Julia Eckberg

Ann Arbor, MI | eckbergj@umich.edu

Education

PhD in Ecology and Evolutionary Biology, University of Michigan 2021-Present
Ann Arbor, Michigan
Advisor: 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 independent and interactive effects of reduced precipitation and the presence of a generalist insect herbivore on plant community composition, functional diversity, functional traits, and productivity by establishing a field experiment 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 the THREE-D 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 expose *S. bicolor* individuals to different levels of salt in order to determine the degree of saline concentration required in order to induce stress and associated effects on cyanogenic potential

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 to model species range maps and identify areas of high bryophyte alpha and beta diversity using R
- Authored one manuscript

Publications

1. **Eckberg, J.N**., Barrios-García, M.N., Rodríguez-Cabal, M.A., Sanders, N.J. *In Review*. Plant functional traits, but not community composition, are affected by summer precipitation and herbivory in an old-field ecosystem.
2. **Eckberg, J.N**., Hubbard, A.K., Sanders, N.J. *In Press*. A dominant plant species and insects interactively shape plant community structure and an ecosystem function.
3. **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 EEB 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 in program designed to engage elementary and middle school girls and gender minorities in STEM activities in a fun, outside of the classroom setting
- Demonstrated and explained a set of experiments to participants, provided assistance to participants as they worked through the experiment in pairs, and participated in a "Meet the Scientist" forum where participants could ask volunteers about their experiences in STEM