Evolutionary Animal Ecology, University of Bayreuth (Germany)

PhD position: Microbial Management and Parental Care in Burying Beetles (Evolutionary Ecology / Host–Microbiome Interactions)

We are seeking a highly motivated PhD candidate (f/m/d) to **investigate how parental care enables *Nicrophorus* burying beetles to regulate beneficial and harmful microbes** during family life. This fully funded three-year position is part of an ERC-funded project exploring the socioecology of animal-microbe interactions, focusing on how these interactions shape—and are shaped by—animal social behaviors.

The Challenge. Animals continuously interact with a vast diversity of harmful and beneficial microbes, and natural selection has favored sophisticated strategies for managing these interactions. However, we still know little about how social behaviors contribute to microbial management. Burying beetles provide an ideal system for addressing this question because they exhibit elaborate parental care and intimately interact with both beneficial symbionts and harmful environmental microbes during family life. In this project, we will examine how parental care (i) influences the effects of symbiotic and environmental microbes on beetle fitness, (ii) shapes interactions among key microbial taxa, and (iii) enables beetles to control complex microbial communities while transforming carrion into an edible nursery for their offspring. The project will integrate standard microbiological approaches with experimental manipulations of host-associated microbial communities and gnotobiotic insect experiments.

Your Profile. We are looking for a highly motivated candidate with: ● A Master's degree (or equivalent) in microbiology, evolutionary ecology, microbiome science, or a related field. ● A strong interest in animal-microbe interactions and social evolution. ● Prior experience with microbiology and insect experiments (desired but not required). ● Proficiency in biostatistics (R) or a strong motivation to develop quantitative and bioinformatic skills. ● The ability to work both independently and collaboratively in a team. ● Good written and spoken English skills.

What We Offer. ● A fully funded 3-year PhD position within an ERC-funded project. Remuneration is based on the German TV-L E13 pay scale (65%) and includes comprehensive social benefits, including health insurance and pension contributions (link). ● A cutting-edge interdisciplinary research ecosystem at the University of Bayreuth, which has recently been ranked in the top 5 percent of young universities worldwide (link). ● A vibrant, supportive, and collaborative research environment in a newly established team, hosted at a department with extensive experience in insect rearing, behavioral experiments, and molecular analyses (link). ● Access to state-of-the-art facilities and equipment for behavioral and microbiological research. ● Funding for conference participation and professional training as well as opportunities for national and international collaboration. ● Living in Bayreuth, a small but bustling university town with a rich history nestled in scenic Upper Franconia, featuring numerous opportunities for outdoor activities and cultural exploration (link).

How to Apply. Applications should include: ● A cover letter (1–2 pages) describing your research interests, motivation, and relevant work experience. ● A detailed CV, including your methodological skillset, B.Sc. and M.Sc. grades, and publications (if any). ● A brief summary of your Master's thesis (max. 500 words). ● Names and email addresses of 2–3 academic referees who can provide references upon request.

Please submit your application by **August 17th, 2026** as a single PDF to jos.kramer@uni-bayreuth.de with the subject: "PhD Application – Parental Care & Microbes". **The anticipated starting date is February 2027**. The University of Bayreuth is committed to promoting diversity and equal opportunities. We encourage applications from all qualified individuals, regardless of background and nationality. The working language in our group is English.

For more information, feel free to reach out informally: jos.kramer@uni-bayreuth.de.