



Population Genetics, Phylogeography and Taxonomy of Critically Endangered *Leptecophylla oxycedrus* and *L. juniperina*.

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Leptecophylla oxycedrus (Ericaceae) is Critically Endangered in Victoria, where it is only found at Wilsons Promontory National Park and Phillip Island, but it is widespread in Tasmania. We undertook a population genetic study to inform conservation in Victoria, aligned with a recovery action plan prepared by Phillip Island Nature Parks, and to clarify taxonomic limits and phylogeographic history. In particular, it is unclear whether the closely related *L. juniperina*, endemic to New Zealand, is a distinct species from *L. oxycedrus*, as all previous treatments of this genus have been based on morphology only. 120 individuals including outgroups were sampled in Victoria, Tasmania and New Zealand. Sequencing by Diversity Arrays Technology (DArT) produced over 100,000 single nucleotide polymorphisms across the genome from the samples provided, which were filtered down to 7179 informative and unique SNPs. The analysis of the SNP data includes a STRUCTURE analysis, inbreeding and F_{st} , and isolation by distance which will be presented in this talk. The data show that the two Victorian populations are genetically distinct, with Wilsons Promontory populations genetically closest to those of eastern Bass Strait Islands, and that *L. oxycedrus* is also distinct from *L. juniperina*.

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