FUNGAL FARMERS IN AUSTRALIAN TREES

ABOUT THE PROJECT

HIE is seeking a PhD candidate to work in the field of insect ecology and evolution. The project is linked to an Australian Biological Resources Study, exploring insect, microbe and tree associations among the wood boring, fungus cultivating ambrosia beetles. Australia is home to unique ambrosia beetles, including the world’s only known eusocial beetle and several species inhabiting living trees (there is only a handful of these worldwide), yet their evolutionary ecology remains unknown.

Understanding the group’s systematics, co-evolution with microbes, shifting host-tree associations and community dynamics, in the context of a changing climate and potentially vulnerable plantation and native timber assets in Australia is the overarching goal of the project. This is of significant international and national interest due to the environmental and economic damage inflicted by wood boring beetles around the globe and because of many unique ecological and evolutionary aspects.

The successful PhD candidate will undertake a research program in alignment with our project to investigate the diversity of Australian ambrosia beetles and their fascinating interactions with microbial symbionts. The approach may involve field surveys, microbial assays, high-tech morphological systematics, landscape genetic analyses or phylogenetics. There will be opportunities for professional development, travel and interaction with an international team of researchers (including collaborators from Univ. Florida, Univ. Pretoria, and Univ. Natural Resources and Life Sciences, Vienna).

The student will be supervised by Dr Markus Riegler and Dr Shannon Smith and will benefit from access to exceptional entomological and molecular facilities. The candidate will also have a strong interdisciplinary team at the HIE available for consultation, including experts in plant, fungal and insect science, microbial ecology and environmental genomics.

CRITERIA

The successful applicant should:
» demonstrate excellent academic performance related to the research proposed
» hold qualifications and experience equal to an Australian First Class Bachelor Honours degree, Research Masters, or Masters coursework degree with greater than 25% research
» be enthusiastic and highly motivated to undertake further study at an advanced level
» have a background including at least one of the following: molecular ecology, microbiology and/or entomology and have experience and knowledge or familiarity in DNA-based or other taxonomic techniques.

As the project will involve fieldwork throughout the forests of Australia candidates must demonstrate the ability to organise and work independently. The PhD candidate is anticipated to commence in mid to late 2014.

International applicants must also demonstrate a high level of proficiency in the English language. Please refer to the English language requirements at www.uws.edu.au/international/admissions/english_language_requirement

WHAT DOES THE SCHOLARSHIP PROVIDE?
» Domestic students will receive a tax free stipend of $30,392 per annum and a funded place in the doctoral degree.
» International students will receive a tax free stipend of $30,392 per annum. Those with a strong track record may receive a fee waiver.
» Funding is available for project costs and conference travel.

NEED MORE INFORMATION?
» Applicants can discuss their eligibility and interests with Dr Markus Riegler m.riegler@uws.edu.au or +61 2 4570 1229
» Contact the Office of Research Services to discuss enrolment and scholarships at hdrscholarships@uws.edu.au

HOW TO APPLY
Submit an application form, CV (including two referees) and a one-page proposal for research that falls within the broad aims of the project. Closing date 20th June 2014.