

Curriculum Vitae
Dr. Mark J. Garcia
Department of Entomology
University of Kentucky

Contact Information:

Department of Entomology
University of Kentucky
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Lexington, KY.

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Professional Position

University of Kentucky, Lexington, KY.
Department of Entomology
Post-Doctoral Scholar
Advisors: Nicholas Teets

Sep 2016-Pres

Salisbury University, Salisbury, MD.
Dept. of Biological Sciences
Post-Doctoral Fellow/Visiting Assistant Professor
Advisors: Ryan Taylor & Kimberley Hunter

Aug 2014-Aug 2016

Professional Development:

University of Alabama, Tuscaloosa, AL.

May 2015

Doctorate of Philosophy, Evolutionary Biology
Dissertation: From Genotypes to Populations: Examining Phenotypic Variation in the Mangrove Rivulus Fish (*Kryptolebias marmoratus*) Across Multiple Scales
Advisor: Ryan L. Earley

University of Alabama, Tuscaloosa, AL.

May 2012

Masters of Science, Integrative Animal Behavior
Thesis: Mechanisms of decision making during contests in green anole lizards: prior experience and assessment
Advisor: Ryan L. Earley

California State University, Fresno

May 2008

Bachelors of Science Organismal Biology with Ecology & Evolution focus

Publications:

Google Scholar H Index: 3

Li C-Y, Huang S-P, Fuller A, **Garcia MJ**, Hsu Y-Y, & Earley RL. Sexual Phenotype Drives Variation in Endocrine Response to Social Challenge in a Clonal Animal. *In Review* Proceedings of the Royal Society B: Biological Sciences

Garcia MJ, Ferro JC, Mattox T, Kopelic S, Marson K, Svendsen JC, & Earley RL. 2016. Phenotypic Differences between the Sexes in the Sexually Plastic Mangrove Rivulus Fish (*Kryptolebias marmoratus*). *Journal of Experimental Biology*. 219:988-997

Manuscript was selected to be exhibited in the Journal of Experimental Biology highlight segment, Inside JEB.

- Garcia MJ**, Williams J, Sinderman B, & Earley RL. 2015. Ready for a Fight? The Physiological Effects of Detecting an Opponent's Pheromone Cues Prior to a Contest. *Physiology & Behavior*. 149:1-7
- Hoss SK, **Garcia MJ**, Earley RL, & Clark RW. 2014. Fine-scale hormonal patterns associated with birth and maternal care in the cottonmouth (*Agkistrodon piscivorus*), a North American pitviper snake. *General and Comparative Biology*. 208:85-93
- Garcia MJ**, Wilson J, Murphree J, & Earley RL. 2014. Mechanisms of decision-making during contests in green anole lizards: prior experience and assessment. *Animal Behaviour*. 92:45-54
- Garcia MJ**, Sivaraman, B, Paiva, L, Lennox, M, Wong, SC, & Earley RL. 2012. Effects of Fighting Experience on Future Competition Success in the Green Anole (*Anolis carolinensis*). *Ethology*. 118:821-834
- Earley, RL, Hanninen, AF, Fuller, A, **Garcia, MJ**, & Lee, EA. 2012. Phenotypic Plasticity and Integration in the Mangrove Rivulus (*Kryptolebias marmoratus*): A Prospectus. *Integrative and Comparative Biology*. 52:814-827

Teaching Experience:

Visiting Assistant Professor

Introductory Biology, Salisbury University – 2014-Pres.

Hybrid Course – Lecture, Laboratory, Online Component, and “Flipped Course” Design
 Responsibilities: Develop and deliver lectures for Biology major students, which cover macromolecules, cellular biology, genetics, ecology, taxonomy, and evolution. Develop assignments and assessments to reinforce lecture material and assess retention of course material, respectively.

Graduate Teaching Assistant

Anatomy & Physiology Laboratory, University of Alabama – 2013-2014

Lead Teaching Assistant

Responsibilities: Training new teaching assistants in the laboratory's course material and the coordination of laboratory activities with the course's instructor.

Anatomy & Physiology Laboratory, University of Alabama – 2011-2013

Responsibilities: Develop and deliver lectures for pre-Health students, which cover every major human bodily system. Provide students with hands-on experiences by utilizing 3D models and several dissection exercises; the most prominent dissection exercise utilizes cat models. Training students on how to properly dissect preserved cats, removing skin, muscle, and connective tissue in order to expose and study structures of interest (e.g. blood vessels).

Human Physiology Laboratory, University of Alabama – 2009-2011

Responsibilities: Develop and deliver lectures for non-Biology major students, which cover basic human physiology and pathologies. Provide students with hands-on experiences by utilizing 3D models and several exercises.

General Biology Laboratory, University of Alabama – 2009

Responsibilities: Develop and deliver lectures for Biology major students, which cover cellular biology, macromolecules, genetics, evolution, and diversity of life to name a few topics. Provide students with hands-on experiences by utilizing 3D models and several exercises.

Entomology Laboratory, University of Alabama – 2008

Responsibilities: Develop and deliver lectures for Biology major students, which cover taxonomic classification of insects up to order and use of taxonomic keys for insect identification. Train students how to capture, preserve, and identify insects.

Field Experience:

Hunter/Taylor Laboratory, Salisbury University – Field Supervisor *May-Aug 2015*

Responsibilities: Manage graduate and undergraduate students work schedules, training students in field collection and behavioral analyses, and field collection of green treefrogs (*Hyla cinerea*).

Earley Laboratory, University of Alabama – Field Technician *Aug 2010*

Responsibilities: Field collection of Mangrove Rivulus (*Kryptolebias marmoratus*) fish utilizing modified cup traps, Gee traps, and hook & line. Water quality measurements include salinity, DO, and pH.

Southwest Research Station, USDA Forest Service California – Field Technician

Spotted Owl Demographic Study *May – July 2006 & 2007*

Responsibilities: Capture and banding of native Spotted Owls (*Strix occidentalis*).

Conferences, Symposiums, and Workshops:

Primary Author/Presenter:

“Anthropogenic Effects on the Epigenome of the Túngara Frog (*Physalaemus pustulosus*)” Society of Integrative and Comparative Biology, Portland, OR. **Garcia MJ**, Rodriguez S, Taylor RC, & Hunter KL. *January 2016*

“Sex Differences in the Costs of Reproduction in a Sex Changing Fish, the Mangrove Rivulus (*Kryptolebias marmoratus*)” Society of Integrative and Comparative Biology, West Palm Beach, FL. **Garcia MJ**, Marson KM, Svendsen JC, & Earley RL. *January 2015*

“Local adaptation of trait integration: Predicting the evolutionary trajectories of complex phenotypes” Society of Integrative and Comparative Biology, Austin, TX. **Garcia MJ** & Earley RL. *January 2014*

“Local adaptation of trait integration: Predicting the evolutionary trajectories of complex phenotypes” Animal Behavior Society, Boulder, CO. **Garcia MJ** & Earley RL. *July 2013*

“Variation within and among populations in the behavioral types of mangrove rivulus (*Kryptolebias marmoratus*)” Society of Integrative and Comparative Biology, San Francisco, CA. **Garcia MJ**, Dobbins M, Vaughn S, & Earley RL. *January 2013*

“Evidence for local adaptation of life history traits in the mangrove rivulus (*Kryptolebias marmoratus*)” **Garcia MJ**, Stanley S, Vaughn S, Taylor DS & Earley RL. - 14th Annual Graduate Student Association Thesis & Research Conference, University of Alabama. *October 2012*

“Evidence for local adaptation of life history traits in the mangrove rivulus (*Kryptolebias marmoratus*)” **Garcia MJ**, Stanley S, Vaughn S, Taylor DS & Earley RL. - Society of Integrative and Comparative Biology, Charleston, SC. *January 2012*

“Mechanisms driving winner and loser effects in the green anole lizard (*Anolis carolinensis*)” **Garcia MJ**, Wilson J, Murphree J & Earley RL. Joint Meeting of the International Ethological Conference and Animal Behavior Society, Indiana University *July 2011*

“Mechanisms driving winner and loser effects in the green anole lizard (*Anolis carolinensis*)” **Garcia MJ** & Earley RL – Society of Integrative and Comparative Biology, Salt Lake City, UT. *January 2011*

“Mechanisms driving winner and loser effects in the green anole lizard (*Anolis carolinensis*)” **Garcia MJ** & Earley RL – Alabama Partners for the Conservation of Amphibians and Reptiles. *November 2010*

“Organization-Activation: Models for Physiological Mechanisms of Fighting Experience” **Garcia MJ** - 13th Annual Graduate Student Association Thesis & Research Conference, University of Alabama *March 2010*

Contributing Author/Presenter:

“Going to great lengths: population and genotypic effects on growth and development in the mangrove rivulus.” Society for Integrative and Comparative Biology, Charleston, SC. Stanley S, **Garcia MJ**, Vaughn S, Taylor DS & Earley RL. *January 2012*

“Integrative perspectives on phenotypic plasticity: linking life history, behavior, and hormones in the mangrove rivulus (*Kryptolebias marmoratus*)” Society for Integrative and Comparative Biology, Charleston, SC. Earley RL, Hanninen AF, Fuller A, **Garcia MJ**, Stanley S, Lee EA. *January 2012*

“Sex differences in the endocrine response to social challenge despite genotypic uniformity in the mangrove rivulus (*Kryptolebias marmoratus*)” Earley RL, Huang SP, Fuller A, Hanninen A & **Garcia MJ** - Society of Integrative and Comparative Biology, Salt Lake City, UT. *January 2011*

“Phenotypic Variation in a Clonal Organism: Perspectives from Hormones and Behavior” Hanninen A, Fuller A, **Garcia MJ**, Huang SP, & Earley RL – 11th Annual Undergraduate Research Conference/Symposium, University of Alabama *April 2010*

“Physiological Mechanisms Underlying Experience-Induced Changes in Fighting Performance” Aquino J, Murphree J, Elrod W, **Garcia MJ**, & Earley RL – 11th Annual Undergraduate Research Conference/Symposium, University of Alabama *April 2010*

Grants, Scholarships, and Awards (Total Awarded = \$23,116):

Henson Faculty Travel Award (\$500) *Oct. 2014*

NSF Doctoral Dissertation Improvement Grant (IOS #1311347) (\$18,866) *Nov. 2012*

Sigma Xi Grant-In-Aid (\$400) *Oct. 2012*

Inge and Ilouise Hill Scholarship, Univ. of Alabama (\$1,000) *Apr. 2012*

Univ. of Alabama, Graduate Student Association Research Grant (\$500) *Aug 2011*

Graham Prize Scholarship, Univ. of Alabama (\$500) *Apr. 2011*

Univ. of Alabama, Graduate Student Association Research Grant (\$500) *Apr. 2010*

Univ. of Alabama, Graduate Student Association Travel Grant (\$500) *Apr. 2009*

Cal State Fresno, Faculty Sponsored Student Research Award (\$350) *Oct. 2007*

Professional Associations:

Animal Behavior Society *Member since Oct. 2008*

Sigma Xi *Member since July 2009*

Society for Integrative and Comparative Biology *Member since June 2010*

Alabama Academy of Science *June 2009 – June 2010*

Society for the Study of Amphibians and Reptiles *Oct. 2009 – Oct. 2011*

Reviewer

Reviewer for *Animal Behavior*

Reviewer for *PlosOne*

Reviewer for *Behavioral Ecology*

Reviewer for *Herpetologica*

Reviewer for *Ethology*

Synergistic Activities and Scholarly Works:

Mentor to 12 undergraduate and 3 graduate research assistants at Salisbury University

Mentor to 35 undergraduate research assistants at University of Alabama

Mentor to 2 undergraduate research assistants at California State University Fresno

2013 Science Olympiad – Exam captain: Anatomy and Physiology

2012 University of Alabama, Biology Colloquium Event Volunteer

2012 Science Olympiad – Exam captain: Anatomy and Physiology

2010 Science Olympiad – Exam captain: Ecology

2009 Science Olympiad – Exam captain: Herpetology, Amphibians & Reptiles

List of References

PhD Advisor:

Dr. Ryan L. Earley

Associate Professor

University of Alabama

Email: rlearley@ua.edu

Phone: 559-451-6800

Post-Doctoral Advisor/Colleague:

Dr. Ryan C. Taylor

Associate Professor

Salisbury University

Email: rctaylor@salisbury.edu

Phone: 443-944-2474

Post-Doctoral Advisor/Colleague:

Dr. Kimberley L. Hunter

Professor

Salisbury University

Email: kxhunter@salisbury.edu

Phone: 443-614-6245