

Research Directions

Office of Research Services

Exploring symbiotic fungal diversity

Professor John Cairney, Centre for Plant and Food Science, is undertaking research to explore the importance of symbiotic mycorrhizal fungal diversity in the nutrition of Ericaceae plants. This ARC Discovery project also aims to clarify the relationships between the mycorrhizal fungi, which help their host plants obtain minerals from soil, and similar non-mycorrhizal fungi that inhabit the roots of other plants.



Woollsia pungens

Previous work has demonstrated that *Woollsia pungens* (an Australian native Ericaceae plant) is infected by a diverse array of ericoid mycorrhizal fungi in nature. This study will focus on investigation of nutrient acquisition by the plant when infected by different combinations of the ericoid mycorrhizal fungi. Professor Cairney will also explore functional and taxonomic relationships between ericoid mycorrhizal fungi and similar non-mycorrhizal fungi that inhabit roots of non-ericaceae plants in the same forest habitats.

The research will provide essential information about the significance of mycorrhizal fungal diversity to the growth and survival of Ericaceae plants in nature and may lead to more efficient propagation of Australian Ericaceae and better-informed strategies for conservation of rare Ericaceae. It will also reveal the extent to which Ericaceae and other plants interact via their root-associated fungal partners and contribute to the broader question of the link between biodiversity and ecosystem functioning.

Project title: *Exploring the genetic and functional diversity nexus in ericoid mycorrhizal and related symbioses.*

Funding has been set at \$240,000.

Contact Details:
j.cairney@uws.edu.au

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Web Site:

<http://www.uws.edu.au/pafs>