
Nicholas J. Lyon

Research Interests: Community Ecology, Pollinator Ecology, Restoration Ecology, Plant-Insect Interactions, Biostatistics

Nicholasjlyon@gmail.com

www.nicholasjlyon.com

www.github.com/NJLyon-Projects

EDUCATION

M.Sc. Ecology and Evolutionary Biology – May 2019 – Iowa State University, Ames IA

Thesis: *An Integrated Approach to Restoring Grassland Function to Working Lands*

B.Sc. Biology – May 2016 – University of Puget Sound, Tacoma WA

Interdisciplinary Emphasis in **Bioethics**, Minor in **Humanities**

Thesis: *Mytilus Mussels as Bio-indicators of Regional Microplastic Trends*

RESEARCH

Agroecological Predator-Prey Interactions Researcher (Aug. 2019 – Present)

University of Georgia, Athens GA & Clemson University, Clemson SC

- Identified insects to family-level from 9 orders in the field and *post hoc* from pitfall and vacuum samples
- Formed productive working relationships with 23 organic farmers throughout South Carolina and Georgia
- Wrote analysis and data tidying codes in the R statistical environment for several data formats
- Mentored 2 undergraduates enrolled in a senior capstone course in completing independent research projects
- Maintained colonies of squash bugs (*Anasa tristis*) and melon aphids (*Aphis gossypii*) in a greenhouse

Grassland Plant and Pollinator Researcher (May 2016 – May 2019)

Iowa State University, Ames IA

- Performed field surveys for butterflies, wild bees, and flowering plants in remnant and restored prairie
- Wrote univariate and multivariate analysis code for ecological community data in the R statistical environment
- Built species distribution models (SDMs) in R for grassland plant species to inform climate-resilient seed-mix design
- Interviewed, hired, trained, and managed field technicians for summer 2017 and 2018
- Wrote protocols for field data collection and database management

Vegetation Sampling Field Crew Coordinator (June – July 2017 & June – July 2018)

Iowa State University, Ames IA

- Conducted vegetation percent cover estimations for several plant functional groups
- Trained technicians with variable previous field experience in identification of plant species and functional groups
- Planned and executed an intensive sampling schedule with field technicians from three different universities
- Wrote customized functions in R for response calculation as well as tidy and analysis scripts for raw collected data

Marine Microplastics Researcher (Apr. 2014 – May 2016)

University of Puget Sound, Tacoma WA

- Developed a novel methodology using fluorescence microscopy to quantify plastic load in mussels (*Mytilus spp.*)
- Designed a follow-up study in the second funded summer to my work the previous year
- Wrote competitively funded grant proposals for University funding for the summer of 2014 and 2015
- Selected as the university's sole 'Biological Sciences' representative at the Murdock College Science Research Conference

Plant Genetics Lab Member (Dec. 2015 – May 2016)

University of Puget Sound, Tacoma WA

- Used PCR to identify *Arabidopsis thaliana* homozygous knockout mutants for a trait related to F-BOX stress response
 - Expanded existing R code for meta-analysis of Affymetrix microarray data on several abiotic stresses
 - Participated in weekly literature days where lab members introduced a peer-reviewed paper and explained it to the group
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TEACHING

Biology Teaching Assistant (Jan. 2021 – Present)

University of Georgia, Athens GA – **Biology 1108 (Concepts in Biology II)**

- Facilitated students in honing their scientific observation, experimental design, and writing skills
- Designed instructional content for 13 weeks of labs that emphasized class discussion and critical thinking skills
- Provided thorough and constructive written feedback on lab reports as well as on quiz-style assignments

Biology Teaching Assistant (Aug. 2020 – Dec. 2020)

University of Georgia, Athens GA – **Biology 1103 (Concepts in Biology)**

- Provided facilitative feedback on multiple drafts of lab reports and other written assignments
- Created lectures for 12 weeks of hands-on and virtual lab content on introductory biology
- Trained students in performing laboratory techniques (e.g., using spectrophotometer, pipetting, etc.)

Ecology Teaching Assistant (Aug. 2018 – Dec. 2018)

Iowa State University, Ames IA – **Biology 312 (Intro to Ecology)**

- Taught core ecological concepts to sophomore through senior undergraduate students
- Worked with students individually and in groups to facilitate formal scientific writing skills and strategies
- Led both lab and field exercises to promote hands-on interaction with course concepts
- Collaborated with another TA to modify the course structure to emphasize development of scientific writing skills

Instructor of Record (Aug. 2017 – Dec. 2017)

Iowa State University, Ames IA – **Environmental Sciences 490 (Independent Research)**

- Mentored an Iowa State University undergraduate in their first independent research experience
- Facilitated the student in hypothesis formation, methods development, statistical analysis, and results reporting
- Taught the student data management and cleaning in the R statistical environment
- Wrote guidelines and gave feedback on abstract writing and poster presentation skills

Instructor's Assistant (Jan. 2016 – May 2016)

University of Puget Sound, Tacoma WA – **Biology 111 (Unity of life)**

- Addressed questions from students as they learned and employed lab techniques
- Supervised and led trainings in the use of lab equipment
- Taught statistical and database management methods in Microsoft Excel

Guest Lectures

Clemson University – 2020 – Introduction to Statistics and R in Ecology Research. **Insect Ecology (ENT 4520/6520)**

Iowa State University (ISU) – 2019 – Plotting with ggplot2. **Data Wrangling in R for Natural Resource Professionals (NREM 305)**

ISU – 2019 – Choosing the “Right” Statistical Test. **Data Wrangling in R for Natural Resource Professionals (NREM 305)**

ISU – 2018 – Multivariate Statistics in R. **Data Management and Analysis in R for Ecologists and Evolutionary Biologists (EEB 698)**

SERVICE

Vice President (Sep. 2019 – May 2020)

Clemson University, Clemson SC – **Clemson Entomology Club**

- Led a campaign to get graduate student representation on faculty committees in the department
- Designed a suite of recruitment materials to increase program presence at national and regional conferences
- Organized ride and room sharing to local, regional, and national conferences to increase accessibility
- Spurred a partnership with a related program's graduate student organization to cooperate on advocacy for students

Social Media Coordinator (May 2018 – May 2019)

Iowa State University, Ames IA – **Society for Advancement of Hispanics/Chicanos and Native Americans in Science**

- Led workshops on professional networking and the process of applying to graduate school
 - Created consistent branding for web presence across social media platforms
 - Wrote and posted tweets in-line with the support for diverse identities in science consistent with the society's mission
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Recruitment Committee Graduate Student Representative (May 2017 – May 2019)

Iowa State University, Ames IA – Ecology and Evolutionary Biology Graduate Program

- Established timeline for organizing the research symposium during recruitment weekend
- Worked with faculty, staff, and students to ensure a successful recruitment season
- Designed a promotional flier and the program for the event
- Elected for two consecutive terms by the graduate student members of the program

Graduate Student Senator (Dec. 2017 – May 2019)

Iowa State University, Ames IA – Graduate and Professional Student Senate

- Voted on policy and administrative matters that affect graduate students
- Advocated for issues relevant to graduate students in the Ecology and Evolutionary Biology Graduate Program
- Appointed as the first EEB Program Senator and subsequently elected for the following term

Applied Ecology Section Liaison (Aug. 2017 – Oct. 2018)

Ecological Society of America – ESA Student Section

- Provided social media (e.g. Twitter, newsletter, etc.) content on Applied Ecology Section news relevant to students
- Recorded a podcast with the ESA Student Section on my experience of being an applied ecology graduate student
- Member of the Ecological Society of America since August 2017

Phi Sigma Research Symposium Co-Chair (Apr. 2015 – May 2016)

University of Puget Sound, Tacoma WA – Phi Sigma Biological Sciences Honors Society

- Organized a symposium for student researchers across the natural sciences to present to the campus community
- Secured a keynote speaker for the symposium and coordinated logistics around their visit
- Sourced and managed a designer to produce posters to publicize the event around campus

PUBLICATIONS

Lyon, N. J., Debinski, D.M., Rangwala, I. 2019. Evaluating the Utility of Species Distribution Models in Informing Climate Change-Resilient Grassland Restoration Strategy. *Frontiers in Ecology and Evolutionary Biology* 7.

Coon, J.J., **Lyon, N. J.**, Raynor, E.J., Debinski, D.M., Miller, J.R., Schact, W.H. Lessons from Restoring Native Plants in Grasslands Dominated by Invasive Grasses Using a Five-Year Experiment. *[Accepted at Rangeland Ecology and Management]*

Lyon, N. J., Stein, D.S., Debinski, D.M., Miller, J.R., Schact, W.H. Responses of flowering plant and butterfly communities to experimental herbicide and seeding treatments for native grassland restoration *[In revision at Ecological Restoration]*

Lyon, N. J., Debinski, D.M., Rogers, H.S. Pollinator and Plant Communities Changed Differently After Eleven Years of Management. *[In prep]*

SELECTED RESEARCH PRESENTATIONS

Lyon, N.J., Madden, M., Behnke M.F., Blubaugh C.K. Balancing the Risks and Benefits of Allowing Weeds to Persist in Organic Agriculture. **Entomological Society of America**, FL, November 2020. Virtual Oral Presentation.

Lyon, N.J., Blubaugh C.K. The Enemy of my Enemy: Utilizing Diverse Weed Communities to Recruit Natural Enemies for Pest Suppression. **South Carolina Entomological Society**, SC, October 2019. *Awarded Best Poster Presentation.*

Lyon, N.J., Debinski, D.M. Evaluating the Effects of 11 Years of Consistent Restoration Management. **Ecological Society of America**, Louisville KY, August 2019. Oral Presentation.

Lyon, N.J., Debinski, D.M., Miller, J., Schact, W. Native Plant and Pollinator Response to Adaptive Management. **Ecological Society of America**, New Orleans LA, August 2018. Oral Presentation.

Lyon, N.J., Debinski, D.M., Miller, J., Schact, W. Plant and Pollinator Response to Adaptive Management. **Graduate and Professional Student Research Conference**, Ames IA, April 2018. *Awarded Best Oral Presentation.*

Lyon, N.J., Debinski, D.M. Butterfly and Nectar-Producing Plant Response to Invasive Grass Management. **Graduate Research in Ecology and Evolutionary Biology Symposium**, Ames IA, February 2018. Oral Presentation.

Lyon, N.J. An Integrated Approach to Tallgrass Prairie Restoration. **Three-Minute Thesis**, Ames IA, January 2018. Oral Presentation.

Lyon, N. J., Debinski, D.M., and Rangwala, I. Species Distribution Modeling to Predict Prairie Restoration Success under Climate Change. **Ecological Society of America**, Portland OR, August 2017. Oral Presentation.

HONORS & AWARDS

Fellowships & Honors

- 2019 – **Joel A Berly Research Fellow** – Clemson University, Clemson SC
- 2018 – **Preparing Future Faculty Fellow** – Iowa State University, Ames IA
- 2017 – **Science Communication Fellow** – Reiman Gardens, Ames IA
- 2016 – **Biology Department Honors** – University of Puget Sound, Tacoma WA

Grants & Awards

- 2020 – **W. Carl Nettles, Sr., and Ruby S. Nettles Memorial Endowment Travel Grant** – \$330
Clemson University Entomology Graduate Program
 - 2019 – **Early Career Publication Award** – \$250
Ecological Society of America, Restoration Ecology Section
 - 2019 – **Real/Brown Graduate Student Travel Award** – \$150
Ecological Society of America, Student Section
 - 2018 – **Graduate Student Travel Award** – \$500
Ecological Society of America, Applied Ecology Section
 - 2017 – **Graduate Student Travel Grant** – \$600
Center for Global and Regional Environmental Research (CGRER)
 - 2017 – **Graduate Student Field Research Grant** – \$1,377
Center for Global and Regional Environmental Research (CGRER)
 - 2015 – **Student Research Award** – \$3,250
University of Puget Sound, Biology Department
 - 2014 – **Student Research Award** – \$3,250
University of Puget Sound, Biology Department
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