The Institute of Evolution and Biodiversity in the Faculty of Biology at the University of Münster (WWU), Germany, is seeking to fill the position of a

PhD candidate

Wissenschaftliche/r Mitarbeiter/in
(salary level TV-L E 13, 75%)
in "Recurrent genomic dynamics linked to parallel evolution of secondary phytophagy in Hymenoptera"
with
Dr Manuela Sann & Dr Mark Lammers

Project description

This research project focuses on evolutionary processes that shaped the diversity of nutritional adaptations and genomic dynamics in phytophagous Hymenoptera. The phytophagous lifestyle is a key innovation in insects that has evolved in only one third of all insect orders. The evolution of phytophagy likely involves fundamental behavioural and morphological changes accompanied by chemosensory and metabolic adaptations. Our project focuses on the species-rich and economically and ecological important clades Aculeata and Chalcidoidea. We aim to understand the genomic architecture in representative groups that are linked to parallel transitions to secondary herbivory in these clades. We will apply a comparative genomic and transcriptomic approach to uncover genomic underpinnings of macro-evolutionary dietary adaptations in a collaborative project.

We are looking for a highly motivated candidate with interest in molecular evolution, genomics, transcriptomics and ecology. The PhD project will focus on comparative genomics and transcriptomics of already available and newly sequenced hymenopteran genomes, and will comprise the application of latest sequencing technologies and diverse genome assembly and annotation pipelines, statistical analysis of gene family evolution and direction and strength of selection acting on candidate gene families, and studying genome TE dynamics that might have fostered repeated transitions to phytophagy. The successful applicant will join an international dynamic scientific environment at the University of Münster and will have access to state-of-the-artlaboratories and computing facilities. The position is tied towards working towards a doctoralqualification and funded by the German Research Foundation (DFG) for a period of 3 years (75% TVL E13). The preferred starting date is **1 February 2023**.

The project is embedded in the Priority Programme (SPP) 2349 "Genomic Basis of Evolutionary Innovations" (GEvol, https://g-evol.com) funded by the German Research Foundation (DFG). The goal of GEvol is to collaboratively and interdisciplinarily exploit new computational and OMICS methods to reveal the history of genomes in the insect taxon through comparative genomics. The PhD candidate will be enrolled in the GEvol activities including diverse workshops on
bioinformatics and statistical methods, symposia, and meetings.

Our expectations

Applicants should be highly motivated scientists interested in interdisciplinary work, ideally with a strong interest in hymenoptera. They should have the equivalent of a master's degree in biology, preferentially with a focus on evolution, molecular biology, genomics or a related field. A background, and ideally some experience, in any of the following areas is advantageous: molecular laboratory skills, bioinformatics (Linux/bash, Python, R), statistics and/or practical field work.
Applicants should have excellent communication skills and be able to work both independently and as part of a multidisciplinary team. The working language of the Institute and the lab is English, therefore good proficiency in spoken and written English is a requirement. German language skills are not a requirement, but a willingness to learn is desirable.

Advantages for you
The Institute for Evolution and Biodiversity provides a stimulating research environment with a number of scientific groups researching diverse topics centred on different aspects of evolution. As a part of the Priority Programme GEvol (SPP 2349) the project will involve intensive collaboration with consortium partners across Germany.

The University of Münster strongly supports equal opportunity and diversity. We welcome all applicants regardless of sex, nationality, ethnic or social background, religion or worldview, disability, age, sexual orientation or gender identity. We are committed to creating family-friendly working conditions.

The University of Münster is an equal opportunity employer and is committed to increasing the proportion of women academics. Consequently, we actively encourage applications by women. Female candidates with equivalent qualifications and academic achievements will be preferentially considered within the framework of the legal possibilities.

Application
Please send your application as a single pdf file containing:

- a one-page cover letter outlining your motivation, research interests and skills
- a detailed CV with a list of publications
- copies of transcripts, credentials and certificates
- contact details of two potential referees.

Please send your application to Dr Mark Lammers (https://www.uni-muenster.de/Evolution/, marklammers@uni-muenster.de) and Dr Manuela Sann (https://chemoecology.uni-hohenheim.de/msann, manuela.sann@uni-hohenheim.de) by **30 November 2022.** Interviews with selected candidates will likely take place on 14 December 2022. Do not hesitate to contact us if you have further questions.