

RYAN ANDREW MARTIN

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EDUCATION

- Ph.D. 2010 Biology, The University of North Carolina at Chapel Hill
Advisor: Dr. David Pfennig
- B.S. 2002 Ecology and Evolution, University of California Santa Cruz (honors in the major)
Advisor: Dr. Barry Sinervo

PROFESSIONAL EXPERIENCE

- 2020 Associate Professor, Department of Biology, Case Western Reserve University
- 2014-2020 Assistant Professor, Department of Biology, Case Western Reserve University
- 2012-2014 Postdoctoral Fellow, National Institute for Mathematical and Biological Synthesis
Postdoctoral Mentors: Dr. Brian O'Meara and Dr. Darrin Hulsey
- 2010-2012 Postdoctoral Researcher, Department of Biology and W.M. Keck Center for Behavioral Biology, North Carolina State University
Postdoctoral Mentor: Dr. Brian Langerhans

PUBLICATIONS

- *equal author contribution
- Current and former Martin Lab members **in bold**.
- † graduate, ‡ undergraduate, ¶ postdoctoral, and & high-school Martin lab member coauthors.

Peer-Reviewed Articles Published or In Press

55. **Gherghel†, I., R.A. Martin.** Postglacial recolonization of North America by spadefoot toads: integrating niche and corridor modeling to study species' range dynamics over geologic time. *Ecography*. In Press.
54. **Yilmaz†, A.R., S.E. Diamond, R.A. Martin.** Evidence for the evolution of thermal tolerance but not desiccation tolerance in response to hotter, drier city conditions in a cosmopolitan, terrestrial isopod. *Evolutionary Applications*. In Press.
53. Diamond*, S.E., **R.A. Martin***. 2020. Evolution is a double-edged sword not a silver bullet to confront climate change. *Annals of the New York Academy of Science for the Year in Ecology and Conservation Biology*. 1469:38-51.

52. **Lis[&] C., M.P. Moore[†], R.A. Martin.** 2020. Warm developmental temperatures induce non-adaptive sexual coloration in a dragonfly. *Ecological Entomology*. 45:663-670.
51. Riesch, R., **R.A. Martin**, R.B. Langerhans. 2020. Multiple traits and multifarious environments: integrated divergence of morphology and life history. *Oikos*. 129:480-492.
50. Diamond^{*}, S.E., **R.A. Martin^{*}**. 2020 Evolutionary Consequences of the Urban Heat Island. In: Urban Evolutionary Biology. Edited by Marta Szulkin, Jason Munshi-South and Anne Charmantier, Oxford University Press. Oxford University Press. DOI: 10.1093/oso/9780198836841.003.0006
49. Caruso, C.M., H. Maherali, **R.A. Martin**. 2020. A meta-analysis of selection on plant functional traits. *International Journal of Plant Sciences*. 181:44-55.
In the invited special issue Functional Trait Evolution
48. **Moore[†], M.P., R.A. Martin**. 2019. On the evolution of carry-over effects. *Journal of Animal Ecology*. 88: 1832-1844.
• Shortlisted for the Sidnie Manton Award
47. **Yilmaz[†], A.L., Chick, A. Perez, S.A. Strickler, S. Vaughn, R.A. Martin, S.E. Diamond.** Remarkable insensitivity of acorn ant morphology to temperature decouples the evolution of physiological tolerance from body size under urban heat islands. 2019. *Journal of Thermal Biology*. 85: 102426
In the special issue The Evolution and adaptation of thermoregulation
46. **Moore[†], M.P., H.H. Whiteman, R.A. Martin**. 2019. A mother's legacy: the strength of maternal effects in animal populations. *Ecology Letters*. 22:1620-1628.
45. **Martin, R.A., L. Chick, A. Yilmaz[†], S.E. Diamond.** 2019. Evolution, not transgenerational plasticity, explains the adaptive divergence of acorn ant thermal tolerance across an urban-rural temperature cline. *Evolutionary Applications*. 12:1678-1687.
44. **Moore[†], M.P., C. Lis[&], I. Gherghel[†], R.A. Martin**. 2019. Temperature shapes the costs, benefits, and geographic distribution of sexual coloration in a dragonfly. *Ecology Letters*. 22:437-446.
• Featured in:
• *iNaturalist blog*: <https://www.inaturalist.org/blog/22029-inat-photos-used-to-study-correlation-between-dragonfly-wing-coloration-and-temperature>
• *Daily Kos*: <https://www.dailykos.com/stories/2019/3/2/1838754/-Daily-Bucket-For-blue-dasher-dragonflies-every-picture-tells-a-story-and-stories-become-science>
• *MSN*: <https://www.msn.com/en-us/video/l/dragonflies-found-to-adapt-color-of-wings-to-temperature/vp-BBTY6Y7>

- *Case Western Reserve's The Daily*: <https://thedaily.case.edu/how-male-dragonflies-adapt-wing-color-to-temperature/>
- *Amore a Quattro Zampe*: <https://www.amoreaquattrozampe.it/news/animali-cambiano-colore-cambiamenti-climatici/37025/>

43. Rivkin, L.R., J.S. Santangelo, M. Alberti, M.F.J. Aronson, C.W. de Keyzer, S.E. Diamond, M. Fortin, L.J. Frazee, A.J. Gorton, A.P. Hendry, Y. Liu, J.B. Losos, J.S. MacIvor, **R.A. Martin**, M. McDonnell, L.S. Miles, J. Munshi-South, R. Ness, A.E.M. Newman, M.R. Stothart, P. Theodorou, K.A. Thompson, B.C. Verrelli, A. Whitehead, K.M. Winchell, M.T.J. Johnson. 2019. A Roadmap for Urban Evolutionary Ecology. *Evolutionary Applications*. 12:284-398.

42. Chick, L., A. Perez, S.A. Strickler, **R.A. Martin**, Diamond, S.E. 2019. Urban heat islands advance the timing of reproduction in a social insect. *Journal of Thermal Biology*. 80:119-125.

41. Caruso, C.M., K. Eisen, **R.A. Martin**, N. Sletvold. 2019. A meta-analysis of the agents of selection on floral traits. *Evolution*. 73:4-14.

40. **Moore**[†], **M.P.**, **C. Lis**[&], **R.A. Martin**. 2018. Immune deployment increases larval vulnerability to predators and inhibits adult life-history traits in a dragonfly. *Journal of Evolutionary Biology*. 31:1365-1376.

39. Diamond*, S.E., L. Chick, A. Perez, S.A. Strickler, **R.A. Martin***. 2018. Evolution of thermal tolerance and its fitness consequences: parallel and non-parallel responses to urban heat islands across three cities. *Proceedings of the Royal Society Series B*. 285:(1882).

In the special issue The evolution of city life

- Featured in:
 - *The Scientist*: <https://www.the-scientist.com/features/cities-can-serve-as-cauldrons-of-evolution-65211>
 - *Science et Vie*: <https://www.science-et-vie.com/nature-et-enviro/l-evolution-par-la-chaieur-urbaine-47294#dossier-47727>
 - *Proceedings of the National Academy of Sciences (PNAS) Front Matter*: <https://www.pnas.org/content/116/8/2787>
 - *Wired*: www.wired.com/story/urban-wildlife-evolution-climate-change
 - *Life in the City*: <https://urbanevolution-litc.com/2018/10/05/proc-b-special-issue-city-ants-adapt-to-hotter-environment/>

38. **Moore**[†], **M.P.**, **R.A. Martin**. 2018. Trade-offs between larval survival and adult ornament development depend on predator regime in a territorial dragonfly. *Oecologia*. 188: 97-106.

37. Riesch, R., **R.A. Martin**, S.E. Diamond, J. Jourdan, M. Plath, R.B. Langerhans. 2018. Thermal regime drives a latitudinal gradient in morphology and life history in a livebearing fish. *Biological Journal of the Linnean Society*. 125:126-141.

36. **Moore[†], M.P., C. Lis[&], R.A. Martin.** 2018. Larval body condition mediates predator-induced life-history variation in a dragonfly. *Ecology*. 91:224-230.
35. Siepielski, A., M.B. Morrissey, M. Buoro, S. Carlson, C.M. Caruso, S.M. Clegg, T. Coulson, J. Di Battista, K.M. Gotanda, C.D. Francis, J. Hereford, J.G. Kingsolver, K.E. Augustine, L.E.B. Kruuk, **R.A. Martin**, B.C. Sheldon, N. Sletvold, E.I. Svensson, M.J. Wade, A.D.C. MacColl. 2018. Response to Comment on "Precipitation drives global variation in natural selection". *Science*. 359: eaan5760.
34. Levis, N.A., **R.A. Martin**, K.A. O'Donnell, D.W. Pfennig. 2017. Intraspecific adaptive radiation: competition, ecological opportunity, and the evolution of cryptic ecomorphological diversity within species. *Evolution*. 71: 2496–2509.
33. Caruso*, C.M., **R.A. Martin***, N. Sletvold, M.B. Morrissey, M.J. Wade, K.E. Augustine, S.C. Carlson, A.D.C. MacColl, A.M. Siepielski, J.G. Kingsolver. 2017. What are the environmental determinants of phenotypic selection? A meta-analysis of experimental studies. *The American Naturalist*. 190:363-376.
32. Siepielski, A., M.B. Morrissey, M. Buoro, S. Carlson, C.M. Caruso, S.M. Clegg, T. Coulson, J. Di Battista, K.M. Gotanda, C.D. Francis, J. Hereford, J.G. Kingsolver, K.E. Augustine, L.E.B. Kruuk, **R.A. Martin**, B.C. Sheldon, N. Sletvold, E.I. Svensson, M.J. Wade, A.D.C. MacColl. 2017. Precipitation drives global variation in natural selection. *Science* 355 (6328):959-962.
- Recommended by *Faculty of 1000*: <https://f1000.com/prime/727367706>
31. **Krynak[‡], K.L.**, D.J. Burke, **R.A. Martin**, P.M. Dennis. 2017. Gut microbiome composition is associated with cardiac disease in captive western lowland gorillas (*Gorilla gorilla gorilla*). *FEM Microbiology Letters* 364: fnx149.
30. Diamond*, S.E., L. Chick, A. Perez, S.A. Strickler, **R.A. Martin***. 2017. Rapid evolution of ant thermal tolerance across an urban-rural temperature cline. *Biological Journal of the Linnean Society* 121:248-257.
- Recommended by *Faculty of 1000*: <https://f1000.com/prime/732106108>
 - Highlighted in an “Amazing Species” exhibit at the Cleveland Museum of Natural History
 - Featured in:
 - *New York Times*: <https://www.nytimes.com/2017/04/03/science/acorn-ants-evolution-cleveland.html>
 - *Undark*: <https://undark.org/article/urban-ants-evolution-climate-change/>
 - The popular science book on urban evolution, *Darwin Comes to Town* by Menno Schilthuizen
 - *Society for Integrative and Comparative Biology* student journalist: <http://www.sicb.org/students/2017/lauterbur.php>
 - *Anthropocene Magazine*: <http://www.anthropocenemagazine.org/2017/03/rapid-evolution-city-creatures/>
 - *Eco-Evo Evo-Eco*: <http://ecoevoeco.blogspot.com/2017/02/a-tale-of-two-thousand-cities-by.html>

29. Diamond*, S.E., **R.A. Martin***. 2016. The interplay between plasticity and evolution in response to human-induced environmental change. *F1000 Research* 5(F1000 Faculty Rev): 2835.
28. **Moore**†, **M.P.**, **R.A. Martin**. 2016. Intrasexual selection favors greater expression of an immune-correlated color ornament in a dragonfly. *Journal of Evolutionary Biology* 29: 2256-2265.
27. **Dugas**¶, **M.B.**, **M.P. Moore**†, **R.A. Martin**, C.L. Richards-Zawacki, C.G. Sprehn. 2016. Maternal care, offspring development, and the scope of parent-offspring conflict in an egg-feeding frog. *Journal of Evolutionary Biology* 29:1977-1985.
26. **Dugas**¶, **M.B.**, **L. McCormack**‡, **A. Gadau**‡, **R.A. Martin**. 2016. Cannibalistic tadpoles preferentially consume kin with low fitness prospects. *The American Naturalist* 188:124-131.
25. **Moore**†, **M.P.**, R. Riesch, **R.A. Martin**. 2016. The predictability and magnitude of life-history divergence to ecological agents of selection: a meta-analysis in livebearing fishes. *Ecology Letters* 19:435-442.
24. **Dugas**¶, **M.B.**, N.R. Franssen, **R.A. Martin**. 2016. Morphological correlates of river velocity and reproductive development in an ornamented stream fish. *Evolutionary Ecology* 30:21-33.
23. Diamond, S.E., R.R. Dunn, S.F. Frank, N.M. Haddad, **R.A. Martin**. 2015. Shared and unique responses of insects to the interaction of urbanization and background climate. *Current Opinion in Insect Science* 11:71-77.
22. **Dugas**¶, **M.B.**, **M.P. Moore**†, C.N. Wamelink, C.L. Richards-Zawacki, **R.A. Martin**. 2015. Reproductive performance is associated with age and experience in a frog that cares for its young. *The Science of Nature (Naturwissenschaften)* 102: 9-10.
21. Pfennig, K.S., D.W. Pfennig, C. Porter, **R.A. Martin**. 2015. Sexual selection's impacts on ecological specialisation: an experimental test. *Proceedings of the Royal Society of London, Series B* 282:20150217.
20. **Martin, R.A.**, M.D. McGee, R.B. Langerhans. 2015. Predicting ecological and phenotypic differentiation in the wild: a case of piscivorous fish in a fishless environment. *Biological Journal of the Linnean Society* 114:588-607.
- Featured in:
 - *National Science Foundation's News from the Field*: https://nsf.gov/news/news_summ.jsp?cntn_id=134431

- *Fishsens Magazine*: <http://magazine.fishsens.com/blue-holes-of-bahamas-provide-natural-labs-to-study-piscivorous-predators-in-absence-of-prey.htm>
- *CWRU's Think Magazine*: http://blog.case.edu/think/2015/03/04/usual_prey_gone_a_fish_survives_by_changing_predictably

19. **Martin, R.A.**, R. Reisch, J. L. Heinen, R.B. Langerhans. 2014. Evolution of male coloration during a post-Pleistocene radiation of Bahamas mosquitofish. *Evolution* 68:397-411.
18. **Martin, R.A.**, S.C. Garnett. 2013. Relatedness and resource availability interact to affect the intensity of competition. *Biological Journal of the Linnean Society* 110:689-695.
17. Riesch R., **R.A. Martin**, H. Lerp, M. Plath, T. Wronski. 2013. Size and sex matter: reproductive biology and intrinsic determinants of offspring survival in *Gazella marica*. *Biological Journal of the Linnean Society* 110:116-127.
16. Heinen, J.L., M.W. Coco, A.S. Johnson, M.S. Marcuard, D.N White, M.N. Peterson, **R.A. Martin**, R.B. Langerhans. 2013. Environmental drivers of variation in demographics, habitat use, and behavior during a post-Pleistocene radiation of Bahamas mosquitofish. *Evolutionary Ecology* 27:971-991.
15. Riesch, R., **R.A. Martin**, R.B. Langerhans. 2013. Predation's role in life-history evolution of a livebearing fish and a test of the Trexler-DeAngelis model of maternal provisioning. *The American Naturalist* 181:78-93.
14. Paull, J., **R.A. Martin**, D.W. Pfennig. 2012. Increased competition as a cost of specialization during the evolution of resource polymorphism. *Biological Journal of the Linnean Society* 107:845-853.
13. **Martin, R.A.**, D.W. Pfennig. 2012. Widespread disruptive selection in the wild is associated with intense resource competition. *BMC Evolutionary Biology* 12:136.
12. Pfennig, K.S., S. Allenby, **R.A. Martin**, A. Monroy, C.D. Jones. 2012. A suite of molecular markers for identifying species, detecting introgression, and describing population structure in spadefoot toads (*Spea* spp.). *Molecular Ecology Resources* 12:909-917.
11. Riesch, R., **R.A. Martin**, D. Bierbach, M. Plath, R.B. Langerhans, L. Arias-Rodriguez. 2012. Natural history, diet, and life history of *Priapella chamulae* Schartl, Meyer and Wilde 2006 (Teleostei: Poeciliidae). *Aqua, International Journal of Ichthyology* 18:95-102.
10. **Martin, R.A.**, D.W. Pfennig. 2011. Evaluating the targets of selection during character displacement. *Evolution* 65:2946-2958.
9. **Martin, R.A.** 2011. Evaluating a novel technique for individual identification of anuran

tadpoles using coded wire tags. *Herpetological Conservation and Biology* 6:168-173.

8. Diamond, S.E., A.M. Frame, **R.A. Martin**, L.B. Buckley. 2011. Species' traits predict phenological responses to climate change in butterflies. *Ecology* 92:1005-1012.

- Recommended by *Faculty of 1000*: <http://f1000.com/11582956>
- Featured in *Nature* as a Research Highlight: <http://www.nature.com/nature/journal/v469/n7329/full/469134a.html>

7. Pfennig D.W., **R.A. Martin**. 2010. Proximate basis of character displacement in spadefoot toads: Different mechanisms in different species. *Evolution* 64:2331-2341.

6. **Martin, R.A.**, D.W. Pfennig. 2010. Maternal investment influences expression of resource polymorphism in amphibians: Implications for the evolution of novel resource-use phenotypes. *PLoS ONE* 5(2)e9117.

- Featured in *New Scientist's* blog Zoologer: <https://www.newscientist.com/article/dn18538-zoologer-what-turns-a-tadpole-into-a-killer/>

5. **Martin, R.A.**, D.W. Pfennig. 2010. Field and experimental evidence that competition and ecological opportunity promote resource polymorphism. *Biological Journal of the Linnean Society* 100:73-88.

4. **Martin, R.A.**, D.W. Pfennig. 2009. Disruptive selection in natural populations: The roles of ecological specialization and resource competition. *The American Naturalist* 174:268-281.

- Research cited by the academic books “Eco-Evolutionary Dynamics”, “Ecological Speciation”, “Evolution’s Wedge”, and “The Biology of Deserts”

3. Pfennig D.W., **R.A. Martin**. 2009. A maternal effect mediates rapid population divergence and character displacement in spadefoot toads. *Evolution* 63:898-909.

2. Pfennig D.W., A.M. Rice, **R.A. Martin**. 2007. Field and experimental evidence for competition's role in phenotypic divergence. *Evolution* 61:257-271.

1. Pfennig D.W., A.M. Rice, **R.A. Martin**. 2006. Ecological opportunity and phenotypic plasticity interact to promote character displacement and species coexistence. *Ecology* 87:769-779.

Manuscripts in Review or Revision

5. Diamond, S. E., **R. A. Martin**. Forecasting responses to urban heat islands using capacities for rapid ecological and evolutionary shifts in physiology. (invited review at *Journal of Experimental Biology*). In review.

4. Kelley, P.W., G.M. Calabrese, **R. A. Martin**, D.W. Pfennig, K.S. Pfennig. Female mate preferences predict variation in offspring phenotypes, plasticity, and fitness in natural populations. In review.
3. Diamond, S. E., **R. A. Martin**. Buying time: plasticity and population persistence. (invited book chapter in *Phenotypic Plasticity: Causes, Consequences, Controversies*). In review.
2. **Moore[†], M.P., R.A. Martin**. Adaptive decoupling and evolutionary trade-offs across the life cycles of dragonflies. In revision.
1. de la Serna Buzon, S., **R.A. Martin**, D.W. Pfennig. Carryover effects and the evolution of polyphenism. In revision.

Manuscripts in Draft

manuscript available upon request

Martin, R.A., K.L. Krynak, A. Gadau, M. Balman[†], D.J. Burke, P.M. Dennis. A resource polyphenism and its microbiomes: investigating the potential for host adaptation in spadefoot toad tadpoles.

Martin, R.A., Chick, L., S.E. Diamond. You can't go home again: reciprocal transplant experiment reveals fitness trade-offs in response to urban adaptation in an acorn dwelling ant.

Diamond, S. E., **R. A. Martin**. Evolution in cities. (invited review in prep at *Annual Review of Ecology, Evolution and Systematics*).

Dugas, M.B., R.A. Martin. Cannibalism in a crowd: carnivorous tadpoles consume siblings at similar rates alone and in the presence of competitors.

Martin, R.A., R. Riesch, M. Plath, T. Wronski. Maternal provisioning and paternal genetic quality: predictors of short- and long-term offspring survival in *Gazella arabica*.

A. Strugariu, R.A. Martin. The role of exploitative competition in the evolution and maintenance of a resource polyphenism in spadefoot toad tadpoles.

I. Gherghel, Martin R.A. Historical effects of range shifts between spadefoot toads and fairy shrimp sheds light to present patterns of character displacement.

I. Gherghel, Martin R.A. Eco-evo feedbacks and the effects of resource polymorphism in spadefoot toads on sexually selected traits and body size of fairy shrimp.

Non-Refereed Publications

Martin, R.A., 2012. The ecology of mate choice: dicey climates and sexual selection. *The Signal* 13(7):7.

Martin, R.A., 2010. Coping with an arid habitat. *The Signal* 12(1):2-3.

FUNDING AND AWARDS

- 2019 National Science Foundation, Division of Environmental Biology: Workshop on Bio-Inspired Adaptation of Urban Infrastructure. Co-PI with CWRU faculty from Depts. of Civil Engineering (Lead PI Xiong Yu), Anthropology (Lawrence Greksa), Electrical Engineering and Computer Science (Jing Li), and Political Science (Kathryn Lavelle): \$49906.
- 2018 Oglebay Fund Grant (\$1370 for travel to an international conference)
- 2017 Gilmour Academy (\$500)
- 2016 Hathaway Brown School (\$500)
- 2012 National Institute for Mathematical and Biological Synthesis Postdoctoral Fellowship
- 2012 National Evolutionary Synthesis Center Postdoctoral Fellowship (awarded but declined)
- 2012 W.M. Keck Center for Behavioral Biology (\$600)
- 2010 W.M. Keck Center for Behavioral Biology (\$2650)
- 2010 Southwestern Research Station Graduate Support Fund (\$800)
- 2008 Elected Graduate Student Speaker, Department of Biology, UNC Chapel Hill (\$50)
- 2007 Smith Graduate Research Grant, UNC, Chapel Hill (\$1000)
- 2005 Honorable Mention: NSF Graduate Research Fellowship
- 2004 Southwestern Research Station Graduate Support Fund (\$800)

Graduate Student Led Grants

- 2019 Theodore Roosevelt Memorial Fund (\$1100 to Aaron Yilmaz)
- 2019 Ohio Biological Survey (\$500 to Aaron Yilmaz)
- 2019 Oglebay Fund Grant (\$1484 to Aaron Yilmaz)
- 2019 Oglebay Fund Grant (\$1500 to Madeline Balman)
- 2018 Oglebay Fund Grant (\$1500 to Michael Moore)
- 2018 Oglebay Fund Grant (\$945 to Aaron Yilmaz)
- 2017 Theodore Roosevelt Memorial Fund (\$2000 to Michael Moore)
- 2017 Oglebay Fund Grant (\$1429 to Michael Moore)
- 2016 Prairie Biotic Research Small Grants (\$1000 to Iulian Gherghel)

INVITED SYMPOSIA AND SEMINARS

- 2019 Kent State University, Department of Biology: *Sources of variation and causes of selection in evolution*
- 2019 Case Western Reserve University, Department of Biology: *The importance of variation.*
- 2018 McGill University, Redpath Museum Seminar Series: *A resource polyphenism and its microbiomes: investigating the potential for host adaptation and coevolution*

- 2018 AMNH Southwestern Research Station Summer Seminar Series: *Urban Evolution: Ants are evolving to beat the heat*
- 2017 International Evolution Meeting Symposium: Evolution in Urban Ecosystems
Rapid evolution of ant thermal tolerance within urban heat islands
- 2016 Brigham Young University, Department of Biology (*invited by graduate students*):
The causes of natural selection
- 2016 AMNH Southwestern Research Station Summer Seminar Series: *Carnivores, omnivores and their stomach microbes* 2016
Pymatuning Laboratory of Ecology, University of Pittsburgh:
The causes of natural selection
- 2014 Bucknell University, Department of Biology: *Piscivorous fish in a fishless environment: predicting phenotypic and ecological differentiation in Bahamas blue holes*
- 2014 University of Akron, Integrated Biosciences Program: *Exploring ecological causes of natural selection and divergence*
- 2014 John Carroll University, Department of Biology: *Exploring ecological causes of natural selection and divergence*
- 2013 Case Western Reserve University, Department of Biology: *Ecological causes of selection and divergence*
- 2013 National Institute for Mathematical and Biological Synthesis: *Ecological causes of selection and divergence*
- 2009 Duke University, Behavior, Population and Community Ecology Seminar Series:
Diversifying selection and the evolution of variation within species
- 2009 Eastern Carolina University, Department of Biology Research in Progress Seminar Series
Diversifying selection and the evolution of variation within species 2008
UNC Chapel Hill, Department of Biology (*elected graduate student speaker*):
Diversifying selection and the evolution of variation within species
- 2008 AMNH Southwestern Research Station Summer Seminar Series: *Diversifying selection and the evolution of variation within species*

INVITED WORKING GROUPS

- 2017 Synthesis in the City: Urban Evolutionary Ecology. 19th New Phytologist Workshop, Mississauga, Canada
- 2014 Computational Landscape Genomics: working group funded by the National Institute for Mathematical and Biological Synthesis (NIMBioS)
- 2012-15 Environmental and Demographic Determinants of Natural Selection: working group funded by the National Evolutionary Synthesis Center (NESCent)

PRESENTATIONS AT INTERNATIONAL MEETINGS SINCE 2014

- 2019 Society for Experimental Biology (presented 1 talk)
- 2019 International Evolution Conference (author on 2 talks - presented 1, coauthor on 2 posters)
- 2019 The International Biogeography Society (coauthor on 1 poster)
- 2018 Annual Zoological Congress of the National Museum of Natural History, Romania

(coauthor on 2 talks)

- 2018 Joint Congress on Evolutionary Biology (poster presenter in urban evolution symposium)
- 2018 American Society of Naturalists Stand Alone Meeting (coauthor on 1 talk)
- 2017 Ecological Society of America (coauthor on 1 poster)
- 2017 International Evolution Conference (invited symposium speaker)
- 2017 Society for Integrative and Comparative Biology (author on 2 talks- 1 presented)
- 2017 The International Biogeography Society (coauthor on 1 poster)
- 2016 International Evolution Conference (author on 2 talks - 1 presented, and 1 poster)
- 2015 Ecological Society of America (author on 2 talks - 1 presented)
- 2014 International Evolution Conference (presented 1 talk)

TEACHING AND MENTORING

Primary Instructor

Case Western Reserve University

- Biology 214: Genes, Ecology and Evolution, 1 semester (159 students)
- Biology 364/464: Research Methods in Evolutionary Biology, 7 semesters (avg. 16 students)
- Biology 472: Foundations of Evolution (Graduate Course), 3 semesters (avg. 8 students)
- Biology 388S: SAGES Capstone Undergraduate Research, (8 students total)
- Biology 388: Undergraduate Research, (2 students total)
- Biology 390: Advanced Undergraduate Research, (4 students total)

Visiting Scholars

Alexandru Strugariu: 2018 Fulbright Scholar: *Research Faculty, Alexandru Ioan Cuza University*

Graduate and Postdoctoral Student Mentoring

Case Western Reserve University

Postdoctoral Researchers

- Dr. Matthew Dugas: 2014-2017: *now Assistant Professor of Biology, Illinois State University*
- Dr. Katherine Krynak: 2015-2016: *now Assistant Professor of Biology, Ohio Northern University*

PhD Students

- Dr. Michael Moore: 2014-2019: *now a Biodiversity Postdoctoral Fellow, Living Earth Collaborative, Washington University at St. Louis*
- Iulian Gherghel: 2015-present
- Aaron Yilmaz: 2018-present
- Madeline Balman: 2018-present
- Roberta Muehlheim: 2019-present

Undergraduate Student Research Mentoring

Case Western Reserve University

- Carson Miller: Spring 2020 (Capstone research)
- Haley Pratt: Spring 2019

Cheryl Lin: Spring 2018-2019 (Honors Thesis, Capstone research)
Kayla Harris: Fall 2017-Spring 2018 (Capstone research)
Yannique Stewart: Fall 2017
Andrew Wiecek: Fall 2016-Fall 2017, Fall 2019 (Capstone research)
Aramaria Mendez: Fall 2016-Spring 2017 (Capstone research)
Lindsey Robinson: Summer 2016
Jared Larson: Spring 2015-Spring 2017 (Capstone research)

Southwestern Research Station, American Museum of Natural History

Alice Gadau: Summers of 2015 and 2018, *now a Biology PhD student at Rockefeller University*
Larkin McCormack: Summer of 2015, *now a Paleontology MS student at the University of Iowa*

High School Student Research Mentoring

Hathaway Brown School

Cassandra Lis: January 2016-2019, *now an undergraduate student at Kenyon College*

Gilmour Academy

Nicholas Majer: Spring 2017

Guest Lectures

2019 Genes, Ecology and Evolution, Case Western Reserve University
2015-present Field Herpetology of the Southwest, Southwestern Research Station
2014 Limnology, Bucknell University
2014 Herpetology, Case Western Reserve University
2012 EEB Graduate Student Seminar, University of Tennessee
2009 Research Methods in Biology, North Carolina School of Science and Mathematics
2008-present Animal Behavior Course, Southwestern Research Station

Graduate Committee Member

Case Western Reserve University

Mimi Guo, Biology MS program (*Defended Spring 2016*)
Hillary Rollins, Biology PhD program, qualifying committee
Henrique Rodrigues, Biology PhD program, qualifying and dissertation committee
Valentine Siba, Biology MS program (*Defended Fall 2016*)
David Dimitrie, Biology PhD program, qualifying and dissertation committee
Sheng Chen, Biology MS program (*Defended Spring 2018*)
Sharon Danielson, Biology PhD program, qualifying and dissertation committee
Brian Lerch, Biology MS program (*Defended Spring 2019*)
Beth Carroll, Biology MS program (*Defended Spring 2019*)
Angie Lenard, Biology PhD program, qualifying and dissertation committee
Xiang Li, Biology MS program (*Defended Spring 2019*)
Kaitlyn Lisenby, Biology MS program (*Defended Spring 2020*)
Luxin Ke, Biology MS program (*Defended Spring 2020*)

External Graduate Committees

Sofia de la Serna Buzon, Biology PhD program, University of North Carolina at Chapel Hill
(Defended Spring 2019)

Undergraduate Honors Committee Member

Laura Hill (Spring 2015)

Brian Lerch (Spring 2018)

Rachel Harris (Spring 2018)

Erin Conway (Spring 2018)

Cheryl Lin (Spring 2019)

Joseph Redinger (Spring 2019)

Morgan Sutton (Spring 2019)

Nadia Barbo (Spring 2020)

Departmental Service

2017-present Biology Department Seminar Committee

2020-present Graduate & Undergraduate Teaching Assistant Assignment Committee

2019-2021 Committee on Graduate Affairs

2019-2020 Graduate Admissions Committee

2017-2019 Bio[box] Oversight Committee

2015-2017 Graduate Recruitment Weekend Co-organizer

2014-2017 Committee on Graduate Affairs

PROFESSIONAL SERVICE

Editorial Positions

2018-present Subject Editor for *Ecosphere*, journal of the Ecological Society of America

2016-2018 Area Editor in Evolutionary and Behavioral Ecology for *Oxford Bibliographies*

Ad Hoc Grant Reviewer

Fulbright Program, National Research, Development and Innovation Office (Hungary), National Science Foundation (USA)

Journal Referee

Aquatic Invasions, Behavioral Ecology and Sociobiology, Biological Journal of the Linnean Society, Biology Letters, BMC Biology, BMC Evolutionary Biology, Copeia, Current Zoology, Ecology, Ecology and Evolution, Ecosphere, Environmental Entomology, Evolutionary Applications, Evolutionary Ecology Research, Ethology, Evolution, Evolutionary Biology, Functional Ecology, Heredity, Herpetologica, Herpetological Conservation and Biology, Journal of Animal Ecology, Journal of Evolutionary Biology, Journal of Herpetology, Journal of Morphology, Journal of Thermal Biology, Molecular Ecology, Oecologia, Oikos, Proceedings of the Royal Society B, Philosophical Transactions of the Royal Society, Phyllomedusa, Science, Scientific Reports, The American Naturalist

Society Membership

American Society of Naturalists (*lifetime member*), Herpetologists League, Society of Integrative and Comparative Biology, Society for Experimental Biology, Society for the Study of Evolution (*lifetime member*)

OUTREACH

- 2020 Invited talk to *Ecophilia* an informal scientific discussion forum in Cleveland, Ohio
- 2017, 2019 Presenter at Cleveland Museum of Natural History's "Think and Drink with the Extinct"
- 2017 Research mentor for Catalyst Program at Gilmour Academy (Gates Mill, OH)
- 2016-19 Research mentor for Science Research & Engineering Program (SREP) at Hathaway Brown School (Shaker Heights, OH)
- 2016 Speaker for Support of Undergraduate Research and Creative Endeavors Wednesday Lunch and Learns sessions (CWRU)
- 2015 Interview with Dr. Marie McNeely for the science podcast "People Behind the Science" <http://www.peoplebehindthescience.com/dr-ryan-martin/>
- 2013 Profiled in a NSF supported ScienceLives article "Agents of Selection: Scientist Synthesizes the Myriad Causes" <http://www.livescience.com/41440-natural-selection-ryan-martin-nsf-sl.html>
- 2013 Education and outreach activities in mathematics and biology with Gresham Middle School's National Beta Club (Knoxville, TN)
- 2013 Video interview "Selection in the Wild", posted to the NIMBioS website and YouTube channel, discussing NSF-funded postdoctoral research
- 2009 Research mentor for North Carolina School of Science and Mathematics' Research Methods in Biology class