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BrianSanderson

Brian J. Sanderson

Professional appointments

2016–*present* **Postdoctoral Researcher**, Texas Tech University, Lubbock, TX.
Advised by Matt Olson

2017 **Instructor**, Texas Tech University, Lubbock, TX.

Education

2016 **Ph.D. in Biology**, University of Virginia, Charlottesville, VA.
Advised by Edmund Brodie III
Dissertation title: The role of sex ratio as a context for selection in *Silene vulgaris*

2009 **B.S. in Genetics**, University of Kansas, Lawrence, KS.
Advised by Jennifer Gleason

Research funding

2014 National Science Foundation Doctoral Dissertation Improvement Grant($20,434)
Ecological mechanisms of multilevel selection

Peer-reviewed publications

2018 CW Wood, EW Wice, J del Sol, S Paul, **BJ Sanderson**, and ED Brodie III. Constraints imposed by a natural landscape override offspring fitness effects to shape oviposition decisions in wild forked fungus beetles. *The American Naturalist* **191**(4).

2016 **BJ Sanderson**, ME Augat, DR Taylor, and ED Brodie III. Scale dependence of sex ratio in wild plant populations: implications for social selection. *Ecology and Evolution* **6**(5):1411-1419.

2014 EG King, **BJ Sanderson**, CL McNeil, AD Long, and SJ MacDonald. Genetic dissection of the *Drosophila* female head transcriptome reveals widespread allelic heterogeneity. *PLoS Genetics* **10**(5).

2012 DB Sloan, SR Keller, AE Berardi, **BJ Sanderson**, JF Karpovich, and DR Taylor. *De novo* transcriptome assembly and polymorphism detection in the flowering plant *Silene vulgaris* (Caryophyllaceae). *Molecular Ecology Resources* **12**(2):333-343.

Manuscripts in preparation

In revision **BJ Sanderson**, L Wang, P Tiffin, Z Wu, and MS Olson. Abundant sexual dimorphism in gene expression of flowers, but not leaves, of *Populus balsamifera*.

In prep. **BJ Sanderson**, ME Augat, AC Enriquez, and ED Brodie III. The effective pollinators of *Silene vulgaris* do not respond to variation in sex ratio.

In prep. **BJ Sanderson**, ME Augat, and ED Brodie III. Sex ratio alters the strength and direction of selection on floral traits differently through the male and female components of fitness in *Silene vulgaris*.

Presentations and posters

Invited seminars

2017 Appalachian State University

Contributed talks

2017 **BJ Sanderson**, ME Augat, AC Enriquez, and ED Brodie III. The effective pollinators of *Silene vulgaris* do not respond to sex ratio variation. Evolution conference in Portland OR.

2017 **BJ Sanderson**, L Wang, P Tiffin, Z Wu and MS Olson. Sexual dimorphism and the evolution of sex-biased and sex-limited genes in the dioecious tree *Populus balsamifera*. Plant and Animal Genome conference in San Diego, CA.

2013 **BJ Sanderson** and ED Brodie III. Fitness consequences of variable sex ratios among and within populations of *Silene vulgaris*. Southeastern Population Ecology and Evolutionary Genetics (SEPEEG) conference at Mountain Lake Biological Station, Pembroke, VA.

2012 **BJ Sanderson**, PD Fields, and DR Taylor. Cytonuclear linkage disequilibrium in the gynodioecious plant *Silene vulgaris* (Caryophyllaceae). SEPEEG conference in Clemson, SC.

2011 **BJ Sanderson** and DR Taylor. Sex ratio evolution in the flowering plant *Silene vulgaris* (Caryophyllaceae). SEPEEG conference in Reidsville, NC.

Posters

2013 **BJ Sanderson** and ED Brodie III. Fine-scale phenotypic structuring: defining social context in wild *Silene vulgaris* populations. Evolution conference in Snowbird, UT.

2011 **BJ Sanderson** and DR Taylor. Genetics of selfish sex determination in the flowering plant *Silene vulgaris*. Evolution conference in Norman, OK.

Teaching and mentorship

Instructor of record

2017 **Texas Tech University**

Principles of Ecology (BIOL 3309)

Teaching assistant

2011–2016 **University of Virginia**

Evolution and Ecology (BIOL 3020)

Biology of Infectious Disease (BIOL 3090)

Genetics and Molecular Biology (BIOL 3010)

Microbiology Laboratory (BIOL 3150)

Organismal and Evolutionary Biology Lab (BIOL 2040)

Research students mentored

2015 Robin Costello: Sex ratio and the rate of multiple paternity in *Silene vulgaris*

2015 Anita Enriquez: Pollinator efficiency of diurnal and nocturnal pollinators of *Silene vulgaris*

2014 Amelia Brumbaugh: Influence of nectar production and floral traits on pollinator context in *Silene vulgaris*

2013 Sarah Leichter: Sex allocation differences in *Silene vulgaris*

2012 Michelle McCauley: Contribution of inbreeding to extraordinary sex ratios in *Silene vulgaris*

Service and outreach

Professional service

2013 Co-organizer for SEPEEG conference at Mountain Lake Biological Station

2012–2013 Co-president of the UVA Graduate Student and Post-doc Association

Outreach

2017 & 2018 Presentation of research to the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) chapter at Texas Tech

2014–2015 Designed and ran public service exhibits at Mountain Lake Biological Station

2014 Co-organized UVA Darwin Day Celebration

Peer review

Molecular Ecology

Society memberships

2011–*present* American Society of Naturalists

2011–*prsent* Society for the Study of Evolution

References

Dr. Matt Olson
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Dr. Laura Galloway
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