

PhD project: Niche Evolution and Range Expansion in Proteaceae



Research School of Biology,
Australian National University, Canberra

The Macroevolution & Macroecology Group (www.macroevoeco.com) is seeking expressions of interest for a PhD research project to develop and test theory in the area of niche evolution and geographic range expansion. Using the diverse Gondwanan plant family Proteaceae as an empirical case study, this project aims to explore the role of rapid evolution of climatic and environmental niches in the geographic expansion and diversification of plants. The project is expected to make a substantial contribution to the theoretical understanding of evolutionary radiations, the geographic distribution of diversity, and the determinants of commonness and rarity in plant species.

The project is based in Canberra at the Research School of Biology, ANU, and is primarily computational/analytical. You should have some computational skills already (especially R), and some familiarity with phylogenetics and analysing phylogenetic data. However, the project will help you develop advanced skills in programming and cutting-edge methods for modelling and analysing spatial biodiversity and environmental data (GIS), molecular phylogenetic data, niche modelling, and macroevolutionary inference. There is plenty of scope for a creative student to take this project in different directions and explore different questions.

To be considered for this project you should have a suitable degree in ecology or evolution with first-class Honours (or equivalent), and be eligible for an Australian Government Research Training Program Stipend Scholarship. The project does not come with independent funding for a postgraduate stipend. Support for research, travel and fieldwork costs will be provided by RSB.

Please send an expression of interest including CV, academic transcript, referee contacts, and a brief statement (one A4 page) outlining your interest in this project, relevant experience, and motivation for pursuing a PhD, to Associate Professor Marcel Cardillo (marcel.cardillo@anu.edu.au) by October 1st, 2018. The successful applicant will then need to apply separately for a scholarship by October 31st, 2018 (<http://www.anu.edu.au/students/scholarships-fees/scholarships/australian-government-research-training-program-agrtp>).