

Stephen Edward Rice

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EDUCATION

- 2017 PhD Evolutionary Biology, San Diego State University/University of California Riverside
Dissertation: Conservation genetic assessment of the island night lizard, *Xantusia riversiana*, under contemporary and future environmental conditions.
- 2011 MS Biology, Old Dominion University
Thesis: Patterns of transience, sex bias, and body mass in open-habitat rodent populations
- 2004 BA Biology, University of North Carolina Asheville

EXPERIENCE

Additional Skills

- Capture, tagging, and genetic sampling of mammals, amphibians, and reptiles (including crotalids)
- Veterinary surgical experience including anesthesia and phlebotomy
- Illumina library preparation (ddRADseq)
- Microsatellite and SNP genotyping
- R, QGIS, ArcGIS, Office
- Population/Landscape genetics/genomics
- Laboratory management and molecular biology techniques

Research

1. 2011-2017 PhD Research, Rulon Clark, San Diego State University
Investigated contemporary genetic patterns of the island night lizard through 2/3 of its range and also leveraged field and genetic data to elucidate species ecology and model potential changes due to climate change.
2. 2013-2017 Research Assistant, Rulon Clark, San Diego State University
Managed laboratory ordering and training of undergraduate and graduate students while also assisting and collaborating on multiple research projects including two international collaborations.
3. 2009-2011 MS Research, Robert Rose, Old Dominion University
Investigated patterns of capture in old-field rodent species from field-derived data and additional long-term (25+year) capture-mark-recapture data sets.

Teaching

1. 2017 Lecturer: Human Anatomy, San Diego State University
Summer session lecturer and lab instructor. Designed and delivered all course materials in addition to teaching assistant obligations listed below.
2. 2013-2016 Teaching Asst: Human Anatomy, San Diego State University
Designed and delivered course materials utilizing human cadavers, microscopes, and anatomical models. I also designed 3D printed models for instruction and supervised/mentored advanced undergraduates serving as interns. Administrative duties included grade management and new instructor training.
3. 2011 Teaching Asst: General Biology Lab, San Diego State University
Designed and delivered course materials for non-majors course. Administrative duties included grade management.

4. 2010-2011 Teaching Asst: Human Anatomy Physiology, Old Dominion University
Designed and delivered course materials utilizing human cadavers, microscopes, and anatomical models. Administrative duties included grade management and new instructor training.

Professional

1. 2010-2011 Research Technician, Sobran Inc, Norfolk VA
Maintained vertebrate research facilities, cared for research animals, and performed minor medical procedures including euthanasia. Administrative duties included maintaining facility and medical records to maintain accreditation and compliance.
2. 2009-2010 Veterinary Asst, Pet Care Animal Hospital, Norfolk VA
Served as surgical and room assistant. Performed minor medical treatments, triage, and client education. Administrative duties included maintenance of patient medical records.
3. 2006-2008 Science Teacher/Dean of Students, DATA, Fort Lauderdale, FL
Designed and delivered science classes to grades 6-8 while also handling student discipline and staff scheduling at an institution serving at-risk/impoverished minority youth. I also forged partnerships with local museums to improve student outcomes. Administrative duties included maintaining grades, county-level reporting, and parent communications.
4. 2005-2006 Laboratory Supervisor, Natural Immunogenics, Fort Lauderdale, FL
Supervised production of dietary supplements, performed quality control procedures, and actively researched/developed product improvements. Administrative duties included maintaining production quality and compliance records.

RESEARCH INTERESTS

I have broad interests in empirical and theoretical population genetics, evolutionary ecology, and the adaptive potential and management of herpetofaunal species in the context of contemporary and predicted future conditions and anthropogenic effects.

GRANTS

Funded

1. 2014 Southern California Research and Learning Center (\$5,400)
Integrating genetics and population viability assessments to forecast the effects of climate change on the island night lizard, *Xantusia riversiana*.
2. 2013 Southern California Research and Learning Center (\$5,000)
Conservation genetics of terrestrial vertebrates in habitat fragments of Cabrillo National Monument.

Unfunded

1. 2014 National Science Foundation Doctoral Dissertation Improvement Grant (\$12,960)
Investigating the Effects of Climate Change at Neutral and Adaptive SNPs in the Island Night Lizard, *Xantusia riversiana*.

AWARDS

1. 2013 – 2017 ARCS Foundation Scholar (\$30,000). Achievement Rewards for College Scientists Foundation, San Diego Chapter
2. 2017 University of California Conservation Genomics Consortium Catalyst Grant (\$225)
3. 2011 3rd Place Presentation. Biology Graduate Student Spring Symposium, Old Dominion University, Norfolk, VA
4. 1999 – 2003 Western North Carolina Leadership Scholar (\$20,000). University of North Carolina Asheville, Asheville, NC
5. 1999 – 2000 Asheville Civitan Club Scholar (\$2,000). Asheville Civitan Club, Asheville, NC

PUBLICATIONS

*Undergraduate student

Research Collaborations

1. Rice SE, RW Clark (2017) Comparative landscape genomics of two regionally abundant crotalids.
 - a. Research focused on SNPs derived from ddRADSeq protocols to compare the insular *Crotalus oreganus caliginis* and mainland *C. o. helleri* in San Diego County, California.
2. Glaudas X, G Alexander, SE Rice, R Nava, RW Clark (2017) Parentage analyses and spatial ecology of *Bitis arietans*.
 - a. Collaborative research project between Xavier Glaudas, Alexander Graham and the Clark lab. We developed microsatellite marker panels, genotyped 529 individuals, and performed parentage analyses.

Manuscripts in prep/review/revision (drafts available upon request):

1. Rice SE, RW Clark. (bioarxiv doi: <https://doi.org/10.1101/060038>) Factors affecting intra-island genetic connectivity and diversity of an abundant and widespread island endemic, the San Clemente Island night lizard. In Revision for submission to Journal of Heredity.
2. Rice SE, RW Clark (bioarxiv doi: <https://doi.org/10.1101/125666>) Elucidating dispersal ecology of *Xantusia riversiana* from population genetic data. In prep for submission to Animal Conservation;
3. Rice SE, RW Clark (bioarxiv doi: <https://doi.org/10.1101/173922>) Estimating the population genetic effects of climate change on *Xantusia riversiana*. In prep for submission to Global Change Biology.
4. Lion KA, SE Rice, RW Clark. A comparative study of genetic patterns in two closely related and sympatric *Peromyscus* species. In review, Conservation Genetics.

Peer-reviewed Publications

1. Rice SE, E Moustakas*, R Nava, X Glaudas, G Alexander, RW Clark (2017) Characterization of 11 cross-amplifying polymorphic microsatellite loci for use in the African puff adder, *Bitis arietans*. Herpetology Notes 10, 329-333.
2. Rice S, RW Clark (2016) Amelanism in the island night lizard, *Xantusia riversiana*. Herpetological Review 47, 675.
3. Rice SE, B Putman, H Schraft, RW Clark (2016) *Crotalus oreganus helleri* (Southern Pacific rattlesnake) loss of style/matrix. Herpetological Review 47, 679.

4. Rice SE, Beasley RR, Lance SL, Jones KL, Clark RW (2016) Development of 24 polymorphic microsatellite markers for the Island Night Lizard (*Xantusia riversiana*) in Microsatellite records for volume 8, issue 2. Conservation Genetics Resources, 8, 169-196 doi: 10.1007/s12686-016-0549-4.
5. Rice SE (2016) Range Expansion of *Aspidoscelis sexlineata* into the Blue Ridge Mountains. Herpetological Review 47, 257.
6. Schuett GW, SK Hoss, SE Rice (2012) *Crotalus atrox* (Western diamond-backed rattlesnake), *Crotalus ruber* (Red diamond rattlesnake). Loss of rattle and style/matrix. Herpetological Review 43(2), 341-342.

PRESENTATIONS/INVITED TALKS

1. 2017, Aug 28 Conservation genetic assessment of the island night lizard, *Xantusia riversiana*, under contemporary and future environmental conditions. Dissertation Defense (Talk), San Diego State University, San Diego CA.
2. 2017, Feb 25 Evolutionary ecology of the island night lizard. Talk, Southwest HerpFest. University of California Riverside, Riverside, CA.
3. 2016, May 21 Coexisting with rattlesnakes, an overview of rattlesnakes and research within Cabrillo National Monument. Invited Seminar, Cabrillo National Monument Bioblitz 2016. Cabrillo National Monument, San Diego, CA.
4. 2016, Apr 13 Conservation genetics of the island night lizard on San Clemente and Santa Barbara Islands. Invited Seminar, San Diego Zoo Institute for Conservation Research. Beckman Center for Conservation Research, Escondido, CA.
5. 2015, Apr 29 Integrating population genetics with viability analyses: a case study on forecasting the effects of climate change for two reclusive species. Invited Seminar, Loma Linda University EBS Seminar Series. Loma Linda University, Loma Linda, CA.
6. 2015, Apr 04 Conservation genetics of the San Clemente Island night lizard, *Xantusia riversiana* reticulata, on San Clemente Island, CA. Talk, South Western Association of Naturalists 62nd Annual Meeting. San Diego State University, San Diego, CA.
7. 2013, Mar 09 Threat assessment and dispersal of the big-eared woodrat, *Neotoma macrotis*. Talk, Gradfest. University of California Riverside, Riverside, CA.
8. 2011, Jun 04 Patterns of transience, sex bias, and body mass in open-habitat rodent populations. Poster presentation, American Society of Mammalogists 91st Annual Meeting. University of Oregon, Portland, OR.
9. 2011, May 23 Patterns of transience, sex bias, and body mass in open-habitat rodent populations. Talk, Virginia Academy of Sciences, 89th Annual Meeting. University of Richmond, Richmond, VA.
10. 2011, Mar 19 Patterns of transience, sex bias, and body mass in open-habitat rodent populations. Talk, Biology Graduate Student Organization Spring Symposium. Old Dominion University, Norfolk, VA.

SERVICE AND OUTREACH

1. May 2016 Cabrillo National Monument Bioblitz Scientist. Cabrillo National Monument Bioblitz 2016. Cabrillo National Monument, San Diego, CA.

2. April 2016 Poster Presentation: Conservation genetics of the San Clemente Island Night Lizard, *Xantusia riversiana reticulata*, on San Clemente Island, California. ARCS Foundation, San Diego Chapter Scientist of the Year Award Dinner
3. January 2015 Presentation: Dissertation research overview. ARCS Foundation, San Diego General Membership Meeting.
4. June 2014 Presentation: Herps & You, An overview of herpetofauna within Cabrillo National Monument and the current research being conducted. Cabrillo National Monument, San Diego CA
5. May 2013 Presentation: Landscape genetics and science as a career. Montgomery High School, San Diego CA
6. March 2013 Presentation: Reptiles on the ranch – herpetofauna of Jamul. California Department of Fish and Wildlife, Jamul CA

SOCIETY MEMBERSHIPS

American Association for the Advancement of Science

Genetics Society of America

The Society for the Study of Evolution

REFERENCES PROVIDED FOR APPLICATIONS UPON REQUEST.