

Solitary Bee Microbiota

PhD student position – March 2016 for 3 years

Molecular Biodiversity Group, Department of Animal Ecology and Tropical Biology,
University of Würzburg, <http://www.dna-analytics.biozentrum.uni-wuerzburg.de>

Requirements

Primary requirement is strong interest and motivation in conducting biodiversity research on a metagenomic, molecular level. Further, applicants must have a MSc/ Diploma (DE) related to one of:

- Metagenomics
- Community ecology
- NGS
- DNA-Barcoding
- Bioinformatics
- Molecular ecology
- Microbial biochemistry
- Microbial cultivation
- Bee biology

The successful candidate must be willing to become acquainted with these topics during the project, as well as scientific writing in English.

Salary & Conditions

According to public service positions in Germany (TVL E13: 65%) for three years. The University of Würzburg is an equal opportunity employer, i.e. female scientists are particularly encouraged to apply and disabled applicants will be preferentially considered in case of equivalent aptitude. We offer membership in a friendly and ambitious young molecular research work group, as part of a vivid ecological department.

Project description

Bees are considered to be very important agents for ecological networks and agricultural systems. Solitary bees contribute largely to overall pollination and it is of high interest and goal of this project to gain knowledge about their effectiveness in recruiting offspring. In this context, only scarce information is available about microorganisms associated with solitary bees, both with positive and negative effects. The PhD student will intensively address the importance of microbial agents in the ecology and development of solitary bees and infer their molecular, biochemical functions.

Ecology: First goal of the project is to identify natural microbiota of solitary bee species through metabarcoding, relating it to ecological factors of importance followed by a comprehensive pathological investigation of microbial agents found in diseased adult bees and larvae.

Development: Further, experimental tests will be applied with bacterial suppression through various bioassays. We aim to identify changes in bee survivability and investigate the microbiota at different developmental stages of the larvae within a standardized setup.

Function: Lastly, a more biochemical and genomics-oriented part is planned to identify importance of bacteria in fermentation processes and anti-pathogenic activity. This is done by bioassays, shotgun sequencing and genomic as well as metabolic profiling for genes and pathways.

Applications and further information

Please send your application (or inquiries) via eMail to Dr. Alexander Keller (a.keller@biozentrum.uni-wuerzburg.de) as a single PDF document until **31st October 2015**. All applications received by this date will receive full consideration. Applications should include a cover letter, a short summary of research interests, CV, complete certificates, and names and email of two potential referees.