

ANU Seminar

EVOLUTION, ECOLOGY, & GENETICS

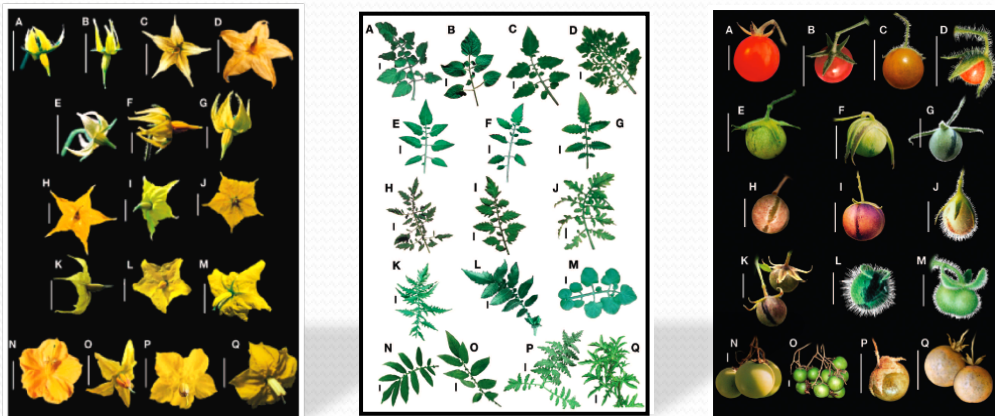
RESEARCH SCHOOL OF BIOLOGY

Thursday 4th August 2011, 1pm

Genetics of adaptation and isolation in the wild tomato group

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Adaptation and reproductive isolation both contribute to the formation of new species and the generation of biodiversity. Still, surprisingly little is known about the specific mechanisms underlying these fundamental evolutionary processes. Using tools ranging from species distribution modelling to fine-scale genetic mapping, we are working in the plant group *Solanum* section *Lycopersicon* (the wild tomatoes) to dissect the genetics and evolution of adaptive trait differences and reproductive isolating barriers among species. Tomatoes are separated by a range of pre- and postzygotic isolating barriers; our Quantitative Trait Locus (QTL) mapping indicates that the genetic architecture of these barriers is oligogenic and strongly epistatic. Species also differ markedly in phenotypic, physiological, and biochemical traits; our modeling and quantitative genetic analyses indicate that much of this variation is due to adaptive responses to natural variation in abiotic and biotic environments. Our goal is to integrate our investigations of adaptation and isolation, via these ecological, evolutionary, and genomic approaches, to understand mechanisms of differentiation in this charismatic and diverse group.

For further info please contact:

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**Seminars are held in the Gould Wing Seminar Room, Building 116 Daley Rd, ANU
ALL STAFF AND STUDENTS ARE WELCOME TO ATTEND**