Matthew James Salva Gibson

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Education

2016- Indiana University-Bloomington
Ph.D. in Evolution, Ecology, & Behavior, minor in Bioinformatics
Advisor: Leonie C. Moyle

2011-2016 University of Kansas
Bachelor of Science in Genetics, with departmental honors
Thesis: Connecting the Breeding System to Mating Patterns in Macaronesian *Tolpis.*
Advisors: Mark Mort and Daniel Crawford

Publications

Kostyun, J.L., **Gibson, M.J.S.**, & Moyle, L.C. (2018). Genetic Architecture underlying Reproductive Traits in Florally Diverse *Jaltomata* (Solanaceae). *In prep.*

Kerbs, B. et al., **Gibson, M.J.S.** (2017). Variation in synthetic interspecific hybrids of *Tolpis* (Asteraceae) in the Canary Islands: novel character combinations, transgressive traits, and phenotypic lines. *AoB Plants*. (Sixth author).

Presentations

Gibson, M.J.S. & Moyle, L.C. (2018). Rapid phenotypic evolution is unconstrained by pleiotropy in the florally diverse genus *Jaltomata*. Poster. American Genetic Association Presidents Symposium. Toronto, Canada.

Gibson, M.J.S., Josephs, E.B., & Moyle, L.C. (2017). Parallel QTL mapping of shared and unique loci for adaptation and reproductive isolation between *Solanum* species. Poster. Midwest Ecology and Evolution Conference. Champaign, Illinois, USA.

Gibson, M.J.S. (2016). Connecting the Breeding System to Mating Patterns in Macaronesian *Tolpis*. Presentation. Undergraduate Research Symposium. Lawrence, Kansas, USA.

Research Experience

Graduate student, Aug. 2016 – Present
Indiana University Department of Biology
Advisor: Leonie C. Moyle

I use population and quantitative genetic methods on large genomic datasets to understand the genetic underpinnings of local adaptation, speciation, and phenotypic evolution. My dissertation research is focused on quantifying natural variation in tolerance to abiotic stressors (e.g. drought, salinity, temperature) and identifying genetic variants responsible for this variation in several wild *Solanum* species, including two endemic to the Galapagos Islands.

Lab and Greenhouse Research Assistant, Aug. 2013 – May 2016
University of Kansas Department of Ecology and Evolution
Advisors: Mark E. Mort & Daniel J. Crawford

Contributed to multiple phylogenetic and systematic projects involving the genus *Tolpis* including studies of hybrid speciation in *T. coronopifolia* and estimation of population outcrossing rates and inbreeding depression in the species *T. macrorhiza* and *T. succulenta* using multiplexed shotgun genotyping. Experience in greenhouse cultivation of *Tolpis*, ImageJ, and analysis of next-generation genomic data.

Research Assistant, Dec. 2013 – Jan. 2014
University of Kansas Medical Center Department of Cancer Biology
Advisor: Animesh Dhar

Carried out experiments studying the effects of crocetin (*Crocus sativus*) extract in treatment of pancreatic cancer. Compound is currently in preparation for phase I clinical trials. Experience performing western blots and tissue culture.

Teaching Experience

2018, Instructor, Evolution, Foundations in Science and Mathematics, Indiana University
2017, Guest lecture on genetic mapping, BIOL-L 318 Evolution, Indiana University
2017, Assistant Instructor, BIOL-L 318 Evolution, Indiana University, Aug. – May
2016-2017, Assistant Instructor, Biology Laboratory, Indiana University, Aug. – May
2015, Undergraduate Teaching Assistant, Human Anatomy, University of Kansas, Aug. – Dec

Awards/Honors

2017, Summer Institute in Statistical Genetics Scholarship, University of Washington. $2,000
2017, 2018, Floyd Plant Biology Fellowship, Indiana University. $3,000
2016, Departmental Honors, University of Kansas Department of Biology
2016, Undergraduate Research Award, University of Kansas. $1,000
2014-2016, Dean's List, University of Kansas

Workshops

2017, Summer Institute in Statistical Genetics, University of Washington

Volunteer Experience

2016-2017, Groups Scholars Mentor, Indiana University
2015, Natural Science Community Organization at KU Natural History Museum, Lawrence, Kansas