

Bruce Stagg Martin

(240) 361-7488
1814 Delevan Ave
Lansing, MI 48910

email: bruce.stagg.martin@gmail.com
website: bstaggmartin.github.io
software: github.com/bstaggmartin

Education

- Michigan State University**, East Lansing, MI Summer 2018 - Present
Degree: PhD in Plant Biology and Ecology, Evolution, and Behavior
Dissertation: *How and Why do Rates of Phenotypic Evolution Vary?*
Developing New Statistical Methods and Case Studies using the Phylogenetic Comparative Approach
Advisor: Dr. Marjorie Weber
- Skidmore College**, Saratoga Springs, NY Summer 2014 – Spring 2018
Degree: BA in Biology, with honors, summa cum laude
- Study Abroad with School for Field Studies**, Yungaburra, QLD, Australia Spring 2017

Honors and Awards

- Bessey Award for Outstanding Research Publication**, Michigan State University Spring 2023
- Distinguished Student Researcher Award**, School for Field Studies Summer 2018
- Dowd-Lester Award**, Skidmore College Spring 2018
- Dean's List Honors**, Skidmore College Fall 2014 – Spring 2018

Grants and Fellowships

- Paul Taylor Fund**, Michigan State University (\$1,600) Spring 2023
- Summer Fellowship in Ecology, Evolution, and Behavior**, Michigan State University (\$1,875) Summer 2022
- Triemer Fellowship**, Michigan State University (\$3,588) Summer 2021
- Rodman Endowment**, Michigan State University (\$1,000) Spring 2020
- Paul Taylor Fund**, Michigan State University (\$960.28) Spring 2020
- College of Natural Sciences Fellowship**, Michigan State University (~\$65,000) Summer 2018
- Student Opportunity Project Fund**, Skidmore College (~\$500) Winter 2016
- Student Opportunity Project Fund**, Skidmore College (~\$500) Summer 2015
- Porter Presidential Scholarship in Science and Mathematics**, Skidmore College (~\$60,000) Fall 2014

Publications

- A. Myers, [B.S. Martin](#), J.S. Yonenaga, and M.G. Weber. **In Review**. Convergent Evolution of Leaf Domatia: A Global Assessment of Plant-Mite Mutualism and its Ecological Drivers.
- M.L. Robinson, P.G. Hahn, B.D. Inouye, ... (107 authors), [B.S. Martin](#), ... (75 authors), L.N. Zehr, Z. Zhong, and W.C. Wetzel. **In Press**. Plant Size, Latitude, and Phylogeny Explain Variability in Global Herbivory. **Science**
- [B.S. Martin](#), G.S. Bradburd, L.J. Harmon, and M.G. Weber. **2022**. Modeling the Evolution of Rates of Continuous Trait Evolution. **Systematic Biology** 72(3): 590-605 ([10.1093/sysbio/syac068](https://doi.org/10.1093/sysbio/syac068))

E.T. Miller and [B.S. Martin](#). 2022. Distilling Complex Evolutionary Histories with *shiftPlot*. **bioRxiv** ([10.1101/2022.03.16.484646](https://doi.org/10.1101/2022.03.16.484646))

Presentations

Evolution , Albuquerque, NM <i>Title: Testing for Associations between Rates of Trait Evolution and Continuous Variables</i>	Summer 2023
University of Michigan EEB Tuesday Lunch Seminar Series , Ann Arbor, MI <i>Title: New Approaches for Modeling Variation in Rates of Trait Evolution</i>	Spring 2023
Evolution , Cleveland, OH <i>Title: Why Reconstruct when you can Simulate? Exploring Stochastic Character Mapping of Continuous Traits</i>	Summer 2022
Evolution , virtual <i>Title: Modeling (the Evolution of) Rates of Continuous Trait Evolution</i>	Summer 2021
Evolution , Providence, RI (poster) <i>Title: Exploring the Biotic Interactions Hypothesis through the Lens of Extrafloral Nectaries</i>	Summer 2019
Biology on Tap , Lansing, MI <i>Title: Social Immunity: How Social Insects Resist Epidemics</i>	Spring 2019
Northeastern Natural History Conference , Burlington, VT (poster) <i>Title: Enhancing Polistes Wasp Populations for Caterpillar Biocontrol</i>	Spring 2018
Mountain Lake Biological Station REU Symposium , Pembroke, VA <i>Title: Strength in Numbers? Examining the Effect of Colony Size on Social Immune Systems in Ants</i>	Summer 2017
School for Field Studies Research Symposium , Atherton, QLD, Australia <i>Title: Functional Trait and Structural Variation along Ecotones of Wet Sclerophyll Forest</i>	Spring 2017
NY6 Undergraduate Research Conference , Clinton, NY <i>Title: Social Wasps as Biocontrol Agents</i>	Summer 2016
Skidmore Biology Research Symposium , Saratoga Springs, NY (poster) <i>Title: A Novel Skull Shape for all Intents and Purposes: Investigating Claims of Heterochrony in Dolphins</i>	Spring 2016

Software

B.S. Martin. *Evorates*: a phylogenetic comparative method for modeling continuous variation in rates of trait evolution across time and lineages. R package version 0.1.1. github.com/bstaggmartin/evorates

B.S. Martin. *Contsimmap*: a phylogenetic comparative method for simulating, visualizing, and analyzing evolutionary histories of continuous traits. R package version 0.1 (*in dev*). github.com/bstaggmartin/contsimmap

E.T. Miller and **B.S. Martin**. *shiftPlot*: optimal visualization of discrete trait evolution on phylogenies. R package version 0.2 (*in dev*). github.com/eliotmiller/shiftPlot

Internships and Previous Research

Natural Science Collections Professional Internship, Herbarium, Michigan State University Summer 2021
Project: Integrating iNaturalist with specimen collection
Mentor: Matt Chansler, Principal Investigator: Dr. Alan Prather

- Adapted protocol recording metadata during biological specimen collection via iNaturalist
- Developed R package for automated retrieval and conversion of iNaturalist metadata into label templates

- Research Assistantship**, Evolutionary Ecology Lab, Skidmore College Summer 2016 – Spring 2018
Project: *Community dynamics of blood parasites in Common Yellowthroat warblers*
Principal Investigator: Dr. Corey Freeman-Gallant
- Sampled *Geothlypis trichas* phenotypes and blood in wild populations
 - Isolated, sequenced, and analyzed occurrence of parasite DNA in *G. trichas* blood samples
- Research Experiences for Undergraduates (REU)**, Ant Lab, Mountain Lake Biological Station Summer 2017
Project: *The effects of colony size and immune priming on ant colony defense against pathogens*
Mentor: Chloe Lash, **Principal Investigator:** Dr. Charles Kwit
- Assessed determinants of *Aphaenogaster* ant survival in response to fungal pathogen exposure
 - Cultured fungi and bacteria growing inside ant corpses
- Student Summer Research Program**, Ecology Lab, Skidmore College Summer 2016
Project: *Paper wasps as pest control agents in agricultural environments*
Principal Investigator: Dr. Monica Raveret Richter
- Collected, cultured, pinned, and identified various wasps and butterfly/moth species
 - Observed and analyzed *Polistes* wasp nesting and foraging behavior in agricultural environments
- Research Assistantship**, Evolutionary Biology Lab, Skidmore College Spring 2015 – Spring 2016
Project: *The evolution of skull morphology in dolphins and porpoises*
Principal Investigator: Dr. Abby Grace Drake
- Collected, processed, and cleaned 3D morphometric data (surface scans and landmarks)
 - Explored patterns of skull shape evolution and development
- Internship**, Department of Paleobiology, Smithsonian National Museum of Natural History Summer 2013 – 2015
Project: *Collections management internship*
Supervisor: Dr. Michael Brett-Surman
- Inventoried and reorganized old collections
 - Photographed fossils for digital archival

Teaching

- Graduate Teaching Assistant**, Biosciences Program, Michigan State University Spring 2020, Spring 2022
Class: BS161 – cellular and molecular biology lecture
- Graduate Teaching Assistant**, Integrative Biology Department, Michigan State University Spring 2021
Class: IBIO831 – statistical methods in ecology and evolution II
- Lab Teaching Assistant**, Biology Department, Skidmore College Fall 2017 – Spring 2018
Class: BI108 – organismal biology
- Lab Technician**, Biology Department, Skidmore College Fall 2015 – Spring 2018
Classes:
- BI108 – organismal biology
 - BI106 – diversity of life
 - BI105 – unity of life

Service

- Plant Biology Graduate Student Organization**, Michigan State University Spring 2019 – Present
Positions:
- diversity, equity, and inclusion committee liaison
 - Wednesday after work club coordinator
 - student-postdoc lecture series coordinator
 - T-shirt designer

Ecology, Evolution, and Behavior Graduate Group, Michigan State University
Position: recruitment liaison

Fall 2020, Present

Environmental Action Club, Skidmore College
Positions: president, vice president

Spring 2014 – Fall 2016

Workshops

Nantucket Phylogeny DevelopER Workshop, University of Massachusetts Boston

Fall 2019

Midwest Phylogenetics Workshop, University of Minnesota

Summer 2019