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Effects of Supplemental Feeding on Migratory and Resident Hummingbirds

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Introduction

Hummingbird feeders are a common landscape accessory found throughout North America. However, the effects these feeders have on the behavior of hummingbirds is still not fully understood. If given the opportunity to feed on natural floral nectar as well as artificial feeder nectar, which one would the individual hummingbirds prefer?

Objective

The purpose of this study was to determine which mode of nectar the three local hummingbird species prefer given equal access to both (nectar producing flowers and artificial hummingbird feeder).

Methods

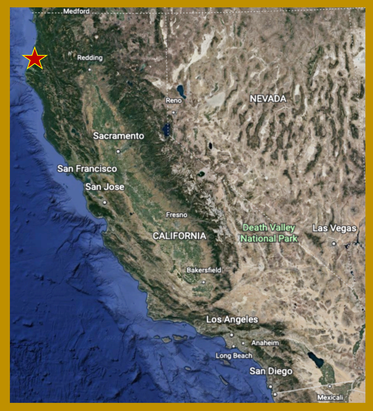
- Feeder was placed adjacent to Azalea plants (*Rhododendron arboreum*) to allow for equal access to both variables
- A camera trap was placed across from the study site to record visitation rates from individuals
- Feeder & camera was left at 3 study sites for a 24 hour period once a week for 6 weeks
- Photos were reviewed and individuals were identified to the specie level

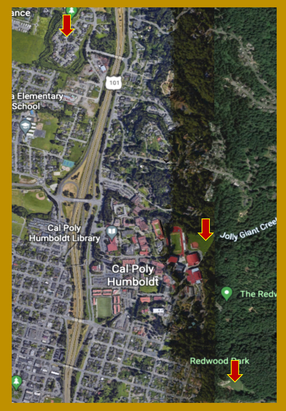

PC: Alexandra Ichters

Azalea flowers
(*Rhododendron arboreum*)

Study Area

Study was conducted at three sites across the city of Arcata, California.





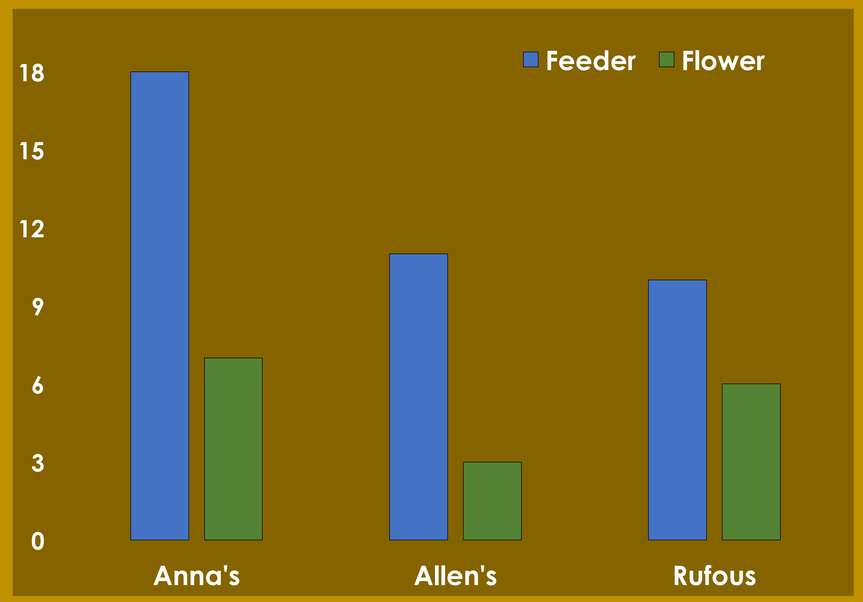


Figure 1. Bar chart depicting frequency of visitations from Anna's, Allen's and Rufous hummingbirds between feeders and flowers
(P-value = 0.022)

Anna's Hummingbird
(*Calypte anna*)


PC: Kyle Blaney

Allen's Hummingbird
(*Selasphorus sasin*)


PC: Dean LaTray

Rufous Hummingbird
(*Selasphorus rufus*)


PC: Dennis Allen

Results

- 36 out of 52 of individuals preferred the artificial nectar over the flowering nectar (69% preference rate)
- Anna's hummingbirds (*Calypte anna*) visited the feeder more than any other species in our study, comprising 35% of the total data collected
- All three species chose the feeder over the flower, with the Allen's hummingbirds (*Selasphorus sasin)* showing the most preference between the two variables (72% preference over flowers)
- Rufous Hummingbirds (*Selasphorus* rufus) showed a preference to the feeder at a rate of 60%

Discussion

- Two of the three species are migratory, Rufus and Allen's, while Anna's are resident species.
- Increased urbanization hosts ornamental landscaping and hummingbird feeders, attractants for hummingbirds
- Anna's range has expanded towards higher latitudes in the past 20 years from urbanization and supplemental feeding
- Some species may rely solely upon supplementary food to survive in areas which may not be suitable habitat for them

Management Implications

- Feeders provide valuable resources for hummingbirds when forage is low, so properly cleaning feeders at least once a week to limit spread of diseases is vital for their health
- Feeders should be filled with just water and sugar, no dyes or additives
- Overall preference for feeders implies strict sanitary practices when employing feeders