

Progress Report SP 1998-003

Genetics and biosystematics for the conservation, circumscription and management of the Western Australian flora

Plant Science and Herbarium

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Genetics and biosystematics for the conservation, circumscription and management of the Western Australian flora

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Context

The flora of Western Australia is complex due to the antiquity of the landscape, and this can lead to obscurity in taxonomic identity, which impacts on conservation status of rare and threatened taxa. Genetic analysis can inform the conservation and biosystematics of these taxa.

Aims

- Provide genetic information for the conservation and management of Western Australian flora, especially rare flora.
- Determine the level of differentiation in *Calothamnus quadrifidus* to assist in the taxonomic revision of the group.
- Clarify the taxonomic status of *Platytheca* sp. *Sabina*, *Hakea* aff. *prostrata*, *Pityrodia* sp. Yilgarn, and *Hydrocotyle scutellifera* and associated taxa.

Progress

- Analysis of AFLP markers for putative taxa of *Synaphea* from the Pinjarra Plain has identified genetic discontinuities between populations to inform taxonomic revision.
- Analysis of genomic data in the *C. quadrifidus* species complex is in progress to support taxonomic determinations.

Management implications

- Assessment of the genetic structure within collections of *Synaphea* from the Pinjarra Plain will inform taxonomic revision and determine the identity of questionable populations of rare taxa.
- Assessment of phylogeographic patterns in *C. quadrifidus* has informed taxonomic revision of the group.
- Resolution of the taxonomic status of *P.scabra* subsp. *dendrotricha* (previously *Pityrodia* sp. Yilgarn) has enabled conservation assessment as Priority Three taxon, as it is known from several populations that are not under immediate threat.
- Clarification of taxonomic status of *Platytheca* sp. *Sabina*, *H.aff. prostrata*, and *H. scutellifera* and associated taxa will enable evaluation of conservation status and implementation of conservation actions, if required.

Future directions

- Taxonomic revisions of *Platytheca* sp. *Sabina*, *H. aff. prostrata*, and *H. scutellifera* and associated taxa will be completed.
- Identification of taxonomic entities in the *Synaphea* complex of the Pinjarra Plain will be completed.
- Analysis of genomic data of *C. quadrifidus* will be completed.