

Progress Report SP 2011-015

Taxonomy of undescribed taxa in the Ericaceae subfamily Styphelioideae, with an emphasis on those of conservation concern

Plant Science and Herbarium

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Project status as of July 4, 2016, 4:26 p.m.

Approved and active

Document endorsements and approvals as of July 4, 2016, 4:26 p.m.

Project Team	granted
Program Leader	granted
Directorate	granted

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Context

Epacrid classification is undergoing fundamental reassessment at the generic level as new information on relationships is revealed. *Leucopogon*, in particular, is species-rich in Western Australia but is relatively poorly understood and includes many undescribed taxa, including ones of conservation significance. It is also clear that the genus cannot be maintained in its current circumscription, although generic boundaries are still uncertain. This project will continue to describe new taxa in *Leucopogon*, *Melichrus* and other genera in the subfamily Styphelioideae and, in collaboration with partners in eastern Australia, work towards a generic reclassification of the subfamily.

Aims

- Publish new taxa from the tribes *Styphelieae* and *Oligarrheneae*, prioritising those of high conservation significance.
- Revise generic concepts in line with recent systematic studies.
- Continue a taxonomic assessment of species boundaries across the tribe *Styphelieae* (mainly in *Leucopogon*) with a view to identifying previously unrecognised taxa, especially those which may be geographically restricted.

Progress

- A collaborative paper with researchers in eastern Australia and the USA is now published in *Australian Systematic Botany*. The paper lays the foundation for the recognition of a greatly expanded *Styphelia* which will encompass all elements of *Leucopogon* not belonging to *Leucopogon* s. str. as well as *Astroloma*, *Croninia* and *Coleanthera*.
- A paper describing a new and probably rare species of *Leucopogon* s. str. from the south-west corner of Western Australia published in *Nuytsia*.
- A paper describing six new species of *Leucopogon* s. str. from the Geraldton Sandplains has been submitted to *Nuytsia*.
- A draft paper with descriptions of five new species of *Styphelia* (currently in *Leucopogon* s. lat.) from the Geraldton Sandplains is near completion.
- A new paper updating the taxonomy of the genus *Brachyloma* is under way.

Management implications

The epacrids, of which *Leucopogon* constitutes by far the largest genus, have a major centre of diversity in south-west Western Australia. An authoritative source of current information is fundamental to correctly managing the conservation taxa and the lands on which they occur for this taxonomically difficult group that is also very susceptible to a number of major threatening processes, including salinity and *Phytophthora*.

Future directions

- Preparation of further papers describing new taxa in *Leucopogon*, *Brachyloma* and *Styphelia*.
- Further field studies to assist in the taxonomic resolution of potentially new taxa in *Leucopogon* and *Styphelia* s. lat.