

## RYAN ANDREW MARTIN

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- CONTACT INFORMATION Department of Biology, North Carolina State University  
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Raleigh, NC, 27695 [gambusia.zo.ncsu.edu/martin](http://gambusia.zo.ncsu.edu/martin)
- EDUCATION The University of North Carolina at Chapel Hill, NC  
Ph.D. Biology, August 2010
- Dissertation: Competition as a driver of diversity within and between species
  - Committee: David Pfennig (chair), Christina Burch, Corbin Jones, Joel Kingsolver, and Karin Pfennig
- The University of California, Santa Cruz, CA  
B.S. Ecology and Evolutionary Biology (honors), June 2002
- PROFESSIONAL EXPERIENCE *Postdoctoral Researcher*. Department of Biology 2010-present  
and W.M. Keck Center For Behavioral Biology, North Carolina State University, Advisor: Brian Langerhans
- Research Technician*. Department of Ecology and Evolution 2001-2003  
The University of California, Santa Cruz, Advisor: Barry Sinervo
- PEER REVIEWED PUBLICATIONS Pfennig, K.S., S. Allenby, **R.A. Martin**, A. Monroy, and C.D. Jones. *In press*. A suite of molecular markers for identifying species, detecting introgression, and describing population structure in spadefoot toads (*Spea* spp.). *Molecular Ecology Resources*.
- Reisch, R., **R.A. Martin**, D. Bierbach, M. Plath, R.B. Langerhans, and L. Arias-Rodriguez. 2012. Natural history, diet, and life history of *Priapella chamulae* Scharf, Meyer and Wilde 2006 (Teleostei: Poeciliidae). *Aqua, International Journal of Ichthyology* 18:95-102.
- Martin, R.A.** and D.W. Pfennig. 2011. Evaluating the targets of selection during character displacement. *Evolution* 65:2946-2958.
- 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.

Diamond, S.E., A.M. Frame, **R.A. Martin** and L.B. Buckley. 2011. Species' traits predict phenological responses to climate change in butterflies. *Ecology* 92:1005-1012.  
(Recommended by Faculty of 1000, and featured as a Nature Research Highlight, "Climate change ecology: Butterflies break out earlier. 2011. *Nature* 469:134.)

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

**Martin, R.A.** and 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.  
(subject of an article on *The New Scientist's* web page by Michael Marshall (Zoologger) ("What turns a tadpole into a killer?", February 17, 2010).)

**Martin, R.A.** and 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.

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

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

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

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

SUBMITTED  
MANUSCRIPTS

**Martin, R.A.**, and D.W. Pfennig. Ecology predicts widespread disruptive selection in the wild.

Reisch, R., **R.A. Martin**, and R.B. Langerhans. Predation's role in life-history evolution of a livebearing fish and a test of the Trexler-DeAngelis model of maternal provisioning.

J. Paull, **Martin, R.A.**, and D.W. Pfennig. Increased competition as a cost of specialization during the evolution of resource polymorphism.

MANUSCRIPTS IN PREPARATION

**Martin, R.A.**, R. Reisch, and R.B. Langerhans. Evolution of male coloration during a post-Pleistocene radiation of Bahamas mosquitofish.

Reisch, R., **R.A. Martin**, and R.B. Langerhans. Life-history evolution in Bahamas mosquitofish (*Gambusia hubbsi*): on the relative roles of predation and other environmental factors, as well as the covariation between life histories and morphology.

Heinen, J.L., Coco\*, M.W., A.S. Johnson\*, M.S. Marcuard\*, D.N White\*, M.N. Peterson, **R.A. Martin**, and R.B. Langerhans. Environmental drivers of variation in demographics, habitat use, and behavior during a post-Pleistocene radiation of Bahamas mosquitofish.

\*undergraduate authors

**Martin, R.A.**, and S.C. Garnett\*. Relatedness and resource availability interact to affect the intensity of competition in spadefoot toad tadpoles.

\*former undergraduate advisee

OTHER 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

NIMBioS Postdoctoral Fellowship (\$110,000)	2012
NESCent Postdoctoral Fellowship (\$94,700)	2012
W.M. Keck Center for Behavioral Biology (\$2650)	2010
Southwestern Research Station Graduate Support Fund, The American Museum of Natural History (\$800)	2010
Elected Student Speaker, Annual Symposium and Retreat, Department of Biology, UNC Chapel Hill	2008
H.V. Wilson Fund Award, Department of Biology, UNC, Chapel Hill (\$2000)	2004-2008
Smith Graduate Research Grant, UNC, Chapel Hill (\$1000)	2007
Honorable Mention: NSF Graduate Research Fellowship	2005
Southwestern Research Station Graduate Support Fund, The American Museum of Natural History (\$800)	2004

INVITED SEMINARS  
Duke University, Department of Biology, Behavior, Population and Community Ecology Seminar, October 2009  
Eastern Carolina University, Department of Biology, Research in Progress Seminar Series, March 2009  
UNC Chapel Hill, Department of Biology, Annual Symposium and Retreat, October 2008  
American Museum of Natural History, Southwestern Research Station Summer Seminar Series, July 2006, 2008

TEACHING EXPERIENCE  
*Teaching Assistant*  
University of North Carolina at Chapel Hill  
• Evolutionary Mechanisms 2004, 2006  
• Ecology and Population Biology 2004  
• Structure and Evolution of Vertebrates 2005, 2007  
• Fundamentals of Human Anatomy and Physiology 2003, 2006, 2008

University of California, Santa Cruz  
• Introduction to Ecology and Evolution 2003

*Learning Assistant*  
University of California, Santa Cruz, Modified Supplemental Instruction Program, 2002, 2001  
• Genetics 2002  
• Evolution 2001

*Mentoring*  
North Carolina State University, Department of Biology,  
(4 undergraduate researchers)  
  
University of North Carolina at Chapel Hill, Department of Biology,  
(13 undergraduate researchers, including two honors student and three students now pursuing Ph.D.'s in evolutionary biology)

*Guest Lectures*  
Research Methods in Biology, North Carolina School of Science and Mathematics  
Animal Behavior Course, American Museum of Natural History, Southwestern Research Station

SOCIETY MEMBERSHIP  
The American Society of Naturalists  
Society of Integrative and Comparative Biology  
Society for the Study of Evolution

*R. A. Martin, Curriculum Vitae*

REVIEWER

*American Naturalist, Behavioral Ecology and Sociobiology,  
Evolution, Functional Ecology, Herpetologica, Journal of  
Herpetology, Journal of Morphology, Oikos*