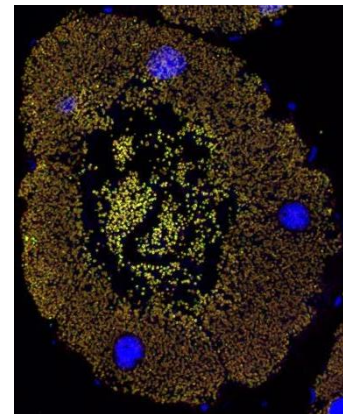


PhD and postdoc positions available within the ERC-funded project SYMBeetle: 'Symbiont-assisted cuticle biosynthesis as a key innovation contributing to the evolutionary success of beetles'

Recent evidence indicates that beetles across multiple different families associate with microbial symbionts that provision their host with tyrosine, an aromatic amino acid necessary for cuticle biosynthesis, hardening, and tanning. **SYMBeetle addresses the hypothesis that the acquisition of tyrosine-supplementing microbes constituted a key innovation across phylogenetically distinct beetles that allowed them to expand into novel ecological niches.** To test this, SYMBeetle will combine experimental manipulation of symbiotic associations to assess the symbionts' contribution to cuticle biosynthesis and its fitness consequences as well as the molecular basis of host-symbiont interactions with large-scale comparative approaches aimed at elucidating the taxonomic distribution, ecological contexts, and evolutionary origins of cuticle-supplementing symbioses. The results are expected to broaden our understanding of microbes as important facilitators for the evolution of herbivory and the colonization of dry habitats in beetles, two factors of major relevance for the emergence of economically relevant insect pests of agricultural crops and stored products.

Within the context of SYMBeetle, the group of Dr. Martin Kaltenpoth (Evolutionary Ecology Department of the Johannes Gutenberg University in Mainz, Germany) **offers several PhD (65% TV-L EG13) and postdoc positions (up to 100% TV-L EG13).** We are looking for highly motivated candidates with an MSc or PhD degree in biology, molecular biology or bioinformatics (or equivalent), excellent English speaking and writing skills and a deep interest in the evolutionary ecology of insect-microbe interactions. Previous experience with insect rearing, microbiology, molecular biology (qPCR, RNAi, FISH), phylogenetic analyses, and/or bioinformatics techniques (genomic and transcriptomic datasets) are of advantage, but not a prerequisite.



We offer a dynamic, international working group with broad expertise and state-of-the-art equipment in entomology, microbiology, molecular biology, and chemical analytics at the new Biocenter I of the Johannes Gutenberg-University in Mainz. The research group is integrated into the recently established Institute for Organismic and Molecular Evolution. Mainz is a charming, medium-sized, historic city situated at the river Rhine, in close vicinity to the Frankfurt metropolitan area.

Applications should include a **cover letter** (1-2 pages) describing the motivation, previous research activities and current research interests of the applicant; the **CV of the applicant** (with copies of BSc/MSc/PhD certificates, list of publications if applicable); and one (PhD applicants) or two (postdoc applicants) **reference letters**. Please send all documents as a single PDF file (except for the references, which should be sent directly by the referees) before **February 15th, 2019** to Dr. Martin Kaltenpoth (mkaltenpoth@uni-mainz.de). Candidates that are in the finishing stages of their MSc or PhD theses but do not have their certificates yet are also explicitly encouraged to apply. Pre-selected candidates will be invited to participate in a **recruitment symposium at the University of Mainz on March 22nd, 2019**. The positions are available at the earliest convenience.

The Johannes Gutenberg University of Mainz is seeking to increase the number of women in science. Applications from women are therefore strongly encouraged. Qualified candidates with disabilities will be preferred.