Michael C. LaScaleia

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EDUCATION

University of Connecticut, Storrs, CT

Ph.D. candidate in Ecology and Evolutionary Biology General examination: April 2021 Prospectus proposal: December 2022 Dissertation defense: anticipated May 2024 Advisor: Dr. Robert Bagchi

Tufts University, Medford, MA

Bachelor of Science in Biology and Environmental Studies Focus: Environmental Science Undergraduate Advisors: Dr. Colin Orians and Dr. George Ellmore

PAPERS

Published

- 4 Bagchi, R. LaScaleia, M. C., Milici, V. R., Dalui, D. Replicated spatial point pattern analyses for ecological inference: A tutorial using the RSPPIme4 package in R. *Frontiers in Forests and Global Change*, 5, 72.
- 3 Mason, C. M., <u>LaScaleia, M. C.</u>, De La Pascua, D. R., Monroe, J. G., & Goolsby, E. W. (2020). Learning from dynamic traits: seasonal shifts yield insights into ecophysiological trade-offs across scales from macroevolutionary to intraindividual. *International Journal of Plant Sciences*, 181(1), 88-102.
- 2 <u>LaScaleia, M. C.</u>, Reynolds, C., Magagula, C. N., Roets, F., & McCleery, R. A. (2018). Dung beetle richness decreases with increasing landscape structural heterogeneity in an African savanna-agricultural mosaic. *Insect conservation and diversity* / Royal Entomological Society of London, 11(4), 396–406.
- Reynolds, C., Fletcher, R. J., Carneiro, C. M., Jennings, N., Ke, A., <u>LaScaleia, M. C.</u>, Lukhele, M. B., *et al.* (2018). Inconsistent effects of landscape heterogeneity and land-use on animal diversity in an agricultural mosaic: a multi-scale and multi-taxon investigation. *Landscape Ecology*, *33*(2), 241–255.

Accepted

1 Robinson, M.L., Hahn, P.G., Inouye, B.D., Underwood, N., Whitehead, S.R., Abbott, K.C., Bruna, E.M., Cacho, N.I., Dyer, L.A., ..., <u>LaScaleia, M.C.</u>, Wetzel, W.C., *et al.* Plant size, latitude, and phylogeny explain variability in global herbivory. *Science*.

In Review

1 Kays, R., Snider, M. H., Hess, G., ..., LaScaleia, M.C., et al. Climate, food, and humans predict mammal communities in the United States.

In Progress

- 2 <u>LaScaleia, M. C.</u>, Elphick, C. S., Mickley, J. G., Singer, M. S., Wagner, D. L., Bagchi, R. Herbivore diet breadth, host-specific electivity, and measurement scale each influence an empirical test of the resource concentration hypothesis.
- 1 <u>LaScaleia, M. C.</u>, DeBowsky, P.*, Durden, K.*, Grella, R. M.*, Owusu, A. A.*, Paz Zavala, R.*, Rowland, D.*, Woitowitz, H.*, Bagchi, R. New England's invasive plants experience enemy release through both top-down and bottom-up control of insect herbivores.

* undergraduate mentee

AWARDS, GRANTS, & FELLOWSHIPS

\$15,087	UConn EEB Departmental demi-fellowship. 2024. Ecology and Evolutionary Biology Department. University of Connecticut, Storrs, CT.
\$750	UConn Graduate Student Travel Award. 2023. University of Connecticut, Storrs, CT.
\$34,000	NSF NRT Team-TERRA Fellowship. 2022-2024. Center for Biological Risk, University of Connecticut, Storrs, CT.
Nominated	Mentorship Excellence Award. 2021. Office of Undergraduate Research, University of Connecticut, Storrs, CT.
\$1,500	NEBS Graduate Student Research Award. 2021. New England Botanical Society, Greenfield, MA.
Awarded	Student Evaluation of Teaching Excellence . 2019. Office of the Provost, University of Connecticut, Storrs, CT.
\$50	Advanced Level Runner Up. 2018. Tufts University Spring 2018 GIS Poster Fair, Medford, MA.
\$100	Best in Show. 2017. Tufts University Spring 2017 GIS Poster Fair, Medford, MA.

CONTRIBUTED PRESENTATIONS

- 10 LaScaleia, M. C. A scale-dependent test of the resource concentration hypothesis with insect herbivores of contrasting diet breadths in a natural setting 08/2023 ESA 2023. Portland, OR
- <u>LaScaleia, M. C.</u> Resource Concentration: Do caterpillars go where the food is?
 02/2023 33rd Annual UConn EEB Graduate Student Symposium. Storrs, CT
- BeBowsky, P.*, <u>LaScaleia, M. C.</u>, & Bagchi, R. Decreased caterpillar density and survivability on exotic plants as evidence for enemy release.
 04/2022 UConn CLAS 2022 All Biology Undergraduate Research Symposium. Storrs, CT
 04/2022 UConn EEB Undergraduate Research Symposium. Storrs, CT
- 7 Woitowitz, H.*, LaScaleia, M. C., & Bagchi, R. Caterpillar fast food: testing invasive plant palatability and their effects on trophic interactions.

04/2022 - UConn EEB Undergraduate Research Symposium. Storrs, CT

- LaScaleia, M. C. Do invasive plants receive top-down or bottom-up enemy release?
 02/2022 32nd Annual UConn EEB Graduate Student Symposium. Storrs, CT
- 5 **LaScaleia, M. C.** *Tritrophic interactions among trees, caterpillars, and parasitoids in Connecticut* 02/2021 – 31st Annual UConn EEB Graduate Student Symposium. Virtual
- 4 **LaScaleia, M. C.** Do caterpillars drive temperate tree diversity, or do wasps prevent them? 02/2020 – 30th Annual UConn EEB Graduate Student Symposium. Storrs, CT
- 3 LaScaleia, M. C. Dung Beetle Response to Land Context and Vegetation Structure 07/2016 – 1st Annual Swaziland Biodiversity Conference. Mlawula Game Reserve, Eswatini.
- Mason, C., & LaScaleia, M. C. Untangling trait correlations at intra-individual and macroevolutionary scales: insights from seasonal shifts in leaf traits across the dogwoods (Cornus).
 06/2017 – Evolution 2017. Portland, OR.
 06/2016 – Evolution 2016. Austin, TX
- LaScaleia, M. C., & Mason, C. Seasonality and Evolution of Leaf Defenses Across the Wild Dogwoods.
 04/2016 2016 Arnold Arboretum Undergraduate Research Symposium. Boston, MA

* undergrad mentee

CONTRIBUTED POSTERS

- Grella, R. M.*, LaScaleia, M.C. Impact of Host Plant Density on the Parasitic Infection Rate of Monarch Butterflies
 03/2022 – Frontiers in Undergraduate Research. Storrs, CT.
- 5 **LaScaleia, M.C.**, & Wagenius, S. *If you give purple coneflower more pollen, it doesn't produce more seeds* 04/2019 Midwest Ecology and Evolution Conference 2019. Terre Haute, IN.
- Dodge, T. O.*, <u>LaScaleia, M.C.</u> Richardson, L. K. & Wagenius, S. Little cost of reproduction in the long-lived perennial, Echinacea angustifolia
 04/2019 Midwest Ecology and Evolution Conference 2019. Terre Haute, IN.
- <u>LaScaleia, M.C.</u> Going Grey: Following a Gray Wolves through a Reintroduction Scenario in New York and New England.
 Link: <u>https://goo.gl/kb5R1f</u>
 05/2018 – Tufts University Spring 2018 GIS Poster Fair. Medford, MA.
- <u>LaScaleia, M.C.</u> A tree for Jumbo: Reforesting the Tufts University President's Lawn to Historic Levels. Link: <u>https://goo.gl/jXHwsz</u>
 05/2017 – Tufts University Spring 2017 GIS Poster Fair. Medford, MA.
- <u>LaScaleia, M. C.</u>, & Mason, C. Seasonality and Evolution of Leaf Defenses Across the Wild Dogwoods. 05/2016 – 11th Annual Plant Biology Symposium. Arnold Arboretum, Boston, MA

* undergrad mentee

TEACHING EXPERIENCE

Fall 2023	Teaching Assistant, EEB 2244 – General Ecology, UConn
Spring 2022	Teaching Assistant, EEB 5050 - Fundamentals of Ecological Modeling, UConn
Fall 2021	Teaching Assistant, EEB 2244 – General Ecology, UConn
Spring 2021	Teaching Assistant, BIO 1102 – Foundations of Biology (half-time), UConn
Spring 2021	Teaching Assistant, EEB 2244 – General Ecology (half-time), UConn
Fall 2020	Teaching Assistant, EEB 2244 – General Ecology, UConn
Spring 2020	Teaching Assistant, BIO 1108 – Principles of Biology II, UConn
Fall 2019	Teaching Assistant, BIO 1102 – Foundations of Biology, UConn

graduate-level course

PRE-GRADUATE RESEARCH EXPERIENCE

2018 – 2019	Lab Manager and Research Assistant, The Echinacea Project. Chicago Botanic Garden, Douglas County, MN and Glencoe, IL. Investigated the effects of tallgrass habitat fragmentation on populations of purple coneflower (<i>Echinacea angustifolia</i>). Conducted field demography on <i>E. angustifolia</i> in prairie remnants to add to a 20+ year LTREB data set. Recorded phenology, growth, and seed set in established common gardens to study fragmentation effects on <i>E. angustifolia</i> genetics. Responsible for the management of 20+ citizen scientists and undergraduate mentees in Chicago Botanic Garden lab. Managed the maintenance and updating of demography data in R.
2017 - 2018	Student Researcher , Ellmore Lab. Department of Biology, Tufts University Medford, MA. Designed and conducted an assay for the analysis of tannin content in brewed tea. Prepared paper and presented research findings to Tufts Biology professors and lab colleagues.
2017	Student Researcher , Orians Lab. Tufts University, Medford and Waltham, MA. Planted and cultivated experimental tea plants at the Boston Area Climate Experiment field site. Maintained local rain-shield structures.
2016 - 2017	Student Researcher , School for International Training. Hveragerði, Iceland. Independently designed and implemented a 5-week investigation of the effects of soil temperature on plant life in Reykjadalur Valley. Performed solo field work for a month collecting vegetation data for over 200 individual quadrats. Hiked up to 7 miles per day in cold, wet, and often snowy conditions.
2016	Student Researcher , University of Florida IRES. Mbuluzi Game Reserve, Eswatini. Synthesized, executed, and published a 6-week study into the role of landscape heterogeneity on dung beetle diversity. Assisted in additional projects on small mammals, meso-mammals, and birds. Worked 10 to 12-hour field days with a small team doing physical labor in hot conditions. Conducted lab work identifying insect families and preserving specimen samples.
2015 - 2016	Student Intern, The Arnold Arboretum at Harvard University. Boston, MA.

Investigated the patterns of leaf defense seasonality in dogwoods (*Cornus*). Conducted chemical assays with light spectroscopy on leaves and managed a large data and sample set. Collected leaf samples from target trees and monitored tree health.

INVITED WORKSHOPS

09/2023	Nature Rx: I Thrive Naturally. New England Tree Identification. University of Connecticut, Storrs, CT.
05/2020	Software Carpentry. R for Reproducible Research. University of Connecticut (Online)
11/2019	Software Carpentry. R for Reproducible Research. University of Connecticut, Storrs, CI

ADDITIONAL SKILLS

• Programming Languages & Software:

- Highly experienced in R and Stan.
- Highly experienced in R for GIS (sf, terra), data management (base, dplyr), advanced figure creation (ggplot2, patchwork), and app creation (shiny).
- Experience with HTML, CSS, Python, ArcGIS, C++, Visual Basic, ImageJ, and MySQL.
- o Experience in collaborative coding environments using GitHub and Atlassian Bitbucket
- o Experience interfacing with computing clusters through Bash and Slurm.
- o Proficient in Microsoft Office Suite and Linux.

• Lab and Fieldwork:

- o Identifications:
 - Identification to species of New England woody plants, familiarity with non-woody New England plants and continental US plants.
 - Identification to species of many New England Lepidoptera, especially larval Geometridae, Noctuidae, and Erebidae.
 - Insect identification to order.
 - Proficiency in New England bird and mammal identification.
- Ability to work in the field in inclement conditions, day, night, and in remote locations.
- Highly experienced with insect sampling, handling, and intergenerational rearing.
- o Experience with DNA extraction and purification, PCR, and many chemical assays.

• Leadership and Mentoring:

- o President of the UConn EEB Graduate Student Association from 2021-2023.
- o Treasurer of the UConn EEB Graduate Student Association from 2023-present.
- Mentored 14 undergraduate UConn students over 4 years, including five students through the Louis Stokes Alliance for Minority Participation program. Mentorship has resulted in:
 - Total of \$4,000 in research grants to mentees, not including paid salaries
 - Acceptance to 2 REU positions and 2 post-baccalaureate positions
 - Continuation to 3 Ph.D. and 1 Master's programs