



Department of Ecology and Evolutionary Biology  
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## EDUCATION & POSTGRADUATE EXPERIENCE

- 2018—present **University of Connecticut**, Storrs, CT.  
Postdoctoral Research Associate in Ecology and Evolutionary Biology  
Project: *Effects of forest fragmentation on Lepidopteran herbivores of contrasting diet breadth* ([NSF DEB # 1557086](#)).  
Advisor: Dr. Robert Bagchi
- 2010 – 2017 **University of Connecticut**, Storrs, CT.  
Ph.D. in Ecology and Evolutionary Biology  
Dissertation Title: *The Adaptive Nature of Stasis for Petal Number: Can Pollinator-mediated Stabilizing Selection Explain Five-petaled Flowers?*  
Advisor: Dr. Carl Schlichting
- 2008 – 2010 **Stony Brook University**, Stony Brook, NY  
Master of Arts in Ecology and Evolution  
Thesis Title: *Seed Banks in Invasive Plants; Prevalence, Prediction of Invasion and Control*  
Advisor: Dr. Jessica Gurevitch
- 2004 – 2008 **Kalamazoo College**, Kalamazoo, MI  
Bachelor of Arts in Biology, Magna Cum Laude  
Undergraduate Thesis Title: *Tree Density and Fire Scarring in Minnesota Oak Savanna: Implications for Restoration*  
Undergraduate Advisor: Dr. E. Binney Girdler

## PUBLICATIONS

\* denotes undergraduate co-authors

- In prep. **Mickley, J.**, T. Moore, A. DeRobertis\*, E. Mason\*, and R. Bagchi. DIY microcontrollers for measuring microenvironment: The new frontier of ecological sensors.
- In prep. **Mickley, J.** and C. Schlichting. Assessing evidence for pollinator-mediated stabilizing selection on petal number.
- Submitted **Mickley, J.** and C. Schlichting. Heritable variation in petal number, correlated selection responses, and merosity in *Phlox drummondii*. *American Naturalist*.

- 2017 Rico-Guevara A., and **J. Mickley**. Bring your own camera to the trap: An inexpensive, versatile, and portable triggering system tested on wild hummingbirds. *Ecology and Evolution* 7:4592-4598. doi: [10.1002/ece3.3040](https://doi.org/10.1002/ece3.3040)
- 2016 Wright T., and N. Zimmerman (eds), [et al, including **J. Mickley**]. Software Carpentry: R for Reproducible Scientific Analysis. Version 2016.06, June 2016. doi: [10.5281/zenodo.57520](https://doi.org/10.5281/zenodo.57520)
- 2016 Blischak J., Chen D., Dashnow H., and D. Haine (eds), [et al, including **J. Mickley**]. Software Carpentry: Programming with R. Version 2016.06, June 2016. doi: [10.5281/zenodo.57541](https://doi.org/10.5281/zenodo.57541)
- 2016 Cabunoc A., and S. McKay (eds), [et al, including **J. Mickley**]. Software Carpentry: Using Databases and SQL. Version 2016.06, June 2016. doi: [10.5281/zenodo.57551](https://doi.org/10.5281/zenodo.57551)
- 2015 Ferson, S., J. O'Rawe, A. Antonenko, J. Siegrist, **J. Mickley**, C. C. Luhmann, K. Sentz, and A. M. Finkel. Natural language of uncertainty: numeric hedge words. *International Journal of Approximate Reasoning*. 57:19-39. doi: [10.1016/j.ijar.2014.11.003](https://doi.org/10.1016/j.ijar.2014.11.003)
- 2013 Lowry, E., E. J Rollinson, A. J. Laybourn, T. E. Scott, M. E. Aiello-Lammens, S. M. Gray, **J. Mickley**, and J. Gurevitch. Biological Invasions: A Field Synopsis, Systematic Review, and Database of the Literature. *Ecology and Evolution* 3(1):182-196. doi: [10.1002/ece3.431](https://doi.org/10.1002/ece3.431)
- 2011 Ferson, S., **J. Mickley**, and W. McGill. Uncertainty Arithmetic on Excel Spreadsheets: Add-In for Intervals, Probability Distributions, and Probability Boxes. *Vulnerability, Uncertainty, and Risk*. pp. 70-77. doi: [10.1061/41170\(400\)9](https://doi.org/10.1061/41170(400)9)
- 2008 **Mickley, J.** Tree density and fire scarring in Minnesota Oak Savanna: Implications for Restoration. Undergraduate Thesis. Kalamazoo College Biology Department. 46 pp. doi: [10920/24324](https://doi.org/10920/24324)

#### AWARDS, GRANTS, & FELLOWSHIPS

- 2015        **\$2,000**    **Doctoral Dissertation Fellowship.** The Graduate School, University of Connecticut, Storrs, CT. \$2,000.
- 2015        **\$600**        **Departmental Service Award.** Department of Ecology and Evolutionary Biology, University of Connecticut, Storrs, CT. Received for developing an [online database and map](#) of the campus arboretum.
- 2015        *Nominated, Departmental Excellence in Student Teaching Award.* Department of Ecology and Evolutionary Biology, University of Connecticut, Storrs, CT.
- 2014        **\$1,460**    **Ronald Bamford Research Grant,** Department of Ecology and Evolutionary Biology, University of Connecticut, Storrs, CT. *Pollination*

*Syndrome as a Driver of Variation in Petal Number: Do Pollinators Impose Stabilizing Selection?*

- 2010 – 2013 **\$30,500 Outstanding Scholar Fellowship**, Department of Ecology and Evolutionary Biology, University of Connecticut, Storrs, CT. Three years.
- 2008 – 2010 **\$4,000 Presidential Fellowship**, Department of Ecology and Evolution, Stony Brook University, Stony Brook, NY. Two years.
- 2008 – 2010 **\$20,000 Graduate Council Fellowship**, The Graduate School, Stony Brook University, Stony Brook, NY. Two years.
- 2008 **\$100 Ronald O. Kapp Undergraduate Award** for best undergraduate paper, Annual Conference of the Michigan Academy of Sciences, Arts, and Letters. *Tree density and fire scarring in Minnesota oak savanna: Implications for restoration.*

## CONTRIBUTED PRESENTATIONS

\* denotes undergraduate co-authors

- 7/2016 **Mickley J.**, & C. Schlichting. *Mating System as a Driver of Variation in Floral Petal Number: Is There Evidence for Adaptation to Pollinators?* 2016 Botany Society of America Meetings, Savannah, GA.
- 6/2016 **Mickley J.**, & C. Schlichting. *Variation, Heritability, and Correlated Selection in Phlox Petal Number.* 2016 Evolution Meetings, Austin, TX.
- 6/2015 **Mickley J.**, M. Benedict\*, G. Nuttall\*, C. Hill\*, D. Vine\*, E. Mason\*, & T. Jordan\*. *Why Does Phlox Vary in Petal Number? Heritability, Species, and Population Differences.* New England Botanical Club 120<sup>th</sup> Anniversary Research Conference, Northampton, MA.
- 6/2015 Yung, J.\*, G. Nuttall\*, H. Holt\*, & **J. Mickley**. *Meristem Diameter as a Predictor of Petal Number: Floral Development in Phlox.* New England Botanical Club 120<sup>th</sup> Anniversary Research Conference, Northampton, MA.
- 4/2010 Hasan, F. N.\*, K. Wojtas\*, D. Atashsokhan\*, **J. Mickley**, E. Lowry, & J. Gurevitch. *Assessing the Invasive Threat of the Plant *Centaurea stoebe* in New York State.* 2010 URECA, Stony Brook, NY.
- 3/2008 **Mickley, J.** *Tree Density and Fire Scarring in Minnesota Oak Savanna: Implications for Restoration.* Michigan Academy of Sciences, Arts, and Letters Annual Meeting. 2008. Kalamazoo, MI.

## RESEARCH EXPERIENCE

2018—present **Postdoctoral Research Associate**, University of Connecticut, Storrs CT.

Supervised NSF-funded fieldwork on trophic interactions of lepidopteran larvae, their host plants, and their avian predators in the context of forest fragmentation in CT. Trained and mentored graduate and undergraduate students. Coordinated collaboration between PIs.  
Supervisor: Dr. Robert Bagchi

- 2010 – 2017     **Doctoral Research**, University of Connecticut, Storrs CT.  
Devised and oversaw experimental research on variation in floral merosity. Completed field work and collected herbarium vouchers in remote areas of Texas and California to quantify patterns of petal number variation between species and populations and compared field populations in a greenhouse common garden. Conducted pollinator visitation experiments, and collaborated with greenhouse manager to maintain research plants.  
Committee: Dr. Carl Schlichting, Dr. Gregory Anderson, Dr. Pamela Diggle, & Dr. Elizabeth Jockusch
- 2010 – 2011     **Research Assistant**, University of Connecticut, Storrs, CT.  
Worked on an NSF grant to digitize the CONN herbarium, including databasing, imaging, and georeferencing specimens. Achieved expertise in curatorial practice and collections databases, led student tours, and demonstrated specimen preparation. Connected the CONN database to GBIF, and accelerated databasing efforts via custom software.  
Supervisor: Dr. Robert Capers
- 2009             **Graduate Assistant**, Stony Brook University, Stony Brook, NY.  
Spearheaded project on demography and invasion dynamics of *Centaurea stoebe*. Designed experiments and established field sites throughout New York to measure demographic parameters. Established partnerships with conservation experts and organizations.  
Supervisor: Dr. Jessica Gurevitch
- 2008             **Site Botanist**, Cedar Creek Ecosystem Science Reserve (UMN), Bethel, MN.  
Taught plant identification to visiting scientists, graduate students, and interns. Designed and coordinated plant identification experiments including, floral surveys, measurements of percent cover, and identifying clipped biomass. Trained and supervised four interns as botanists. Curated a small herbarium.  
Supervisors: Troy Mielke, Dr. Clarence Lehman, & Dr. David Tilman
- 2007 – 2008     **Undergraduate Thesis**, Kalamazoo College, Kalamazoo, MI.  
Conducted surveys in *Quercus macrocarpa* and *Q. ellipsoidalis* oak savanna remnants, to assess population trends and their association with fire intervals and fire scarring. Assisted with modeling savanna tree populations in C.  
Supervisors: Dr. Clarence Lehman and Dr. Binney Girdler
- 2007             **Intern**, Cedar Creek Ecosystem Science Reserve (UMN), Bethel, MN.  
Worked as a botanist on percent cover surveys and identified clipped biomass for numerous experiments.  
Supervisors: Troy Mielke, Dr. Clarence Lehman, Dr. Peter Reich
- 2006             **Intern**, Eneabba Field Site (Curtin University), Western Australia, Australia.

Studied the effects of fire on ant-mediated seed dispersal in the genus *Rhytidoponera* in Western Australia.

Supervisors: Dr. Aaron Gove, Neil McCoy, and Dr. Rob Dunn

- 2004 – 2008 **Research Assistant**, Kalamazoo College, Kalamazoo, MI.  
Renovated and maintained the college greenhouse by installing automatic watering and lighting. Curated the living plant collection. Developed project on above- and below-ground competition and plant neighborhoods in *Arabidopsis thaliana*. Executed shoreline floral surveys to assess the relative importance of neutral and habitat factors in structuring Lake Michigan plant communities and identified plants for a project on the allelopathic effects of *Centaurea stoebe* on invertebrate diversity. Measured the effects of spatial competition, herbivory, and dispersal on the population dynamics of the threatened dune thistle *Cirsium pitcheri*.  
Supervisors: Dr. Binney Girdler and Dr. Ann Fraser

## TEACHING EXPERIENCE

- 2016 – present **Certified Instructor**, Software and Data Carpentry Foundation  
Software and Data Carpentry instructors teach basic scientific programming, reproducible research, and data management skills in workshops around the world
- 2016 **Teaching Assistant**, EEB 2202 – Evolution and Human Diversity, UConn
- 2014 – 2015 **Lab Coordinator**, EEB 2244 – General Ecology, UConn  
Managed 3-5 TAs and designed labs, exams, and other course material
- 2013 **Teaching Assistant**, BIOL 1110 – Introduction to Botany, UConn
- 2013 **Teaching Assistant**, BIOL 1108 – Principles of Biology II, UConn
- 2012 **Teaching Assistant**, BIOL 1102 – Foundations of Biology, UConn
- 2011; '14; '17 **Teaching Assistant**, EEB 2244 – General Ecology, UConn
- 2008 **Teaching Assistant**, BIO 150 Lecture – Introductory Biology: The Living World, Stony Brook University
- 2008 **Teaching Assistant**, BIOL 232 – Plant Biology, Kalamazoo College

## INVITED WORKSHOPS

- October 2016 **Software Carpentry** (Python-based) – [Harvard Medical School](#)
- January 2017 **Software Carpentry** (R-based) – [University of Connecticut](#)

## UNDERGRADUATE MENTORING

\* 18 total, including ten women

- 2016 – 2017 Amber DeRobertis, University of Connecticut
- 2015 – 2016 Miranda Squillace, University of Connecticut
- 2015 – 2016 Max Engel, University of Connecticut (B.A. 2015, CT Agricultural Experiment Station)
- 2015 Thomas Jordan, University of Connecticut (B.S. 2015)
- 2015 Jeffrey Hammond, University of Connecticut (B.S. 2015)

- 2014 – 2015 Connor Hill, University of Connecticut (B.S. 2016, [NIH Postbaccalaureate Fellow](#))
- 2014 – 2015 Genevieve Nuttall, University of Connecticut (2015 UConn IDEA grant recipient, M.S. student in the [Tingley Lab](#) at UConn)
- 2014 – 2015 Matt Benedict, University of Connecticut (B.S. 2017, Terrestrial ectotherms keeper, Fort Worth Zoo)
- 2014 – 2015 Darren Thorne, University of Connecticut (B.A. 2015)
- 2014 – 2015 Hillary Holt, University of Connecticut (B.S. 2015)
- 2014 – 2017 Emilia Mason, University of Connecticut (M.A. 2017, Science teacher, Ellington High School)
- 2014 – 2015 Jenny Yung, University of Connecticut (B.S.N. 2017, Registered nurse, UConn health)
- 2011 Ellen Deering, University of Connecticut (B.S. 2013)
- 2010 – 2011 Lauren Abbott, University of Connecticut (B.S. 2013, Medical student, UConn)
- 2009 – 2010 Faria Hasan, Stony Brook University (B.S. 2012)
- 2009 – 2010 Konrad Wojtas, Stony Brook University (B.S. 2012)
- 2009 – 2010 Daniel Atashsokhan, Stony Brook University (B.S. 2010)
- 2009 – 2010 Sun Man Ceng, Stony Brook University (B.S. 2011)

## COMMUNITY OUTREACH & SERVICE

- 2017 **Organizer & Contributor**, Greenwich Point Bioblitz. Led terrestrial plants walk.
- 2016 **Organizer & Contributor**, Connecticut State BioBlitz. Helped organize one of the largest BioBlitzes ever held, with over 180 scientists. This BioBlitz set the world record for species found in 24 hours with 2,769.
- 2016 **BioBlitz contributor**, Weir Farm National Historic Site. Top contributor.
- 2016 **Ask-a-Scientist Participant**, Ask-a-Scientist days at Windham High School.
- 2016 **Science Fair Judge**, Talcott Mountain Academy Middle School Science Fair.
- 2015 **BioBlitz contributor**, UConn BioBlitz. Trained undergraduates to identify plant species and was the top contributor of species and observations at one of the largest BioBlitzes in Connecticut.
- 2015, 2016 **Walk Leader**, Spring ephemeral plant walk, University of Connecticut.
- 2014 – present **iNaturalist curator**. I volunteer as a curator for [iNaturalist.org](#), contributing thousands of plant observations and actively using my plant identification expertise to identify plant specimens logged by other members of the community. [www.inaturalist.org/people/mickley](http://www.inaturalist.org/people/mickley)

## ACADEMIC & PROFESSIONAL SERVICES

- 2016 – 2017 **Recording Secretary**, New England Botanical Club. Sat on the NEBC executive council and wrote monthly meeting summaries published in the journal *Rhodora*.

- 2013 – 2015 **Union Organizing Committee Member**, GEU-UAW, University of Connecticut. Formed a graduate employee union at UConn, helped win a first contract, trained in and conducted community organizing, and supervised 12 departmental leaders during organizing efforts.
- 2010 – present **Committee Member**, Arboretum Committee, University of Connecticut.
- 2009 to 2010 **Field Trip Chair**, Long Island Botanical Society. Organized field trips for the membership.
- 2008 to 2010 **Committee Member**, Friends of the Ashley Schiff Park Preserve, Stony Brook University.
- 2005 to 2008 **Volunteer**, Cleanup and maintenance of the Lillian Anderson Arboretum, Kalamazoo College.
- 2004 to 2008 **Greenhouse Curator**, Department of Biology, Kalamazoo College.

## PROGRAMMING EXPERIENCE

- 2014 – 2015 **Graduate Assistant**, University of Connecticut, Storrs, CT. Collaborated on coding and designing a dynamic, database-driven website for the Department of Ecology and Evolutionary Biology at the University of Connecticut. Authored custom PHP display modules for Wordpress. Supervisor: Dr. Paul Lewis
- 2012 – 2016 **Database & Website Developer**, University of Connecticut, Storrs, CT. Created a database and website to display data from a large collaboration to study biodiversity and trait-environment evolution in South Africa. Supervisor: Dr. Carl Schlichting
- 2010 – 2013 **Programming Consultant**, Applied Biomathematics, Setauket, NY. Delivered an Excel add-on integrating mathematical uncertainty calculations into Excel for risk analysis. Coded in Visual Basic, Pascal, R, and C++, while collaborating via Subversion and Git. Conducted research on mathematical uncertainty and the importance and meaning of natural language expressions. Supervisor: Dr. Scott Ferson
- 2007 – 2008 **Programmer**, Monell Chemical Senses Center, University of Pennsylvania, Philadelphia, PA. Designed an interactive database application to provide a testing environment for human subjects involved in research on chemosensory stimuli. Supervisors: Amy Gordon, & Dr. Johan Lundström

## ADDITIONAL SKILLS

- **Programming Languages & Software:**
  - Highly experienced in Python, R, Unix, Visual Basic, Lua, PHP, MySQL, Javascript, HTML, and CSS.
  - Experience with C and C++, servers, and database design and management.

- Experience in collaborative coding environments using Git and Subversion.
- Experience with Arduino and ESP8266/NodeMCU microprocessor platforms and using associated environmental sensors in ecological research.
- Proficient in Microsoft Office, imageJ, Diva GIS, and Google Earth.
- **Languages:**
  - German
  - Latin
- **Photography:**
  - I have been a freelance photographer since 2000 and won several regional awards and honorable mentions in international contests. My specialty is photojournalism and nature, but I have worked with a variety of genres and media and have broad experience with technical photography and lighting.
  - Photography website: [www.mickleyphotography.com](http://www.mickleyphotography.com).
  - Extensive experience with Photoshop, Lightroom, Illustrator, and other editors.

## PROFESSIONAL SOCIETIES

- Botany Society of America
- Society for the Study of Evolution
- American Society of Naturalists
- New England Botanical Society
- Long Island Botanical Society