

Documenting *Polygala* diversity in the NT



What is the project about?

Documentation of biodiversity is an essential component of effective biodiversity conservation and management. Compared to more southern regions the Northern Territory and northern Australia in general is still relatively rich with undescribed plant taxa. Approximately 300 species are assigned the IUCN conservation code of not evaluated in the NT because of uncertainty regarding their taxonomic status. An average of 90 new plant taxa have been identified each year over the period 1995-2002 for the Northern Territory.

Polygala species are herbaceous annual plants distributed throughout the Northern Territory and northern Australia. *Polygala* is the largest genus of the family Polygalaceae and is represented by c. 500 species worldwide. They are characterised by distinct purple to blue bilaterally symmetrical flowers, similar to pea flowers, and in Australia are found in a variety of woodland habitats. It has long been recognised that there are many more species of *Polygala* in the Northern Territory and northern Australia than is currently described. The number of new species that exist is yet to be documented and there are no comprehensive tools available for identification.

Research

Biodiversity Conservation is currently documenting *Polygala* species in northern Australia. It aims to provide the first taxonomic treatment for this genus in Australia for the Flora of Australia series and will provide essential data for the Australian Virtual Herbarium project and the Australian Plant Census.

New species of *Polygala* will be proposed based on their morphological and genetic distinctiveness. Material will be examined from extensive collections in the Darwin Herbarium, interstate herbaria and from targeted field survey. Genetic similarity will be examined in this project by comparing molecular regions extracted with ISSR and RAPD markers.

A taxonomic revision provides a comprehensive description of species, notes on conservation status, distribution and habitat preferences, and keys to species. Taxonomic revisions also resolve nomenclatural issues and are essential for national and international research regarding phylogeny.

This project forms the basis of a Masters of Science by research project for Raelee Kerrigan. (JCU)

