Kelsey M. Yule

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EDUCATION

University of Arizona, Tucson, AZ, USA

- Ph.D. in Ecology and Evolutionary Biology with Minor in Statistics — 2012 – 2018
  - Dissertation: Mistletoe-vector-host interactions: From within-host processes to population genetic structure
  - Advisor: Dr. Judith Bronstein

Rice University, Houston, TX, USA

- B.S. in Ecology and Evolutionary Biology — 2008 – 2011
  - *summa cum laude*
  - Advisors: Dr. Jennifer Rudgers & Dr. Thomas E.X. Miller

PROFESSIONAL APPOINTMENTS

Arizona State University, Tempe, AZ, USA

- NEON Biorepository Project Manager — 2019 – present
  - Biocollections and Biodiversity Knowledge Integration Center
  - School of Life Sciences

Michigan State University, East Lansing, MI, USA

- Postdoctoral Research Associate — 2018 – 2019
  - Department of Integrative Biology
  - Supervisor: Dr. Gideon Bradburd

PUBLICATIONS

REFEREED JOURNAL ARTICLES

[5] **Yule, KM**, and JL Bronstein (2018) Infrapopulation size and mate availability influence reproductive success of a parasitic plant, *Journal of Ecology*,106(5): 1972-1982

[4] **Yule, KM**, and JL Bronstein (2018) Reproductive ecology of a parasitic plant differs by host species: vector interactions and the maintenance of host races, *Oecologia*,186(2): 471-482

[3] **Yule, KM**, JAH Koop, NM Alexandre, LR Johnston, and NK Whiteman (2016) Population structure of a vector-borne plant parasite, *Molecular Ecology*,25(14): 3332-3343

[2] **Yule, KM**, TEX Miller, and JA Rudgers (2013) Costs, benefits, and loss of vertically transmitted symbionts affect host population dynamics, *Oikos*,122(10): 1393-1400

[1] **Yule, KM**, JM Wooley, and JA Rudgers (2011) Water availability alters the tri-trophic consequences of plant-fungal symbiosis, *Arthropod-Plant Interactions*, 5(1): 19-27

IN REVISION

[1] **Yule, KM**, CA Johnson, JL Bronstein, and R Ferrière. Interactions among interactions: The dynamical consequences of antagonism between mutualistic guilds.

IN PREPARATION

[2] **Yule, KM**. Selection works to maintain host-associated differentiation in parasite reproductive timing only in sympatry.

[1] **Yule, KM**, CA Johnson, and R Ferrière. The influence of genetic architecture, constraints, and intraspecific density dependence on the adaptive dynamics of life-history traits.

EXTERNAL GRANTS

- **National Science Foundation, Doctoral Dissertation Improvement Grant, co-PI** — 2016 – 2018
  $ 19,955
  PI: Dr. Judith Bronstein
  Title: Reinforcement of reproductive isolation of parasitic plant host races
- **American Society of Naturalists, Student Research Award** — 2016
  $ 2,500
- **Arizona Native Plants Society, Ginny Saylor Research Grant** — 2016
  $ 2,000

- **Society for the Study of Evolution, Rosemary Grant Award for Graduate Student Research** 2014
  $ 1,500

FELLOWSHIPS, AWARDS & INTERNAL GRANTS

- **PEO International,PEO Scholar Award** 2017
  $15,000
- **National Science Foundation Graduate Research Fellowship** 2012 – 2017
  Ecology
  $ 100,000
- **University of Arizona Graduate & Professional School Council Grants** 2013 –2017
  $ 6,225 in total
- **University of Arizona College of Science Galileo Circle Scholar** 2014 & 2016
  $ 4,000 in total
- **University of Arizona, Darwin-Wallace Biodiversity Scholar Award** 2015
  $ 1,000
- **University of Arizona, Ecology & Evolutionary Biology Summer Research Fellowship** 2013
  $ 1,000
- **Ecological Society of America, Plant Population Ecology Section Travel Award** 2013
  $ 500
- **National Science Foundation Graduate Research Fellowship** 2011
  Population and Community Biology, *declined*
  $ 90,000
- **Rice University Clark P. Read Award** 2011
  Excellence in Ecology and Evolutionary Biology
- **Rice University Trustee Distinguished Scholarship** 2008 – 2011
  $ 40,500
- **Rice University Undergraduate Scholars Program** 2010 – 2011
  $ 2,000
- **National Science Foundation Research Experience for Undergraduates** 2010
  Mountain Lake Biological Station
- **Rice University Undergraduate Summer Research Award** 2009
  $ 2,000

TEACHING EXPERIENCE

Tohono O'odham Community College, Sells, AZ, USA

- Invited Lecturer
  - Natural History of the Southwest and Environmental Biology 2018

University of Arizona, Tucson, AZ USA

- Invited Lecturer & Curriculum Development
  - Introductory Biology II Laboratory, Online Course 2017
  - Advanced Statistics Seminar 2015
- Graduate Teaching Assistant
  - Ecology 2012 & 2016
  - Introductory Biology II Laboratory 2013

Rice University, Houston, TX USA

- Undergraduate Teaching Assistant
  - Introductory Biology 2011
  - Ecology 2010
  - Elementary Applied Statistics 2009 – 2010

SELECTED ACADEMIC PRESENTATIONS

INVITED

[3] **Yule, KM** and JL Bronstein (2015) Reproductive phenology of a parasitic plant differs with host species. Phenological Research and Observations of Southwest Ecosystems (PROSE) Symposium. Tucson, AZ, USA.

[2] **Yule, KM**, JAH Koop, NM Alexandre, and NK Whiteman (2015) Genetic structure of parasite populations: The role of vectors, hosts, and mutualists. Pepinière interdisciplinaire CNRS-PSL "Eco-Evo-Devo": Frontiers in Ecology and Evolution. Paris, France.

[1] **Yule, KM**, CA Johnson, and R Ferrière (2014) The indirect effects of antagonism between species with a shared mutualist: A case study on the ecological and evolutionary dynamics of a plant-pollinator-seed disperser food web module. Eco-Evolutionary Mathematics Seminar at École Normale Supérieure. Paris, France.

CONTRIBUTED

[12] **Yule, KM** (2018) Host association and environment determine population genomic structure of a parasitic plant through reproductive traits. Evolution. Montpellier, France.

[11] **Yule, KM** and JL Bronstein (2017). Infrapopulation size and mate composition influence the reproductive success of a parasitic plant. Evolution. Portland, OR, USA.

[10] **Yule, KM** and JL Bronstein (2016) The maintenance of host-associated differentiation in a vector-borne parasitic plant. Evolution, American Society of Naturalists Spotlight Session "The Evolution of Species Interactions." Austin, TX, USA.

[9] **Yule, KM** (2016) Host species effects on desert mistletoe (*Phoradendron californicum*). The Tri-National Sonoran Desert Symposium. Ajo, AZ, USA.

[8] **Yule, KM**, CA Johnson, and R Ferrière (2016) Integrating genetic architecture and density dependence to understand the evolution of life history. The American Society of Naturalists. Asilomar, CA, USA.

[7] **Yule, KM**, JAH Koop, NM Alexandre, and NK Whiteman (2015) Host associated differentiation and host switching by a parasitic plant are mediated by mutualist vectors. Evolution. Guaraja, Brazil.

[6] **Yule, KM**, CA Johnson and R Ferrière (2014) Indirect interactions in a system involving mutualism and antagonism: A model of pollinator-disperser antagonism. Ecological Society of America. Sacramento, CA, USA.

[5] **Yule, KM** and JL Bronstein (2013) Reproductive biology of a mutualist-vectored parasitic plant differs with host species. Research Insights in Semiarid Environments (RISE) Symposium. Tucson, AZ, USA.

[4] **Yule, KM** and JL Bronstein (2013) Reproductive biology of a mutualist-vectored parasitic plant differs with host species. Ecological Society of America. Minneapolis, MN USA.

[3] Parmenter, RR, RW Oertel, TS Compton, S Kindschuh, M Peyton, W Meyer, C Caldwell, GZ Jacobi, O Myers, M Zeigler, M and **KM Yule** (2012) Fire and floods in the Valles Caldera National Preserve, New Mexico: The 2011 Las Conchas Fire impacts on montane species diversity and food webs. Ecological Society of America. Portland, OR, USA.

[2] **Yule, KM**, TEX Miller, and JA Rudgers (2011) Costs, benefits, and loss of vertically transmitted symbionts affect host population dynamics.Ecological Society of America. Austin, TX, USA.

[1] JA Rudgers, Clay K, and **KM Yule** (2010) Grass-endophyte symbioses alter plant-herbivore-natural enemy interactions, Ecological Society of America. Pittsburgh, PA, USA.

PRESENTATIONS FOR THE PUBLIC

[3] **Yule, KM** (2018) Using desert mistletoe to understand host-parasite interactions. Philanthropic Education Organization (PEO). SaddleBrooke, AZ, USA.

[2] **Yule, KM** (2016) Desert mistletoe: A misunderstood, but beneficial native plant. Arizona Native Plants Society. Tucson, AZ, USA.

[1] **Yule, KM** (2013) The ecology of desert mistletoe: an emblem of the Sonoran Desert. Arizona Sonoran Desert Museum. Tucson, AZ, USA.

PUBLICATIONS FOR THE PUBLIC

[2] **Yule, KM** (2016) The evolution of desert mistletoe host races: What we know and what questions remain. The Plant Press (The Arizona Native Plants Society) 29(1): 7-9.

[1] **Yule, KM** (2016) Desert mistletoe: A misunderstood native plant. Newsletter of the Friends of Ironwood Forest Spring 2016: 1-3.

MENTORSHIP

Tucson Magnet High School Biotechnology Program Mentor, Tucson, AZ, USA

- Seneca Blank 2016 – 2018
  - Awards: 1st place in High School Plant Sciences at The Southern Arizona Research, Science, and Engineering Foundation and selected to attend the International Science and Engineering Foundation Fair, and recipient of a $2,000 University of Arizona scholarship based on her project

University of Arizona, Senior Honors Thesis Mentor, Tucson, AZ, USA

- Nico Lorenzen 2014 – 2015
  - Awards: Outstanding Senior Award for both the Department of Ecology and Evolutionary Biology and the Department of Neuroscience
  - Currently studying Ecology in Helsinki, Finland

University of Arizona Research Mentor, Tucson, AZ, USA

- Caitlin Davey 2017
- Emerson Martin 2017
- Alexandra Pond 2016
  - Currently in Forest Service Pathways Recent Graduate Program
- Elyse May 2015
  - Currently a science teacher in Phoenix, AZ, USA
- James Berry 2015
  - Currently a graduate student in Applied Biosciences at University of Arizona
- Nicolas Alexandre 2013 – 2014
  - Co-author as an undergraduate on publication and presentations
  - Currently a PhD student in Integrative Biology, University of California- Berkeley
- Meghan Iacuelli 2013 – 2014
  - Currently a student in Industrial Engineering at Arizona State University
- Victoria Eudy 2013
- Michelle Gradall 2013

Pima Community College Research Mentor, Tucson, AZ, USA

- Peter Rice 2012
  - Transferred to University of Arizona where he received a B.S. in Microbiology

OUTREACH & SERVICE

- **Conservation, education, and advocacy Non-profit** 2014 – present
  - Board Member for Friends of Ironwood Forest
- **Science in the media** 2017
  - Interviews and field trip guidance with members of national press outlets regarding research conducted in and preservation of Ironwood Forest National Monument
- **Society award judge** 2016
  - Judge for Don Abbott Postdoc Research Award, The American Society of Naturalists
- **Contribution to local flora project** 2016
  - Provided input for “From Ajo Peak to Tinajas Altas: Flora of Southwestern Arizona” by R. S. Felger and S. Rutman
- **Science fairs** 2014 – 2017
  - Grand Awards Judge at the Southern Arizona Research, Science, and Engineering Foundation (SARSEF) Regional Fair
  - Judge at Flowing Wells High School and Tucson Magnet High School fairs
- **Elementary school outreach** 2013
  - Volunteer for Insect Discovery, an elementary school education program at University of Arizona
- **Departmental service**
  - Postdoctoral representative to the Integrative Biology seminar organization committee, Michigan State University 2018 – 2019
  - Organized and led weekly seminar and discussion group on current topics in eco-evolutionary dynamics at University of Arizona 2014
  - Judge at Ecology & Evolutionary Biology Undergraduate Research Poster Session, University of Arizona 2013 – 2016
  - Co-organizer of the Ecology & Evolutionary Biology Prospective Graduate Recruitment Weekend, University of Arizona 2013

WORKSHOPS

- **Cyverse-iPlant** 2016
- **Joint MBI-NIMBioS-CAMBAM Summer Graduate Workshop** 2013
  - Connecting Biological Data with Mathematical Models

JOURNALS REFEREED

Biocontrol, Ecosphere, Evolution, Global Change Biology, Mathematical Biosciences, Plant Ecology

PROFESSIONAL SOCIETIES

American Society of Naturalists, Arizona Native Plants Society, Ecological Society of America, Society for the Study of Evolution, The Next Generation Sonoran Desert Researchers

REFERENCES

- **Judith Bronstein**
  - Ph.D. advisor
  - University Distinguished Professor of Ecology & Evolutionary Biology at University of Arizona
  - judieb@email.arizona.edu
  - (520) 621-3534
- **Noah Whiteman**
  - Associate Professor of Integrative Biology at University of California, Berkeley
  - whiteman@berkeley.edu
- **Régis Ferrière**
  - Associate Professor of Ecology & Evolutionary Biology at University of Arizona
  - Professor of Eco-Evolutionary Mathematics at École Normale Supérieure
  - regisf@email.arizona.edu
  - (520) 626-4741
- **Gideon Bradburd**
  - Postdoctoral supervisor
  - Assistant Professor of Integrative Biology at Michigan State University
  - bradburd@msu.edu