Nicole Bezemer

Biography

I am completing the second year of my PhD on the evolution and conservation consequences of bird pollination and genetic insularity in the granite-endemic tree Eucalyptus caesia.

Open session (2)
Tuesday, November 28, 2017
11:00 AM - 12:30 PM
Bimbadeen Room
Speed Talk PLUS Poster

EcoTAS abstract

In south-west Australia, granite outcrops support hyper-diverse plant communities, some species of which persist as small, genetically insular populations for extremely long periods. Due to the fire-sensitivity and conservation status of some granite endemics, experimental burns are inappropriate. Thus, opportunities to study the impact of fire on plant population genetics seldom arise. Following a wildfire in a stand of the granite-endemic, lignotuberous tree Eucalyptus caesia at Boyagin Reserve, we surveyed genetic diversity, growth and survival, and parentage of seedlings. The entire adult stand (n = 180) plus all seedlings located (n = 115) were genotyped with 15 microsatellite loci. There was low heterozygosity and high fixation in seedlings compared to adults. Seedling mortality was high, with 32 seedlings still alive two years after the fire. Our data did not support expectations of post-germination selection against homozygous progeny. Based on height measurements, seedlings resulting from self-pollination (n = 19) could not be distinguished from outcrossed seedlings (n = 69). Whether these results can be explained by variability in seedling microsites, or purging of deleterious alleles, requires further investigation. Parentage analysis revealed limited seed dispersal (14.6 ± 3.8 m). By comparison, pollen movement was more extensive (67.8 ± 9.4 m), yet still restricted within the stand. Genetic mixing through wide pollen dispersal within stands, and extreme longevity of adults via lignotuber resprouting could retard extirpation in E. caesia. However, poor understanding of recruitment over the long-term, and lack of population age-structure data, represents a significant challenge to appropriate conservation management.

Bezemer N [1,2] , Hopper S [1] , Krauss S [1,2] , Roberts D [1,2]

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Sex on the Rocks: Genetic Consequences of Recruitment after Wildfire in a Granite-endemic Tree

EcoTAS 2017

The joint conference of the Ecological Society of Australia and the New Zealand Ecological Society

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EcoTAS17 Presenters

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Kiri (Reihana) Spraggs

EcoTAS abstract

The widespread degradation of water quality and quantity and its state of mauri, is a significant issue for Māori. This issue is represented by widespread degradation of

Open session (1)

Monday, November 27, 2017

3:45 PM - 5:45 PM

Sugarloaf Room

Oral presentation