Shape the Future

Canyon Chatter

Friends of Madera Canyon

November 2025

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On the cover. The Mountain Lions' diet was studied by Cunningham et al. (1998) for the Arizona population using scat analysis. Deer (both species combined) made up 48% of the diet, cattle 37%, the Javelina 17%, with the rest being rabbits, rodents, and Big Horn Sheep.

Lions do not focus on tracking specific prey species but instead adjust their daily activity patterns and diet in response to temperature and prey availability across different seasons (McCain, 2008). In both winter and summer, Coues' White-tailed Deer were the most common prey. However, during summer, the lion's diet was supplemented with domestic calves (*Bos taurus)*, which were abundant and vulnerable during that season. In winter, Javelina became an additional food source for lions. The seasonal changes in activity patterns and diet make it difficult to determine the exact factors driving these shifts. High temperatures may make lions more active at night during summer. Coues White-tailed Deer remained active during the day throughout summer, and the extreme daytime temperatures could have limited lion movements, reducing their ability to hunt deer. Consequently, deer in the lion's diet decreased during summer, while cattle consumption increased. Photo taken at ASDM by JCM

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 to make 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

From the President

Giving Thanks

I am grateful that there are people like you willing to pay dues to the Friends of Madera Canyon to support its pursuit of its Mission.

Support means paying for the production of printed and online materials to inform and educate members of the public about the Canyon.

Support means sustaining a program of education for youngsters from local 4^{th} graders each fall and spring and not-so-youngsters who walk the Canyon with our Naturalist, Doug Moore, and learn how alive the Canyon is.

Support means paying for things like insurance, postage and the talent that performs each year bringing music to the Canyon.

Support means engaging a part-time Executive Director who will work with our Development/Fundraising chairperson and me to secure the grants needed to supply funds for infrastructure repair and replacement, trail retreading and new trails when Forest Service funds are insufficient to cover all of the costs of amenities that make the Canyon accessible and enjoyable for the public.

I am grateful that so many people contribute their time, an irreplaceable resource for us all, to staff the VIS, clean the picnic areas, lead school groups in the Canyon, brush trails to keep them passable, repair trails where repairs are needed, keep the brochure holders in the Canyon well-stocked, monitor vehicular traffic for the Forest Service, interact with vendors, produce materials for the website and the Chatter, serve on committees and the Board, etc. In short, I am grateful that the work of the Friends is shared by so many willing volunteers.

I am grateful to the four FOMC members who have stepped forward to give gifts to name benches on the Proctor/Whitehouse loops <u>virtually</u> (on the website soon) for ten years. When we have the website pages ready, we will make a big fuss about those benefactors and their benches.

I am grateful that I live so near to one of Nature's wonders—Madera Canyon—a place where I can stand among plants, trees, birds, bugs and towering mountains and escape the frenetic pace of life in the 21^{st} century.

These are reasons I give what I can give of whatever time, talent and treasure I have. You have reasons of your own. I hope that, among the reasons you pay your dues each year is your belief that we make a difference regarding the well-being of the Canyon, just as our predecessors in the Friends have done and as we hope our successors will do.

Happy Thanksgiving!

Dan White

Ironwood Tree Experience and FOMC

Ironwood Tree Experience is a non-profit organization focused on providing meaningful outdoor experiences, including volunteer work, for young people. Earlier this year, Isaac Cortes of ITE contacted me asking about opportunities in the Canyon.

A group of FOMC volunteers and Pablo Rocha and Mike Grambs of the Forest Service, completed the replacement of over 100 old planks on benches between Proctor Road and the Madera Picnic Area. But the task of carting the planks from the bench sites to collection points remained.

A match made in heaven! On October 16, nine young women and men came to the Canyon to volunteer under the auspices of ITE. Isaac, his colleague, Benji Felser, and teacher Gavin Lehr accompanied the crew, which happened to be from Sahuarita High School. Within two hours, 100 planks had been relocated to two separate collection sites. A photo of the group is below.

Special note: at the point in time when the 100 planks had been collected, the group's schedule called for lunch. But the kids knew that there were 19 more planks to be collected from between Madera PA and Whitehouse PA. They agreed, unanimously, that they were not done until all 119 were at the collection points. In 25 minutes, they completed that last section of work.

Many thanks to the young people and to ITE for their work. They modeled the spirit of "whenever you can help" and the resolve of "only stop when the job is done."

Dan White

Tucson Bird Alliance

Announcement

The Tucson Bird Alliance will be offering talks again in Green Valley on the 2nd Tuesday at 11am for the next 5 months. This year the talks will be held at Canoa Hills Center in the Saguaro Room. Here are the topics:

Tuesday November 11 @11am with David Griffin "Green Valley Christmas Bird Count"

Tuesday December 9 @11am with Jennie MacFarland "Tracking Purple Martins"

Tuesday January 13 @11am with Jake Thompson "Birding Patagonia"

Tuesday February 10 @11am with Olya Weekley "Reducing Hazards to Birds"

Tuesday March 10 @11am with Stephen Vaughan "Exploring Arizona’s Pygmy-Owls”

The Bird Page

Madera Canyon's Sparrows Part I

Bob Pitcher

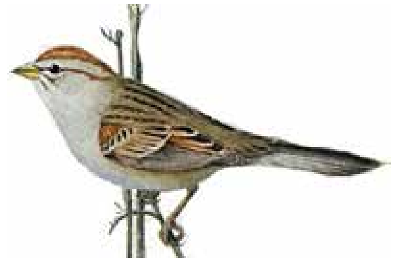
In earlier pieces here, I've catalogued both the hummingbirds and the flycatchers found in Madera Canyon. Both those bird families are well represented here, with some species reaching the northern limits of their predominantly Latin American ranges in Arizona and others ranging much farther north. Although both hummingbirds and flycatchers of at least a few species can be found here in winter, these two families are much more characteristic of the spring and summer. They are all insectivores – though of course hummingbirds eat nectar and pollen as well – and bugs are far more available in Madera in the warmer months.

Sparrows, on the other hand, are primarily seed-eating birds, although many will take insects as well. While some species of the numerous sparrow family may be found in the Canyon at all seasons, many are here only in the winter and shoulder seasons, when they can more readily find mature plant seeds. Altogether, there are at least as many kinds of sparrows to be found here as there are either flycatchers or hummingbirds. Nearly two dozen sparrows occur in Madera Canyon with some frequency, from the lower grasslands up into the pine forests at higher elevations. Half are treated here this month and half next, in Part II.

The sparrows of the Americas are now in the family Passarellidae. They do not include birds like the House (or English) Sparrow, which is a Weaver Finch introduced into the New World from Europe well more than a century ago, or the finches, though the latter, such as the goldfinches, are also seed-eaters and resemble sparrows in their shapes and sometimes their songs.

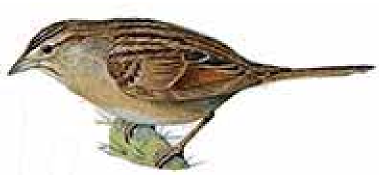
Sparrows are small birds, generally of an overall brown coloration, commonly with stripes of lighter color. Some have white, black, or rufous patches, often about the head. The somewhat larger, differently patterned Towhees were recently taxonomically lumped in with sparrows. Most sparrows have distinctive and often pleasing songs, which help in identification. For sparrows can be hard to tell apart -- nearly as hard, some of them, as the little Empidonax flycatchers or female hummingbirds.

Rufous-winged Sparrow, *Peucaea carpalis.* The first of the local sparrows taxonomically is found only in Southeast Arizona and Mexico. It was one of the last of the birds of the United States to be described scientifically in 1872. A slim, medium-sized sparrow, it is nonmigratory and lives in grassland such as surrounds Proctor Road, and in Sonoran Desert scrub. It is pretty common in pairs or small groups, rarely, if ever, flocking with other species. The Rufous-winged can look like other sparrows, especially the Chipping, but the strong double mustache lines on each side of the throat will identify it. So will the song, a few beginning notes and an accelerating trill. Figure 5 on Plate.



Botteri's Sparrow, *Peucaea botterii*. This bird has an even more restricted range in this country than the Rufous-winged, although Botteri's can occasionally be found in South Texas. By no means common in the Canyon, it does seem to be increasing here. It is a grassland bird, to be looked for around the Proctor Road parking lot in warmer months. It's pretty large for a sparrow, with a long tail, and a relatively large, flat-looking head. Botteri's is usually seen perching on a shrub to sing, when it gives out a bouncing-ball trill following a few indeterminate chips. Figure 3 on Plate 1.

Cassin's Sparrow, *Peucaea cassinii.* Cassin's is a tough one. It's also a grassland bird, and stays down in the grass except when it sings. So reclusive is it at other times that the experts aren't sure to what extent the population here moves south during the winter. The Cassin's is also particular about when it sings: either once the monsoon rains have begun in earnest in the summer (it wasn't singing consistently this summer!), or, sometimes, if there have been plentiful winter rains, it also sings in the spring. The song itself is several plaintive phrases, either given from a perch or with the singing male flying up and hovering – skylarking. As for appearance, the Cassin's defies the field guides; it's a largish sparrow, overall rather gray, and without distinctive markings. The song can best identify it. Figure 1 on Plate.



Chipping Sparrow, *Spizella passerina*. Chipping Sparrows are common over much of North America. In the winter, they may be found, commonly in flocks of maybe a dozen, throughout the lower and middle Canyon. Most migrate north in the spring, but some breed higher up in the pines where there's grass beneath the trees. This species is told by its bright rufous cap and its song, a flat, definite trill on one pitch. Younger birds can be harder to identify; for several months they have striped crowns and underparts.

Black-chinned Sparrow, *Spizella atrogularis*. This bird looks like a cross between a Chipping Sparrow and a Junco – slim and long-tailed, with a brown-striped back but a charcoal-gray breast and lower parts and a black face. (The female lacks the black.) Black-chinned are not common in the Canyon, since its breeding habitat, chapparal and pinyon-juniper grassland, isn't much found here. Look for it in winter, singly or with other sparrows, in brushy tangles, perhaps along Proctor Road.

Brewer's Sparrow, *Spizella breweri.* Brewer's is highly migratory and is found here only in the cooler seasons. The smallest sparrow here, it is, overall, a pale brown with somewhat indistinct markings. It is quite common, often seen in flocks of dozens or more, frequently with other sparrows mixed in. I have found Brewer's to be tamer than many other sparrows.

Black-throated Sparrow, *Amphispiza bilineata*. This is a desert and grassland sparrow, and one of the prettiest of its family -- gray above, white below, with a large black bib. Its eyes set off by white stripes on either side. Non-migratory and fairly common, usually singly or in pairs or family groups. The song consists of several introductory notes followed by a brief, sharp trill. Young birds in their first summer can be perplexing, much paler than the adults, though with some of the same patterns if you look closely.

Lark Sparrow, *Chondestes grammacus*. This is a large sparrow -- all of 6.25 inches, says the guide -- and fairly easily distinguished by size and pattern from other sparrows (though it may be confused with different kinds of birds if not seen clearly). This sparrow is usually found in flocks, often associating with other birds, at least loosely. It breeds in the mesquite grassland at and below Proctor Road, moving up toward mid-Canyon later in the year, though staying in open places, or at least lower, sparser wooded areas. Lark Sparrows tend to feed on the ground and fly into trees, often at some distance, when they're flushed. The head of this bird is strongly patterned in chestnut and white, with a prominent black spot on an otherwise white breast, and white tail feathers easily seen when it flies. An attractive bird, but it doesn't have much of a song.

Fox Sparrow, *Pasarella iliaca.* This is a large sparrow, burly even – for a sparrow. It is pretty rare in Southeast Arizona, including Madera Canyon, and is found here only in winter. It's distinctive even apart from its size -- dark, approaching a chocolate-brown in overall coloration, and heavily streaked below. The eastern subspecies, even less common here, is overall a heavily-striped rufous, hence the species' name. Fox Sparrows feed on the ground, within or at the edge of brushy places, scuffing debris to uncover bugs and seeds.

Dark-eyed Junco, *Hyemalis junco.* This and the following species are distinctive for their overall dark gray color, with none of the brown of other sparrows. There are, however, five subspecies of the Dark-eyed, which have at various times been accounted separate species (and might be again, one supposes). All are clearly Juncos, however, and tend to flock with other Juncos. In addition to the dark gray coloring, all share white tail feathers, which are evident when they fly. Juncos are woodland birds that often feed on the ground and fly to trees and bushes when approached. These are one of the original "snow birds," as the Dark-eyed are migratory, appearing with cold weather.

Yellow-eyed Junco, *Hyemalis phaeonotus*. Though a Junco from its charcoal gray coloration, the Yellow-eyed is distinguished by its bright yellow iris, setting off a black pupil and giving it, to my mind, a somewhat manic expression. The Yellow-eyed is a Southeast Arizona specialty. Most of its

range is in Mexico, and it was previously the Mexican Junco. These birds do not migrate like their dark-eyed cousins. They breed higher up in the Canyon in the pines, and come to lower elevations, very occasionally as far as Proctor Road, in the cooler months. They can often be found there at the Santa Rita Lodge below the feeders. Yellow-eyed Juncos walk, rather than hop like other sparrows, and feed on the ground, where they are one of the tamest of birds. As you walk along, one or more may precede or follow you within a few feet, keeping an eye out for bugs you may have stirred up. And if you sit quietly, they may even walk over your shoes or hop into your lap.

-- *More sparrows next month, in Part II.* –

The five images used in this article come from the following sources. The paintings of the Rufous-winged Sparrow, Botteri's Sparrow, and Cassin's Sparrow are the work of Louis Agassiz Fuertes. They were published in the magazine Bird Lore Volume XVI May-June 1914. Bird Lore later became an Audubon Society publication. The Yellow-eyed Junco was painted by John Gerrard Keulemans the Dutch bird painter. The photo below of the Lark Sparrow is from the U.S. National Park Service.

The Lark Sparrow is large for a sparrow and a winter resident of Madera Canyon

Education Report

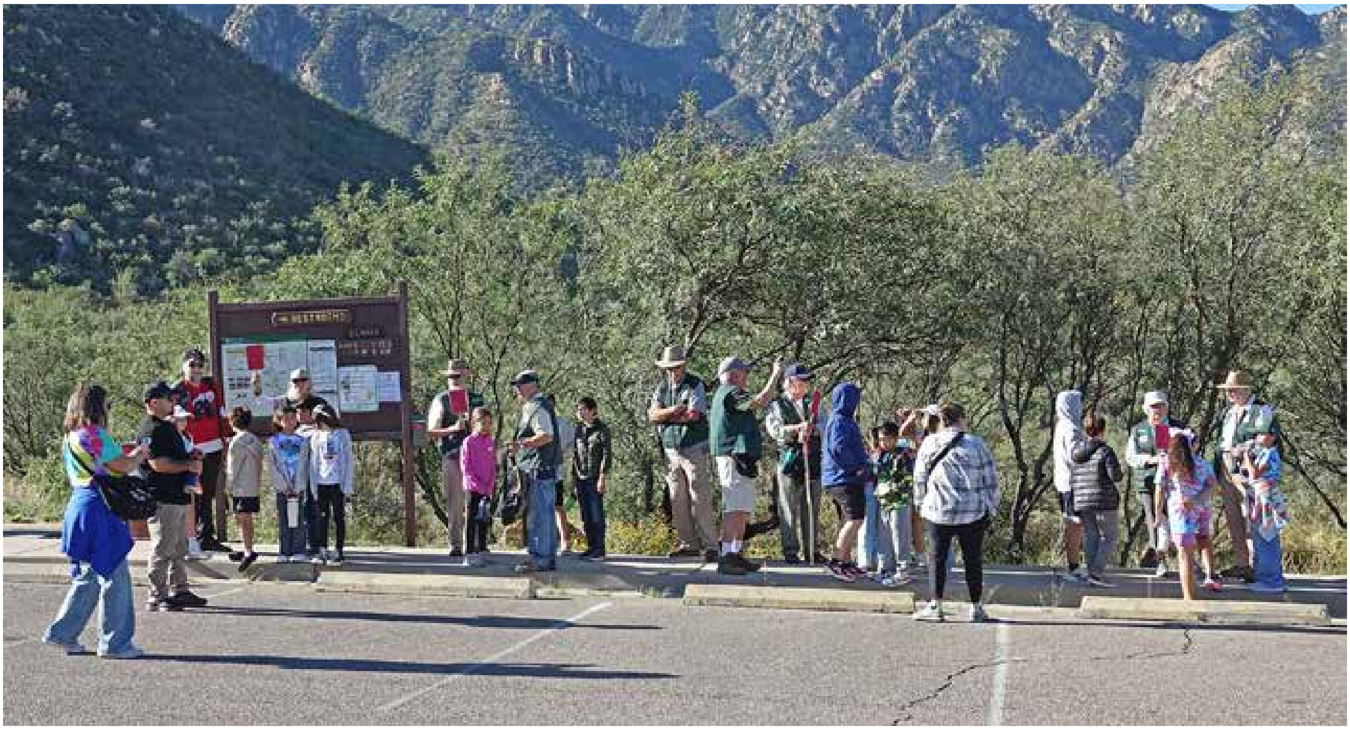
Doug Moore

Fall 2025 4th Grade Field Trips

After three days of clouds, wind, & rain, tropical depression Priscilla finally blew out of southern Arizona, revealing a crystal clear, cool morning on Thursday, Oct. 16. It was a perfect day for a walk in the canyon & the ideal start to our Fall nature walk field trips. With the canyon "greened up" from late monsoon & surprise fall tropical moisture, such a morning is a prime opportunity for kids to get outside & explore Madera Canyon!

First on the schedule was Continental School field trip #1. Mrs. House & her 24 students arrived promptly by school bus at 8:45 am. Proctor was a bustle of activity as five student groups organized with their lead docents & received walk instructions. Intending to push trail time & exploration to the max, everyone was off & up the trail by 9:00!

Following a fair amount of late-season rain, a variety of flowers were blooming. Students were tasked with finding as many kinds of flowers as possible while observing the blooms for any pollinators visiting them. Insect numbers in the canyon are lower than usual this fall due in part to the late, erratic monsoon- grasshoppers & beetles seem particularly scarce. Nonetheless, enough butterflies, bees & other pollinators were seen to keep the kids engaged. They also saw small mixed flocks of resident birds, several late remaining migrants, a few fascinating caterpillars, &, of course, deer & squirrels. It was a great day in Madera Canyon for students, chaperones, & docents!



1) Continental School Nature Walk #1 at Proctor in Madera Canyon

Continental School will have two more field trips, taking up the final two Thursdays in October. Then, San Cayetano Elementary from Rio Rico will be in the canyon for 3 field trips on Thursdays in November, leading up to Thanksgiving. As fall progresses & temperatures cool, the canyon will gradually change from week to week. Each field trip will have a slightly different experience, as the current green monsoon foliage gradually gives way to bright fall colors, then to bare limbs & fallen leaves as winter approaches. Though the canyon changes, the value of the outdoor experience for each student does not- each field trip yields its own unique lessons & lasting takeaways for our local kids to learn & remember!

Late Season Moisture Benefits Plants & Pollinators

A late-starting & erratic monsoon rains played havoc with plant growth & insect life cycles in & around Madera Canyon this year. Late season rain did germinate summer annuals, though the plants generally remained stunted & flowers were few. A historic dry winter/spring, coupled with the late monsoon, also affected many insect life cycles, resulting in lower diversity & overall numbers. It seems "weird" to see so few grasshoppers & beetles in Madera Canyon this fall!

1) Ceraunus Blue, *Hemiargus ceraunus*, feeding on a Goldeneye daisy.

2. Gulf Fritillary, *Euptoieta calaudia*, on Goldeneye.

One noticeable positive from the late monsoon rains was a fabulous response from our fall-blooming native perennial shrubs- particularly several yellow Goldeneye "daisies" (*Viguiera spp.*), Desert Broom (*Baccharis sarothroides*), Turpentine Bush (*Ericameria laricifolia*), & Velvet-pod Mimosa (*Mimosa dysocarpa*. The Mimosa bloomed first in September, turning the roadsides up to the canyon & Proctor brilliant pink. The other shrubs are blooming now- Goldeneyes turning the roadsides & Proctor bright yellow, while Turpentine Bush shines golden along the Proctor Loop & the hillsides above the trail. Scattered patches of Desert Broom flower along the road, around Proctor Parking Area, & along the Proctor Rd./ Madera Creek crossing.

Besides producing some delicious "roadside eye candy", these late-season perennials are providing vital pollen & nectar resources for insect pollinators that are now active when most other flowering plants are done blooming- they are essentially "the only game in town"! A stop & look at a stand of these flowers will reveal a relatively complete view of the pollinators — butterflies, bees, wasps, flies, & others — that are out in and below the canyon now. Thank goodness for our hardy native shrubs! It is well worth the time to stop & check out the show! Continued on next page.

Figure 3. Spring Azure *Celastrina ladon* m wings open dorsal Ketbach 10-16-2025

Figure 4. Turpentine Bush *Ericameria larcifolia* on hillside Proctor Trail 10-16-2025.

The Editor's Desk

Mountains are cradles of biodiversity

There is an urgent and growing need to protect the unique natural variety found in mountain environments by recognizing them as global heritage sites (Chakraborty 2019, 2020).

Mountains are vital for life on Earth. They are home to a huge range of plants and animals, and they provide essential services like fresh water, climate regulation, and protection from natural disasters such as floods and landslides. Mountains also offer recreation, tourism, and spiritual value. At least half of the world's people depend on these benefits.

Globally, mountains are the second most popular outdoor destination after islands and beaches. But with rapid environmental changes in the 21st century, mountains are facing new and serious threats. These changes affect not only mountain landscapes, but also the millions of people who rely on them. Tourism, for example, is putting extra pressure on fragile mountain ecosystems.

To protect mountains, scientists and local leaders must work together. By appreciating both the living (biotic) and non-living (abiotic) aspects of mountains, we can better understand their importance and treat them as shared treasures for humanity. Building public awareness and creating global networks of experts—including scientists and tourism specialists—are key steps in safeguarding mountain heritage.

Mountains are not just rich in biodiversity; they are also the starting points for all the planet's major river systems. Recently, researchers have begun to study the physical diversity of mountains, known as geodiversity. Features like steep slopes and varied climates help pack many different life zones into small areas, creating habitats for diverse species. Geological traits—such as the type of rock and how it breaks down—also help explain patterns of biodiversity in mountains.

Rahbek et al. (2019) explained that mountains have been shaped by deep-time geological processes (like the formation of mountain ranges) and cycles of climate change (like ice ages). These forces have left lasting marks on the plants and animals found in mountain regions.

All together, mountains' rich biodiversity and geodiversity make them storehouses of the planet's natural variety. This means that mountains are irreplaceable, not only for their living resources, but also for their unique physical features.

In this context, "natural diversity" refers to both abiotic (non-living) and biotic (living) features. Globally, mountain regions cover about 12.5% of Earth's land surface (excluding Antarctica).

Mountains matter far beyond their own boundaries. According to Sharma et al. (2019), mountains are home to 25% of all land-based biodiversity and nearly half of the world's biodiversity hotspots. They benefit almost 50% of humanity through their ecosystem services.

The rise of mountain systems has shaped life on Earth. For example, the Andes helped create the Amazon's biodiversity hotspot by changing water flow and climate patterns. The Andes themselves have about 45,000 plant species, with roughly 45% found nowhere else. The Himalayas have changed the South Asian monsoon, affecting life across Asia.

Mountains support river and forest ecosystems and supply nutrients across continents. They act as both protectors and sources of biodiversity, and they help sustain vibrant local cultures. Some researchers, like Debarbieux and Price (2008), suggest thinking of mountains as "global common regions"—unique natural resources that belong to everyone.

Another important point is the connection between mountains and lower lands. Research by Martín-López et al. (2019) highlights how studies of mountains have become more interdisciplinary, but there's now less focus on biodiversity and ecosystem services. For example, Schirpke et al. (2019) studied the European Alps and found that essential resources like fresh water and recreational opportunities flow from high mountains to downstream areas, benefiting people everywhere.

Recreation is a major cultural service mountains provide, with features like peaks and climate attracting visitors from across Europe and beyond. However, as the world's population grows, so does the demand for mountain resources—especially water and living space. This rising demand is threatening the ability of mountain systems to keep providing these essential services.

Construction of hydroelectric dams is one example of how the connection between mountains and lowlands is being disrupted. Grêt-Regamey et al. (2012) warned that if the demand for mountain services exceeds what they can supply, there will be serious problems. Shrinking glaciers and disappearing life zones will quickly reduce the resources mountains can offer, causing a chain reaction that harms both nature and people.

While there is much interest in studying and showcasing rare mountain species, efforts to protect the overall health and integrity of mountain environments are lagging behind. It is crucial to balance human use with conservation to ensure mountain systems remain resilient and continue supporting life on Earth.

...mountains house 25% of all terrestrial biodiversity and nearly 50% of all terrestrial biodiversity hot spots and benefit nearly 50% of the human population through various ecosystem services.

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The Santa Ritas are no exception. They need to be protected and conserved. JCM

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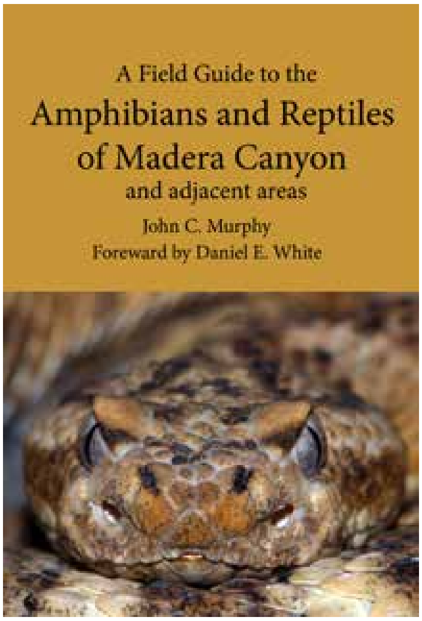
<u>BOOK REVIEW</u>:

A FIELD GUIDE TO THE AMPHIBIANS AND REPTILES OF MADERA CANYON AND ADJACENT AREAS By John C. Murphy

Review by Bob Pitcher



John Murphy is an expert herpetologist -- a specialist, that is, in reptiles and amphibians. He is a retired science teacher and remains a research associate at Chicago's Field Museum of Natural History. He has written about the reptiles and amphibians of Arizona, on the large snakes of the world, and wrote the book on the herps of Trinidad and Tobago. And he edits the Canyon Chatter. John now has a brand-new book on the reptiles and amphibians of Madera Canyon and its vicinity.

This reviewer visits the Canyon primarily for its birdlife, which is famous worldwide. The Canyon birds are, to me, much more evident than are the frogs, toads, lizards, and snakes that live there. But Madera Canyon is also famous among herpetologists for the variety of the species present, and the rarity of some of them. As with the Canyon's birds, the variety and rarity is due to the nature of the Santa Rita Mountains as a Sky Island, and its location close to the tropics and to Mexico's Sierra Madre.

John's Field Guide – which would slide easily into a backpack, if not a hiker's pocket – covers the fifteen amphibians found around here, from the single salamander to the dozen and more species of toads and frogs, some very common, many less so. There are as well a couple of turtles, the Desert Tortoise, and nearly two dozen lizards, from whiptails and geckos to the Yarrow's Spiny Lizard found at higher elevations. And forty species of snake, from the worm-like threadsnakes to the three rare – and protected – montane rattlesnakes found in Madera.

The book gives each species from a paragraph to a page or two, providing a description and detailing what is known of its distribution, its habitat and habits, and, for the frogs and toads, their calls. It is strange to a birdwatcher, about whose subjects so much is known, that there is so much about reptiles and amphibians still to be learned. Seems like even field amateurs can contribute much to herpetology!

Perhaps the book's strongest point, and one welcome in any field guide, are the photographs provided of each species, most of them taken by the author himself. These underline what is already known to many of us, that is, that snakes and lizards are wonderfully beautiful animals, often both colorful and fascinatingly patterned.

The Amphibians and Reptiles of Madera Canyon, by John C. Murphy, with a foreword by Dan White, President of the Friends of Madera Canyon, is available from Amazon.com for $33.05. When FoMC has a booth at various events, it will be available for a few dollars less.

In Arizona, Painted Turtles appear to be an odd mix of native and alien populations. JCM

Send comments, articles, & announcements to:
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