

Nich W. Martin

Ph.D.

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Research Interests

Behavioral ecology, chemical ecology, host-pathogen dynamics, plant defense, aposematism, phenotypic plasticity, non-linear dynamics, data science.

Education

2025, Ph.D., Entomology, Department of Entomology and Nematology,
University of Florida, Gainesville, FL

2017, M.S., Biological Sciences, Department of Biological Sciences,
Western Michigan University, Kalamazoo, MI

2013, B.S. Biological Sciences, Department of Biological Sciences,
Western Michigan University, Kalamazoo, MI.

Academic Appointments

2025-Current Postdoctoral Associate, Department of Natural History, Florida Museum of Natural History, University of Florida, Gainesville, FL.

2025 Graduate Research Assistant, Department of Wildlife Ecology and Conservation,
University of Florida, Gainesville, FL.

2023-2024 Graduate Teaching Assistant, Department of Entomology and Nematology,
University of Florida, Gainesville, FL.

2022-2023 Graduate Teaching Assistant, Department of Biology, University of Florida,
Gainesville, FL.

2017-2021 Graduate Research Fellow, Department of Entomology and Nematology, University of Florida, Gainesville, FL. (4-year, fixed-term appointment)

2017 Graduate Instructor, University of Michigan Biological Station, Pellston, MI.

2017 Part-time Instructor, Introduction to Biology, Biological Sciences Western Michigan University, Kalamazoo, MI.

2013-2016 Teaching Assistant, Department of Biological Sciences, Western Michigan University, Kalamazoo, MI.

Publications

Dubs, N.M., ... **Martin, N.W.**, ... Barkman, T.J. 2022. A collaborative classroom investigation of the evolution of SABATH methyltransferase substrate preference shifts over 120 million years of flowering plant history. *Molecular Biology and Evolution*, Volume 39, Issue 3, March 2022.

Rubin, J.J., **Martin, N.W.**, Sieving, K.E. and Kawahara, A.Y., 2023. Testing bird-driven diurnal trade-offs of the moon moth's anti-bat tail. *Biology Letters*, 19(2).

Colón-Piñeiro, Z., **Martin, N.W.**, Klee, T.J., Brahma, P., Buchanan, B., St Mary, C.M., Acevedo, M.A., Burrowes, P., Longo, A.V. Modeling growth-defense trade-offs in frogs experiencing seasonal chytrid infections. (*in review, Animal Ecology*)

Government Reports

Acevedo, M., Iezzi, M., **Martin, N.**, Elmquist, L., Fletcher, R. 2025 Snail Kite Demography and Population Viability Analysis. Prepared for South Florida Water Management District.

Manuscripts pending co-author review

Martin, N.W., St Mary C.M. Modeling the evolutionary stability of secondary defenses in a soft-bodied insect, with and without signals.

Travis J Klee, **Nich W Martin***, Zuania Colón-Piñeiro, Brittany L Buchanan, Pratush Brahma, Claudia J Garnica Díaz, Lillian K Hendrick, Colette M St. Mary. Modeling size-dependent reciprocal plasticity between predators and prey exhibiting optimal behaviors.

*Co-first author

Manuscripts available

Martin, N.W.. Effects of prey defense variation on the growth and behavior of a color blind predator.

Martin, N.W., St Mary C.M. Modeling the evolutionary stability of secondary defenses in a soft-bodied insect, with and without signals.

Martin, N.W., Sieving K.E., Kleuver, B.M., Daniels, J.C., McAuslane, H.J. Plant traits as extended phenotypes of defended herbivores: can avian predators use host plants to predict prey defense?

Manuscripts in Prep

Martin, N.W., Sieving K.E., Kleuver, B.M., Daniels, J.C., McAuslane, H.J. Plant traits as extended phenotypes of defended herbivores: can avian predators use host plants to predict prey defense?

Martin N.W., Chen P-A., St Mary C.M., Sieving K.E. Feed, flee, or fact-find: Modeling avian cognitive-mechanistic responses to heterospecific alarm calls while foraging. (Partially drafted)

Conference Presentations

As presenter:

Nich W Martin. Plants as Extended Phenotypes for Defended Prey. **2024** Animal Behavioral Society (oral).

Nich W Martin, Kathryn Sieving, Jaret Daniels, Heather McAuslane. Host Plants as Prey Defense Signals. **2022** Entomological Society of America Joint Annual Meeting (oral).

Nich W Martin, Zuania Colón-Piñeiro, Travis Klee, Brittany Buchanan, Colette St Mary. Influence of Seasonal Patterns and Herbivore Specialization on Plant Allocation Towards Growth and Defense. **2022** Entomological Society of America Joint Annual Meeting (poster).

As co-author:

Juliette Rubin, Ummat Somjee, Jose Medina, Jay Falk, **Nich W Martin**, Kathryn Sieving, Akito Kawahara. Taking the Bird's Eye View: Two tests of elaborated traits in moths and bugs against bird predators. **2022** Animal Behavior Society's Annual Meeting.

Zuania Colón-Piñeiro, **Nich W Martin**, Travis J Klee, Pratush Brahma, Brittaney Buchanan, Colette M St. Mary, Miguel A. Acevedo, Patricia Burrowes, Ana V Longo. Modeling growth-immunity trade-offs in direct-developing frogs experiencing seasonal chytrid infections. **2022** Global Amphibian and Reptile Disease Conference.

Zuania Colón-Piñeiro, **Nich W Martin**, Travis J Klee, Pratush Brahma, Brittaney Buchanan, Colette M St Mary, Miguel A. Acevedo, Patricia Burrowes, Ana V Longo. Modeling growth-defense trade-offs in frogs experiencing seasonal chytrid infections. **2022** Society of Integrative and Comparative Biology Annual Conference.

Travis J Klee, **Nich W Martin**, Zuania Colón-Piñeiro, Brittany L Buchanan, Pratush Brahma, Claudia J Garnica Díaz, Lillian K Hendrick, Colette M St. Mary. Modeling reciprocal contextual plasticity between predators and prey exhibiting optimal behaviors. **2021** Animal Behavior Society.

Grants and Awards

- 2021 Gahan Fellowship supporting research in entomology, University of Florida. (\$12,500)
- 2017 MPI Outstanding Graduate Research Award, Western Michigan University. (\$1,000)
- 2016 Graduate Student Research Grant, Western Michigan University. Do plants attract the right kind of predators? (\$1,000).
- Hazel Wirick Scholarship for Research in Plant Biology. (\$1,000)
- 2015 Michigan Space Grant and Consortium Fellowship Award (NASA). Determining the Effects of Climate Change through Plant Growth and Chemical Defense: an immersive summer research experience for high school students underrepresented in science. (\$5,000).
- Graduate Student Research Grant, Western Michigan University. The influence of herbivore density on relative expression of direct and indirect plant chemical defenses. (\$1,000)
- 2014 Graduate Research and Creative Scholar Award-Teaching, Department of Biological Sciences, Western Michigan University (\$200).

Teaching and Mentoring Experience

Teaching Assistantships:

Fall 2023-Fall 2024 Insects as Disease Vectors (IDS 2935), University of Florida

Spring 2022- Spring 2023 Biological Science Lab (BSC 2011L), University of Florida

Spring 2018-2021 Principles of Entomology Lab (ENY 3005L), University of Florida

Summer 2017 Ecology and Evolution (EEB 381), University of Michigan Biological Station

Fall 2013-2016 General Ecology Lab (BIOS 3010), Western Michigan University

Spring 2015-2016 Ecology and Evolution Lab, Western Michigan University

Spring 2014 Organismal Biology Lab, Western Michigan University

Summer 2014-2016 Introduction to Biology Lab, Western Michigan University

Guest Lectures:

Spring 2022-24 Linear Models in Agriculture and Natural Resources (ALS 652C): *Bayesian Modeling* University of Florida, Gainesville, FL.

Fall 2016 General Ecology: *Intraspecific Competition* Western Michigan University, Kalamazoo, MI.

Fall 2015 General Ecology: *Community Structure and Competition*, Western Michigan University, Kalamazoo, MI.

Spring 2015 Evolution and Ecology: *Competition, Herbivory, and Physiological Ecology* Western Michigan University, Kalamazoo, MI.

Undergraduate Mentees:

2025 Luna Prado (UF)

2024 Fernando Miguelena (UF)

2018 Sophie Hyatt (UF)

2017 Alex Baron (UF)

2015 Armind Charhal and Jade Taylor (MSGC)

Public Communication and Outreach:

2024 Science Night: Littlewood Elementary

2023 Science Night: Littlewood Elementary

2020 Scientist in Every Florida School: Shenandoah Magnet School. "Making STEAMy Connections: how scientists and artists have more in common than you think".

2019 Science Night: Littlewood Elementary, Insect Petting Zoo

2018 Science Night: Littlewood Elementary

2015 Western Michigan Biology Club: Nature Walk on Campus; “Understanding Interactions between Plants and Insects.”

Leadership Experience

2018 President, University of Florida, Entomology and Nematology Department, Entomology and Nematology Graduate Student Organization.

2016 Lab Coordinator, Western Michigan University, Department of Biological Sciences, Ecology and Evolution.

2014-2016 Head TA, Western Michigan University, Department of Biological Sciences, General Ecology

2013-2014 Finch Experimental Greenhouse, Western Michigan University, Department of Biological Sciences.

Publicly Available Educational Models

COVID-19 VIRUS SPREAD (NetLogo),

http://modelingcommons.org/browse/one_model/6282#model_tabs_browse_info

Professional Affiliations

Entomology Society of America

Animal Behavior Society

Michigan Space Grant and Consortium Fellow