



Ben-Gurion University of the Negev
Jacob Blaustein Institutes for Desert Research
The Swiss Institute for Dryland Environmental and Energy Research
Mitrani Department of Desert Ecology

Seminar

Si-Chong Chen

MDDE



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Seminar Room, Old Administration Building

Latitudinal gradients in seed predation and seed physical defense

There has been heated debate on the existence and generality of the latitudinal gradient in biotic interactions. I quantified seed predation and seed physical defense across 25 sites spanning 28° of latitude on the east coast of Australia, to test the hypotheses that seed predation and seed defense are more intense at lower latitudes. Overall, I measured pre-dispersal seed predation for 256 species-site combinations, post-dispersal seed removal for 126 species-site combinations, and the ratio of protective tissue mass to seed reserve mass for 250 species-site combinations. Contrary to expectations, both pre-dispersal seed defenses and pre-dispersal seed predation are higher at high latitudes, while neither post-dispersal seed defenses nor post-dispersal seed removal are significantly related to latitude. My findings run counter to the Janzen-Connell hypothesis that the striking diversity of plant species in tropical habitats is caused by stronger herbivore pressure in the tropics. This study, combined with previous studies of biotic interactions, highlight an urgent need for new theories for understanding global patterns in biotic interactions.