Rose Blanchard, PhD

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Education

Ph.D. in Ecology and Conservation Biology, 2025
Texas A&M University, College Station, TX

Dissertation Title: Functional ecology and diversification of mosquitofish morphology
Committee Chair: Dr. Joshuah Perkin
co-chair: Dr. Michelle Lawing

B.S. in Biology, Berry College, Rome GA 2020
Minors: Chemistry, One Health GPA: 3.82/4.00

Professional Employment

Assistant Professor of Biology August 2025- Present
Northwest Missouri State University

Graduate Assistant- Teaching January 2025-August 2025
Texas A&M University August 2022-December 2024
January -December 2021

- Designed and presented lectures on topics of ecology and evolution to 300 students across 13 sections of laboratory courses.
- Created, delivered, and graded examinations and homework assignments.
- Engaged in specimen handling, and preparation of over 200 wet, and dry preserved specimens.
- Taught field skills including seining, boat handling, dip netting, and quadrat sampling to 120 students across four laboratory sections.

Tom Slick Graduate Fellow January 2024- January 2025
Texas A&M University

- Engaged in data collection and analysis for the final chapters of my dissertation work, including creation of a joint-run study with an undergraduate researcher. (maybe provide very brief description of joint-run study, 1-2 words)
- Worked on final analyses and writing of three manuscripts as well as my PhD dissertation.

Graduate Assistant- Research January 2024- August 2025

Texas A&M University January- August 2022
August- December 2020

- Engaged in Visible Implant Elastomer (VIE) tagging of 1700 fish, 20 recapture events, and completed morphological imaging of 486 recaptured fishes, including teaching five undergraduate students and two graduate students VIE tagging methods.
- Designed photography tanks and methodology for lateral imaging of fish specimen.
- Coordinated 16 undergraduate researcher schedules for in town field work across ten sampling seasons.
- Engaged in field work techniques including electrofishing, seining, dip netting, and fish euthanization.

Undergraduate Research Assistant August 2017- May 2020
Berry College

- Conducted independent research on the presence of *Trypanosoma cruzi* in insect species that fed on infected mammalians.
- Performed DNA extraction, PCR, and Gel Electrophoresis on samples for *Trypanosoma cruzi* presence on over 50 insect samples.
- Performed independent dissections and necropsies of mammalian specimen for parasite presence.
- Engaged in cell husbandry, cell plating, and preservation in liquid nitrogen.

Teaching Assistant August 2017- May 2020
Berry College Department of Biology

- Assisted in laboratory exercises for 18 sections of laboratory courses.
- Created, distributed, and graded laboratory quizzes for seven different courses in the Biology department.
- Graded exams and worked on grade entry for laboratory and lecture exams for 350 students across 18 sections of courses.

Summer Researcher May-August 2019
Ocean Research and Conservation Association (ORCA), Ft. Pierce, FL

- Engaged in independent research focusing on the presence of harmful algae (microcystin) in produce irrigated with potentially contaminated water.
- Assisted in research focusing on microplastics in fish species and creation of living shorelines using oyster beds.
- Assisted in citizen science and outreach programs teaching local physicians about the harmful effects of consumption of fish taken from water with harmful algal blooms present.

Publications

*Denotes a manuscript in which an undergraduate mentee was a coauthor

Blanchard, R.C., A.M. Lawing, J.S. Perkin (2025). Sexual dimorphism in dispersal traits for the highly invasive Western Mosquitofish (*Gambusia affinis*). *Ichthyology & Herpetology,* 113(2), 214-224. https://doi.org/10.1643/i2024039

***Blanchard, R. C.,** DeWitt, T. J., Young, S., & Perkin, J. S. (2024). Predictability and conceptual repeatability of the predator-associated burst speed ecophenotype in western mosquitofish (*Gambusia affinis*). *Journal of Fish Biology*, 104(5), 1276–1289. https://doi.org/10.1111/jfb.15665

R. C. Blanchard, and A. H. Rojas-Carranza, (*In Review*). Consumption of the Rough Earth Snake,Virginia striatula by a Green Sunfish, Lepomis cyanellus in Brazos County, Texas

R. C. Blanchard, and J. S. Perkin (*In Review*). Assessing Movement Patterns of the Highly Invasive Western Mosquitofish (*Gambusia affinis*).

D. S. Portnoy, R. J. Bretzing-Tungate, A. T. Fields, M. G. Bean, R. K. Smith, E. Dolan, **R. C. Blanchard,** & K.W. Conway (In Review). "Three is the magic number: a total evidence approach justifies taxonomic splitting of the endangered Pecos Gambusia into three species.

H. Jewell, **R. C. Blanchard,** P. Manry, T. Taylor, & J. Torres-Dowdall (In Prep). Adaptations to seasonality: characterizing phenological trait differences along the native range of a liverbearing fish, *Gambusia affinis.*

DeWitt, T.J., **R.C. Blanchard,** (In Prep) Genetics of alternative trait suites in snails by predatory fish and crayfish

*Holderness, E.K., **R.C. Blanchard,** T.J. DeWitt, J.S. Perkin (In Prep) Antipredator morphology of *Gambusia affinis* under naiad (Odonata: Aeshnidae) predation

Invited Research Presentations

"**Morphological Adaptations**" 2023
University of South Carolina, Department of Biology Ecology and Conservation Class

Presentations at Scientific Meetings

Blanchard, R.C., and J.S. Perkin, "*Predicting movement of the highly invasive Western Mosquitofish"* ***Texas Chapter American Fisheries Society,*** College Station, TX. January 17th, 2025.

Blanchard, R.C., A.M. Lawing, J.S. Perkin, "*Sexual dimorphism in dispersal traits for the highly invasive Western Mosquitofish*" ***11th International Poeciliid Conference,*** San Marcos, TX. October 10th 2024.

Blanchard, R.C., A.M. Lawing, J.S. Perkin, "*Sexual dimorphism in dispersal traits for the highly invasive Western Mosquitofish*" ***154th Annual Meeting of the American Fisheries Society,*** Honolulu, HI. September 16th 2024.

Blanchard, R.C., C.J. Kopack, A.M. Lawing, J.S. Perkin, "*Sexual dimorphism and dispersal capabilities in Western Mosquitofish*" ***24th Annual Ecological Integration Symposium ,*** Texas A&M University, College Station, TX. April 5th 2024.

Blanchard, R.C., C.J. Kopack, A.M. Lawing, J.S. Perkin, "*Sexual dimorphism and dispersal capabilities in Western Mosquitofish*" ***Texas A&M Student Research Week,*** Texas A&M University, College Station, TX. March 20th 2024.

Blanchard, R.C., C.J. Kopack, A.M. Lawing, J.S. Perkin, "*Sexual dimorphism and dispersal capabilities in Western Mosquitofish*" ***Texas Chapter American Fisheries Society,*** Nacogdoches, TX. February 23rd 2024.

Blanchard, R.C., T.J. DeWitt, S. Young, J.S. Perkin, "Predictability of predation driven morphological adaptation in populations of western mosquitofish" ***American Fisheries Society,*** Grand Rapids, MI. August 23rd 2023.

Blanchard, R.C., T.J. DeWitt, S. Young, J.S. Perkin, "Predictability and conceptual repeatability of predator induced body shape in western mosquitofish" ***23rd Annual Ecological Integration Symposium,*** Texas A&M University, College Station, TX. March 31st 2023.

Blanchard, R.C., T.J. DeWitt, S. Young, J.S. Perkin, "Predictability and conceptual repeatability of the predator associated burst speed body shape in independently evolved populations of western mosquitofish" ***Texas A&M Student Research Week,*** Texas A&M University, College Station, TX. March 21st 2023.

Blanchard, R.C., T.J. DeWitt, S. Young, J.S. Perkin, "Predictability and conceptual repeatability of the predator associated burst speed body shape in independently evolved populations of western mosquitofish" ***Texas Chapter American Fisheries Society,*** Corpus Christi, TX. February 24th 2023.

Blanchard, R.C., T.J. DeWitt, S. Young, J.S. Perkin, "Predictability and conceptual repeatability of the predator associated burst speed body shape in independently evolved populations of western mosquitofish" ***Life on a Dynamic Planet Symposium,*** Texas A&M University, College Station, TX. February 17th 2023.

Blanchard, R.C., S. Young, T.J. DeWitt, "Changes in mosquitofish fin size in response to predation" ***22nd Annual Ecological Integration Symposium,*** Texas A&M University, College Station, TX. April 8th 2022.

Blanchard, R.C., T.J. DeWitt, "Mosquitofish body shape: predictability, survival, and predation driven changes" ***Texas A&M ECCB Seminar Series,*** Texas A&M University, College Station, TX, March 4th 2022.

Blanchard, R.C., C.A. Hall, "Evaluation of ticks as a sentinel for the presence of *Trypanosoma cruzi*" ***Berry College Symposium on Student Scholarship,*** Berry College, Rome, GA, April 2020.

Contributed Presentations at Scientific Meetings

*Denotes an undergraduate mentees independent project

Portnoy, D.S., R.J. Bretzing-Tungate, A.T. Fields, M.G. Bean, R.K. Smith, E. Dolan, **R.C. Blanchard,** K.W. Conway, "Deep genomic divergence among regional populations of Pecos Gambusia, *Gambusia nobilis*" ***155th Annual American Fisheries Society,*** San Antonio, TX. August 10-14th 2025.

*Holderness, E.K., **R.C. Blanchard,** T.J. DeWitt, J.S. Perkin "Antipredator morphology of *Gambusia affinis* under naiad (Odonata: Aeshnidae) predation" ***23rd Annual Ecological Integration Symposium,*** Texas A&M University, College Station, TX. March 31st 2023.

Teaching Experience

Basic Ecology (BIOL 04376) Fall 2025
Northwest Missouri State University

General Biology (BIOL 04102) Fall 2025
Northwest Missouri State University

Diversity and Evolution of Vertebrates (ECCB 302) Fall 2022-Spring 2025
Texas A&M University

Principles of Ecology (RENR 215) Fall 2021, Spring 2021
Texas A&M University

Principles of Cell Biology (BIO 111) Fall 2017 – Spring 2020
Berry College

Principles of Zoology (BIO 202) Spring 2020, Fall 2018
Berry College

Parasitology (BIO 335) Spring 2020
Berry College

Epidemiology and Public Health (BIO 353) Spring 2020
Berry College

Biological Diversity (BIO 106) Fall 2019
Berry College

Immunology (BIO 352) Fall 2019
Berry College

Tropical Biodiversity and Conservation (BIO 383) Summer 2019
Berry College

Honors and Awards

2025 Department of Ecology and Conservation Biology Outstanding Doctoral Student Award
2024 College of Agriculture and Life Sciences Dean's Outstanding Achievement Award for Graduate Teaching
2024 Texas A&M University Student Research Week- 1st place Oral Presentation

Scholarships, Fellowships, and Grants

2024	Dean's Outstanding Achievement Award for Graduate Teaching	$500
2024	Will Roach '84 Memorial Graduate Fellowship	$1,000
2024	W.B. Davis Endowed Scholarship	$1,500
2024	COALS Graduate research improvement grant in Range Science/ Rangeland Management and Conservation	$3,000
2024	Texas Chapter American Fisheries Society Travel Grant	$150
2024	Tom Slick Student Development Grant	$1,000
2024	Texas Public Education Grant	$1,000
2024	Tom Slick Graduate Research Fellowship	$45,000
2023	Texas A&M Competitive Scholarship	$5,000
2023	Texas Public Education Grant	$1,000
2023	Ecology and Conservation Biology Travel Grant	$750
2023	W. B. Davis Endowed Scholarship	$1,500
2023	Texas Chapter American Fisheries Society Travel Grant	$150
2022	Texas Public Education Grant	$1,000
2021	Texas Public Education Grant	$1,000

Professional Development Certifications

2025: Graduate Resources and Development for Aggies Mastery Certification
2025: Center for the Integration of Research, Teaching and Learning Associate Certification
2024: Academy of Future Faculty Certification

Undergraduates Honors Student Projects

Madysen Ayers Basic Ecology-Fall 2025
Kenna Konfrst Basic Ecology-Fall 2025

Undergraduates Mentored

Ivy Park — Summer 2024-Summer 2025

- Ivy is a volunteer in my graduate lab, and helps me collect fish for a collaborative project with Notre Dame University
- I am currently helping Ivy design an independent research project focusing on the life history and population dynamics of the Mississippi Silvery Minnow
- Ivy is graduating in May 2025, and is currently applying to graduate school

Haley Rivillas — Summer 2024-Summer 2025

- Haley is an undergraduate researcher in my graduate lab during my dissertation fieldwork
- I helped Haley design an independent research project on the accuracy of using photographs of fish for measuring total length
- Haley is currently an undergraduate at Texas A&M University and is applying for jobs related to fisheries and wildlife

Carmen Reisdorf — Fall 2023

- Carmen was a student from a section of the Diversity of Vertebrates course in Fall of 2023.
- I mentored success strategies for the fields of ecology and conservation and ways to excel in both academic and research settings as her graduate mentor for the University Honors Program at Texas A&M University.
- Carmen is currently an undergraduate at Texas A&M University in the department of Ecology and Conservation Biology.

Sharmila Young — Summer 2021- Spring 2022

- Sharmila was my first intern during my graduate career. I taught her field collection skills, and laboratory skills.
- Sharmila worked in the lab collecting fish, taking lateral images of fish, and placing homologous landmarks in TPS dig.
- Sharmila is now a coauthor on a manuscript, listed above in publications.
- Sharmila now holds a job as an Environmental Scientist at Lloyd Engineering.

Aly Tekippe — 2022

- While in the lab, I taught Aly field collection techniques as well as fish husbandry.
- Aly worked in the lab collecting fish, and with data entry for various projects.
- Aly recently finished an MBA at the University of Montana and works as an Implementation partner at Reynolds & Reynolds.

Jake Hanes — Fall 2022

- While in the lab, I taught Jake field collection techniques and fish husbandry techniques.
- Jake designed an independent research project under my guidance, which was continued by others in the lab following his graduation.
- Jake is currently a graduate student at Texas A&M University.

Emilee Holderness Summer 2022-Summer 2023

- While in the lab, I taught Emilee techniques in field collection and animal husbandry.
- Emilee helped design and carry out an independent research project, which is now a manuscript in its preparatory stage.
- Emilee is now a graduate student at the University of Southern Mississippi.

Education and Outreach Activities

Ecological Integration Symposium Graduate Student Panel Member 2024

- I served as a member of a graduate student panel to answer undergraduate attendees' questions on graduate school applications, funding, and attendance.
- I provided guidance on obtaining relevant experience as an undergraduate student that will be beneficial when applying to graduate school.

Texas A&M Battalion Article Interviewee 2024

- I was interviewed for a news article on fisheries related work in the state of Texas, and its influence on local populations.
- I provided information on my research, as well as the research goals of the lab, and the Department of Ecology and Conservation Biology.

Department of Ecology and Conservation Biology Seminar Host 2024

- I acted as the host for the departmental seminar for Dr. Kory Evans.
- As the host for Dr. Evans, I was in charge of introducing him at the seminar and acting as the point of contact for him during his visit to the school.
- I introduced Dr. Evans to faculty, staff, and grad students from the University to create multi-university collaborations.

Berry College Alumni Ambassador 2023

- I acted as an alumni ambassador for my undergraduate university (Berry College).
- I wrote letters to accepted students telling them of my academic experiences at the university and answering their questions about the university.
- I acted as a point of contact for interested students around the United States who had been accepted into the college.

Texas A&M University LAUNCH Honors Program 2023

- I acted as a mentor for a student who was part of the Texas A&M Launch Honors. Program, guiding and teaching her about how to be successful in the field of ecology and conservation.
- I participated in one-on-one interviews for the program with the student to fulfil an honors requirement for the LAUNCH Honors Program.

Texas A&M University Chapter of Society for Conservation Biology 2023, 2022

- I served as a panel member along other PhD candidates and faculty to advise chapter members on the process of applying to graduate school.
- I gave guidance on gaining relevant experience, field techniques, and certifications that are useful to have when applying to graduate programs.

Texas A&M University Darwin Day 2023

- I planned the annual Darwin Day outreach event, hosted by Ecology and Evolutionary Biology Interdisciplinary Program.
- I coordinated undergraduate, high school, youth, and community engagement with local booths from ecological related companies.
- This Darwin Day event had community attendance of over 600 participants.

Ocean Research and Conservation Association (ORCA) 2019

- I participated as the sole guest on an outreach podcast discussing the risks associated with the consumption of produce that was irrigated with potentially algal contaminated water.
- I informed the public of the medical risks associated with algal blooms and provided safety tips for environments where blooms can be common.

Ocean Research and Conservation Association (ORCA) 2019

- I served as a liaison between fishing communities and physicians to discuss the potential medical threats associated with consuming fishes that are collected from environments with algal blooms.
- I distributed flyers to doctors' offices to post in their lobbies to inform the public of the medical risks associated with harmful algal blooms.

University Service

Darwin Day Volunteer and Lab Booth Outreach	2025
Ecology and Conservation Biology Teaching Assistant Training Panelist	2024
Ecological Integration Symposium Judge	2024
Darwin Day Volunteer and Lab Booth Outreach	2024
Ecology and Conservation Biology Department Seminar Speaker Host	2024
Berry College Alumni Ambassador	2023
Darwin Day Planning Committee	2023
Ecological Integration Symposium Volunteer	2023
Department of Ecology and Conservation Biology Graduate Student Association Vice-President	2022
Ecological Integration Symposium Judge	2022

Professional Affiliations

Academy for Future Faculty
American Fisheries Society
Texas Chapter American Fisheries Society
American Society of Ichthyologist and Herpetologists

Department of Ecology and Conservation Biology Graduate Student Association

Relevant Skills

Programs	R, JMP, ImageJ, TPSdig, TPSrelw,TPsregr, TPSutil, Microsoft Office
Field Methods	Seining, Dip netting, Electrofishing, Specimen handling
Laboratory Methods	Fish imaging, Euthanization using, and preparation of MS-222, Gel Electrophroesis, PCR, DNA Extraction, Cell Culture, Microscope use
Other Skills	SDI Scuba Open Water Certification, PADI Scuba Nitrox Certification

Undergraduate Honors and Awards- Berry College

Graduated *Magna Cum Laude*	2020
Dean's List	2016-2020
Berry Vikings Achievement Award	2018
Delta Kappa Leadership Honors	2018
Tri-Beta Biology Honors	2018
Lambda Sigma Honors	2017
Berry College Deans Award	2016