

HUMMINGBIRDS AND NECTAR SOURCE PREFERENCES IN SAGUARO NATIONAL PARK



Canyon morning glory; Trans Pecos morning glory, Viridiana Orona; Rufous Hummingbird, Alan Schmierer

Southeast Arizona has an amazing diversity of 15 hummingbird species, which makes it one of the best places in the US to see these tiny, colorful birds. Local hummingbird species include Anna's, Broad-billed, Black-chinned, and Rufous—we are very fortunate that a few of these hummingbirds can be seen year-round here.

Unfortunately, hummingbirds appear to be declining both world-wide and in Arizona. For example, the Rufous Hummingbird population has declined by half over the past 50 years. Little is known about why these birds are losing ground, but it is believed that climatic warming trends are changing spring flowering dates in ways that could impact migratory hummingbirds. The Western Hummingbird Partnership has identified a lack of knowledge about what flowers hummingbirds prefer, and the phenology of these flowers, as barriers to conserving migrant hummingbirds along their journeys.

To help fill this information gap Saguaro National Park is examining the flowering phenology and nectar source preferences of resident and migratory hummingbirds in the park with a focus on the migrant Rufous Hummingbird. In fall 2021, we recorded foraging observations and noted the abundance and flowering stage of the focal plant species. Our results suggest that the preferred nectar source for most hummingbirds, including Rufous, was the Trans-Pecos morning glory, *Ipomoea cristulata*. This species is a bright red/orange, trumpet-shaped flower whose characteristics are typically associated with hummingbirds. The second most popular flower, but preferred far less, was the blue to light rosy-purple or white Canyon morning glory, *Ipomoea barbatipes*. Although it's not considered

a typical "hummingbird flower", atypical flowers can be as profitable as the typical ones, supporting up to 24 hours of a hummingbird's metabolic requirements through its migration. Both morning glories are native annual vines commonly found in the park's riparian areas and were extremely abundant during this year's very rainy summer.

Hummingbirds are extremely difficult to monitor compared to other birds because they don't sing, are very cryptic, and are hard to identify to species, especially for females. Results from this study will help us learn more about the structure of Rufous Hummingbird populations and the nectar sources preferred by both resident and migratory populations. This project not only raises awareness about this watchlist species and other hummingbirds in the Sonoran Desert but is also helpful for promoting pollinator gardens and restoration projects on public and private lands. For example, Saguaro National Park is already using the results of this study to collect seeds of both morning glories for distribution in various projects, and we hope to continue sampling during the spring migration season in 2022. Through this study we will gain a better understanding of the plants that support migratory hummingbirds through their journeys, which will aid in their long-term conservation.



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