**Progress Report SP 2012-006**

# Strategic taxonomic studies in families including Amaranthaceae and Fabaceae (*Ptilotus, Gomphrena, Swainsona*) and other plant groups

**Plant Science and Herbarium**

## Project Core Team

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## Project status as of July 4, 2016, 4:11 p.m.

Approved and active

## Document endorsements and approvals as of July 4, 2016, 4:11 p.m.

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|---|---|
| **Project Team** | granted |
| **Program Leader** | granted |
| **Directorate** | granted |

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R Davis

## Context

*Ptilotus*, *Gomphrena* and *Swainsona* are important genera, particularly in arid and semi-arid areas of Western Australia such as the Pilbara and Midwest Regions, where they are often dominant components of the vegetation. This project includes basic taxonomic studies in these three genera, including the description of new species and taxonomic assessments of existing taxa, and preparation of a *Flora of Australia* treatment for the family Amaranthaceae. It also includes the development of interactive keys to all Western Australian species in the three genera. Once complete, these keys will allow easier and more accurate identifications of all species.

## Aims

- Publish new taxa and review infraspecific taxa in the genus *Ptilotus.*
- Create interactive keys to all Western Australian species of *Ptilotus*, *Gomphrena* and *Swainsona*.
- Publish new taxa in other genera.

## Progress

- A new and rare species of *Ptilotus*from the Yalgoo bioregion published.
- Paper on a new species of *Eremophila* submitted.
- Paper describing a new species of *Nymphoides* ready for submisson.
- *Ptilotus* descriptions for Flora of Australia submitted.
- Published article in Landscope magazine.

## Management implications

The taxonomy and identification of *Ptilotus*, *Gomphrena* and *Swainsona* is important for rangeland and arid land management as they are ecologically important genera in these regions. Many are annuals, and *Swainsona* is a nitrogen-fixing legume. Some species are useful indicators of ecological condition.

## Future directions

- Preparation of further papers describing new taxa in *Ptilotus* and other genera.
- Further field studies to assist in the resolution of problematic groups within *Ptilotus.*
- Progress interactive keys to *Ptilotus, Gomphrena* and *Swainsona*.
- Finalise paper dealing with the synonymy of *Adenanthos pungens*.
- Prepare paper describing a new species of *Hydrocotyle*.