Julia Eckberg

Ann Arbor, MI | eckbergj@umich.edu

Education

PhD in Ecology and Evolutionary Biology, University of Michigan 2021-2025
Ann Arbor, Michigan
Thesis: The role of dominant plants, insects, and precipitation in shaping communities and ecosystems. Advisor: Dr. Nathan Sanders

B. A. in Biology, Kenyon College, Gambier, Ohio 2017-2021
Minor in History, *magna cum laude*

Awards and Fellowships

Rackham One-Term Dissertation Fellowship	2024
Institute for Global Change Biology Graduate Fellow	2023-2024
University of Michigan Biological Station Graduate Fellow	2022-2024
Robert Bowen Brown Jr. Award	2021
Awarded Distinction on Senior Thesis	2021
Kenyon College Merit Fellowship	2017-2021

Grants

University of Michigan Biological Station Graduate Student Fellowship Grant ($1,386)
ES George Reserve Graduate Student Scholarship ($4,160.80)
Institute for Global Change Biology Graduate Research Fellowship Grant ($3,000)
Institute for Global Change Biology Graduate Research Fellowship Grant ($7,246.64)
Dr. Nancy Williams Walls Grant for Field Research ($1,975)
University of Michigan Biological Station Graduate Student Fellowship Grant ($5,824)
Ecology and Evolutionary Biology Conference Travel Grant ($400)
William and Flora Hewlett Foundation Travel Grant ($1,150)
Dr. Nancy Williams Walls Grant for Field Research ($1,827)
University of Michigan Biological Station Graduate Student Fellowship Grant ($3,010)

Teaching Experience

Graduate Student Instructor – *General Ecology*, University of Michigan Winter 2024
Graduate Student Instructor – *General Ecology*, University of Michigan Winter 2023
Graduate Student Mentor – *Supervised Teaching*, University of Michigan Winter 2023
Graduate Student Instructor – *Introductory Biology Lab*, University of Michigan Fall 2022
Graduate Student Mentor – *Supervised Teaching*, University of Michigan Fall 2022
Graduate Student Instructor – *Introductory Biology Lab*, University of Michigan Winter 2022
Graduate Student Instructor – *Introductory Biology Lab*, University of Michigan Fall 2021

Research Experience

University of Michigan, Ecology and Evolutionary Biology Fall 2021-Present
PI: Dr. Nathan Sanders

- Investigated the effect of insect herbivory on microclimate, plant species richness, functional traits, and ecosystem function following dominant plant species removal using a field approach at Matthaei Botanical Gardens in Ann Arbor, Michigan
- Tested the interactive effects of altered precipitation and insect herbivores on plant biomass, functional diversity, and functional traits using a field approach at the University of Michigan Biological Station in Pellston, Michigan
- Employed R coding language to analyzed ecological data using univariate and multivariate methods, visualized results for manuscripts and conference presentations

THREE-D Experiment Aurland, Norway 2022
PIs: Dr. Vigdis Vandvik, Dr. Aud Halbritter, and Dr. Brian Enquist

- Developed a data collection strategy in collaboration with researchers around the world to investigate the effects of warming, nitrogen addition, and grazing on plant functional traits in alpine ecosystems within an already established field experiment
- Met monthly to analyze data collected and develop manuscripts following completion of field work in 2022

Kenyon College Fall 2020-Spring 2021
PI: Dr. Jennifer McMahon

- Investigated the plasticity of cyanogenesis in *Sorghum bicolor* in response to environmental stress
- Designed a greenhouse experiment to determine what saline concentration indued stress in *S. bicolor* and quantified the effects of saline stress on cyanogenic potential, visualized results for conference presentations

Kenyon College 2019-Summer 2021
PI: Dr. Andrew Kerkhoff

- Investigated the inverse latitudinal diversity gradient in North and South American bryophytes
- Employed R coding language to extract bryophyte occurrence data from the Botanical Information and Ecology Network in order to model species ranges and identify areas of high bryophyte alpha and beta diversity, visualized results for conference presentations

Publications

1. **Eckberg, J.N**., Hubbard, A.K., Sanders, N.J. *In Prep*. A dominant plant species and insects interactively shape plant community structure and ecosystem above- and below-ground.
2. **Eckberg, J.N**., Barrios-García, M.N., Rodríguez-Cabal, M.A., Sanders, N.J. *In Revision*. Plant functional traits, but not community composition, are affected by summer precipitation and herbivory in an old-field ecosystem.
3. Erkelenz, J., Geange, S., Atkinson, J., Andersen, E.A.S., Correia, M., Ahler, S., Bradler, P.M., Löwenstein, C.E., Elsy, A., Maré, C., Eshelman, S.E., Mauki, D., Guclu, C., **Eckberg, J.N**., Maitner, B.S., Gya, R., Toepper, J., Klanderud, K., Enquist, B., Michaletz, S., Ray, C., von Oppen, J., Padullés Cubino, J., Halbritter, A., Vandvik, V. *In Review*. Intraspecific functional trait responses to experimental warming varies with precipitation and functional groups.

4. Halbritter, A., Atkinson, J., Maré, C., Ahler, S.J., Andersen, E.A.S., Bradler, P.M., Correia, M., Elsy, A., Eschelman, S.E., Geange, S., Hayden, M., Mauki, D., **Eckberg, J.N.**, Erkelenz, J., Guclu, C., Löwenstein, C.E., Maitner, B.S., Baumane, M., Dawson, H.R., Enquist, B., Garen, J.C., Holle, M.J.M., Chacon-Labella, J., Lepley, K., Michaletz, S.T., Olivier, B., Ray, C., von Oppen, J., Telford, R., Vandvik, V. *In Review*. Effects of warming, nitrogen, and grazing on plant functional traits differ between alpine and sub-alpine grasslands.
5. **Eckberg, J.N**., Hubbard, A.K., Sanders, N.J. 2025. A dominant plant species and insects interactively shape plant community structure and an ecosystem function. *Ecosphere* 16(3): e70201.
6. **Eckberg, J.N**., Hubbard, A.K., Schwarz, E.T., Smith, E.T., Sanders, N.J. 2023. The dominant species *Solidago canadensis* structures multiple trophic levels in an old-field ecosystem. *Ecosphere* 14(1): e4393

Presentations

1. **Eckberg, J.N.**, Hubbard, A., & Sanders, N.J. (2025). A dominant plant species and insects interactively shape plant community structure and an ecosystem function. Institute for Global Change Biology Graduate Fellow Symposium. Talk. 01/30/2025.
2. **Eckberg, J.N.**, & Sanders, N.J. (2024). Consumer effects on plant community structure, biomass, and decomposition. University of Michigan Biological Station Student Research Symposium. Poster. 07/18/2024.
3. **Eckberg, J.N.,** Barrios-García, M.N., Rodríguez-Cabal, M.A, & Sanders, N.J. (2023). The independent and interactive effects of summer precipitation and insect herbivory on plant community structure and biomass. Institute for Global Change Biology Symposium. Talk. 10/26/2023.
4. **Eckberg, J.N.,** Barrios-García, M.N., Rodríguez-Cabal, M.A, & Sanders, N.J. (2023). The independent and interactive effects of summer precipitation and insect herbivory on plant community structure and biomass. University of Michigan Biological Station Student Research Symposium. Poster. 07/19/2023.
5. **Eckberg, J.N.,** Hubbard, A., Schwarz, E.T., Smith, E.T., & Sanders, N.J. (2023). The dominant species *Solidago canadensis* structures multiple trophic levels in an old-field ecosystem. Early Career Scientist Symposium. Poster. 03/31/2023.
6. **Eckberg, J.N.,** & Sanders, N.J. (2023). The role of dominant plant species in mediating plant-insect herbivore interactions. Ann Arbor Farm and Garden Association. Talk. 01/12/2023.
7. **Eckberg, J.N.**, & McMahon, J. (2021). Plasticity of *Sorghum bicolor* cyanogenic potential in the face of salt stress. Independent Research Symposium. Lightning Talk. 05/09/2021.
8. **Eckberg, J.N.,** O'Malley, J., Echeverría-Londoño, S., & Kerkhoff, A.J. (2019). Anomalous biodiversity patterns in bryophytes. Kenyon College Summer Scholar Poster Session. Poster. 10/21/2021.

Service and Outreach

ECBAL – Exploring Careers Outside of Academia (and Lunch) 2023-Present

- Coordinate monthly seminar series to connect current graduate students and postdoctoral researchers with University of Michigan Department of Ecology and Evolutionary Biology alumni that have pursued careers outside of academia
- Held 8 seminars in the inaugural year with 160 people in attendance total

ATHENAS – Aiming to Heighten Her Experience Near and Around Science 2017-2021

- Volunteered once a semester with ATHENAS, a program to engage elementary and middle school girls and gender minorities in STEM activities in a fun, outside of the classroom setting
- Demonstrated and explained experiments to participants, assisted participants as they worked through experiments, and participated in a “Meet the Scientist” forum where participants could ask volunteers about their experiences in STEM