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Phylogenetic Endemism of the Australian Flora with a Focus on Acacia

Plant Energy Biology Seminar Series

Wednesday 29 August 2012 1pm

Dr Joseph Miller Centre for Australian National Biodiversity Research, CSIRO Plant Industry, Black Mountain

Slatyer Seminar room R N Robertson Building, Research School of Biology, ANU



Understanding spatial patterns of biodiversity is critical for conservation planning, given the need to prioritize efforts in the face of rapid habitat loss and human-induced climate change. Biodiversity is usually measured by counting the number of species in a given area. These species counts are then compared across a region to identify areas of high species diversity and endemism. However, investigation of patterns of species diversity alone misses out on both the full richness of patterns that can be inferred using the tree of life, and the analytical power that comes from a phylogenetic approach.

Here we investigate the natural history of the Australian plant genus *Acacia* with a detailed species level phylogeny. The phylogeny will be used to demonstrate the evolution of several morphological character traits. A spatial analysis of phylogenetic endemism will

show areas of paleo- and neo-endemism in Australia that should be taken into account in conservation planning. Furthermore I will introduce, PHYLOJIVE, a novel web based tool for linking biodiversity data.



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STAFFLECTURE