Renata M. Diaz

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(970) 978-7989 School of Biology and Ecology, University of Maine, Orono, ME

Research interests

Integrating pattern and process in biodiversity science; cross-disciplinary applications of complex systems theory; open-source and reproducible scientific research; building diverse and inclusive communities in computational and field biology

Education

PhD – Interdisciplinary Ecology — University of Florida
Advisor: S. K. Morgan Ernest — 2022
Dissertation: Of rodents and randomness: macroecological approaches to community structure

A.B – Ecology and Evolutionary Biology, high honors — Princeton University
Certificate in Environmental Studies — 2015
Senior thesis: Herbivore-mediated effects of small mammals on the spatial distribution of savanna trees. Awarded Leslie Kilham Johnson Memorial Award for an outstanding thesis in tropical ecology.

Employment

NSF-PRFB Postdoctoral Fellow, University of Maine — 2022-present

Graduate Assistant, University of Florida — 2020-2022

NSF-GRFP Predoctoral Fellow, University of Florida — 2017-2020

GIS Intern, Missouri Botanical Garden — 2017

Field Intern, Ecology of Bird Loss Project — 2016

Research Assistant, Yale University — 2015-2016

Funding

NSF Postdoctoral Research Fellowship in Biology — 2022-2024

NSF Graduate Research Fellowship — 2017-2022

UF School of Natural Resources & Environment Travel Award — 2021

Publications

R. M. Diaz and S. K. M. Ernest. Maintenance of community function through compensation breaks down over time in a desert rodent community. *Ecology* 103(7): e3709. https://doi.org/10.1002/ecy.3709.

R. M. Diaz, H. Ye, S. K. M. Ernest (2021). Empirical abundance distributions are more uneven than expected given their statistical baseline. *Ecology Letters,* 2021;00:1-15. https://doi.org/10.1111/ele.13820

E. M. Christensen, G. M. Yenni, H. Ye, J. L. Simonis, E. K. Bledsoe, R. M. Diaz, S. D. Taylor, E. P. White, S. K. M. Ernest (2019). portalr: an R package for summarizing and using the Portal Project Data. *Journal of Open Source Software*, 4(33), 1098, https://doi.org/10.21105/joss.01098

G. M. Yenni, E. M. Christensen, E. K. Bledsoe, S. R. Supp, R. M. Diaz, E. P. White, S. K. M. Ernest (2019). Developing a modern data workflow for regularly updated data. *PLoS Biol* 17(1): e3000125. https://doi.org/10.1371/journal.pbio.3000125

In prep

R. M. Diaz and S. K. M. Ernest. Shifts in the individual size distribution decouple the dynamics of abundance, biomass, and energy use in North American breeding bird communities. In prep.

A. J. Rominger, I. Overcast, R. M. Diaz, H. Krehenwinkel, R. G. Gillespie, J. Harte, M. J. Hickerson. Linking null models in evolutionary and ecological with high throughput sequencing data to illuminate non-equilibrium biodiversity. In prep.

Software and data products

S. K. M. Ernest, et al. (2018). The Portal Project: a long-term study of a Chihuahuan desert ecosystem. *bioRxiv* 332783, https://doi.org/10.1101/332783

R packages

birdsize — https://diazrenata.github.io/birdsize
Author, maintainer

feasiblesads — https://github.com/diazrenata/feasiblesads
Author, maintainer — https://doi.org/10.5281/zenodo.4710750

MATSS — https://weecology.github.io/MATSS/
Author — https://doi.org/10.5281/zenodo.3333008

LDATS — https://weecology.github.io/LDATS/
Author — https://doi.org/10.5281/zenodo.3286617

portalr https://weecology.github.io/portalr/
Author https://doi.org/10.5281/zenodo.1429290

Teaching experience

Guest lecturer, Ecological and Evolutionary Theory for a Changing World — University of Maine, Fall 2022

TA, Environmental Science Lab. — University of Florida, Fall 2020

Co-instructor, Introduction to R Workshop. — University of Florida Carpentries Club, 2020-present

Writing Center Fellow, Princeton Writing Program — Princeton University, 2012-2015

Mentorship and service

Vice President, UF SNRE Graduate Student Council — 2021-2022

REU student mentor for Brandon Grandison — 2020-2021

Mentor, UF Wildlife Graduate Student Association Mentor Program — 2018-2019

Ad hoc reviewer for *Ecology Letters*; *Journal of Open Source Software* — 2019-present

Presentations

R. M. Diaz. Of rodents and randomness: macroecological approaches to community structure. UF SNRE Seminar Series. Available online. — 2022

R. M. Diaz* and S. K. M. Ernest. Energetic compensation breaks down over time in a desert rodent community. ESA Annual Meeting. **presenting author* — 2021

R.M. Diaz. Shifts in energetic compensation over time in a desert rodent community. UF SNRE Student Research Symposium. Available online. — 2021

R.M. Diaz* and H. Ye. The Portal Project – data workflow for living data. UF Open Data Showcase. **presenting author* — 2019

Scientific communication

"From field to repo – Portal data" for The Portal Project Blog — 2017

"Colony Collapse Disorder" as part of the EEB 321 video series at Princeton University — 2014

Training and workshops

Certified Data Carpentry Instructor, via The Carpentries 2021

Certified Ally Skills Workshop leader, via FrameShift Consulting 2019

Data-driven Ecological Synthesis Intensive course participant, University of Montreal 2019

Skills

Programming tools: R, RMarkdown, Quarto, shiny, python, Jupyter, bash, git and GitHub, high performance computing

Project management tools: Asana, Trello, Microsoft Teams, Google Suite

Leading and conducting field surveys of small mammals and plants, in remote and international settings

References

S. K. Morgan Ernest
Associate Professor, Dept. of Wildlife Ecology and Conservation
University of Florida
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Ethan White
Associate Professor, Dept. of Wildlife Ecology and Conservation
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