

PhD Position – The Evolution of Parental Care and Mating Systems in Water Bugs

Parental care and sexual selection are highly interconnected processes that shape reproductive strategies across animal taxa. Gaining insight into how parental care evolves, how mating systems are structured, and how sexual selection operates differently on males and females are central questions in behavioral and evolutionary ecology. Addressing these questions requires detailed natural history work combined with well-designed empirical studies.

This PhD research will use belostomatid water bugs as a model system to explore the links between parental care and mating behavior. The position will involve extensive fieldwork in Missouri, with the opportunity to establish and maintain laboratory colonies for experimental research. The student will begin by documenting the natural history of Missouri's water bug species, which are thought to exhibit distinctive forms of parental care. Building on this foundation, the student will design and carry out field and laboratory experiments to quantify reproductive behavior, parental investment, and life-history traits.

The successful applicant will be supervised by [Dr. Johana Goyes Vallejos](#) and will receive guidance and support from their doctoral committee. Also, [Goyes Lab](#) members are encouraged to engage in professional development opportunities, science communication, and outreach activities. Dr. Goyes Vallejos is committed to supporting the pursuit of diverse career goals both inside and outside academia.

This is a fully funded PhD position in the Division of Biological Sciences at the University of Missouri. Funding is guaranteed through a teaching assistantship, with additional opportunities to apply for competitive fellowships. The successful applicant will begin the program in **August 2026**.

Who We Are Looking For:

- Dedicated and conscientious student with a strong work ethic, adaptability, creativity, and enthusiasm for field and lab research.
- Passionate about learning and a commitment to responsible and ethical research.
- Value multiculturalism and diverse perspectives.

First-generation degree holders, BIPOCs, LGBTQIA+, non-traditional, and international students, we welcome you!

Qualifications:

- Strong interest and coursework experience in ecology, evolutionary biology, and/or animal behavior.
- Bachelor's degree (M.Sc. preferred but not required) in Biology, Ecology, Animal Behavior, or a related field.
- Experience with ecological fieldwork and/or experimental research.
- Ability to work independently and collaboratively.
- Strong quantitative, statistical, or programming skills.
- Excellent written and spoken English communication.

How to apply:

- Email Dr. Goyes Vallejos (jogoyes@missouri.edu) with the subject line: "**Interest in Ph.D. position – Fall 2026.**" In it, include your CV, unofficial transcript, a brief statement of research interests, personal/professional goals and motivation, and prior experience. Be sure to explain how your background and interests align with the proposed project and why you are excited about this position.
- Provide two (2) references who are familiar with you or your work and can provide insights about your qualifications.

Please make sure to reach out at least three weeks before the application deadline.

Online Applications are due on December 1, 2025 — Visit our [Division of Biological Sciences website](#) for more information about how to apply to the University of Missouri's Graduate School.