



Shape the Future

Canyon Chatter

Friends of Madera Canyon Newsletter

June 2024



From the President

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June 2024

Ernesto Rodriguez, a professional photographer who lives on Catalina Island, established a non-profit organization, Nature in the Classroom, several years ago. Since then, he has been installing pictures of life-size tree canopies on school classroom and library ceilings.

The non-profit's website reports "the tree canopies bring a metaphorical breath of fresh air as well as a sense of serenity to places where young people can benefit from them most...the canopies have a settling effect on students, while children themselves report feeling happy. The ceilings have also 'sparked curiosity about environmental stewardship.'"

Madera Canyon is teeming with views of tree canopies whenever one looks up. Moreover, one can hear the birds, take in the freshness of the air, and watch the clouds drift above the trees because one is where the canopies are real.

Isn't feeling calm and content a result?

A good reminder about why the Friends of Madera Canyon plays its role in environmental stewardship.

Thank you for being a Friend.

Dan White

VISIT OUR WEBSITE

<https://friendsofmaderacanyon.org/>

On the cover. Palmer's Penstemon, also called Wild Pink Snapdragon. Photography by Bob Pitcher. The image was taken at the top bridge on the Proctor Loop.

Volunteer Opportunities

Friends of Madera Canyon (FoMC) welcomes volunteers to support our mission. Whether you prefer regular commitments or occasional help, we appreciate your contribution. Here are some ways you can get involved:

4th Grade Education Docents

Docents help 4th grade students learn about the natural, physical and cultural attributes of Madera Canyon through field trips along the Proctor Nature Loop Trail in Madera Canyon.

Walks are on Thursday mornings during 4-6 weeks in late March to early May and mid-October to late November. Training provided. FoMC membership required. Contact the FOMC Volunteer Coordinator at FOMCEducation@gmail.com for details.

Special Projects Volunteers

Participate in various projects, from assisting at FoMC booths during festivals to helping with event setup, including Music in the Canyon and other upcoming events. Special events are not on a regular schedule but rely on volunteers when needed. If interested, contact Anita Woodward at awoodw3369@aol.com. Your support is invaluable to us. Please consider joining our dedicated team of volunteers.

Be an Ambassador in Madera Canyon

The Ambassador initiative, sponsored by the Friends of Madera Canyon, is looking for volunteers. Ambassadors are FoMC members who, when visiting the Canyon, act as a mobile information source. That is, an Ambassador mingles with other visitors dispensing useful tips and facts. The job involves hiking your preferred trails while wearing a Forest Service vest, making yourself approachable to visitors of the canyon. Training in the many features of Madera Canyon will be provided. For questions or to sign up, contact David Linn at linngvrhc@gmail.com.

Trail Maintenance in Inner Madera Canyon

Expand your hiking skills to include trail maintenance in beautiful Madera Canyon. The Friends of Madera Canyon and the Forest Service are sponsoring volunteers to work at improving the trails in the inner canyon. Activities include brushing, that is, cutting away from the trail offending tree branches and bushes, and tread work, that is, improving the foot bed of the trail to reduce erosion and rock hazards. The job involves use of loppers, saws, shovels, and hoes and may be moderately strenuous. All activities will be under the supervision of trained FoMC members. For questions or to sign up, contact David Linn at linngvrhc@gmail.com.

Join the Cleanup Crew at Madera Canyon

Here's your chance to make a difference and make new friends. Help clean up the Madera Canyon every Monday morning by picking up trash, cleaning up grills and more. For more information or to sign up contact Colleen Verge at colleenverge@gmail.com



Stay cool this summer, think SNOW!

Photography Web Page

PHOTOS OF THE MONTH Jim Burkstrand

The new FoMC website continues to evolve. We continue to add new articles to the Birding, Hiking, and Nature sections. The Conservation section has been slimmed down, with new content added. Non-conservation-related material has been moved elsewhere. We are about to begin the reconstruction of the Education Section. You will soon see a new section for Education-focused discussion of different topics, such as, what is a Sky Island?

We are also considering replacing the home page box on Photography with one on family activities, such as picnicking. And as we continue to move forward with the website, we welcome your feedback and ideas. Please send them to us at FOMC.BOD@gmail.com.

Photography The POM submissions are slowly moving along. See our Flickr page <https://www.flickr.com/photos/198518361@N07/albums> for all our submitted photos. The newest ones submitted in May are:



Stream across Proctor Road by Micah W ; Student



Turkey Vulture soaring in the canyon by Laura L

How to join Friends of Madera Canyon

Below are links to join as a new member, renew a membership or make a donation. The links will take you to a secure server to use a credit card or an automated payment. Do you have any questions? Let us know. If you prefer to help by writing a check, please make your check payable to Friends of Madera Canyon - mail to:

FOMC
PO Box 1203,
Green Valley, AZ
85622-1203

Links

[A NEW MEMBERSHIP](#)

[RENEW A MEMBERSHIP](#)

[DONATE TO FOMC](#)



The Birding Report

FLYCATCHERS IN MADERA

Part II

Bob Pitcher

Last month in this space I began a catalogue of the Flycatchers that appear in Madera Canyon. As there are 25 of them – an extraordinarily large number for any location in North America – I got through only half of them. This month, I’ll finish with the other half, the troublesome *Empidonax* flycatchers, and also the kingbirds and a couple of others that fall in categories by themselves, the Sulphur-bellied Flycatcher and the Rose-throated Becard, which the taxonomists are currently calling “a near-flycatcher relative.”

The Empids & the Tufted

More than any other flycatchers, the genus *Empidonax* is a trial for birdwatchers, fully as hard to identify as the smaller sandpipers and many of the sparrows. The empids almost all look much alike; they’re all small, all but one of them in the 5.5- to 6-inch range; and their distinguishing features, when they’re visible or audible at all, are often difficult to judge.

The Buff-breasted Flycatcher, *Empidonax fulvifrons*, is relatively easy: it’s clearly smaller than the other empids, only about 4.75 inches, and it’s also much ruddier in color than the others, which are all more or less grayish-green above and light gray below, sometimes tinged with yellow. But the Buff-breasted is decidedly rare in the Canyon, to be seen occasionally in spring lower down, and, just possibly, some years, nesting higher in elevation. In general, this bird is more easily found in the Huachucas and the Chiricahuas. In both places, it tends to nest colonially, with several pairs’ nests in proximity. Outside its limited range in Arizona and the near corner of New Mexico, the Buff-breasted is not found elsewhere in the U.S., though it seems reasonably common through Mexico and as far as Honduras.

I’ll insert the Tufted Flycatcher, *Mitrophanes phaeocercus*, here. Although it’s not an empid, it resembles the Buff-breasted and has been seen in Madera Canyon – but only twice, once in late March of 2018, and again in early April of last year, reported on one day only both times. Altogether, this bird has only been seen in this country a double-handful of times, mostly, again, in the Huachucas and Chiricahuas, where it may have nested once or twice. It ranges farther south into Ecuador. It’s a bird worth seeing, if perhaps not looking for in the U.S. It’s about 5 inches long, and of a rich cinnamon color all over and with a sharp crest. An altogether cute little bird; I saw one in Costa Rica.

All the other North American empids are both drabber and distressingly alike. In addition to similar drab coloration, they have more or less of a white eye-ring and double white wingbars. Their calls are considered distinctive – if the bird in question is calling. Otherwise, one has to depend for identification on small features of bill size and color, eye-ring dimensions, length of primary feathers, and habitat. Like other flycatchers, empids tend to sit quietly, looking around for



The Western Kingbird, *Tyrannus verticalis*. Photography by Berichard

recognized as two species of *Empidonax*, the Cordilleran and the Pacific-slope Flycatchers, were really, after all, only one, and lumped the two back into the Western, which had been the original name. The Western is now *relative*ly easy to distinguish from other empids. It's on the small end of the range, it has a pronounced white teardrop eyering, and its gray-green plumage is often strongly tinged with yellow. The Western is the most numerous of the migrant empids in the Canyon, and some breed at higher elevations (the prior Cordillerans), while most go on north.

The Willow Flycatcher is uncommon here at best, and the nesting subspecies, the "Southwestern," is considered endangered. There is probably not enough water in summer for it to nest in the Canyon, but there are migrants to be found here. It's browner than other empids and seems slimmer – but these are minor differences in degree. It tends to drop its tail down when perched, and its lower mandible is orange rather than black. The Willow migrates later in spring than almost any other bird here; it may wait to see which spots will in fact retain water through the summer. More are seen in the Canyon in the fall after a decent monsoon than in the spring.

The Kingbirds

Two of the kingbird tribe, the Western and Cassin's Kingbirds, are common in the Canyon at some seasons, two more are quite or very rare here: the Thick-billed Kingbird and the Scissor-tailed Flycatcher, and two have, at least to my knowledge, never been seen in the Canyon, but might perhaps be seen someday, the Eastern and Tropical Kingbirds. All the kingbirds are large for flycatchers, 8.75 to 9.5 inches long, and the tail of an adult Scissor-tailed adds at least 5 inches more. During breeding season, they are relatively aggressive, often chasing other birds from their territories – hence the English and Latin names of the tribe.

flying insects. One spotted, they go after it in a short flight and return to the same or a neighboring perch to look for another.

Three of the empids are found in the Canyon fall through spring: the Gray Flycatcher, *E. wrightii*, Hammond's Flycatcher, *E. hammondii*, and the Dusky Flycatcher, *E. oberholseri*. During these months, these birds all tend to be quiet, so one has to go by their looks. In general, the experts say that the Gray is much commoner here than the other two. It seems to me generally somewhat longer and slimmer than either a Hammond's or the Dusky, and perhaps slightly grayer in tone, with less green. And the Gray hasn't much of an eye-ring. Most distinctive, the lower bill is orange rather than black, not true of the two.

Hammond's Flycatcher is described as bull-headed (comparatively – the difference is slight), and with longer primaries (the outer wing feathers), which make its tail seem short. The Dusky seems to have a smaller head and a longer tail. If the bird is calling, the Hammond's gives a sharp *puip*, the Gray and Dusky a lower *whit*. Both these birds flick their tails up when they're perched; the Gray, in contrast, drops its tail down.

There are two more empids in the Canyon in the warm season, the Western Flycatcher, *E. occidentalis*, and the Willow Flycatcher, *E. trailii*. A couple of years ago, the experts decided that what they'd a couple of decades ago

The Western Kingbird, *Tyrannis verticalis*, is the smallest of the group, gray-olive above, with a pale gray head, throat and breast, and a wash of yellow on the belly. The tail is black with white outer tail feathers, one of the best fieldmarks. Young birds may lack any yellow, and can appear all dark brown and whitish. The Western is primarily a bird of open spaces, not likely to be found in the Canyon above Proctor Road. Fall is probably the best time to see it there.

Cassin's Kingbird, *T. vociferans*, is similar in appearance to the Western, but darker about the head and breast, with a contrasting white chin, which shows up surprisingly well. The tail has a white tip and dark sides. It can be found at any season in grassy places in the Canyon, but is uncommon in winter. Especially in the morning, it's apt to be noisy, as the Latin name indicates, with repeated loud *c'mere* or *k'beer*.

The Thick-billed Kingbird, *T. crassirostris*, is rare in the Canyon, but is now seen here almost annually. It may be expanding its range north, and nests now along both Sonoita Creek and the upper Santa Cruz, so it's not surprising individuals stray up in the spring to assess Madera Creek. So far, none has stayed to breed here; they probably require dependably running water. If there's a Thick-billed in the neighborhood, you know it; they sit at the top of a high snag and loudly and repeatedly call *prrrprt!* They're large and stocky, with, indeed, a thicker bill than other kingbirds. They're also darker in color, a dark gray-brown above, light gray below, with a light yellow tinge later in the season. Not found here in winter.

The Scissor-tailed Flycatcher, *T. forficatus*, is one of America's most beautiful birds. Pearly gray above, with black wings, a whitish breast, and a belly tinged with salmon pink. Adults sport long tail feathers they readily open and close as they chase insects. Common in the southern plains, Scissor-tails may be seen rarely almost anywhere in the U.S. But only once has it been reported here, at Proctor Road in April 2018.

Finally, the Eastern and the Tropical, *T. tyrannus* and *T. melancholicus*, have not been reported from the Canyon – so far. The Eastern, the same size and shape as the other kingbirds, is dark gray and black above and white below, much more contrasting than the others. It's a bird of open spaces in the east, but strays even to the West Coast are found annually, as are some in Arizona, mostly in spring.

The Tropical Kingbird is expanding its range in Arizona. Once it wasn't found at all, it now nests at various spots along the San Pedro River and at Sweetwater in Tucson – and, most commonly, along the upper Santa Cruz. So far, it doesn't seem to have made it up the hill to investigate Madera Canyon. This bird may need a water supply more dependable than Madera Creek, but I expect before too long one will be reported in spring or fall looking the place over. Look for a king-



Rose-throated Becard
Pachyramphus aglaiae. Photography by Mike's Birds

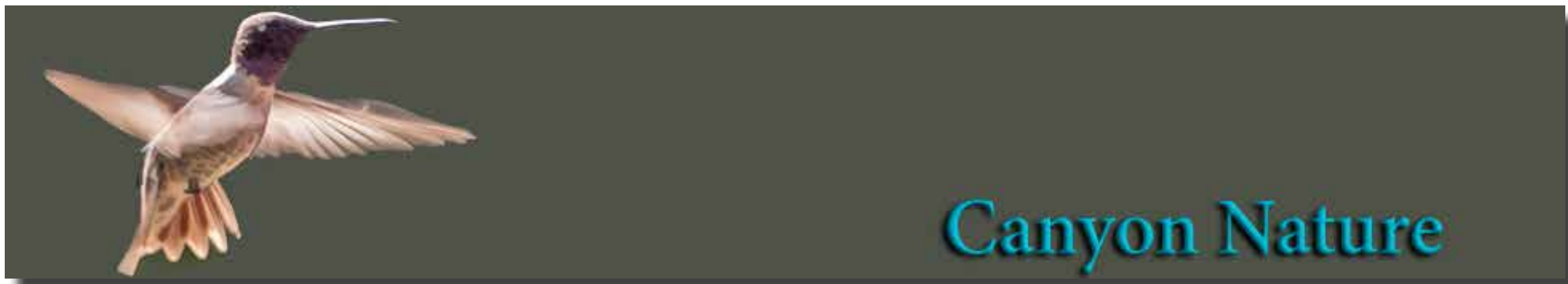
bird colored like the Western or Cassin's but a little larger, with a greenish-gray back, a contrasting black tail, and more and brighter yellow below. Its call is pitched high for a kingbird, and, like its relations, it's not a quiet bird.

The Sulphur-bellied Flycatcher

The Sulphur-bellied Flycatcher, *Myiodynastes luteiventris*, doesn't look like any other American bird (though it has close relatives throughout Latin America). It's large for a flycatcher, 8.5 inches; its back is medium brown striped with white, its head has broad white stripes, its breast is white striped with black, and its belly is light yellow. The tail is a bright rufous. It sounds like a rubber ducky escaped from the bathtub. The Sulphur-bellied migrates only in late May or June, nests in holes in (usually) the sycamores along Madera Creek, for which it sometimes fights with the Canyon's trogons, and can sometimes be found in spring even along Proctor Road. In this country, the species is found only in mountains in southeastern Arizona and adjoining New Mexico.

The Rose-throated Becard

Becards used to be classified with the Flycatchers. Evidently, DNA tests have shown them to be distinct but still closely related. One or possibly two other species of becard has been reported in the U.S, but only the Rose-throated, *Pachyramphus aglaiae*, is seen here even rarely, and then only in southeast Arizona and far southern Texas. It has been reported twice in the Canyon, but it almost surely requires dependable running water nearby, and hasn't nested. It has nested along Sonoita Creek for some years running on at least two occasions, and along the Santa Cruz north of Tubac for the last six or seven years – but the pair hasn't of this writing appeared there again this year. The Rose-throated is a quiet, stocky bird that sits medium high in large trees waiting for a bug to come within reach. The male is all dark gray, with a rosy throat; the female is brown, darker above than below. The nest is a spectacular globe of woven stems and leaves, up to two feet in diameter and suspended two or three feet below a horizontal branch. Old nests last for years after their use; a pair seems to build a new one, often close by, every year.

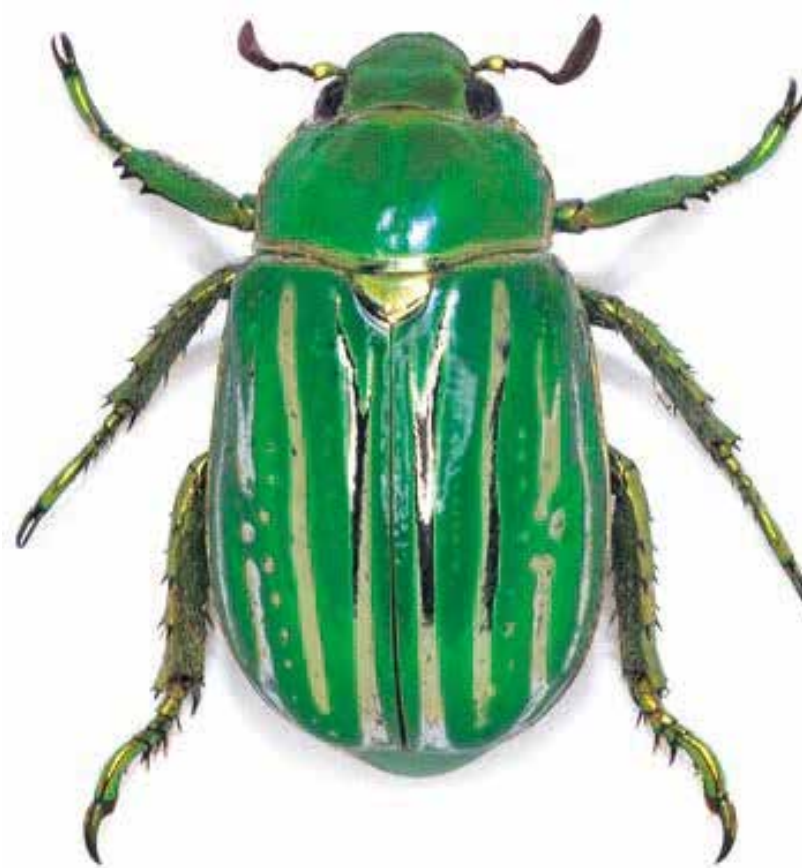


A spectacular beetle and its genome

More than 100 species of Jewel Scarabs range from the southwest USA southward through Mexico and Central America with a few species inhabiting the Andes. These remarkable beetles prefer montane habitats, including the moist cloud forests. Jewel scarabs are beetles of the family Scarabaeidae, and the subfamily Rutelinae. The subfamily is also known as “Shining Leaf Chafers” because many are shiny, colorful, and feed on leaves as adults.

The scarab beetle *Chrysina gloriosa* LeConte 1854 (previously known as *Plusiotis gloriosa*) is a charismatic beetle found in the continental United States and 1 of the 4 beetles in the genus *Chrysina* with a range that extends into the United States. Commonly known as the glorious beetle or glorious scarab, *C. gloriosa* has a metallic green body with silver stripes and blue eyes. Adult *C. gloriosa* depend on juniper trees as a food source, while larval forms depend on decaying logs (Ritcher 1966). In the United States, *C. gloriosa* is currently limited to higher-elevation mountains from West Texas to the mountains of Southeastern Arizona, an area commonly known as the Sky Islands. High-elevation regions of these sky islands act as refugia for *C. gloriosa* and 3 other *Chrysina* species reaching the United States. They represent remnants of a more widespread distribution that occurred during the Pleistocene epoch (Young 1957). These species of the genus *Chrysina* are a relic of the cooler and wetter era of the Pleistocene epoch (Young 1957).

In a recent paper, Sylvester et al. (2024) reports taking the first step to presenting the genome of *C. gloriosa*, which they reconstructed using a single female specimen sampled from our ongoing effort to document population connectivity and the demographic history of this beetle. One of the specimens they used came from Madera Canyon.



The spectacular scarab *Chrysina gloriosa*, with its vibrant green body and metallic green stripes. Photo from Wikimedia commons.

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Canyon Nature Continued from Douglas Moore



Early May Canyon Wildflowers:
Perezia, Acaortia wrightii, is a perennial "daisy" also called "Desert Holly" that blooms along the lower Proctor Trail in May. Like many other composite species, it is an exceptional pollinator attractor!"



Sand Wasp visiting Perezia blooms

Canyon Notes:

Dry Summer, or “Waiting for the Monsoon”

Douglas W. Moore

Well, it was inevitable... We finally “broke the ice” this last week of May- daytime temperatures finally reached 100 degrees and now it looks like the heat is here to stay! As June blazes in hot & dry, we locals hunker down and start a daily ritual- anxiously gazing east for any signs of clouds puffing up over the Santa Ritas and other Sky Island ranges. Anticipation builds for the coming days when china-white cotton tufts appear, then suddenly darken and blow up into rainy thunderstorms of Arizona’s summer “monsoon” season and possible rain.

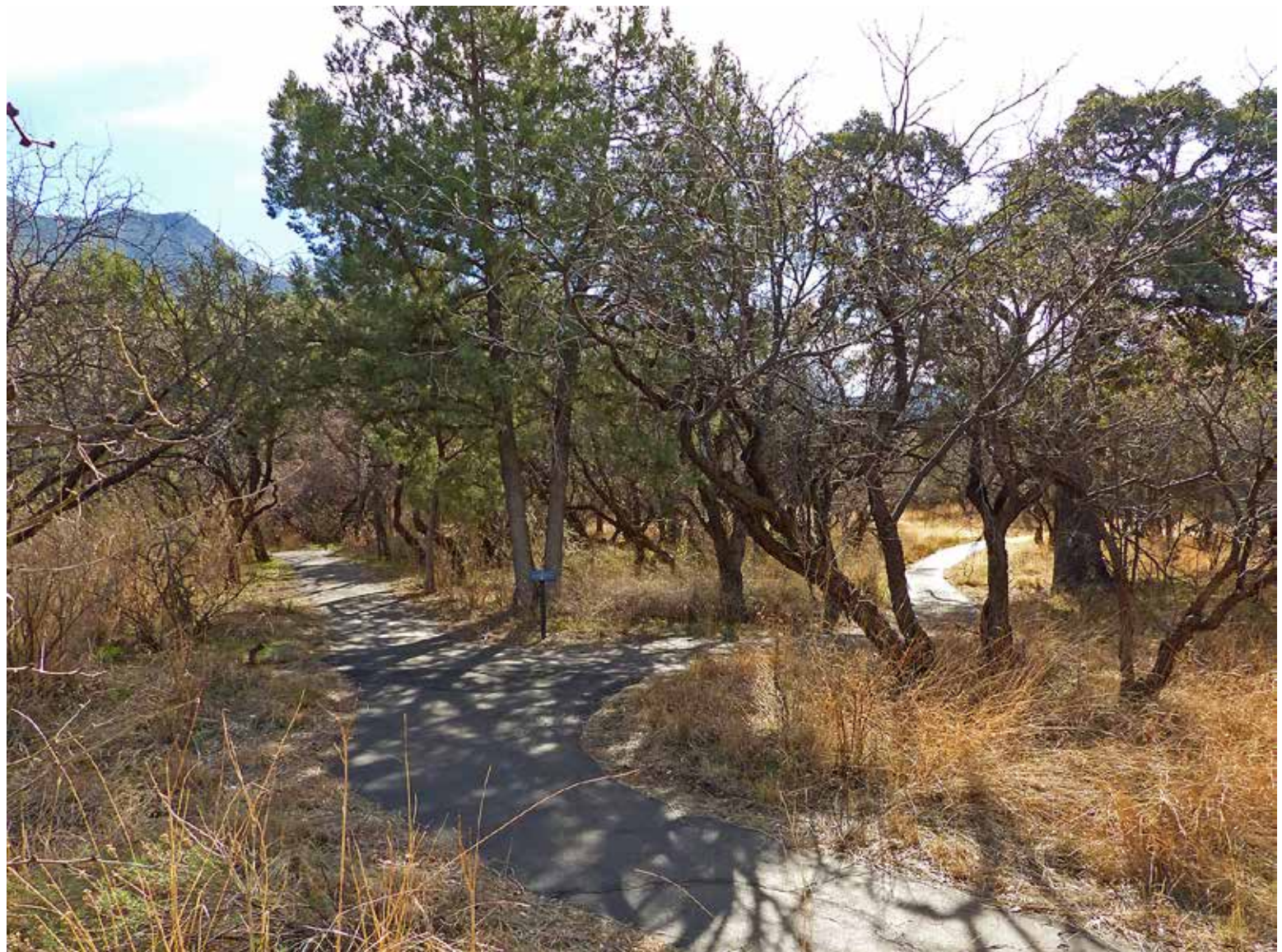
For most of us, summer monsoon storms can mean rain for parched yards and a break from punishing heat. For the many plants and animals living in our Sky Island mountain ranges, including Madera Canyon in the Santa Ritas, the monsoon brings relief and renewal- an essential element in completing lifecycles or simply ensuring survival itself. Some may view June heat as a curse (and I’ve been known to curse the June sky!), but it is a necessary variable in the monsoon equation. We just hope the oven of “Dry Summer” to be over as soon as possible!

The monsoon, or “Wet Summer”, begins with a seasonal shift in prevailing northwesterly winds to the south in late June or July. Tropical moisture is drawn into the region and the humidity rises sharply. Heated by intense sunlight over our mountain ranges the moist air rises rapidly, then cools and condenses to produce spectacular thunderstorms. Rainfall is usually local, but can be remarkably heavy, with higher elevations generally receiving more precipitation. Monsoon rainfall totals for the Santa Ritas and Madera Canyon are often two to three times the totals for the Santa Cruz Valley below!

Humidity and precipitation stimulates rapid plant growth. Madera Canyon transforms into a sub-tropical wonderland. Trees, shrubs and grasses green up and sprout new growth, while a host of summer plants add to the verdant mix. Dormant tubers and bulbs, like Flame Flower, Melon Loco and Nodding Onion, awaken and stretch for sunlight. Seeds of summer annuals, like Morning Glory and Arizona Sunflowerweed, germinate only with the warm rains. Annual and perennial vines festoon shrubs and trees. Greens are the canyon shades of the season, punctuated with the bright colors of summer flowers.

Animals benefit from summer precipitation also. Insects suddenly seem to be everywhere! Rain promotes hatching of grasshopper eggs hidden in the soil since the previous fall. Torpid pupae “hatch” into butterflies, moths and beetles with the first

substantial rains. Close inspection of leaves and flowers reveal all sorts of caterpillars, beetles, ants, bees and other “bugs”. Water beetles, back swimmers, dragonfly larvae and a host of other invertebrates inhabit creek pools. At night the air is filled with moths and beetles



“Dry Summer” on the Proctor Trail



"Wet Summer" on the Proctor Trail during a good monsoon season.

searching for food or each other. Scorpions, centipedes and spiders come out to hunt after dark. Many mammals, birds, reptiles and amphibians also become more active during the monsoon to take advantage of the seasonal food bounty, thus completing the complex canyon web of life.

Monsoon is arguably the most interesting time of the year for nature watching in Madera Canyon and should definitely be experienced! But in recent years, the monsoon weather pattern- our "5th Season" - has not been as reliable or strong. For example, 2020 and 2022 were basically dry, failed years. 2021 was one of the wettest monsoons on record and 2023 was a classic, excellent monsoon pattern. The annual pattern is greatly influenced by the El Nino/La Nina oscillations in the Pacific Ocean. El Nino seasons tend to produce stronger, wetter monsoons; La Nina generally weaker & drier conditions. As this summer develops, a currently declining El Nino pattern is expected to become a La Nina in June and July. Preliminary weather forecasts are calling for hotter and drier monsoon conditions than average for our area.

Only time will tell how the 2024 summer monsoon season will play out in southeast Arizona. I'm keeping the faith for some good precipitation! Over the next weeks, I'll be looking off to the east every day watching for those telltale clouds bringing a promise of rain and seasonal renewal to Madrea Canyon and the Sky Island region. [Bring it on!](#)



The Editor's Desk

Science has discovered more than 2000 species of lampyrid beetles. These soft-bodied beetles are commonly called fireflies, lightning bugs, or glowworms because they produce a conspicuous amount of light, mainly during twilight, to attract mates. The International Union for Conservation of Nature's (IUCN) Red List of Threatened Species found 30% of the North American fireflies assessed may be at risk of extinction. Researchers found that 14% of the assessed species were categorized as threatened, which may be much higher since nearly half of the assessed species are data deficient. There is an urgent need to study firefly populations more closely to fully understand their plight and ensure conservation efforts are effective.



A Southwest Synchronous Firefly from Tumacácori National Historical Park, AZ (Tony Palmer, iNaturalist, CC BY-NC)

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Male and female Southwest Synchronous Fireflies flash, and are active after the onset of monsoon rains, typically in July and August but sometimes into September. Courtship activity begins approximately 35–120 minutes after sunset. The male flash displays are composed of quick triplet yellow flashes emitted over the course of about one second and repeated every three to five seconds, although flash patterns consisting of just two or up to four or five flashes can be observed. Female responses are typically composed of a single flash, but can be extremely varied, ranging from short pulses to long, continuous glows.

The Southwest Synchronous Firefly, *Photinus knulli*, has been recorded from a dozen localities scattered across south-east Arizona (Pima, Santa Cruz, and Cochise Counties) and northern Sonora, Mexico. Because the population from Guadalupe Canyon is on the Arizona-New Mexico border, it is likely this species also occurs in New Mexico. However, its distribution appears to be centered on the Santa Cruz River and its tributaries in Pima and Santa Cruz Counties, Arizona. In Sonora, this species is reported from just one locality, in Cajón Bonito Canyon. It is unclear if all of these observed localities represent breeding populations. Some authors suggest that males of this species may “drift” to other locations beyond the core breeding areas, but are unlikely to establish leks due to the lack of permanent water; such individuals have been observed in the Tucson, Santa Rita, and Catalina Mountains.

Most firefly researchers concur that the main risks to fireflies are pesticide usage, light pollution, habitat loss and degradation, and climate change. Fireflies have not gotten much attention from conservationists, despite worries about possible population decreases. By supporting fireflies in your neighborhood, taking part in community science initiatives that monitor their range, and turning off your lights at night and identifying, preserving, and restoring high-quality firefly habitat, you can contribute to starting this crucial discussion.

It is possible for everyone to help save fireflies. See our conservation guidelines and other resources indicated below for comprehensive recommendations. Here are a few easy things you can do right now:

Provide a home! Assign a section of your garden or yard for wild growth;

Steer clear of pesticides, which can kill fireflies and their prey or destroy habitat;

Turn off your outdoor lights at night, especially in the summer when fireflies are most active;

Take part in community science projects to expand our understanding of fireflies; and

Spread the word to others about fireflies and their needs.

[Contribute to the Xerces Society's efforts to protect fireflies](#)

See: Fallon C. 2024. [Firefly species fact sheet: Southwest synchronous firefly \(*Photinus knulli*\)](#).

To end on positive note. Much discussion about the summer issues of the **Canyon Chatter** dealt with having a lighter issue for the months of June-August. In fact, lighter issues may be more work than issues with 15-25 pages. We hope the members are enjoying this and will tell us what they would like to see discussed in future issues. JCM

**Send comments, articles, & announcements to:
Friends of Madera Canyon Chatter Editor**



The Last Page



While Sonoran Desert Toads may look cartoonish they are deadly serious when encountering a child, a dog or a cat. The sausage shaped glands behind the eye, on the forearm and on the lower leg produce a potent hallucinogen as well as a toxin (these are two different molecules). Dogs can be trained to stay away from the toads in the same way they can be trained to stay away from snakes. I highly recommend the training. It will reduce your chances of a poisoned pet. JCM