

**NERC funded PhD studentship\***  
Department of Zoology, Oxford University  
Supervisors: Dr Rebecca J. Morris & Dr. Owen T. Lewis

## **Potential impact of climate change on food web structure and ecosystem function**

Understanding and predicting the ecological impact of climate change on biological systems is one of the greatest challenges facing biologists today. There is increasing evidence that, as the climate warms, many species are shifting their geographic and altitudinal distributions. Research has largely focused on single species, but species are embedded in complex networks of interactions. Shifts in the range of one species will inevitably lead to the dissociation of current species networks and the formation of new ones, with consequences for community dynamics. However, little evidence currently exists to determine whether climate change will lead to alterations in the structure of ecological communities and associated changes in ecosystem function.

This field-based project will involve studying food web structure and ecosystem function for an ecologically important guild of insect predators and herbivores (cavity nesting bees and wasps) and their natural enemies (parasitoids) along an altitudinal gradient in Australian rainforest. The student will investigate how food web interactions vary across the range within which the food webs exist, and the biotic and abiotic factors that constrain species distributions at the range margins. Predictions about how climate-induced shifts in species' ranges are likely to affect food web structure and ecosystem function will be tested using a series of manipulative field experiments.

The successful student will have at least a 2(i) degree or equivalent in a relevant subject, a genuine interest and knowledge of ecology, and relevant research experience, including fieldwork.

Informal enquiries about the project can be made to Rebecca Morris ([rebecca.morris@zoo.ox.ac.uk](mailto:rebecca.morris@zoo.ox.ac.uk)) or Owen Lewis ([owen.lewis@zoo.ox.ac.uk](mailto:owen.lewis@zoo.ox.ac.uk)).

To apply please complete the University application form ([www.admin.ox.ac.uk/gsp/](http://www.admin.ox.ac.uk/gsp/)) and include two references from academic referees (follow procedure in Booklet A). Please submit two copies of the application forms and all supporting material to the Graduate Administrator, Department of Zoology, University of Oxford, South Parks Road, Oxford, OX1 3PS (and NOT the address detailed on the application form). Closing date: 29 February 2008

\*Funding subject to departmental competition (UK/European students only)