

The population genomics of desert mistletoe (*Phoradendron californicum*): synteny of creosote (*Larrea tridentata*) adapted individuals to established host races

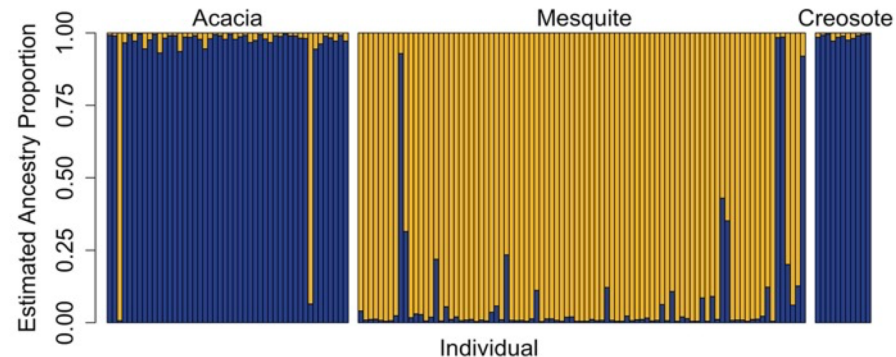
Research Question:

Are desert mistletoe (*Phoradendron californicum*) that infect creosote (*Larrea tridentata*), genetically differentiated from established mistletoe host races on acacia and mesquite?

Methodology:

- Collected tissue sample from individual mistletoe growing on 11 distantly separated creosote hosts
- Extracted DNA, amplified & sequenced ten polymorphic loci
- Utilized STRUCTURE to compare proportion ancestry of Individuals found on creosote to mistletoe infecting mesquite and acacia trees

Data Analysis & Results:



Interpretation & Conclusions:

- Mistletoe found on creosote share ancestry with those individuals that infect acacia

Mechanisms for genetic isolation and speciation

- Acacia established individuals may have a pre-adaptation to parasitize creosote
- Mesquite adapted individuals may be highly specialized
- Observed reproductive isolation may lead to speciation