



PhD Exit Seminars

Amy Davidson & Hongyan Xie

Thursday 27 September 2012 1pm

Gould Seminar Room Building 116, Daley Rd, ANU



Clash of the *Erodiums*: the role of plasticity in determining a winner
Amy Davidson, Evolution, Ecology & Genetics, RSB

Amy will discuss some of the key findings from her thesis: "Responding to change: phenotypic plasticity and local adaptation, case studies using native and invasive *Erodium* species." The thesis explores patterns of phenotypic plasticity in populations of the native and invasive species sourced along a natural rainfall gradient. In addition, the impact of multiple stresses on such patterns will also be discussed, including the importance of ecological context in explaining when responses are likely to be adaptive.



Evolution of the breeding system and ecology of Tibetan poppies,
***Meconopsis* Vig.(Papaveraceae)**
Hongyan Xie, Evolution, Ecology & Genetics, RSB

Tertiary uplift of the Tibetan region created extensive cold habitat and intensified the summer monsoon. The alpine habitats were colonized by various forbs, such as *Meconopsis*, that have speciated profusely. Phylogenetic reconstructions suggest *Meconopsis* speciated by both polyploidy and allopatric niche divergence. Polyploidy disrupts self-incompatibility mechanisms, allowing selfing. In the absence of efficient cross-pollinators, notably *Bombus*, the flower structure and colour of selfing *Meconopsis* species is selected towards a fly-pollination syndrome. Extensive habitat surveys suggest that *Meconopsis* species diverge locally and, variously, show adaptation to drier climates, more competition, and tolerance of ungulate grazers. Growing human impact poses some threats to *Meconopsis* species.

Presented by

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