of data, journals can play a role in helping researchers meet the reporting requirements of funding agencies and the ethical obligations they have to the citizens that finance their scientific endeavors. This policy helps authors comply with the mandates of the countries in which they do their research.

In the light of these important benefits to the scientific community, the Editorial Board of *Biotropica* has voted to implement the Data Archiving Policy described below for all manuscripts submitted after January 1, 2016. This policy is an important and exciting step forward for *Biotropica*. We join an elite group of journals in our field that mandate data archiving, including *The American Naturalist*, *Oikos*, and the journals of the British Ecological Society, but in a way that meets the needs of our unique community of authors. First, our policy includes a generous embargo period of up to 3 yr to ensure authors have ample time to publish multiple papers from more complex or long-term datasets. Second, our policy includes something unique—language explicitly encouraging 'Data Users' to engage intellectually in true collaboration with 'Data Generators'. Finally, the non-profit and NSF-supported Data Dryad (<http://datadryad.org/>) was designed with ecological and evolutionary data in mind, is easily integrated

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⁷Corresponding author; e-mail: embruna@ufl.edu

with our publisher's manuscript submission system, and is the repository of choice for many journals in environmental biology. While authors are free to archive in any repository that ensures data will be permanently archived, *Biotropica* will provide partial or complete waivers to offset the costs of archiving in Dryad to authors that cannot afford to do so.

In closing we would like to thank the Editorial Board for its bold action in developing and implementing this policy, and we hope you will agree it is an important step in the right direction for *Biotropica*, our authors, and the advancement of tropical biology.

Biotropica Data Archiving Policy (Effective 1 January 2016): *Biotropica* requires, as a condition for publication, that the data supporting the results in the paper and metadata describing them must be archived in an appropriate public archive such as Dryad (<http://datadryad.org>), Figshare (<http://figshare.com>), GenBank (<http://www.ncbi.nlm.nih.gov/genbank/>), TreeBASE (<http://www.treebase.org>), or NCBI (<http://www.ncbi.nlm.nih.gov/sra>). Authors may elect to make the data publicly available as soon as the article is published or, if the technology of the archive allows, embargo access to the data up to 3 yr after article publication. A statement describing Data Availability will be included in the manuscript as described in the instructions to authors. Exceptions to the required archiving of data may be granted at the discretion of the Editor-in-Chief for studies that include sensitive information (e.g., the location of endangered species).

Our Editorial explaining the motivation for this policy can be read at <http://onlinelibrary.wiley.com/doi/10.1111/j.1744-7429.2010.00652.x/abstract>. A more comprehensive list of data repositories in which data can be archived is available at http://oad.simmons.edu/oadwiki/Data_repositories.

Promoting a culture of collaboration with researchers who collect and archive data: The data collected by tropical biologists

are often long-term, complex, and expensive to collect. The Board of Editors of *Biotropica* strongly encourages authors who reuse archived datasets to include as fully engaged collaborators the scientists who originally collected them. We feel this will greatly enhance the quality and impact of the resulting research by drawing on the data collector's profound insights into the natural history of the study system, reducing the risk of errors in novel analyses, and stimulating the cross-disciplinary and cross-cultural collaboration and training for which the ATBC and *Biotropica* are widely recognized.

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