



Leaf eaters and climate change

Thursday 30 August 2012 1pm

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Gould Seminar Room (Room 235) Gould building, 116 Daley Road, ANU



Significant range contractions are suggested for many herbivore species in the face of global climate change. However, for leaf eating herbivores, there may be additional nutritional limitations that are not reflected in current correlative models. My DECRA project is examining the effect of climate change on the nutrition of marsupial and insect folivores of Eucalyptus. Several meta-analyses have shown that under increased atmospheric CO₂ concentrations, leaves contain less protein and higher concentrations of some carbon-based secondary metabolites. Both of these are likely to reduce leaf quality for herbivores. Higher ambient temperatures may also impact food availability for marsupial folivores, as there is strong evidence from pharmacological studies that the toxicity of xenobiotics, including many plant secondary metabolites, depends on the ambient temperature of the environment. This has been an overlooked consequence of climate change and has the potential to significantly influence how mammals will choose their diets in the future.

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