



**Senior Lecturer, Biodiversity & Conservation
School of Biological Sciences,
Faculty of Science & Engineering**

**Room 011, Biological Sciences
Ph 8201 2723**

Email: Molly.Whalen@flinders.edu.au

Research Interests

Plant systematics and plant ecology

- **plant reproductive ecology and breeding systems**
- **plant-animal interactions, esp. ant-plant interactions and plant-pollinator interactions**

Current Research Projects

Molly's research interests are in the general areas of plant systematics and plant ecology. She has a strong interest in plant reproductive ecology and breeding systems and plant-animal interactions, esp. ant-plant interactions and plant-pollinator interactions working most extensively on two plant families, the *Frankeniaceae* and *Euphorbiaceae*. The former is a primarily halophytic and desert group while the latter is widespread and well-represented in tropical areas.

Her work has involved investigations of the phylogenetic and evolutionary histories of genera in these two families and studies of their evolutionary ecology. She combines phylogenetic and ecological approaches to investigate character evolution in these groups. For example, she & her colleagues are examining the evolution and ecological significance of variation in characters related to plant defence and reproduction.

In her systematic work she uses a variety of approaches including comparative surveys of variation in morphology and anatomy and breeding studies, and she is also interested in applying molecular techniques to phylogenetic problems.

With regard to her ecological work, with Duncan Mackay, she is investigating ant/plant interactions in some species with extrafloral nectaries and other adaptations that encourage ant visitation and examining the role of ants in plant defence in these species and what factors influence the effectiveness of ant defence.

They are also studying the role of ants as seed dispersal agents of some of these species and how seed dispersal is affected by disturbance.

In addition to this work, they are also investigating the reproductive ecology of some desert and halophytic plants, e.g. their pollination biology and factors which influence variation in seed size and number.

Research Collaborations and Partners

Botanic Gardens of Adelaide Seed Conservation Centre

Professional Affiliations

Committees

- Conducting multidisciplinary collaborative research on Australia's biodiversity & landscapes
- Providing innovative interpretation of biodiversity research for a wide variety of end-users

