

BRITTANY R. CAVAZOS, PH.D.

Curriculum vitae

2200 Osborn Rd., 251 Bessey Hall, Iowa State University, Ames, IA, 50011

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Research Interests: Phenotypic Plasticity, Mutualistic Interactions, Seed Dispersal, Rapid Environmental Change, Plant-Animal Interactions

EDUCATION

- 2016-2022 **Ph.D. Ecology and Evolutionary Biology**, Iowa State University (ISU), Ames, Iowa
Dissertation: *Drivers of intraspecific variation and phenotypic plasticity in fleshy-fruited plants*
- 2012-2016 **B.S. Ecology and Evolutionary Biology**, Rice University, Houston, Texas
Minor in Environmental Studies
Senior Honors Thesis: *Factors influencing long term frequencies of heritable symbionts in host populations*
- 2014 Comparative Ecology and Conservation, SIT World Learning, Quito, Ecuador
Independent Study Project: *Anuran diversity in the Ecuadorean cloud forest*

RESEARCH EXPERIENCE

- 2021 **NSF INTERN**, Stephanie Yelenik, USGS Pacific Islands Ecosystem Research Center
- Authored a funded proposal to carry out work with the US Geological Survey
 - Independently designed and carried out field work in Hakalau NWR in Hawaii addressing whether and how native plant density and diversity can suppress reproductive output and alter phenology of invasive blackberry
 - Volunteered for field work opportunities weeding and recording community measurements on projects on Mauna Loa
 - Networked and collaborated with USGS researchers on ongoing restoration projects
- 2016-2022 **Graduate Research Assistant**, Haldre Rogers, ISU
- Conducted field work and collected data in the Mariana Islands
 - Mentored two undergraduate REU students
 - Measured and analyzed fruit traits from hundreds of individual trees and analyzed data I then presented at a national conference
 - Designed and carried out a greenhouse experiment managing phenotypes of over 300 plants
- 2015 **REU Intern**, Dan Flynn, Harvard Forest, Harvard University
- Designed an experiment using plant functional diversity in an agricultural setting
 - Collected field data and processed LSA, plant biomass, C:N and C-13 content
 - Analyzed results using R statistical software

- 2014-2016 ***REU Intern and Research Assistant***, Tom EX Miller, Rice University
- Collected demographic data of different grass species in Nacogdoches, TX
 - Processed data, which included staining seeds, mounting slides, scoring seeds for endophyte status
 - Analyzed data using R and wrote senior thesis, later published in *New Phytologist*
- 2013-2014 ***Population Ecology and Demography Lab Assistant***, Tom EX Miller, Rice University
- Cleaned and organized laboratory equipment
 - Transplanted seedlings and propagated clonal individuals
 - Managed the upkeep of the greenhouse
- 2012-2013 ***Aquatic Ecology Lab Assistant***, Volker Rudolf, Rice University
- Maintained all laboratory equipment and upkept lab supplies
 - Isolated, identified and prepared specimens for measurements and documentation

AWARDS

Fellowships

- 2021 National Science Foundation INTERN Supplement (\$40,833)
- 2017-2020 National Science Foundation Graduate Research Fellowship (\$102,000)
- 2016, 2021 Alliance for Graduate Education and the Professoriate Fellowship, ISU (\$55,000)

Research & Travel

- 2020 National Science Foundation Graduate Research Internship Program (\$5,000)
Canceled due to COVID19
- 2020 British Ecological Society Training and Travel Award (£500)
- 2019 Ecological Society of America Student Travel Grant (\$300)
- 2019 Tiffany and Joseph Gilman Scholarship, ISU (\$1000)
- 2019 Iowa State University EEB Professional Development Grant (\$500)
- 2019 Iowa State University EEOB Finch Funds Recipient (\$2700)
- 2018 Ecological Society of America Student Travel Grant (\$150)
- 2018 EEOB Graduate Student Organization Scholarship, ISU (\$250)
- 2017 EEOB Graduate Student Organization Scholarship, ISU (\$250)
- 2017 Tiffany and Joseph Gilman Scholarship, ISU (\$800)
- 2017 Botanical Society of America Graduate Student Research Award (\$500)
- 2016 Iowa State University EEOB Finch Funds Recipient (\$2000)

Academic

- 2013-2016 President's Honor Roll, Rice University

Service

- 2022 EEOB Department Service in DEI, ISU (\$200)

PUBLICATIONS

1. Rogers, H.S., **Cavazos, B.R.**, Gawel, A.M., Karnish, A., Ray, C., Rose, E. Thierry, H., Fricke, E. C. 2021. Frugivore gut passage increases seed germination: an updated meta-analysis. bioRxiv 2021.10.12.462022; doi: <https://doi.org/10.1101/2021.10.12.462022>.

2. Schupp, E., Zwolak, R., Jones, L. Snell, R., Beckman, N., Aslan, C., **Cavazos, B.R.**, Effiom, E., Montaña-Centellas, F., Poulsen, J., Razafindratsima, O., Sandor, M., Shea, K. 2019. Intrinsic and Extrinsic Drivers of Intraspecific Variation in Seed Dispersal Are Diverse and Pervasive. *AoB PLANTS*. 11(6):plz067.
3. Snell, S.S., Beckman, N.G., Fricke, E., Loiselle, B.A., Carvalho, C.S., Jones, L.R., Lichti, N.I., Lustenhouwer, N., Schreiber, S. Strickland, C., Sullivan, L.L., **Cavazos, B.R.**, Giladi, I., Hastings, A., Holbrook, K., Jongejans, E., Kogan, O., Montano-Centellas, F., Rudolph, J., Rogers, H.S., Zwolak, R., Schupp, E. 2018. The consequences of intraspecific variation in seed dispersal for recruitment, populations and communities. *AoB PLANTS*. 11(4):plz016.
4. Gallagher, R., Falster, D., Maitner, B., Salguero-Gómez, R., Vandvik, V., Pearse, W., Schneider, F., Kattge, J., Alroy, J., Ankenbrand, M., Andrew, S., Balk, M., Bland, L., Boyle, B., Bravo-Avila, C., Brennan, I., Carthey, A., Catullo, R., **Cavazos, B.R.**, Chown, S., Fadrique, B., Feng, X., Gibb, H., Halbritter, A., Hammock, J., Hogan, J., Holewa, H., Hope, M., Iversen, C., Jochum, M., Kearney, M., Keller, A., Mabee, P., Madin, J., Manning, P., McCormack, L., Michaletz, S., Park, D., Penone, C., Perez, T., Pineda-Munoz, S., Poelen, J., Ray, C., Rossetto, M., Sauquet, H., Sparrow, B., Spasojevic, M., Telford, R., Tobias, J., Violle, C., Walls, R., Weiss, K., Westoby, M, Wright, I., Enquist, B. 2019. The Open Traits Network: Using Open Science principles to accelerate trait-based science across the Tree of Life. *Nature: Ecology & Evolution*.
5. **Cavazos, B.R.**, Bohner, T.F., Donald, M.L., Sneek, M.E., Shadow, A., Omacini, M., Rudgers, J.A., Miller, T.E.X. 2018. Testing the roles of vertical transmission and drought stress in the prevalence of heritable fungal endophytes in annual grass populations. *New Phytologist*. 219(3):1075-1084.

In Prep

1. **Cavazos, B.R.**, Gessler, T.B., Rogers, H.S. Wild tomato (*Solanum pimpinellifolium*) exhibits frugivore-mediated plasticity in morphological fruit traits. (*draft available upon request*).
2. **Cavazos, B.R.**, Fricke, E.F., Rogers, H.S. Subindividual and interindividual variation in fruit traits across multiple spatial scales. (*draft available upon request*).

PRESENTATIONS

1. **Cavazos, B.R.**, Rogers, H.S. *Frugivore Loss Leads to Decreased Investment in Fruit Traits of a Wild Tomato (S. pimpinellifolium)*. SACNAS National Diversity in Stem Virtual Conference. (2020). *Poster session*.
2. **Cavazos, B.R.**, Rogers, H.S. *Some plants alter fruit traits under different simulated frugivory rates*. Frugivores and Seed Dispersal Symposium, India. (2020).
3. **Cavazos, B.R.**, Rogers, H.S., *Plants alter fruit traits under different simulated frugivory rates*. Ecological Society of America (2019).
4. **Cavazos, B.R.**, Fricke, E.C., Rogers, H.S, *Fruit traits and the consequences of limited animal dispersal*. Ecology and Evolutionary Biology Spring Symposium. (2019).

5. **Cavazos, B.R.**, Fricke, E.C., Rogers, H.S., *Changes in fruit trait variation across a biotic gradient*. Ecological Society of America Conference. (2018).
6. **Cavazos, B.R.**, Miller, T.E.X., *Factors influencing long term frequencies of heritable symbionts in host populations*, Ecological Society of America (2017). *Poster session*.
7. **Cavazos, B.R.**, Miller, T.E.X., *Factors influencing long term frequencies of heritable symbionts in host populations*, Botanical Society of America Conference (2017). *Poster session*.
8. **Cavazos, B.R.**, Flynn, D., Hoopes, M., *Plant functional diversity along a land-use intensity gradient*. Harvard Forest Summer Research Program Symposium. (2015).

TEACHING

2022	Teaching Assistant , Biology Lab II, ISU, 48 students, 1-credit 15-week course
2021	Teaching Assistant , Ecology Lab, ISU, 36 students, 4-credit 14-week course
2020-2021	Mentor , McNair Program, one student, ISU
2020	Teaching Assistant , Ecology Lab, ISU, 32 students, 4-credit 14-week course
2019	Mentor , LSAMP IINSPIRE research experience, one student, ISU
2017	Mentor , REU 10-week internship, two students, Mariana Islands
2016	Teaching Assistant , Fundamentals of Human Anatomy Lab, ISU, 16 Students, 1-credit 14-week course

TRAINING

2018, 2022	Preparing Future Faculty Program, ISU <i>Attended seminars and workshops for one semester to better understand teaching styles and employment opportunities and built an interdisciplinary professional network</i>
2018	Midwest Big Data Summer School, ISU <i>Attended week-long program with topics in data acquisition, preprocessing, and exploratory analysis, as well as data analysis tools and techniques, visualization and communication, ethical issues in data science, and reproducibility</i>
2017-2018	Graduate College Emerging Leaders Academy, ISU <i>Attended year-long program covering topics including leadership theory, communication, collaboration, and gender and diversity issues</i>
2017	Phylogenetic and Functional Analysis for Ecology in R Short Course, SESYNC, Annapolis, MD <i>Attended 4-day short course at the national socio-environmental synthesis center led by Dr. Nate Swenson that covered a range of different types of analyses for phylogenetic and functional trait data using R and phylocom</i>

SERVICE

Departmental

2021-2022	Graduate Representative, Ecology, Evolution, and Organismal Biology Department's Diversity, Equity and Inclusion Committee, ISU <i>Serve as a voice of graduate students on DEI related issues, edited and analyzed annual departmental climate survey and contributed to the formation of a monthly DEI email digest</i>
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- 2018-2020 Treasurer, Graduate Organization in Ecology, Evolution, and Organismal Biology, ISU
Monitored all club finances (\$7000), completed account transfers and reimbursements
- 2017-2018 Secretary, Graduate Research in Ecology and Evolutionary Biology Interdepartmental Program, ISU
Kept record and sent out agenda to club members and helped organize club events

Community

- 2020-2022 President, SACNAS Iowa State University Chapter, ISU
Organize social and professional development events
- 2017 Guest Speaker at Green Valley Elementary, NRH, TX
Spoke to first grade class (30 students) about my graduate career as an ecologist
- 2015-2016 Environmental Committee Head, Martel College, Rice University
Implemented sustainability initiatives in the residential college
- 2014-2015 Cultural Committee Head, Martel College, Rice University
Organized and coordinated cultural events that expose students (~150) in the residential college to the diverse community in Houston.
- 2014-2015 America Reads Tutor (paid position), Star of Hope, Houston, TX
Tutored children in transitional housing (6-12yrs) in math, science, and reading at the Women and Family Development Center.
- 2014 Presenter at the Sally Ride Science Festival, Houston, TX
Gave talk on pollinators to inspire young girls in grades 5-8 (~100 students) interested in STEM fields

Professional

- 2020 Reviewer for *New Phytologist*
- 2019 Co-Reviewer for *Pacific Science*

PROFESSIONAL MEMBERSHIPS

- 2020-2022 SACNAS
- 2016-2020 Ecological Society of America
- 2017-2019 American Genetics Association
- 2016-2019 American Association for the Advancement of Science
- 2016-2017 Botanical Society of America

SKILLS

- Language:* English, Spanish (basic)
- Computer:* R (proficient), Unix (basic), Python (basic)
- Ecological:* Field work in forest, prairie, and tropical ecosystems, dichotomous key/plant identification, light microscopy, data collection and entry, independent research

REFERENCES

Dr. Haldre Rogers, Associate Professor
Iowa State University
haldre@iastate.edu
515-294-7703

Dr. Corey Welch, STEM Scholars Program Director
Iowa State University
corey@iastate.edu
515-294-1477

Dr. Stephanie Yelenik, Rangeland Ecologist
Rocky Mountain Research Station, U.S. Forest Service
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