

PhD Fellowship for research on Coevolution of Emu Bush (*Eremophila*) and sap-sucking bugs (Heteroptera)

The proposed project will investigate the species interactions of lacebugs, plantbugs and stinkbugs on the iconic Australian plant genus *Eremophila*. The project will involve cophylogenetic studies that will differentiate between cospeciation and ecological fitting theories.

A PhD opportunity is available for an independent and self-motivated student who has a 1st Class Honours degree in Biological Sciences and has an Australian Government Postgraduate Award. This project is supported by the Hermon Slade Foundation and will involve extensive fieldwork in arid and semi-arid Australia, molecular phylogenetics, and cophylogenetic analysis.

This project is part of a broader research program on *Eremophila* supervised by Dr Mike Bayly (University of Melbourne), Dr Dan Murphy (Royal Botanic Gardens, Melbourne), A/Prof. Shawn Laffan (UNSW), A/Prof. Mike Charleston (University of Sydney) and Prof. Gerry Cassis (UNSW). The Melbourne contingent is working on a backbone phylogeny of *Eremophila* using Next Generation Sequencing, and involves a PhD student at the University of Melbourne.

The UNSW student will work primarily on the phylogenetics of the sap-sucking clades, and undertake cophylogenetic analysis using the *Eremophila* phylogeny generated in Melbourne. The cophylogenetic/bioinformatics aspect of the work will involve the cosupervision of A/Prof. Charleston, who is a world leader in cophylogenetics, and is the author of Tree Mapping software to be used in this project.

The student will be supervised by Prof. Cassis at UNSW, with a focus on sap-sucking phylogenetics and the evolution of traits relating to *Eremophila* defensive strategies. They will also be cosupervised by A/Prof. Shawn Laffan on spatial aspects of the species interaction.

We are seeking applicants with demonstrated ability to work in the field for extended periods and undertake detailed molecular laboratory work. The student must be highly self-motivated and have the capacity to undertake multidisciplinary studies. It is highly desirable that they have an interest in entomological research. They must be able to work in a team-based environment.

The candidate must enrol in a PhD program within the School of Biological Earth and Environmental Studies (BEES), University of New South Wales and receive an Australian Government Postgraduate Award.

Interested applicants should send an expression of interest and CV directly to Prof. Gerry Cassis (gcassis@unsw.edu.au) or call on 02-93853438.

Applicants will be expected to commence their PhD research in Semester 2 2014.