

# VERMILION FLYCATCHER

TUCSON AUDUBON

Summer 2022 | Vol 67 No 3



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THE MAGIC OF  
HUMMINGBIRDS

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# TUCSON AUDUBON SOCIETY

TUCSONAUDUBON.ORG  
Summer 2022 | Vol 67 No 3

## MISSION

Tucson Audubon inspires people to enjoy and protect birds through recreation, education, conservation, and restoration of the environment upon which we all depend.

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*VERMILION FLYCATCHER* is published quarterly.  
Call 520-209-1802 for address changes or subscription issues.

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# CONTENTS

- 02 Almanac of Birds
- 04 Enchanting Hummingbirds
- 07 Hummingbirds on Our Walls
- 08 Put A Ring On It: Banding in the Hummingbird Capital of the United States with the Hummingbird Monitoring Network
- 10 Habitat at Home
- 13 Arizona Birding History
- 14 Female Hummingbirds of Southeastern Arizona
- 16 Paton Center for Hummingbirds
- 23 Volunteers
- 24 Conservation Advocacy
- 25 Birds + Community
- 29 The Final Chirp



## ON THE COVER

Anna's Hummingbird by David Kreidler. See more of his work at [FLICKR.COM/PHOTOS/BRNOSEFOEToes](https://www.flickr.com/photos/brnosefoetoes/).

ABOVE: Blue-throated Mountain-gem, Matthew Studebaker

# BEHOLD, THE INTERCONNECTEDNESS OF OUR TINY WORLD



The other day, I came face to face with another hummingbird in my yard. This time a female Costa's flies right into my space, at eye level. I freeze on my front walkway. I know I'm not near a nest or a contested food source. So what is this? Confrontation of a perceived threat? Mere coincidence of two converging bodies in motion serendipitously vying to occupy the same space-time?

Remaining frozen, precedent tells me that this will only be a brief encounter. But when it isn't, and she's still hovering right there in front of me, the world recedes, time stops and nothing but the buzzing of her cooling wings inches from my face in the rising sunlight and those tiny unblinking eyes seeing me, regarding me, like I haven't been so utterly seen and so thoroughly regarded in who knows when. Bird, behold this man! Man, behold this bird! And then just as suddenly, as the sound and time and demands of this all too human world whooshes back in upon the vacuum created by her sudden departure, the Costa's (and this fleeting sense of a quotidian-yet-sacred moment, and what we might mean to one another) is simply gone.

Contemporary philosopher Martha Nussbaum posits that we're only as human as our capability to hold other species and their right to flourish in high moral regard. And given that we're living in the climate-changing Anthropocene, where all global life is interconnected and is impacted

by us, there's an argument to be made that our capacity to experience wonder in an encounter with another species not only brings to life our moral regard but can also contribute to the creation of the yet-to-be-built jurisprudence capable of utterly acknowledging and thoroughly protecting our dawning sense of interspecies justice.

As I contemplate my encounter with this hummingbird—perhaps, in grandiose conceit, a mundane version of the winged theophanies of yesteryear—I wonder if another species' capability to similarly regard us humans—as this Costa's did me during our near-collision as we went about our respective daily routines—not only enlivens us (as this moment with her did me) but also somehow brings us into being, constituting us, not only as individuals, but as embedduals, physically, culturally, morally, holistically interconnected with one another and with all the species with whom we share this tiny-yet-nothing-but world?



Michael McDonald  
*Executive Director*

# ALMANAC *of* BIRDS

## SOUTHEAST ARIZONA'S RARE HUMMERS OF SUMMER

Summer brings many changes to Southeast Arizona. Temperatures soar, humidity rises, and the human population dips to a low point for the year. This increased humidity and iconic monsoon causes our Sky Island region to bloom with a “second spring” and creates a hummingbird paradise as they take advantage of increased nectar sources and insects. Hummingbirds can be found here all year, but there are some species that can only be found during the summer and in very specific places. The payoff for braving the high temperatures, here are some of our specialty hummers of summer and where you can find them.



Jennie MacFarland,  
*Bird Conservation Biologist*  
jmacfarland@tucsonaudubon.org

Lucifer Hummingbird, Lois Manowitz

OPPOSITE: Lucifer Hummingbird, Greg Lavaty; White-eared Hummingbird, R.C. Clark, Dancing Snake Nature Photography; Plain-capped Starthroat, Lois Manowitz; Berylline Hummingbird, ©bryanjsmith



### LUCIFER HUMMINGBIRD

With a brilliant purple throat, curved bill and long, forked tail it's no wonder this small hummingbird's name means "light bearer" in reference to its dazzling beauty. The female is also quite lovely with a thin white eyebrow, and a peach wash on her flanks and belly. Preferring dry canyons with thorn scrub vegetation, ocotillo and agave, the most reliable locations to find them in recent years have been the Ash Canyon Bird Sanctuary (Huachuca Mountains), Box Canyon (Santa Rita Mountains), and Guindani Canyon (Whetstone Mountains).



### WHITE-EARED HUMMINGBIRD

These small hummingbirds favor lush canyons of our Sky Islands, and Miller Canyon of the Huachuca Mountains has been the most likely location for them the last few years. Both the male and female have a bold white stripe behind the eye and red bill with a black tip. The male also has an intense purple iridescence on his face and green on his lower throat. At first glance it is easy to confuse the female White-eared Hummingbird with a female Broad-billed, but the rarer hummingbird can be identified by her much broader and bolder white face stripe as well as her darker black stripe under her eye.



### PLAIN-CAPPED STARTHROAT

A relative newcomer to our hummingbird scene in Southeast Arizona, this rare hummingbird has been seen mostly at the Santa Rita Lodge in Madera Canyon. This large hummingbird has pale under parts and bronzy, olive colored backs, and the male sports a modest throat patch of carmine red iridescence that can only be seen in the perfect light. They can be easily confused with female Rivoli's Hummingbirds but their distinctive blaze of white on their lower back sets them apart.



### BERYLLINE HUMMINGBIRD

This medium-sized hummingbird is found in the oak and pine-oak forests of Southeast Arizona, most recently being seen in Madera Canyon and even breeding in Cave Creek Canyon of the Chiricahua Mountains. Their emerald-green bodies are a beautiful contrast to their rusty, rufous wings, tail, and rump—rufous wing patches help distinguish them from Buff-bellied Hummingbirds and Rufous-tailed Hummingbirds in Mexico.

# ENCHANTING HUMMINGBIRDS



Pinau Merlin is a nationally known speaker, naturalist, and writer. She is the author of several books and over 80 articles about the wildlife, natural history, and ecology of the Desert Southwest.

Lucifer Hummingbird performing the shuttle dance for a female, Greg Lavaty



Broad-billed Hummingbird nest, Ned Harris

I was filling the net bag with pet fur for the birds to use in their nests when an impatient Anna's Hummingbird started pulling my hair. I could only laugh. Not only are these tiny birds not afraid of giant humans, they have no problem telling us to give them what they want right now!

With their dazzling iridescent colors, tiny size, and fascinating lifestyles, hummingbirds are among our most amazing and beloved creatures. Everything about them is superlative and we can't help but be intrigued and enchanted by them. But as we take a closer look, we discover they are even more intriguing than we thought.

Hummingbirds, found only in North and South America, are in the same family as the swifts (Apodiformes, meaning "no feet"). With their tiny feet, they are unable to walk or hop, so they conduct all their business on the wing. The tiny feet help keep the hummer lighter in weight for zooming about doing somersaults, flying backwards, and hovering. Southeast Arizona is the hummingbird Mecca in the US, with 18 species recorded. Arizona's proximity to Mexico, plus its topography, provide a variety of habitats and floral diversity.

Hummingbirds are solitary creatures (even though we often see them chasing each other around) and make no pair bond. The male's only role in family life is to dance and look good to the female. He perches prominently, singing and facing the sun to flash and display his stunning gorget as he watches for females or trespassing males. The iridescent gorget, or throat feathers, is actually made of only black, brown, and rufous colors. The iridescence is structural color, created by prisms (with tiny air bubbles) on the feathers that reflect light, which we see only when the sun is behind us.

When a female enters his territory, the male is aggressive, often treating her as an intruder. If she's passive and perches, he switches gears and performs his courtship dance, repeatedly zooming up in the sky and zinging down at speeds of up to 60mph, to show off his vigor, health, stamina, and good genes. The female watches from her perch. If she's impressed, she ruffles her crown and bobs her head, chittering and fanning her tail. Because the male may still be aggressive, she flies out of his territory back



Rivoli's Hummingbird, David Kreidler

to her own, where she finds dense vegetation she can retreat into if he becomes a ruffian. He chases, she lands, he performs the shuttle dance, and then they mate, though the actual mating is seldom seen.

The female usually constructs her nest before seeking out a male to mate with. Each species makes a slightly different nest, but all are exquisitely beautiful cups about 1.5 to 2 inches in diameter. She gathers soft downy plant parts, pliable stems, animal fur and spider webbing. The spider silk (black widow is a favorite) allows the nest to stretch as the nestlings grow. She sews it to a fine branch or twig—often one that can't hold the weight of a predator—with more spider webbing and then camouflages it with lichens, leaves, and bits of flowers or bark. Materials and construction of the nest varies depending on species, season, and elevation. Anna's Hummingbird, a winter nester, makes such a thickly insulated nest that it may be 40 degrees warmer inside the nest than outside. Costa's, the most arid adapted desert hummer, makes a shallow, thin nest. The Rufous Hummingbird migrates from Central Mexico to breed in Alaska (a 2,000 mile journey!), and its nest may be an inch thick for insulation, keeping both mother and eggs warm during freezing temperatures.

Females usually lay two eggs that are about the size of Tic Tacs. The eggs are elliptical due to the female's narrow pelvis. Egg shape is related to how fast and strong a flier a bird species is and thus how streamlined their shape is. The longer elliptical shape provides the same volume as a rounder egg without having to be wider. They are the smallest of bird eggs but are a hefty 15–34% of the females' body weight and female hummers are slightly larger than males since they must produce the eggs.

In addition to breeding and raising young, hummers' main preoccupation is finding enough food to sustain themselves since they need to eat at least every 20 minutes due to their small size and revved up metabolism. An assured source of nectar is essential to survival, so both males and females fiercely defend their territories, flower patches, and feeders against other hummers, insects, birds, and even people. They threaten with songs and vocalizations, tail fanning, flashing gorgets, chases, and aerial displays of prowess. If intimidation fails, then physical combat may ensue, including

## HUMMINGBIRDS

bill swordplay and trying to push each other to the ground. For such incredible aerial acrobats, being pushed to the ground is the worst insult. The Aztecs so admired hummingbirds' agility, bravery and pugnacity that they believed warriors killed in battle were transformed into hummingbirds. The Rufous Hummingbird is the most aggressive, taking over feeders and flowers and bullying the resident hummers as it stops over on its migrations. Researchers have discovered that as hummers migrate, they remember yards, feeders, and flower patches on their routes and return each year, depending on those nectar resources to see them through.

All this chasing and fighting takes a tremendous amount of energy—a male hummer needs to feed up to 40 to 60 times a day. This means visiting 1,000 to 2,000 flowers to obtain the 10 or 12 calories they need to survive each day. That may seem like a small amount, but relative to the size of a human, it translates to about 155,000 calories! Males only take in a little nectar at a time and are always on the verge of empty, allowing them to be more lightweight and faster in flight or fights. Females tank up more at each feeding, although the small crop can only store .6ml of nectar. However, you can't make a hummingbird out of just sugar. They need protein such as insects, spiders, midges, gnats, and other small soft-bodied insects, especially during inclement weather, the breeding season, or when few flowers are blooming. Hummers also feed at sapsucker wells, drinking the sap but also feeding on the insects that it attracts. Hummingbirds don't actually suck nectar, they rapidly lick it. A hummingbird's grooved tongue has a forked tip and the edges curl up into two tubes. The bill overlaps, the bottom fitting into the top. When feeding, they open the bill slightly and the tongue darts in and out at about 13 licks a second. Hummingbirds are very reluctant to put their heads into a tubular flower as that would block their vision of other hummers or predators, but they can still reach the nectar deep inside since the tongue can extend more than a full bill length beyond the bill.

Because of their small size, hummingbirds have a super-fast metabolism, with resting heart rates of around 600 beats a minute and 250 to 300 breaths a minute. When zooming about on aerial maneuvers their heart may reach 1260 beats a minute with wings vibrating 52 times a second. A hummer's breast (flight) muscles make up a huge 30% of its body weight. To power all this, and supply the vast amount of oxygen needed, a hummingbird has the largest heart relative to body size of any animal.

Even though they are little dynamos living in the fast lane, hummers can't maintain that energetic output very long. They spend about 80% of their time perched, preening and watching while resting. Even at that amazing metabolic rate, hummers might live for 3 to 5 years, but some banded individuals have lived for 8 to 12 years in the wild! This unusual longevity may be partly due to their ability to enter torpor.

After a busy day of showing off, fighting and feeding, hummers begin feeding heavily towards evening to tank up and fill their crops for the night. If they can't store enough nectar and fat to see them through the night, they must drop into a torpor, slowing their metabolic rate to save energy. But these amazing birds have yet another trick up their wings. Hummers drink prodigious amounts of nectar all day and their kidneys are specially adapted for constantly excreting water. During the night when they are not drinking, their kidney function slows down to prevent dehydration, a survival mechanism essential to hummers.

Hummingbirds may be small, but they don't know it. They pack a lot of charisma and zest for life into their tiny forms. They inspire us with joy and wonder. Hummers are yet another of the everyday small miracles that make life on Earth so delightful.



Squaring off: Lucifer Hummingbird and Broad-billed Hummingbird, Frederick L. Mitchell Jr.

## HUMMINGBIRDS OF THE SOUTHWEST STORY MAP

Explore this interactive and fun story map guide to everything hummingbirds! Find out details about all our species including fascinating hummingbird facts and which plants to use in attracting birds to your yard!



# HUMMINGBIRDS ON OUR WALLS

Hummingbirds hold great meaning for humans and can be symbols for nature, energizing life, tenacity, color, or mesmerizing flight. It's no surprise they often turn up in stories and artwork, especially murals. Here's just a sampling of some local flavor:



UA School of Art, by Karlito Miller Espinosa, includes various images that represent the University of Arizona, the Sonoran desert, local Indigenous culture, and fine art



North side of Borderlands Brewery, by Joe Pagac



Pasqua Yaqui tile murals. The instrument being played is a water drum made of a gourd, cut in half, and floating in a tub of water. It creates a melodic sound when used during cultural ceremonies such as deer dances. According to Yaqui artist Louis D. Valenzuela, the hummingbird "represents the Yoeme culture and is considered to be a spiritual bird that comes from the 'Sewa Ania' Flower World and is a messenger with powerful blessing and protection."



3443 E. Speedway, by Lalo Cota



Ajo, Arizona

All photos by Dan Weisz except bottom right by Doris Evans

# PUT A RING ON IT— Banding in the Hummingbird Capital of the United States with the Hummingbird Monitoring Network

MY HANDS ARE SHAKING. MY HEART IS RACING.

This is how it feels holding a hummingbird in my hands for the first time. The tiny bird is calm, although her heart is beating around 1,000 times per minute. That is not a cause for alarm, it's a normal heartbeat for hummingbirds. I was volunteering with the Hummingbird Monitoring Network (HMN) in the Huachuca and Chiricahua mountains. My head was spinning from everything I learned about banding hummingbirds.

The HMN is a unique organization dedicated to studying and conserving hummingbird diversity and abundance throughout the Americas. It was founded 20 years ago by Susan Wethington, Barbara Carlson, and George West to address the lack of hummingbird population trend data. The HMN monitors hummingbirds at five locations in Arizona, and various sites in British Columbia, Colorado, Idaho, Montana, Utah, and Wyoming. It also collaborates on research projects and partners with state and federal agencies, other nonprofits, universities, and citizen scientists in the Hummingbird Conservation Networks. There are multiple opportunities for volunteers.

Hummingbirds are captured for banding at feeders. A fine mesh fabric is pulled over a metal frame around the feeders and raised up. The nylon fishing line holds the device up and travels 25 feet to the trapper who releases it when hummers are inside the trap. Captured birds are placed in mesh bags, which are taken to a laundry carousel on the banding table to wait their turn to be measured and banded. Black-chinned Hummingbirds, the most abundant species in the area, are very vocal in protesting their brief loss of freedom.

Banders collect a wide range of data including the general health and age of the birds, and September–October is the busiest time during the fall migration. The HMN sends the data to the Bird Banding Laboratory which permits people to band birds. “We get data on pollen and beak length,” explains bander Birget “Birdy” Johnson. “Some of that helps to identify what flowers hummers are visiting. We track when they are putting on fat, and how much they are eating before migration.”

The most important measurement is tarsus size aka ankle circumference. One of the inventions of Lee Rogers, who was developing and making hummingbird banding tools for the past 15 years, is the Tarsus Gauge; a ruler with a letter corresponding to the size of the ankle. “When female hummingbirds are gravid and nesting, their ankles swell like those of pregnant women,” reveals entomologist Michele Lanan, who bands at the George Walker House in Paradise. “So, they need a larger band size.”

Both Lanan and Johnson have received training from master bander Susan Wethington who is serving as the organization’s Executive Director. The HMN has almost 200,000 bird captures in its data set. Lanan is analyzing it with Wethington to find clues on how climate change affects hummingbirds. “With some of the non-migratory species, I see a strong climate trend relating to when they start laying their first egg. In one of the species, the female is laying the first egg 1½ days earlier every year over 20 years. It is almost a month earlier than before,” says Lanan.

Banding data may also reveal range expansions. “It seems like more birds have been overwintering here in Paradise,” Lanan reflects. “Also, which bird shows up at which site has changed. Here we got more Blue-throated Mountain-gems than ever before. Trends like that might end up being climate-related, due to changing vegetation or resources.”

#### Observations from the spring 2022 banding season:

- Delayed molt of wing and tail feathers of Broad-tailed Hummingbirds was observed, which can be a response to poor conditions at their wintering grounds.
- This spring has been similar to last year in terms of species, with Fort Huachuca being the most diverse.
- Birds arrived a little earlier than last year and the breeding season started earlier as well. At two sites, 50% of females were pregnant in early May.
- An 8-year-old (!) pregnant Broad-billed Hummingbird was captured.
- Spring migration seemed to be over in Arizona by May 5–11. Hummingbird numbers dropped at the feeders as flower resources became abundant.

The HMN’s Hummingbird Banding Training Workshop is taking place August 31–September 10, 2022, at the Southwestern Research Station in Portal. Contact: [GABY@SAVEHUMMINGBIRDS.ORG](mailto:GABY@SAVEHUMMINGBIRDS.ORG) to participate.



Johanna Juntunen is the California reporter for the Finnish Broadcasting Company (YLE) and popular science & tech magazine *Tekniikan Maailma*, and a hummingbird enthusiast.



Netting trap in Paradise, Johanna Juntunen



Hummingbirds are banded when they are in a holding bag, Johanna Juntunen



Hummingbird burrito: when weighing hummers they are wrapped in a scrap of mosquito netting, Johanna Juntunen



Bander Birdy Johnson measures the length of the bill (culmen) of the hummingbird at Ft. Huachuca, Johanna Juntunen



Certain individuals are not in a rush to leave after the banding process like this Anna's Hummingbird, Johanna Juntunen

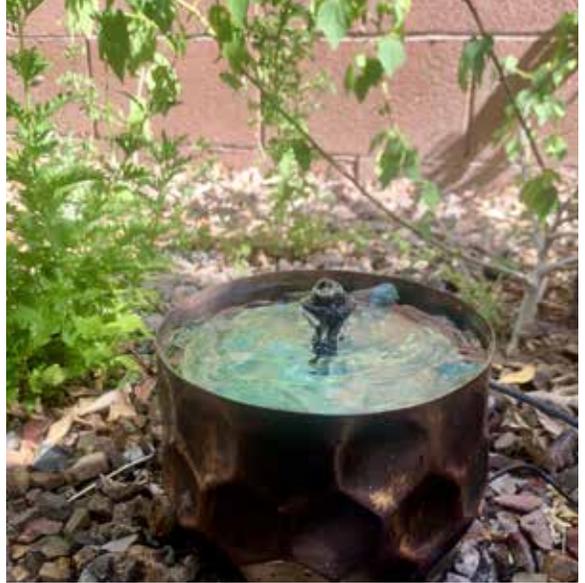


Michele Lanan bands, Jackie Lewis writes down data, and Victoria Arellano-Pappas feeds a bird in Paradise, Steven Goldman

**TUCSON AUDUBON IS EXCITED TO START WORKING WITH DR. KATY PRUDIC'S LAB** at the University of Arizona to study pollinators and plants in the desert southwest. As part of this work, Erin Zylstra (Tucson Audubon Quantitative Ecologist) will be helping to analyze data on western hummingbird populations with the HMN. Stay tuned for updates on this collaborative project that will help inform conservation of hummingbirds in the Sky Island region!

# DIY SOLAR HUMMINGBIRD FOUNTAIN

Like all birds, and most wildlife in the desert, hummingbirds are drawn to water. This easy to set up fountain will be a magnet for birds in your home garden. Try it today!



## MATERIALS

- Water-proof vessel. This will be the main part of your fountain: old vase, metal bucket, pitcher, decorative tray, etc., anything that holds water and is deep and wide enough to fit the water pump
- Plant saucer (or whatever you have on hand) that is slightly smaller than the vessel
- Solar submersible water pump or floating solar pump if your fountain is big enough.
- Pump riser (ramekin/dish/flat stone to stand pump on)
- Water-tight sealant to fill the hole in the vessel around the pump cord.
- Packing tape/duct tape



## TOOLS

Power drill with drill bits matching the diameter of the pump's cord spout.

## DIRECTIONS

1. Clean up your materials if needed. Add a coat of waterproof paint to refresh or change the appearance of your materials.
2. Drill a hole near the bottom of the vessel (not at the bottom) for the pump cord to fit through. This is optional, but makes the fountain more aesthetically pleasing by hiding cords.
3. Seal the gap around the cord. I used an epoxy resin that cures quickly under UV light, but a silicone sealant will work just as well, if not better. Tip: place a piece of packing tape or duct tape on the outside of the vessel over the hole (with the cord sticking through the tape) and apply the sealant from the inside of the vessel. Once the sealant is dry, remove the tape to reveal a flush, smooth surface.
4. Drill a hole through the flat saucer that is wide enough to fit over the pump's output nozzle.
5. Assemble the fountain. Place the pump riser down first (a heavier item works best to prevent it from floating when you add water. Or you can glue it down), place the pump on top (don't glue the pump to the vessel as you will need to be able to remove it to clean it), place saucer over the pump, add any special nozzles to the pump, and then add pretty rocks/marbles/sea glass to the saucer.



6. Add water and place the solar panel in a sunny location.
7. Enjoy!

SEE THE FOUNTAIN IN ACTION HERE:



Kim Matsushino  
Habitat at Home Coordinator  
kmatsushino@tucsonaudubon.org



# TRY SOME HUMMINGBIRD PLANTS!

Southeast Arizona is a region with hummingbirds year-round. Plant some of these hummingbird favorites in your yard—a good mix of species will ensure blooms at all times of the year!



DESERT PENSTEMON  
(*Penstemon pseudospectabilis*)



RED JUSTICIA  
(*Justicia candicans*)



FAIRY DUSTER  
(*Calliandra eriophylla*)



DESERT LAVENDER  
(*Hyptis emoryi*)



CHUPAROSA  
(*Justicia californica*)



DESERT HONEYSUCKLE  
(*Anisacanthus thurberi*)



## Invite hummingbirds to your yard using our Hummingbird Recipe Card!

Hummingbirds are good for your home, they love flowers as much as you do. Enjoy the endless entertainment of these aerial acrobats by learning how to attract hummingbirds with specific plants, water features, and feeders. Find this recipe card and others at [TUCSONAUDUBON.ORG/RECIPECARDS](http://TUCSONAUDUBON.ORG/RECIPECARDS).

# RED JUSTICIA

**SCIENTIFIC NAME:** *Justicia candidans* (*Jacobinia ovata*). The genus is in honor of James Justice, a noted 18th century Scottish horticulturist.

**FAMILY:** Acanthaceae (Acanthus)

**NATIVE RANGE:** Southern Arizona and northern Mexico; rocky foothills, washes, and canyons at elevations of 1500–2500 feet

**WILDLIFE VALUE:** Flowers are an important source of nectar for hummingbirds and many other pollinators nearly year round.

Red justicia is an ideal plant for the wildlife garden because it has a long bloom period and is irresistible to hummingbirds. Relatively fast-growing, this small to medium shrub with thin upright stems reaches 3–4 feet high and wide. Bright green leaves are heart-shaped. Flowers are red to red-orange with some white markings in the throat. Blooms adorn the stems most profusely in springtime, but may appear at almost any time of year, particularly if winters are mild. The 1½"-long blossoms are tubular in shape, ideally suited for the long bills and tongues of hummingbirds.

Use in areas sheltered from frost since damage can occur at 20–25 degrees—plants usually recover quickly. Try them against a hot wall, near a pool or along driveways, walkways, or patios where reflected heat is intense. Planted in masses, red justicia can create an informal border or low hedge. Use these shrubs to soften the look of hard-edged boulders, walls, or accent plants. If you are short on ground space, plop one into a planter box or large container.

Plants prefer soil with good drainage and grow best in full sun; however, they can tolerate some shade. Red justicia grows naturally into a graceful shape, so pruning is not necessary. However, if denser growth is desired, prune to within a foot or two of the ground in late winter/early spring. Plants are moderate water users—water at least weekly in summer. As with many other plants, consistent watering tends to promote more prolific flowering, thus ensuring a steady stream of visiting hummingbirds.



Lynn Hassler  
Green Gardeners Volunteer Captain  
Historic Y



Photos by Lynn Hassler

**2022 SEDONA HUMMINGBIRD FESTIVAL**

**JULY 29–JULY 31**

**HUMMINGBIRDSOCIETY.ORG**



# THE HISTORY OF HUMMINGBIRD DIVERSITY IN ARIZONA



Bumblebee Hummingbird, Cameron Rutt

It is well-established that Southeast Arizona is the best place in the United States for hummingbird diversity. An amazing 18 species of hummingbirds have been recorded in the state, including eight regularly breeding species (Rivoli's, Blue-throated Mountain-gem, Black-chinned, Anna's, Costa's, Broad-tailed, Broad-billed, and Violet-crowned), three regular migrants (Calliope, Rufous, and rarely Allen's), and Ruby-throated Hummingbird, which is a rare migrant (vagrant) from eastern North America.

The establishment of feeding stations, originally in places like Ramsey Canyon in the Huachuca Mountains, at Santa Rita Lodge in Madera Canyon, or the residence of Walter and Sally Spofford in Portal, put hummingbird watching on the birding map. It was mainly at these feeders that birders discovered that there was the opportunity to see several "Mexican" hummingbirds that occurred at least semi-regularly in Southeast Arizona: the Lucifer Hummingbird, which was first recorded in 1874, but was mainly known in the state from several sightings in the 1960s and 1970s from Guadalupe Canyon, as well as the Chiricahua and Huachuca mountains, and is now very regular around Portal and in Ash Canyon, and certainly nests locally; the Plain-capped Starthroat, which was first discovered in Arizona in Nogales in 1969, and has now occurred more than 30 times, mainly at feeders in places like Madera Canyon and Patagonia; the White-eared Hummingbird, which was first noted in the state in 1933, but has turned out to be fairly regular (almost annual and likely breeds occasionally) in the higher canyons, particularly in the Huachuca Mountains; and the Berylline Hummingbird, first noted in the state in the mid-1960s, and has also occurred at least 50 times since, mainly at feeders in canyons like Madera and Ramsey, but is considered less regular than White-eared.



Cinnamon Hummingbird, Aaron Maizlish

More astounding has been the occurrence of two other hummingbird species from Mexico, the Cinnamon Hummingbird, and the Bumblebee Hummingbird, both of which have only occurred once! The only record of Cinnamon came from the Paton's feeders in Patagonia in late July 1992 where it was photographed, but only seen by a couple of birders, and is one of only two records from the United States (the other coming from near El Paso, Texas, the following year)! More amazing though was the record of Bumblebee Hummingbird (formerly Heloise's Hummingbird). It is known from two female specimens collected in Ramsey Canyon in July 1896 by Harry Rising, more than 350 miles north of the nearest known population in NW Mexico. The validity of the true collecting location has often been discussed over the years, as the occurrence of one, let alone two individuals so far from the known breeding range has always puzzled ornithologists. The day-by-day field notes of Harry Swarth, who was along on the expedition to Ramsey Canyon from Los Angeles by horse-drawn wagon in 1896, specifically discusses the collecting of two strange hummingbirds, which were later identified as what we now know as Bumblebee Hummingbird! It is even hypothesized that a little-known subspecies of Bumblebee Hummingbird may have occurred further north into the mountains of NW Mexico (and maybe even into Southeast Arizona), but is now extinct. The occurrence of Bumblebee Hummingbird remains one of the all-time incredible bird records from Arizona.

Gary Rosenberg is Secretary of the Arizona Bird Committee and co-author of the season bar graphs section of *Finding Birds in Southeast Arizona*.



# FEMALE HUMMINGBIRDS OF SOUTHEASTERN ARIZONA

As they zip by chasing another bird, feed from a flower, or perform one of their fantastic dives, how can you not love a hummingbird? They are energetic and beautiful! Male hummingbirds have bright colors such as red, rose-red, purple, violet, rufous, blue, and more, that make them easier to identify. But what about the females? They are far more difficult to identify than the males. There are subtle differences between the species in their plumages and also the sounds they make, giving us clues to their identification.



Karen Krebs is a lecturer, author, and Conservation Biologist studying birds and bats. She has worked for the Arizona-Sonora Desert Museum and is currently a contractor for the National Park Service with grants sponsored by Tucson Audubon.



FEMALES THAT ARE GREEN, GRAY, OR WHITE:



BLACK-CHINNED (*Archilochus alexandri*): females have a green back, white belly, long black bill, and very light spots on the throat. Black-chinned and Costa females are similar in appearance. Black-chinned make a teew sound.



COSTA'S (*Calypte costae*): females are similar in appearance to black-chinned. They may have reddish-purple feathers on the throat. The bill is shorter than the black-chinned. They make a high, sharp *tik* sound.

Let's begin with the basics. Most females are green (back) and gray or white (belly or gorget) and have black bills. Females also have white on the lower edge of their tails. Other than the male Blue-throated Mountain Gem, the males do not have the white edges on their tail. Keep that in mind when observing. Let's give it a try!

FEMALES WITH RED SPOTS/PATCHES ON THE THROAT:



ANNA'S (*Calypte anna*): females are chunky birds with a green back, gray belly, black bill, and a spotted throat with red patches. Anna's make a clicking sound.



BROAD-TAILED (*Selasphorus platycercus*): females have a green back, a mostly rufous belly, flanks, and into the tail, and light-colored spots on the throat. The call is a *chip* sound.



RUFOUS (*Selasphorus rufus*): females have a green back, rufous on the belly, flanks, and into the tail, and reddish-orange spots on the throat. There is white below the throat (gorget) and they are smaller than broad-tailed females. The call is a low *chip*.

FEMALES WITH AN ORANGE BILL:



BROAD-BILLED (*Cyanthus latirostris*): females have a green back, gray throat and belly, thin white line behind the eye, and usually show a bit of orange near the base of the bill. They make a *chit* sound.

VERY LARGE FEMALES:

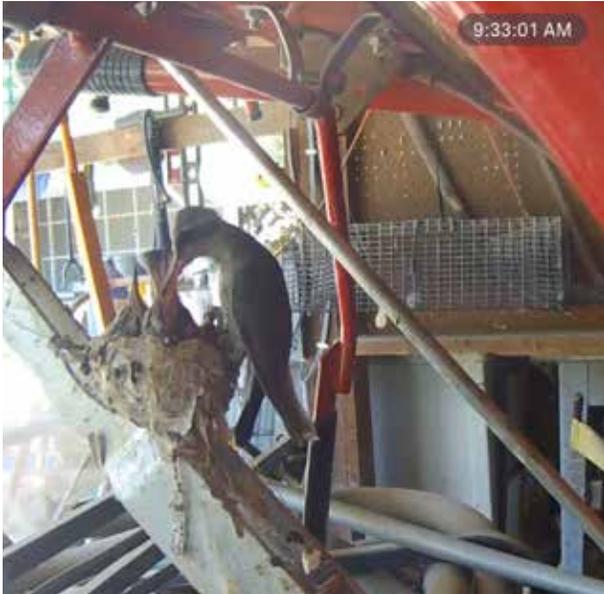


BLUE-THROATED MOUNTAIN GEM (*Lampornis clemenciae*): The back is green, belly is dark gray, and they have a white stripe behind the eye, light-colored spots on the throat, and a large blue-black tail. The call is a squeaky, high-pitched *seek*.



RIVOLI'S (*Eugenes fulgens*): The back is green, belly is gray, they have a spotted throat, and a white spot behind the eye. The call is a sharp *chip*.

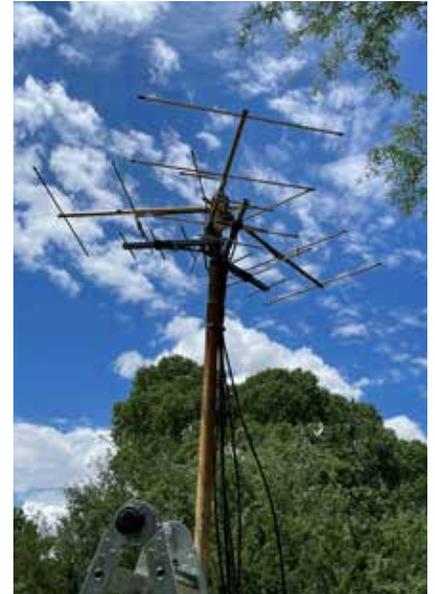
# AN INDUSTRIAL SORT OF SUMMER



The Broad-billed Hummingbird family on our nest cam.



Our field crew installed the base for the antenna array to the casita at the Paton Center



The Motus network operates on two frequencies and our station is able to record both so we don't miss any birds flying by

Like clockwork, Yellow-billed Cuckoos arrived back at the Paton Center on June 15th, a day with only a handful of visitors enjoying the numerous birds on site. Though visitation was predictably quiet, this year the birds' return coincides with all sorts of behind the scenes activity, including another bear hanging out in Patagonia that forced us to take down feeders for a bit.

People far and wide have enjoyed watching a mother Broad-billed Hummingbird raise her chicks on our live webcam. Her chosen nest site parallels the urban-industrial aesthetic so common these days; she built her nest in the open garage/shop using the support handle of the rototiller as its base. A background of pipes, equipment, and building materials might not have been the most natural and calm-inducing environment, but the feeding action and care the mother provided were top notch. We have a new video at the QR code below of the chicks being raised—check out the incredible feat of feeding a chick from such a long bill!

We are also excited to announce that the Paton Center now hosts a wildlife tracking station and antenna array, a part of the international Motus network. This network logs all species of tagged animals, in our case mostly

birds, that may pass by within detection distance providing direction and speed of travel information, as well as broader information for any tagged individuals that reside in the area. Barely visible to the public, the array of six small antennas are able to cover the width of the Sonoita Creek Valley about 1 km in every direction. It will detect every tagged bird migrating through the valley!

This is the third active Motus station in Arizona, and Tucson Audubon's first completed installation, part of a much larger regional and nationwide effort to understand migratory patterns for a wide number of species. We'll be installing a similar station at the Mason Center in the near future. Numerous more are in the plans throughout southern Arizona in the next few years. We aim to develop a simple public interface for our Motus stations so that people can view, near real time, the species that are passing through. We are also working with partners, from federal agencies, to conservation organizations and landowners, to prioritize projects for tagging additional species throughout the region that will benefit from such migration or breeding-season tracking information, including potentially Desert Purple Martins this summer! Stay tuned.



Jonathan Horst  
Director of Conservation & Research  
jhorst@tucsonaudubon.org



# VIOLET-CROWNED HUMMINGBIRD

The Violet-crowned Hummingbird is the signature species of Tucson Audubon's Paton Center for Hummingbirds in Patagonia. More people have first laid eyes on this species at this location than anywhere else on the planet. Its range is primarily in Mexico, extending from Oaxaca northward along the Pacific slope, just entering the US in several middle-elevation riparian woodland stretches in Southeast Arizona and southwest New Mexico. Within Arizona, it is most numerous in Guadalupe Canyon in the state's extreme southeastern corner, but for more accessible viewing it is best sought out in the shady woodlands along Sonoita Creek, where the Paton Center is situated.

The Violet-crowned Hummingbird is a regular low-density breeder in the state, with the majority of nesting occurring during the late summer monsoon season. Historically, Arizona's Violet-crowns were summer residents only, but in recent decades small numbers have been overwintering. This past winter, one individual delighted many birders and photographers at the Paton Center as it stood guard in an elderberry tree for hours at a time, always at the ready to give chase to any Anna's or Broad-billed Hummingbird that attempted to reach one of the nearby feeders it claimed for its own exclusive use.

Field guide illustrations cannot fully capture the magical essence of this species. Pictured on a color plate with other hummingbirds, the Violet-crowned doesn't stand out the way that it does in life. It has no dazzlingly colored or outlandishly-shaped throat patch. Its back is a duller brownish green rather than the bright jade shown by many species. Illustrated against a background of glossy white paper, its white underparts don't catch the eye, but rather make it fade into the page. Only the depiction of the red bill and violet crown offer a hint that this is a bird to be appreciated as more than just another species to add to one's list.

Photographs do a better job of bringing this species to life, but even the best photos cannot fully re-create the experience of seeing a Violet-crowned Hummingbird turn its head to just that precise angle that transforms its crown into a retina-piercing laser beam of violet that takes your breath away. If seen at a perch while facing you, the bright snowy white of the bird's entire underside set against the leafy green habitat is often the feature that alerts you to its presence. If it's facing away, the brownish green back will camouflage it, at least until it inevitably turns its head, revealing the diagnostic combination of bright red bill and gleaming white throat. If seen in close proximity to a Broad-billed, Black-chinned or Anna's, its somewhat larger size will often be apparent.

Unlike most other North American hummingbirds, the sexes of the Violet-crowned are practically identical in appearance. Even immature birds, slightly duller in plumage and with less extensively red bills, have enough of the distinctive features of the adults to make them readily identifiable.

Of the 247 species that have been recorded at the Paton Center, it is the Violet-crowned Hummingbird with which it will always be most associated. This is, after all, the main species that birders kept stopping along the road to view decades ago, which led to the incredible act of kindness on the part of Walter and Marion Paton in opening their yard to the birding public. It's safe to say, without the Violet-crowned Hummingbird, there would be no Paton Center for Hummingbirds.



Louie Dombroski  
*Paton Center Birder-In-Residence*



Violet-crowned Hummingbird, Mick Thompson

# SOUTHEAST ARIZONA BIRDING FESTIVAL

AUGUST 10–14, 2022



PRESENTED BY



Presented by Carl Zeiss SBE  
Registration now open  
[TUCSONAUDUBON.ORG/FESTIVAL](https://TUCSONAUDUBON.ORG/FESTIVAL)

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Don't miss out! The Southeast Arizona Birding Festival offers expert-guided birding and wildlife trips, photography and bird-ID workshops, free nature presentations, exhibitors, and activities. Check the festival site for openings.

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Be sure to drop by the Nature Expo at the festival venue, the DoubleTree by Hilton Hotel at Reid Park. Expo hours:

- Wednesday, August 10, 4–6 pm
- Thursday, August 11, 12–5:30 pm
- Friday, August 12, 12–5:30 pm
- Saturday, August 13, 10 am–5:30 pm

**Free Nature Expo happenings include:**

- Opening Celebration with free appetizers on Wednesday, 5–6 pm
- Try out gear from optic and camera vendors throughout the week
- BWD Magazine: First Issue Celebration on Thursday, 4:30–5:30 pm
- Book signing with Rick Taylor on Friday, 4:30–5:30 pm
- Live Birds with Arizona Game & Fish on Saturday, 10 am–5:30 pm
- Live Animals with Reid Park Zoo on Saturday, 10 am–1 pm



## Don't miss Family Birding Day—It's FREE!

**Saturday, August 13, 9–11 am**

Gene C. Reid Park, Ramada 4

### Welcome families and children of all ages!

- Learn about the superpowers of birds with two interactive children's activities
- Join us for a family-friendly bird walk around the park
- Explore on your own with our birding Bingo card and see how many species you can find
- Afterwards, check out the Nature Expo across the street and see LIVE animals with Reid Park Zoo and Arizona Game & Fish

## Festival Banquet & Culmination with special guest Jennie MacFarland



The festival culminates with Saturday evening's special dinner event, featuring our very own Jennie MacFarland, sharing her story *The Ties That Bind: How Birds Inspire Conservation and Community*. Register soon!

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**SOUTHEAST ARIZONA BIRDING FESTIVAL**

**NATURE EXPO**

**AUGUST 10-13**  
WEDNESDAY-SATURDAY

- Special events, talks, and workshops
- Live birds and other animals on Family Day Saturday
- Vendor fair
- Try out binoculars, scopes, and cameras

**TUCSONAUDUBON.ORG/EXPO**

**FREE ENTRY**

## ARIZONA'S DROUGHT CONTINUES TO IMPACT WILDLIFE.

To help give these animals a chance at survival, the Arizona Game and Fish Department maintains 3,000 lifesaving wildlife waters around the state. These wildlife waters cost \$1 million to operate, and because the department receives no general tax funds, we need your help.

Text SENDWATER to 41444 or visit [SendWater.org](http://SendWater.org)



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The new Ultra-High-Definition (UHD) Concept ensures true-to-life color reproduction and the highest level of detail. Thanks to its SmartFocus Concept, the focus wheel is perfectly positioned and enables fast and precise focusing – even with gloves on. The lightweight magnesium housing provides long lasting durability that will endure for generations.



Up to 30% lighter than comparable competitors



# BIRDATHON 2022

## WE COULDN'T HAVE DONE IT WITHOUT YOU!

Building off our great momentum from last year, the 2022 Birdathon once again showcased the dedication and creativity of all involved. The number of Birdathoners increased and our fundraising goal was reached thanks to teams, supporters, and sponsors who came together for a month of celebrating and protecting birds. We are grateful to you for making this another amazing Birdathon!

\$102,192.52

DOLLARS RAISED  
to support Southeast Arizona's birds

50

TEAMS ENGAGED

158

PARTICIPANTS

703

DONATIONS RECEIVED

### WINNERS

**Grand Champion** | Bike and Bird the Santa Cruz (Michael Bogan)

**Big Day: Traditional** | Wrenegades (Sara Pike, Tim Helentjaris, Jennie MacFarland, Matt Griffiths)

**Big Day: Freestyle** | Birding from the Highchair (Cassin, Lissie, & Dan Perelstein-Jaquette, and Andrea & Peter Jaquette)

**Brand New to Birdathon** | Sonoita Peep Squeaks (Katherine Cudney, Mckenna, Audrey, Celine, Miranda, Cameron, Anderson, Max, Axel, Rozier)

**Creative "Home" Patch** | Madera Reservists (Carol & David Vleck, Mary & David Cowan, Heidi Doman, Sally Masters, Vicki & Jerry Wolfe, Durward Skiles, Cathy Beck, John Pestle, Sara Martin)

**Best Bucks for Birds** | SaddleBrooke Ranch Cuckoos (Jim Hoagland, Laurie McCoy, Jim Bradford, Kathleen Williams, Deb Sandin)

**Social Media Storytellers** | Photopepla (Peggy Steffens, Marie Davis, Andrea Serrano)

**Birdathon Beyond AZ** | Henry's Texas Big Day II (Henry & Clague Van Slyke)



Wrenegades in Madera Canyon; Owl Nest, Photopepla



### BIG BIRDATHON THANKS TO OUR 2022 SPONSORS AND PARTNERS!

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# INSPIRATIONAL BIRD AMBASSADORS

Tucson Audubon is a multifaceted organization, and so are our volunteers! Our mission is to “[inspire] people to enjoy and protect birds through recreation, education, conservation, and restoration of the environment upon which we all depend.” This spring, I want to highlight two different groups of volunteers who exemplify three important facets of our organization: recreation, education, and conservation.

One of the most important ways Tucson Audubon engages and educates the public is by attending community events. This past spring, we attended a LOT of events and we couldn't have done it without the help of our Event Outreach Team and our Education Ambassadors. Thirty volunteers contributed over 130 hours of their time to help us attend 12 community events in just a few months' time. Some highlights include the Tucson Festival of Books, the SAHBA Home & Garden Show, and the Pima County Fair.

In addition to helping out at the Tucson Festival of Books, two volunteers helped me out in a big way with creating an interactive tabling activity for kids. George and Holly Kleindienst invited me into George's beautiful garage workshop as he cut out two animal figures for us to use to teach children about scavengers.

It was quite a busy spring for Arizona Important Bird Area (IBA) bird surveys as well! Co-managed by our own bird conservation biologist, Jennie MacFarland, and Audubon Southwest's Director of Bird Conservation, Tice Supplee, the Arizona IBA program helps to identify and monitor sites that are critical for bird populations of concern in Arizona. Two important bird species that we survey are Elf Owl and Elegant Trogon.

I was lucky enough to join volunteers for the Elf Owl survey back in April. Sixty-seven volunteers flocked to the Tucson Mountains IBA and the Tucson Sky Islands IBA to cover 34 different survey routes. Volunteers set out into the desert at nightfall, equipped with flashlights, a GPS, data sheets, and audio files in search of the elusive Elf Owl. They stopped every 150 meters to play the audio file, listen for owls, and record what they heard. Together, we documented 187 Elf Owl territories! Then, in May, a record 101 volunteers covered 94 survey routes in five different mountain ranges (the Atascosas, the Patagonias, the Santa Ritas, the Huachucas, and the Chiricahuas) to document trogons. Talk about a community effort!

**Thanks so much to all of our amazing volunteers for helping us put our mission into action.**



Elegant Trogon spotted and photographed by IBA survey volunteer Ryan Marose.



Taylor Rubin  
Volunteer Program  
& Engagement Coordinator  
trubin@tucsonaudubon.org



Volunteer Lisa Jackson in the Science City tent at the Tucson Festival of Books. Photo by Taylor Rubin.



Volunteer Rhianyon Larson and Community Science Coordinator Olya Weekley at the Pima County Fair. Photo by Jennie MacFarland.



George Kleindienst cutting out a wooden vulture to be used as part of an interactive children's activity. Photo by Taylor Rubin.

We'd love to welcome more people to the Tucson Audubon volunteer team! If you are interested in learning more, please visit [TUCSONAUDUBON.ORG/VOLUNTEER](https://tucsonaudubon.org/volunteer).



My first half year as Tucson Audubon’s Conservation Advocate has been a crash course in the many threats to Southern Arizona’s birdlife. Despite real differences, most of these threats exemplify a single, fundamental conflict: an industry or commercial sector that provides a necessity of modern life is pitted against the well-being of wildlife, natural ecosystems, and—directly or indirectly—human beings, especially those with the least material and political resources.

**FOOD**

While environmentalists disagree about the degree to which cattle ranching and conservation can be harmonized (National Audubon Society and Western Watersheds Project, for example, see the issue very differently), one thing ought to be clear: cattle grazing in fragile riparian habitat causes enormous damage and must be stopped. In collaboration with allied organizations, as well as (we hope) Arizona government agencies (State Parks & Trails, Game & Fish, and State Land), we are working to finally find a lasting solution to habitat degradation caused by both legal and illegal cattle grazing in Patagonia Lake State Park and the Sonoita Creek State Natural Area.

**WATER**

With Arizona now in the 22nd year of a drought that’s become the worst in more than 1,200 years, and with climate change impacting Arizona ever more severely, Tucson Audubon is urging our state legislators to pass scientifically grounded, forward-thinking legislation that meets both human and environmental needs. Enormously expensive water-augmentation projects (like a multi-billion-dollar desalination plant) must not take priority over wide-ranging, multi-faceted, water-conservation measures.



Elegant Trogon, a species at risk due to mining in the Sky Islands, Scott Page; Big-horned sheep at Ironwood National Monument may feel the effects of a completed I-11 freeway, Scott Olmstead; ABOVE: Patagonia Lake, Alan Schmierer

**ENERGY**

SunZia’s proposed Southwest Transmission Project—to carry renewable energy from New Mexico, through Arizona, to California—continues to concern Tucson Audubon and allies, given the potential impact on bird-rich ecosystems of the San Pedro River, already one of the nation’s most endangered waterways.

**MINERALS**

In coalition with many allies, Tucson Audubon continues to fight to protect all communities—animal, plant, and human—from the numerous health threats posed by mining in Arizona. Current struggles involve projects such as South32’s Hermosa Mine and Barksdale Resource’s Sunnyside Mine, both in the Patagonia Mountains; Hudbay Minerals’ Rosemont and Copper World Mines in the Santa Ritas; the Resolution Copper Mine in Oak Flat; and Wedgetail Operations’ Exploration Drilling Project on Mt. Lemmon.

**HOUSING**

Housing is a necessity; water-guzzling, environment-destroying mega-developments like the proposed Villages at Vigneto outside of Benson are not. While Congressman Raúl Grijalva, ever an environmental champion, presses the Justice Department to investigate suspicious political contributions by developer Mark Ingram, Tucson Audubon and its allies continue to actively oppose reissuance of the now-suspended permit granted the project by the U.S. Army Corps of Engineers.

**TRANSPORTATION**

This spring, Tucson Audubon became a co-plaintiff in a lawsuit against the Federal Highway Administration over potential routing of a new freeway, the I-11, through the Altar and Avra Valleys. The FHA can reduce congestion on the I-10 without building a new freeway, much less one that would destroy pristine Sonoran Desert habitat.

Tucson Audubon’s advocacy addresses other issues, too. The next issue of the *Vermilion Flycatcher*, for instance, will focus especially on environmental-voter turnout—but the issues discussed above will continue to require Tucson Audubon’s time, energy, and expertise for years to come.

To help us succeed, just send me an email. Birds need all the help they can get!



David Robinson  
Conservation Advocate  
drobinson@tucsonaudubon.org



REGISTER ONLINE AND FIND DETAILS AT:  
[TUCSONAUDUBON.ORG/NEWS-EVENTS](https://tucsonaudubon.org/news-events)



Thursday, July 14, 6–8 pm  
**IN-PERSON SOCIAL: BIRDS 'N BINGO**  
at Bawker Bawker Cider House  
Join us for birds, brews, and bingo! You'll put your bird ID knowledge to the test, compete to win sweet birdy prizes, and sip some of the best cider in town with your friends from Tucson Audubon!

Tuesday, July 19, 11 am–12 pm  
**VIRTUAL PRESENTATION: MAKING THE MOST OF YOUR FESTIVAL PHOTOGRAPHY EXPERIENCE WITH HUNT'S PHOTO** | Hosts: Luke Safford & Noah Buchanan

Here's your opportunity to talk with Noah Buchanan of Hunt's Photo about the camera lenses, gimbal heads, tripods, and more that he'll have on hand for you to try out in the field on August 10–14 during the Southeast Arizona Birding Festival. Join us for this sneak peek into the festival and photography Q/A session.

Monday, July 25, 7–8 pm  
**VIRTUAL SOCIAL: BIRDS 'N' BEER—"RARE & INTERESTING BIRDS IN SE ARIZONA"** | Host: Luke Safford

Tuesday, July 26, 1–2:30 pm  
**VIRTUAL WORKSHOP: EBIRD 101—TRACK THE BIRDS YOU SEE** | Instructor: Holly Kleindienst  
**Registration fee: \$10/member, \$20/non-member, or FREE with registration to the 2022 Southeast AZ Birding Festival!**  
This first installment in the two-part series will include a brief overview of eBird, how to set up your eBird profile, how to log a checklist, share it and add photos. We'll also discuss why bird numbers matter and how accurate you should strive to be. You'll learn how to view your data in terms of your county, state, country, ABA and world lists. And finally, we'll explore how eBird data is used and reviewed.

Thursday, July 28, 11 am–12 pm  
**VIRTUAL PRESENTATION: GET INVOLVED WITH THE SIA SPRING SEEKER PROJECT** |  
Presenter: Sarah Truebe, Sky Islands Alliance

Tuesday, August 2, 1–2:30 pm  
**VIRTUAL WORKSHOP: EBIRD 102—FIND THE BIRDS YOU WANT TO SEE** | Instructor: Holly Kleindienst  
**Registration fee: \$10/member, \$20/non-member, or FREE with registration to the 2022 Southeast AZ Birding Festival!**  
In the second part of the series, you will take your eBirding to the next level by learning to research sightings and species around the globe! We'll explore how to track a species' range, see what species are present at a particular time of year, and even get daily or hourly alerts for rare birds. To wrap up, we'll check out some fun eBird features to help up your bird ID game!

Tuesday, August 23, 11 am–12 pm  
**VIRTUAL PRESENTATION: ATTRACTING CREATURES OF THE NIGHT TO YOUR YARD** | Presenters: Jennie MacFarland and Kim Matsushino

Your yard can be a great place for amazing animals that come out after dusk. We'll talk about Elf Owls, nighthawks, bats and other amazing animals that are active at night. We will learn about what plants are best for moths and other darkness dwellers, and resources we can add to our properties such as water and bat boxes. The impacts of artificial light at night will also be discussed—this topic is surprisingly fascinating!



Little Brown Bat, Stephen Vaughan

Monday, August 29, 7–8 pm  
**VIRTUAL SOCIAL: BIRDS 'N' BEER—"RARE & INTERESTING BIRDS IN SE ARIZONA"** | Host: Luke Safford

Thursday, September 1, 11 am–12 pm  
**VIRTUAL PRESENTATION: BIRDING IN TRINIDAD & TOBAGO—A JOURNEY TO OVER 150 LIFE BIRDS!** |  
Presenter: Jennie MacFarland  
Having never birded in the tropics or the Caribbean, I traveled to Trinidad & Tobago not really knowing what to expect. The trip was incredible and I had over 150 life birds and many of them were stunningly beautiful. The culture, food and people were amazing as well and our group had an amazing time! Join this talk to see photos and hear stories from this trip from Naturalist Journeys and Tucson Audubon.

Thursday, September 8, 11 am–12 pm  
**VIRTUAL CLASS: BIRDING THE CALENDAR—WHERE TO GO BIRDING IN SEPTEMBER & OCTOBER** | Instructor: Luke Safford

Thursday, September 15, 11 am–12 pm  
**VIRTUAL PRESENTATION: URBAN WILDLIFE PHOTOGRAPHY WITH HUNT'S PHOTO** | Presenter: Caleb Hoover  
Wildlife photographer Caleb Hoover discusses the ins and outs of practicing bird and wildlife photography in a highly developed urban environment. He will share some tips for finding great subjects close to home, and how to capture stunning wildlife images despite the limiting circumstances an urban environment tends to offer.

# BIRDWATCHING OFFERS A BEVY OF HEALTH BENEFITS

It turns out that birdwatching offers a flock of benefits for physical and mental health. And luckily for Tucsonans, there are plenty of opportunities, from short hikes in the desert to simply looking out your window, to see a wide variety of species.

That's the case at Splendido, a Life Plan Community for those 55 and better in Oro Valley. "We're all intrigued with the Vermilion Flycatchers," says resident Phoebe Olmsted, an accomplished nature photographer. "We have one that nests here... it's just gorgeous! And hikers often see two great horned owls in Honeybee Canyon, which is adjacent to Splendido."

A lifelong birder, Phoebe was instrumental in getting the Madera Garden at Splendido certified as a wildlife habitat by the National Wildlife Federation. "The bird population in the garden has definitely increased since we did this," says Phoebe.

Splendido is committed to creating ways to Age Well and recognizes that birdwatching is a boost to well-being. Researchers have found that just being around birds makes us less likely to experience depression, anxiety, and stress, according to a study conducted in a neighborhood in southern England. The researchers found a positive association between the number of birds people see daily and their mental health.



Another study identified bird songs and calls as the most restorative natural sound for stress and attention fatigue. "The birdsong at Splendido in the morning is just wonderful," says Phoebe.

While those benefits are enjoyed by anyone who notices birds, more serious birdwatchers are also getting a cognitive workout, as they work to identify species by sight, sound, and/or research. This helps keep memory and problem-solving skills sharp. And, of course, they are getting at least a mild physical workout by traveling to where birds are found.

Research has shown that walking outdoors strengthens short-term memory, and that spending time in nature can lead to improved concentration and attention spans. Other studies link time spent in nature with lower levels of inflammation, reduced hypertension, and even a stronger immune system. And it's no surprise that spending time outdoors will boost your mood. One study found that people in nature had slower heart rates and lower levels of the "stress hormone" cortisol than those who spent time in the city. Spending time in nature has also been linked to boosts in serotonin and jumps in activity in the brain areas responsible for empathy and love.

An additional benefit of a hobby like birdwatching is the social aspect, and that's one of the reasons Splendido has been proud to sponsor Tucson Audubon Society bird hikes. Birdwatching in a group can build regular social connections—which, in turn, can positively impact your overall health and well-being.



A White-winged Dove looks out over Splendido from its perch on a saguaro cactus. It's one of many species that residents like Phoebe Olmsted enjoy spotting.

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# WOO HOOT!

## BIRDY NEWS BITES WORTH CELEBRATING

### STUDENTS TEAM UP WITH TUCSON AUDUBON TO BUILD BOXES

Flowing Wells High School students took on the construction of large nestboxes for their Agriculture Engineering class in May. This project was spearheaded by their teacher Gervois Close, while Tucson Audubon assisted with nestbox plans and lumber purchases. All 12 boxes were then donated to Tucson Audubon to be used in future projects to provide our local cavity nesting species with safe places to nest. This particular size is suitable for Western Screech-Owls and American Kestrels, both species that are facing the loss of habitat.

Thank you, Flowing Wells students!



## GIFTS IN HONOR OR MEMORY OF

In honor of Beth Acree from Donna Reed

In memory of Bob Helming from Sharon & Marshall Johnson

In honor of Catherine Bartlett from Jessica Hill

In honor of Cathy Mittelberg from Renee Mittelberg

In honor of David Robinson from Kathy Fullin

In honor of Deb Vath from Jill & Fred Vath

In memory of Deb Finch from Deborah Childs

In memory of Elizabeth Bell from Melinda Bell

In honor of Erin Zylstra from David Baak

In honor of Hannah Mason from John Mason

In memory of Helen Coston from Steve Coston

In honor of Jim Hoagland from Jan Smith and Arlene Wong

In memory of John Ulreich from Ragini & Kashyap Suren

In honor of Kathy Jacobs from Catherine Nix

In memory of Kenneth Higgins from Maria Astaire

In honor of Kim Lopez from Michael McDonald

In honor of Laurie McCoy from Kris Wang

In honor of Linda Matson from Wendy & Steve Richards

In honor of Linda McNulty from Jane Ragle

In honor of Louie Dombroski from Joan & Ken Richmond

In honor of Luke Safford from Peggy Steffens & Chuck Hanson

In honor of Mike Judd from Margaret Pinho

In honor of Olya Weekley from Doris & Larry Abrams

In honor of Peggy Steffens from Ron Shannon

In memory of Rico Guerrero from Pete Guerrero

In memory of Roger Gibbs from Marilyn Browning

In memory of Ruth Catalano from Cathy Poplin

In memory of Shirley Pierce from Kaye Crandall & Carol Pierce

In memory of Steve Schneider from Dina & Richard Moss

In memory of Tom Howell from Yvonne Howell

In honor of Tom Woodworth from Lisa Sackett

In memory of Walter Seyfert from Christine Chaudhary



American Kestrel, Matthew Studebaker

# LEND YOUR VOICE TO THE AIRBORNE MYSTERIES OF OUR REGION

Months ago, we published our “Superlatives” issue of *Vermilion Flycatcher*. If we wanted to, we could probably have made that issue a hummingbird-themed issue as well. After all, the many hummingbird species that call Arizona home comprise our region’s smallest wingspan, lightest bird, and fastest wingbeats. They also take the top prize for most beautiful birds in Arizona, though I concede that last prize may be a little subjective.

There is an undeniable magic to the hummingbird, the bird of which the poet Richard Burton asked, “Is it a monster bee, Or is it a midget bird, Or yet an air-born mystery...?” Being the only birds that can fly backwards, they are a sort of airborne mystery. They boast a shimmering coloration that shifts depending on the incidental angle of light, which by itself would be mystical, but which is even more amazing when you consider that they seem to be aware of the complex mathematics and physics that make that shimmer possible. During their mating displays, the males know exactly where to position themselves in relation to the sun to best impress their potential partners with a dazzling splash of color.

It’s no wonder that hummingbirds have captured the attention and affection of so many. Our beloved Paton Center for Hummingbirds draws visitors from all over the US and several other countries. Hummingbirds are not the only birds you’ll encounter there, but they are one of the best reasons to visit.

For all of the amazing things about hummingbirds, one thing you won’t hear us bragging about is their singing voice. Virtually none of the hummingbird species in Arizona exhibit any kind of what we’d call a “song.” The idea of “voice”—of being able to advocate, to celebrate, to warn, and to share—is one that is so central to the work we do at Tucson Audubon. Later this summer, you’ll see our Summer Appeal letter in your mailbox. When you receive that letter and make a Summer Appeal donation to Tucson Audubon, you are lending your voice to the hummingbirds, and to all birds of our region. If hummingbirds could speak to us, they would thank you themselves.



Ethan Myerson  
Director of Development and Communications  
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The *Vermilion Flycatcher* is the newsletter of the Tucson Audubon Society, a chapter of the National Audubon Society. National Audubon Society members and members of other chapters may receive the *Flycatcher* by becoming a member of Tucson Audubon. For more information visit: TUCSONAUDUBON.ORG.



## TUCSON AUDUBON NATURE SHOPS

### PLEASE NOTE

The Nature Shop is OPEN for regular Shop hours.  
**Vulnerable Shopper Hours: Fridays, 10–12.**  
Face coverings required at this time. Coverings are optional for vaccinated guests at all other times.

### ONLINE NATURE SHOP

Shop with us anytime online.

New merchandise added continually.

TUCSONAUDUBONNATURESHOP.COM

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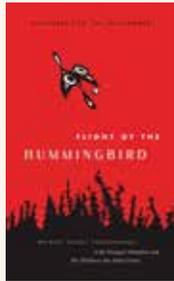
(corner of University & 5th Ave.)

Regular Nature Shop hours:

Wed–Fri, 10–4 & Sat 10–2

There's never any sales tax since we're a non-profit.  
All purchases support our mission to protect birds and their habitat.

## HUMMINGBIRDS



### Flight of the Hummingbird: A Parable for the Environment

by Michael Nicoll Yahgulanaas | \$16.00

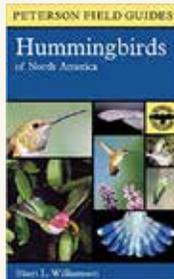
This story of a small, committed bird determined to put out a forest fire is inspired by a parable told by the Quechuan people of present-day Ecuador. The hummingbird is a frequent character in the stories of the indigenous peoples of the Americas, the exclusive home of more than 350 species of the extraordinary little bird.



### Hummingbirds: Marvels of the Bird World

by Stan Tekiela | \$22.00

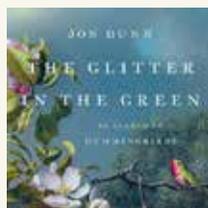
Local naturalist Stan Tekiela highlights hummingbirds around the world in full color and detail. Presented with headings and short paragraphs, the coffee-table book is pleasurable to browse and easy to read.



### Hummingbirds of North America

by Sheri Williamson | \$22.00

Covering 31 North American species, with more than 250 color photos and 33 maps, this is the ultimate guide to hummingbirds. Introductory chapters cover the natural history of hummingbirds, ways to attract and feed them, and major hot spots in the United States and Canada.



### Glitter in the Green: In Search of Hummingbirds

by Jon Dunn | \$18.99

Traveling the full length of the hummingbirds' range, from the cusp of the Arctic Circle to near-Antarctic islands, Jon Dunn encounters birders, scientists, and storytellers in his quest to find these creatures, immersing us in the world of one of Earth's most charismatic bird families.