



Hybridisation in a newly colonised landscape – the case of the endemic alpine white gums

- Study endemic Tasmanian eucalypts
- Use the latest genomic technologies
- Work with international collaborators (France)

We have been studying genetic admixture between the closely related Tasmanian endemic eucalypts, *E. gunnii*, *E. archeri* and *E. urnigera*, where they co-occur in the sub-alpine forests on the Central Plateau. The threatened *E. gunnii* subsp. *divaricata* is part of the clinal variation within *E. gunnii* in this area, is one of the most frost resistant populations of *Eucalyptus*, and is in rapid decline potentially because of global climate change. With our long-term field trials and glasshouse trials providing evidence for selection shaping the patterns of quantitative genetic variation in this area, our hypothesis is that there has been extensive hybridisation between these species following their post-glacial upslope migration onto the Central Plateau, with species resurrected from hybrid populations by natural selection.

This project will use the latest molecular technology to identify and characterise the key genomic regions associated with species divergence and introgression in these species. Part of this project can be packaged as an Honours project.

Eligibility (for PhD): Domestic and International students with First Class or Second Uppers Honours / Master's degree or equivalent in genetics, genomics, ecology, bioinformatics or related disciplines. Domestic students will need to apply to UTAS for an APA or equivalent Scholarship, while international students will need to apply for a UTAS International Scholarship.

The **Eucalypt Genetics Group at UTAS**, led by Profs Potts and Vaillancourt, has a world-class interdisciplinary research programme that investigates the evolutionary and ecological forces that shape diversity in *Eucalyptus*. The Group consistently publishes in high impact journals, with recent publications in *Nature*, *New Phytologist* and *Molecular Biology and Evolution*. The Group collaborates with other universities and research institutions in Australia and internationally that can bring other skills to a supervisory team.

Learn more at www.eucalyptgenetics.com

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