

# MICHELLE E. SNECK

## *Curriculum Vitae*

Department of BioSciences, Ecology and Evolutionary Biology Graduate Program

Rice University, MS-170, 6100 Main Street, Houston, TX 77005

Email: mes8@rice.edu Phone: 702-806-1188

### EDUCATION

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- 2012-Present    **Ph.D. candidate.** Rice University. Ecology and Evolutionary Biology  
Advisor: Dr. Thomas E. X. Miller
- 2011-2012    **M.A.** Rice University. Ecology and Evolutionary Biology.  
Advisor: Dr. Kenneth Whitney  
Thesis Title: Evolutionary responses to global change: an experimental test of the effect of altered precipitation on hybridization rates in sunflower (*Helianthus*)
- 2006-2011    **B.S.** University of Nevada, Reno. Biology. *magna cum laude in cursu honorum*

### FELLOWSHIPS AND GRANTS

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- Spring 2017    Texas Sea Grant College Program Co-PI (*pending*)
- 2016 - 2017    NSF Scientific Teaching Fellow, Louisiana State University
- Developed active-learning lessons for introductory ecology courses
- Spring 2016    Houston Livestock Show and Rodeo Graduate Student Award
- Spring 2015    Rice Graduate Student Association Travel Award
- Fall 2014    Sigma Xi Grant in Aid of Research
- Spring 2014    Society for the Study of Evolution Small Grants Program
- Spr - Fall 2013    Rice University, Dept. of Ecology and Evolutionary Biology, Centennial Grant
- Spring 2013    Graduate Women in Science Fellowship Program- Honorable Mention
- Fall 2012    National Science Foundation Graduate Research Fellowship Program- Honorable Mention
- 2011- Present    Wray Todd Graduate Fellowship, Rice University, Department of Ecology and Evolutionary Biology
- Spr 2009 - 2010    Undergraduate Research Grant, University of Nevada, Reno
- Spring 2010    Hadley-Lynch Scholarship, University of Nevada, Reno, Biology Department
- 2006 - 2010    Millennium Scholarship, State of Nevada

### AWARDS AND HONORS

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- Summer 2015    Graduate Workshop on Environmental Data Analytics (NCAR), Boulder, CO
- Spring 2014    Peter Savvas Nelson Award, Rice University
- Spring 2013    Rice University Graduate Science Day Symposium. Honorable Mention
- Fall 2013    Rice University & University of Houston Joint Symposium. 2<sup>nd</sup> Place Presentation
- Spring 2013    Entomological photography selected for display at the Art & Science Gallery at the annual meeting of the Texas Academy of Sciences, Schreiner University, Kerrville, TX
- Spring 2012    Joe Davies Prize for Outstanding Service as a Teaching Assistant, Rice University
- Spring 2011    Distinction in Biology, University of Nevada, Reno Dept. of Biology
- Spring 2006    National Scholastic Art and Writing Award: "American Vision" Award

## PUBLICATIONS

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- Wilson, J. S., **M. E. Sneck**, D. D. Murphy, C. C. Nice, J. A. Fordyce, M. L. Forister. (2013) Complex evolutionary history of the pallid dotted-blue butterfly (Lycaenidae: *Euphilotes pallescens*) in the Great Basin of western North America. *Journal of Biogeography* 40(11): 2059-2070.
- Compagnoni, A., A. J. Bibian, B. D. Elderd, A. Iler, D. W. Inouye, H. Jacquemyn, B. Ochocki, H. S. Rogers, E. L. Schultz, **M. E. Sneck**, T. E. X. Miller. (2016) Negative correlation among vital rates buffers population growth in three plant populations. *Ecological Monographs* 86(4): 480-494
- Campbell, L., K. Shukla, **M. E. Sneck**, C. A. Chaplin, K. L. Mercer. (2016) Evolutionary response to global change: The effect of altered soil moisture on hybridization rate in a crop-wild system (*Raphanus Spp.*). *PLoS ONE* 11(12): e0166802
- Sneck, M. E.**, J. A. Rudgers, C. Young, T.E.X Miller. *accepted at Microbial Ecology*. Variation in the prevalence and transmission of heritable symbionts across host populations in heterogeneous environments.
- Sneck, M. E.**, L. Campbell, K. Whitney. *In progress*. An experimental test of the effect of altered precipitation on hybridization rates in sunflower (*Helianthus*). [Complete Draft]
- Sneck, M. E.**, S. E., Solomon. *In progress*. Supermarket sampling: A problem-based activity for undergraduate biodiversity labs. [Partial Draft]
- Sneck, M. E.**, J. A. Rudgers, C. Young, T.E.X Miller. *In progress*. The influence of host outcrossing on symbiosis. [Partial Draft].

## PRESENTATIONS

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### *Oral presentations*

- Sneck, M. E.**, T. E. X. Miller, J. A. Rudgers, C. A. Young. (2016). *The influence of host outcrossing on symbiont vertical transmission rates across multiple generations*. Society for the Study of Evolution, Austin, TX
- Sneck, M. E.**, T. E. X. Miller, J. A. Rudgers, C. A. Young. (2015). *The influence of host outcrossing on symbiont vertical transmission rates*. Ecological Society of American Annual Meeting, Baltimore, MD
- Sneck, M. E.**, T. E. X. Miller. (2014). *The influence of environment and gene flow on fungal endophyte frequencies and vertical transmission rates in two native host grass species Elymus virginicus and E. canadensis*. Ecological Society of American Annual Meeting, Sacramento, CA
- Sneck, M. E.**, K. D. Whitney, L. Campbell. (2013) *Evolutionary responses to global change: An experimental test of the effect of altered precipitation on hybridization rates in sunflower (Helianthus)*. Rice University and University of Houston Joint Symposium. Houston, TX
- Sneck, M. E.**, D. D. Murphy, J. S. Wilson, M. L. Forister. (2010) *Isolation in the Desert: A Phylogenetic study of the Pallid dotted-Blue*. University of Nevada, Reno Undergraduate Research Symposium, NV

### *Invited lectures*

## Sneck CV

- Sneck, M. E.** (2016) *Hidden players of the prairie: The role of microscopic fungi on native grass populations.* Houston Chapter of the Native Prairie Society. University of St. Thomas, Houston, TX
- Sneck, M. E.** (2014) *Selling your science: How to talk about your research.* Course: Graduate Professional Development, Rice University Dept. of Ecology and Evolutionary Biology, TX
- Sneck, M. E.** (2013) *Insect diversification: Euphilotes pallescens.* Course: Insect Biology, Rice University Dept. of Ecology and Evolutionary Biology, TX
- Sneck, M. E.** (2013) *Symbioses: From mutualism to parasitism.* Course: Ecology, Rice University Dept. of Ecology and Evolutionary Biology, TX
- Sneck, M. E.** (2012) *Ethnobotany and Medicinal Plants.* Course: Plant Diversity, Rice University Dept. of Ecology and Evolutionary Biology, TX

### Posters

- Sneck, M. E.,** K. D. Whitney, L. Campbell. (2013) *Evolutionary responses to global change: an experimental test of the effect of altered precipitation on hybridization rates in sunflower (Helianthus)?* Society for the Study of Evolution, Snowbird, UT
- Sneck, M. E.,** D. D. Murphy, J. S. Wilson, M. L. Forister. (2011) *Isolation in the Desert: A Phylogenetic study of the Pallid dotted-Blue.* Ecological Society of America Annual Meeting, Austin, TX
- Sneck, M. E.,** D. D. Murphy, J. S. Wilson, M. L. Forister. (2011) *Isolation in the Desert: A Phylogenetic study of the Pallid dotted-Blue.* University of Nevada, Reno, Undergraduate Research Symposium, NV
- Sneck, M. E.,** R. G. Scott, K. L. Leeper. (2009) *Mandibular torus in the Greenlandic Norse.* American Society of Physical Anthropologists, Chicago, IL

### **TEACHING, MENTORING, AND OUTREACH**

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- 2017            **Outreach.** Visited four high school freshman biology classes (Westbury High School, primarily minority serving institution) to inspire students to pursue careers in STEM fields through the Grad Student Show & Tell program (R-STEM @ Rice).
- 2016            **Mentor.** Guided the independent research of a high school junior (Wheatley High School) for six-weeks. This student, an underrepresented minority from an underserved urban community, accompanied me to the field, aided in the collection of data, and wrote a research paper that was then presented to the Rice Office of STEM engagement.
- Outreach.** Visited five HISD classrooms to teach short modules on the mechanisms of evolution (natural selection) and ecosystem stability (food chain dynamics).
- Visited six high school freshman biology classes (Westbury High School, primarily minority serving institution) to inspire students to pursue careers in STEM fields through the Grad Student STEM Share program (R-STEM @ Rice).
- Demonstrated to HISD students (grades 5-12) how to create simple electrical circuits through the R-STEM for Tech Connect Back to School Fair (Moody Public Library).

## Sneck CV

- 2015 **Teaching Assistant.** Advanced Communication in the Biological Sciences. Helped students improve their writing skills by providing in-depth personalized feedback on written, oral, and visual communication.
- Mentor.** Guided the independent research of a high school junior (Belliare High School) for six-weeks, which culminated in the writing of a research paper presented to the Rice Office of STEM Engagement.
- Outreach.** Administrated, coordinated, and helped lead EEB Academy, a two-week graduate-led internship for high school students. Ten students from three local HISD high schools learned how to interpret primary literature, collect data, conduct experiments, and orally present scientific findings.
- Helped organize and lead the Rice University-Bellaire HS Biology Presentation Program, where senior Rice undergraduates present published research to high school AP Biology students.
- 2014 **Class Instructor.** Graduate student professional development class. Directed discussions, delegated content development, and fostered community among junior and senior graduate students.
- Mentor.** Instructed three undergraduate research assistants who meaningfully contributed to my dissertation research.
- Outreach.** Helped develop and fund a graduate-led science outreach class. Through this class, my peers and I visited a local inner-city middle school classroom (Whidby Elementary) and taught a lesson on adaptation and natural selection.
- Coordinated and lead EEB Academy, a two-week graduate-led internship for high school students from the Dulles Math and Science Academy, who learned research techniques and developed critical thinking skills.
- 2013 **Teaching Assistant.** Insect Biology Lab. Helped students collect, identify and curate insects. Provided demonstrations on Lepidopteran spreading and handling techniques. Assisted in grading and syllabus development.
- Teaching Assistant.** Ecology. Assisted with development of lectures and assignments. Actively engaged and instructed students during in-class learning modules. Lead multiple review sessions and graded all exams.
- Volunteer Teaching Assistant.** Ecology Lab. Helped develop lecture content, initiated and cared for novel teaching system in the lab (*Hydra viridis*). Assisted during field trips and provided feedback on student oral presentations.
- Outreach.** Helped create and teach a two-week summer internship, EEB Academy, which introduces high school students to ecology, evolution, and academic research.
- 2012 **Class Instructor.** Graduate Professional Development. Helped develop and initiate a graduate student led class designed to improve graduate and upper level undergraduate professional development and public speaking skills.

**Teaching Assistant.** Plant Diversity. Lead critical discussions, review sessions, and graded all assignments.

## **CIVIC INVOLVEMENT**

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- 2014 - 2017 **Women in BioSciences.** Initiated and organized an informal reading and activism group to support female scientists within the BioSciences department including graduate students, faculty, and staff.
- 2013 - 2014 **Project SAFE Steering Committee Member.** Helped guide the implementation of University-wide initiative to curtail domestic and sexual violence.
- 2013 - 2014 **Graduate Student Association Officer- Lounge Manager.** Managed a \$20,000 dollar budget while leading the refurbishment of the Graduate Student Captain's Lounge area. Developed and coordinated monthly events to facilitate graduate involvement and awareness of programming on Rice campus by working closely with Rice University administrators and students.
- 2012 - 2014 **Graduate Liaison to the Rice Women's Resource Center.** Formed, hosted (2013) and participated as a panelist (2012) on a "Women in Graduate School" panel composed of female graduate students and faculty. Additionally, laid foundation for graduate-undergraduate mentorship program designed to encourage female involvement in graduate school.
- 2012 - 2014 **Promotion of Women in Higher Education.** Volunteer member and active graduate mentor at the Rice Women's Resource Center and Rice Women in Science and Engineering (RUWiSE).
- 2011 - 2014 **Graduate Student Association Departmental Representative.** Represented graduate students in the Rice University Dept. of Ecology and Evolutionary Biology.
- 2011 **Promotion of undergraduate involvement in research and science.** Volunteer moderator for undergraduate research symposium and volunteer poster judge for Rice University's Shell Center for Sustainability.

## **PROFESSIONAL SERVICES**

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Journal Article Reviewer: Acta Oecologia, Ecologia, PloS ONE

## **SOCIETY MEMBERSHIP**

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Ecological Society of America (2011-Present)  
Society for the Study of Evolution (2011-Present)  
Phi Kappa Phi Honor Society (2010-Present)  
Golden Key Honor Society (2010-Present)  
Graduate Women in Science (Omega Chapter 2011-Present)  
Texas Academy of Science (2012-Present)  
Society of American Naturalists (2013-Present)  
American Women in Science (2014-Present)