Impact of nectar-feeding birds and European Honeybee's on Anigozanthos manglesii's reproductive success

Ms Bronwyn Ayre[1,2], Dr Siegy Krauss[1,2], Dr David Roberts, Dr Janet Anthony[1,2], Dr Ryan Phillips[2,3], Prof Stephen Hopper[1]

[1]University Of Western Australia, , Australia, [2]Kings Park Science; The Department of Conservation, Biology and Attractions, , Australia, [3]La Trobe University, , Australia

Conserving imperiled species and ecosystems (1), Meeting Room 6, November 27, 2018, 10:45 AM - 12:45 PM

Biography:

Bronwyn Ayre is a PhD student at the University of Western Australia and the Botanic Gardens and Parks Authority. She is interested in the use of genetic techniques in ecology and conservation.

Anigozanthos manglesii, the Red and Green Kangaroo Paw, is a historically bird-pollinated South West wildflower that is now visited by the introduced European Honeybee, Apis mellifera. To infer the different consequences of pollination by nectar-feeding birds from A. mellifera, we ran pollinator exclusion experiments across two years and four populations. Plants were netted to exclude all potential pollinators, exclude birds but allow access by insects, or left open and un-manipulated. Bird visitations were recorded with camera traps and honeybee visitation with a hand-held camera. Honeybees were more frequent visitors than birds with only one bird species- the brown honeyeater- visiting an average of once per plant each week. Analysis of foraging recordings show that honeybees contact the stigma 12.8% of the time, and birds 48%. Although there is variation between population and year, on average seed set was significantly lower amongst honeybee pollinated flowers- 24% fruits set seed with an average of 10 seeds/fruit compared to 70% and 43.9 seeds/fruit in open flowers. Paternity assignment is being used to determine how far birds and honeybees disperse pollen within and between populations, and the levels of multiple paternity within fruits. Lower than expected bird visitation rates coupled with the negative impact of honeybees on reproductive success will impact the long-term survival of A. manglesii populations.

Book of Abstracts

ANNUAL CONFERENCE

ECOLOGICAL SOCIETY OF AUSTRALIA

25-29 November 2018

Royal International Convention Centre

Brisbane QLD

Ecology in the Anthropocene

ESA