

Geographic and taxonomic patterns of monophyly and hybridisation in eucalypts

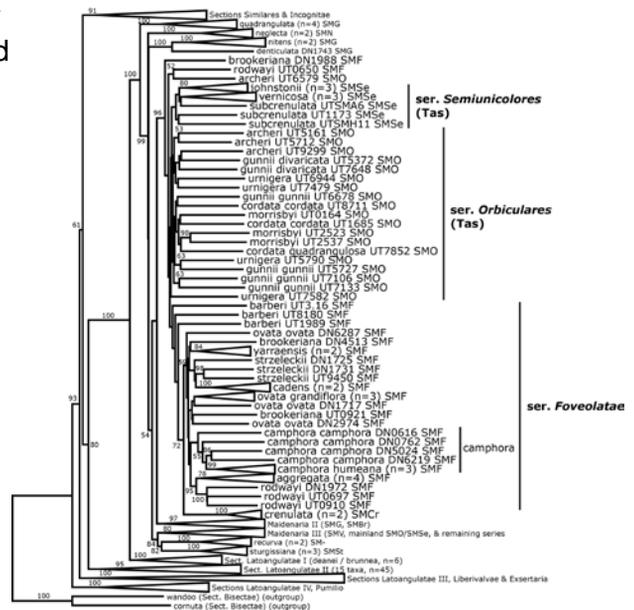


- Collaborative project: Biological Sciences – Mathematics
- Internationally recognised research groups
- Study iconic eucalypts

Eucalypt phylogenies, which summarise the evolutionary relationships among species, are increasingly being used for a range of practical purposes: to inform conservation programs, to assess the risk and impact of exotic hybridisation, to predict eucalypt species responses to climate change and pathogens such as myrtle rust, as well as for their fundamental purpose in understanding evolution and informing taxonomies.

Our recent research into the phylogenetic relationships among eucalypts, using genome-wide markers and multiple geographically widespread samples, has revealed numerous puzzling discrepancies, most likely due to recent radiation, incomplete lineage sorting of given genomic markers, and/or reticulate (non-tree-like) evolution. However, these evolutionary processes are difficult to distinguish, and the relative contribution of each is likely to vary across the continent and among groups of species.

In collaboration with researchers in the Discipline of Maths and Physics, this project will tease apart the different processes that are contributing to the complex evolutionary dynamics of this important set of species, and investigate their geographic and taxonomic patterns.



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*.

Learn more at www.eucalyptgenetics.com

The **Theoretical Phylogenetics Group** is a group of mathematics staff (including A/Prof Charleston & A/Prof Holland) who have a special interest in applying mathematics and statistics to problems in evolutionary biology and ecology.



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