

# The Murnong SEED

STUDIES EXPLORING EDIBLE DAISIES

## Citizen Science Project



### Introduction

Murnong (*Microseris sp*) has long been recognised as one of the most important food sources for Aboriginal peoples of the grassy plains of south eastern Australia. However, Murnong on the plains became scarce after the introduction of sheep and rabbits. Murnong persist now in isolated undisturbed grassland remnants and dry sclerophyll forests. It is possible that the Murnong produce much smaller tubers than were present in the past.

Whilst the name Murnong has regularly been associated with *M. scapigera* and *M lanceolata*, a recent review by Walsh (2016) recognised distinct differences among three *Microseris* species that occur in south eastern Australia – *M. scapigera*, *M. walteri* and *M. lanceolata*. Earlier studies and writings about Yam Daisies,

Murnong, *M. scapigera* and *M lanceolata* may have failed to distinguish between taxa, and *M. walteri* in particular is also thought to have been an important and nutritious food source.

We consider that knowledge of the use, cultivation and conservation of Murnong is critically important given the huge cultural value of the species. This citizen science project will achieve multiple goals, including conservation of the species, community engagement in Murnong, and learning botanical information about the cultivation and use of both *M. scapigera* and *M. walteri*.

### Project Aims

- Recognise *Microseris* and distinguish it from weed daisies.
  - and be able to tell the two species (*M scapigera* and *M walteri*) apart.
- Explore the preferred growing conditions for the two species
  - and confirm their natural distribution in the wild
- Analyse the nutritional and potential medicinal value of both local species
- Investigate how plants change over time
  - how age affects root size and structure
  - impact of harvest time on nutritional and medicinal value
- Build up stocks of both species locally
  - for further experiments
  - for bushland and grassland revegetation projects
  - for education (schools, university and community)
  - for potential long-term selective breeding programs

### Invitation to become a Murnong Citizen Scientist

Schools, community groups and members of the public are invited to participate as citizen scientists in the Murnong SEED project. See over for detail.

**Your contribution:** As a Murnong citizen scientist you will

- Grow 20 *Microseris* plants in your garden for a period of up to three years.
  - Plants will be supplied in spring 2020 and should be planted immediately in a cleared area approximately 1m<sup>2</sup> in size in a garden bed.
- Monitor the growth of your plants monthly
- Provide information about growing conditions for the plants eg soil type, watering, shading etc
- Provide harvested seeds and root material to Federation University on designated dates. (packaged and labelled)

Guidance about each of these activities will be provided by Federation University. eg instructions for collecting and labelling soil samples; measuring and recording site physical and chemical parameters; photographing and identifying roots and seeds; how and when to harvest and label seed and roots.

**Other contributions:** There are many other ways you might choose to be involved in the Murnong project instead, or as well as, through being a gardener.

- Interview and/or short film projects (eg Scientists, Citizen Scientists and/or Indigenous community about Murnong knowledge and project progress)
- Desktop research – eg internet and database (eg TROVE) searches
- Illustrator or artist to produce a series of botanical or other art works
- Field Observations – identify and record Murnong distribution in the landscape.
- Website development and maintenance for a “Friends of Murnong” group
- Other - send us your suggestions

**Your Opportunities:** Federation University will invite Murnong Citizen Scientists to participate in a number of talks, workshops and laboratory sessions over the duration of the project. Attendance is voluntary and there is no charge for participation in these events.

**Cultural Awareness Talk:** Significance of Murnong to the Aboriginal diet and impact on Indigenous populations of the loss of Murnong following European colonisation

**Soils Lab:** Conduct lab-based chemical analysis of your soil sample (pH, salinity, NO<sub>3</sub> etc) and compare it with others.

**Botany Lab:** Taxonomy of daisies, Distinguish *Microseris* from weed daisies, Identify *Microseris* to species level

**Food Chemistry and Bush Medicine Lab:** Chemical techniques for analysing the nutritional composition of *Microseris* roots and investigating potential anti-microbial activity.

**Murnong Community Conference:** What has this project taught us about Murnong? Does it have potential as a commercial crop in the Ballarat district? Are there other plants used by Indigenous communities which should be investigated?

**Registration:** To register as a Murnong Citizen Scientist visit [www.federation.edu.au/murnong](http://www.federation.edu.au/murnong) prior to **Friday 24 July 2020**

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