

Shape the Future

Canyon Chatter

Friends of Madera Canyon

February 2025



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On The Cover. The view looking south from Madera Canyon, over the bajada on the west side of the Santa Ritas. Elephant Head can be seen on the left side of the image. Photography by Rusty Lombardo.

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

From the President

February 2025

Thank you to those who came out to attend our Annual Meeting on January 25. We had the opportunity to learn about the history of the Honor and Memorial Wall from new Committee Member, Rusty Lombardo and thank Dr. Tom Purdon for his service on that Committee; acknowledge and celebrate our public-private collaboration with the U.S. Forest Service and hear comments from District Ranger Jorge Enriquez and Recreation Manager Zach Macdonald; thank all who volunteered time, talent or treasure (in the form of annual dues and additional gifts), including our friends in Troop 247; and be educated by John Scheuring, State Conversation Chairman of the Arizona Native Plant Society about how good intentions and noble purposes created the challenge of invasive species in Arizona like the yellow bluestem grass.

I started the morning program with a few thoughts about an actual fact printed on a bumper sticker: Nature Bats Last. I noted that humans have achieved many amazing things but, as we add to our achievements, we would do well to accommodate what we do to the simple fact that Nature Bats Last. Recent firestorms, flooding, hurricanes and tornadoes, earthquakes, even lava flows covering housing developments in Hawaii are prime examples that Nature Bats Last.

If you were in a high school English class last century, as I was, you probably were exposed to poet Percy Bysshe Shelley, who in 1818, published the poem *Ozymandias*, another name for the Egyptian Pharaoh Rameses II, also known as Rameses the Great. Shelley noted that the giant statue of Rameses II erected to illustrate his power and greatness, was disintegrating and gradually being devoured by the sands of the Egyptian Desert. Nature eclipsed political power. It often has done so since Rameses II.

If you have done much travelling in the regions nearby, you have probably seen where impressive dwellings were built by the ancient inhabitants, even through the 14th century. From what we know about these cultures, the people held no illusions about their buildings enduring over centuries. They accepted that, as they moved on, nature would reclaim the land on which they had built. Such was their relationship with nature

Scheuring explained that the invasive grasses were intentionally brought to the United States and other regions of the world as governments and private entities dealt with a 40 year long drought worldwide, from 1880 to 1920. There was urgent need then to find grasses that needed less water but could still provide nourishment to cattle so that meat and milk would be in abundant supply. What was missing in that work was any indication that the grasses so imported would drive out the native grasses and change whole ecosystems if the non-native grasses proliferated. When the rainy seasons returned, they did.

You and I are parts of Nature, not its masters in the long term. Could it be that the humility suggested by recognizing that fact motivates you and me, each in our own way, to take care of Madera Canyon?

Communications

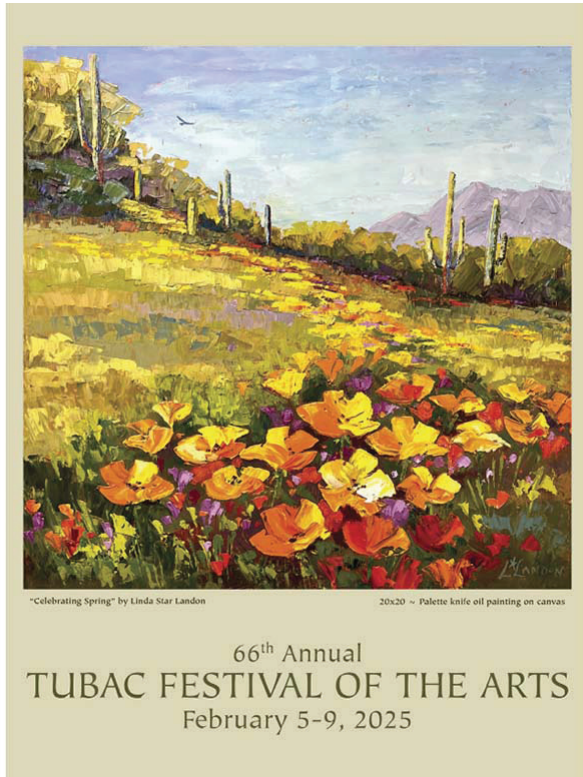
Scout Troop 247 Volunteers



Photo of Scout Troop 247 (under adult supervision) relocating the old Silverleaf Oak sign from off the nature trail up to the trail with a sled & pulley rig in January. Photography by Scout Troop 247.

Troop 247 had extra time in the Canyon and used it to removed graffiti from picnic tables 6 and 15. Photography by Scout Troop 247.

Volunteer or Visit us at the Tubac Art Festival



FoMC WILL HAVE A BOOTH AT THE FESTIVAL. IN FACT, WE COULD USE SOME VOLUNTEERS WORKING THE FESTIVAL - TALKING TO PEOPLE AND SELLING MERCHANDISE. IF YOU ARE INTERESTED PUT TUBAC IN THE SUBJECT LINE OF AN EMAIL AND SEND IT TO

**ANITA WOODWARD
AWOODW3369@AOL.COM**

In February, Tucson Audubon will be back in Green Valley with a talk on:

"Hawks and Falcons: Daytime Masters of the Arizona Sky"

Join acclaimed photographer Steve Vaughan on a breathtaking exploration of southern Arizona's diurnal raptors. From the soaring Red-tailed Hawk to the agile Cooper's Hawk, this program showcases the region's daytime hunters. Through stunning visuals and expert storytelling, discover the unique behaviors and survival strategies of these majestic birds as they dominate the sunlit skies of the desert

Date/Time: Tuesday, Feb 11, 11am - 12p
Location: Green Valley Recreation Las Campanas Center, 565 W. Belltower Drive. Agave/Ocotillo Room

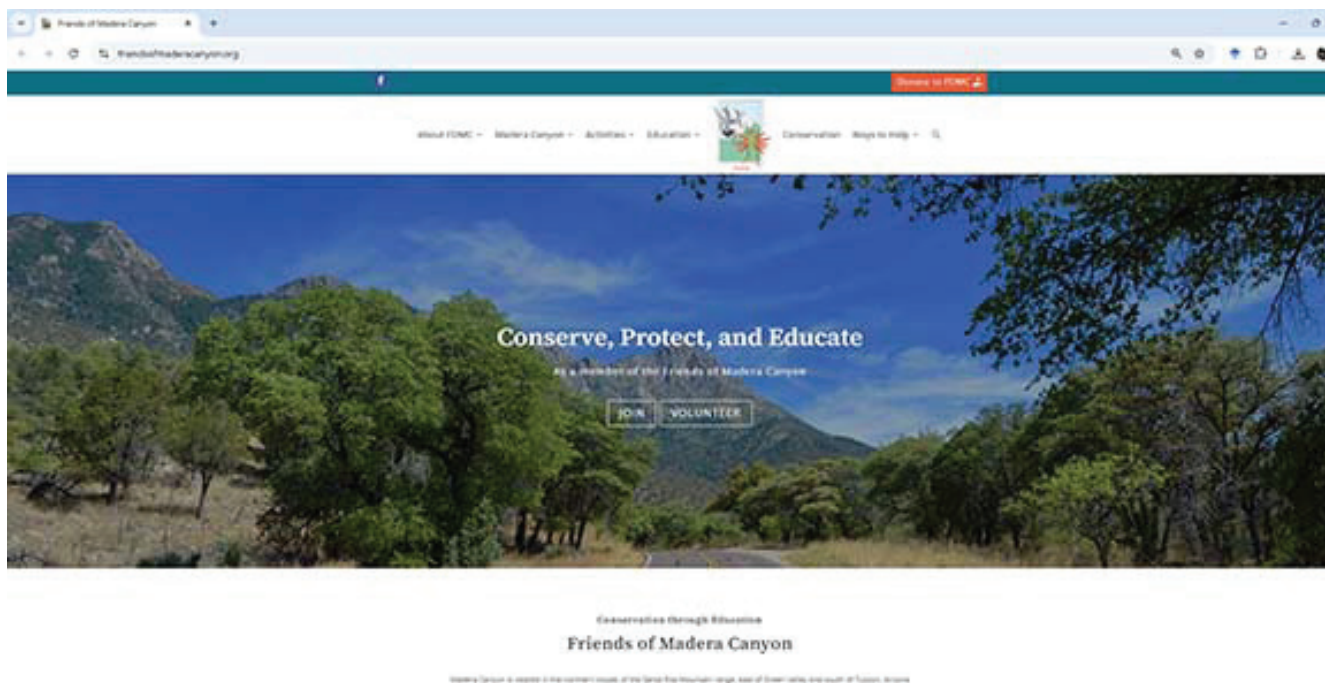
This talk is open to all, not restricted to GVR members.

Photography Red-tailed Hawk, <https://pixabay.com/>



Changes to the website described in the January Chatter as coming have been completed. Check it out at friendsofmaderacanyon.org

- Slimmed down Home Page
- New Family Activities page
- New Search Icon/button
- New Canyon FAQs
- New and reorganized Education section
- New group of Photos of the Month



News from our 2024 Scholarship Winner

Ricardo Buelna, our 2024 Gode Scholarship recipient, reported to ScholarshipCommittee co-chairs, Barb Fleshman and David Linn, that he has earned recognition on ASU Fulton School of Engineering Dean's List for Fall 2024, based on his grade point average. Ricardo is majoring Construction Management with a focus on eco-friendly, durable, and high-quality building methods for the future. Barb, David and I have sent our congratulations to Richard and are pleased to apprise our membership of his achievement.

The Birding Report

Bob Pitcher

PROTECTION

Though this column is obviously about birds, it may seem at first that it hasn't much to do with Madera Canyon – but it does.

Plume-Hunting

For decades before 1900, millinery fashion required ladies' hats to include colorful feather arrangements, showy plumes, or even occasionally entire birds – suitably mounted, of course. The requirement supported a small army of “plume-hunters,” whose trade it was to obtain feathers for this market. Some plume-hunters, along with the middlemen, made a good living in the trade. In the nature of things, however, it was infeasible to collect the feathers without killing the birds that bore them. The slaughter was tremendous.¹

It might be remembered, in defense of the hunters' practice in this respect, that this was not so long after flocks of Passenger Pigeons literally darkened skies for *days* in their migration, and not so far removed from the tales of travellers such as Audubon and William Bartram, who reported the incredible multitudes of birds in the Southeast -- in the Carolinas, along the Gulf Coast, and especially in Florida. Clearly, no matter what people might do, there'd be plenty of birds in America forever. The fashion in plumed hats was most prevalent in Europe, but a great part of the plume-hunting that supplied it was in this country.

By 1880, of course, there were no more Passenger Pigeons to darken the skies – or buffalo, for that matter, to darken the Great Plains, as they once had. And there were warning signs among the southern

populations of some birds, for those who could see them. Some Americans did, pointing out that Great Blue Herons, Roseate Spoonbills, and Great Egrets were in serious decline from plume hunting, and that Snowy Egrets were nearly gone. Beyond the waders, the colorful Wood Duck suffered from plume-hunting, and the practice is listed among the causes of the extinction of the Carolina Parakeet, originally most common in Florida.

In 1900, the American Ornithologists Union and other early conservation groups convinced Congress that killing 5 million birds a year for their feathers couldn't reasonably continue. The Lacey Act was the



A Passenger Pigeon shoot. ca 1875.

¹ See generally, https://en.wikipedia.org/wiki/Plume_hunting, and <https://wfvz.org/history-of-egg-collecting/>.

result, making it illegal to trade in wildlife or plants obtained illegally. The Act was to bolster the state game laws that were appearing across the U.S. Soon after, President Teddy Roosevelt established what was to become the national system of wildlife refuges, one of the initial purposes being the protection of waders, especially in Florida.

Some plume-hunters were disinclined to drop their profession. In 1905, Guy Bradley, employed by the AOU and deputized by Monroe County, Florida, to enforce county game laws, was murdered by a couple of hunters near the settlement of Flamingo, now in the Everglades National Park.² It wasn't until World War I that the fashion in ladies' hats changed permanently, though it's said that by 1914, plumes were bringing their weight in gold in some markets. Toward the end of the War, Congress approved the Migratory Bird Treaty Act of 1918 and passed related enforcement legislation and treaties.³ Waterfowl and other game birds excepted, it became illegal to possess birds, alive or dead, or parts of birds.⁴

Birdwatching

While it's true that the protection of birds from illegal hunting is not complete even now, what poaching there is seems to be of waterfowl and other game birds out of season rather than the killing of birds protected year round. And this was true even 75 years ago, when Snowy Egrets and other waders were recovering their numbers and prior range. Protection and enforcement had caused a change in culture in this respect.

Instead, better, cheaper binoculars and practical field guides for birds – Roger Tory Peterson's the first, in 1934 – have made birdwatching a continually more popular pastime. As of last year, says the Wild Bird Feeding Institute, 96 million Americans count themselves birdwatchers (more than there are golfers, it's said!), and spend \$107.6 billion annually on their activity -- travel, equipment, field guides.⁵ It might be argued – successfully – that this new and still increasing industry was made possible by the protective statutes enacted more than a century and the change in culture that those acts -- and their enforcement -- have brought us.

Madera Canyon

Madera Canyon is a recognized mecca for birdwatchers, who come from all over the world to see birds otherwise rare in the United States. Many of these species are exceptionally lovely, with bright plumage. Wouldn't an Elegant Trogon or a Painted Redstart look fetching on a hat – suitably mounted, of course? And wouldn't their eggs grace any oologist's collection? Without federal protection where would those birds be today, after another century of unrelenting hunting? And could the vast birdwatching industry, evidence of which is so pervasive in the Canyon, have arisen at all without federal protection for so many North American birds?

We can all be thankful that birdlife in Madera Canyon is suitably protected today. **But is it?** Yes, birds can't be hunted here, and the laws that prohibit it seem to be adequately enforced by the Arizona Game & Fish Commission and the Forest Service, who have a Memorandum of Understanding specifying that the two agencies are to cooperate on the enforcement of state and federal game laws.⁶

But the Canyon ecosystem comprises far more life than just the birds here. After all, so many species of bird come to the Madera because of its varied habitats, milder climate, and, most important, that the

2 See especially, https://en.wikipedia.org/wiki/Guy_Bradley.

3 Codified, with amendments, at 12 U.S. Code secs. 703-712.

4 Birds' eggs were also originally excepted. Egg-collecting continued as an accepted hobby for many years, with the eggs of rarer species the greatest prizes. Egg-collecting wasn't ended until the 1940s.

5 [https://www.wbfi.org/2024/12/12/birdings_economic_impact/#:~:text=Birders%20spend%20an%20impressive%20\\$24107.6,are%20to%20the%20birding%20experience](https://www.wbfi.org/2024/12/12/birdings_economic_impact/#:~:text=Birders%20spend%20an%20impressive%20$24107.6,are%20to%20the%20birding%20experience).

6 Hunting is prohibited in the Madera Canyon Recreation Area, but hunting of game animals is allowed, subject to Arizona laws and regulations, in the Mt. Wrightson Wilderness Area. Given the nature and distribution of the Canyon's game birds (Wild Turkeys are protected), however, few if any are killed here by hunters.



Canyon holds food for them, especially plants and invertebrates.

The rest of the Canyon's wildlife and plant life deserves the same degree of protection that saved the birds. Remove a part of the ecosystem of a place and the remainder of it must adjust, perhaps catastrophically. Madera not only draws bird-fanciers; it is also a destination for those who admire reptiles and amphibians, for which the Canyon is also famous, and those who are as interested in invertebrates, in particular Madera's vast array of colorful insects.

State laws and the federal endangered species legislation protects most kinds of reptiles, amphibians, and plants, but evidence suggests that those who would collect the more prized species may do so with little fear of detection. There has not, in other words, been the sort of change in culture with respect to these forms of life that saved our birds and, to a large extent, our mammal species. Worse yet, no law, either state or federal, appears to protect invertebrate species. The Game & Fish Commission has no jurisdiction over these life forms (apart from mollusks and crustaceans, of which the Canyon has very few). Apart from species under the federal Endangered Species Act, Canyon invertebrates are free for the taking. Surely that's not good for Madera....

The bird collection at the Museum of Comparative Zoology at Harvard University. These kinds of collections are used to describe new species, and study the biology of described species. Natural history museum collections are tremendous repositories of specimens and data of many sorts, including phenotypes, tissue samples, vocal recordings, geographic distributions, parasites, and diet.

Photo by Jeremiah Trimble, Department of Ornithology, Museum of Comparative Zoology, Harvard University.

Education

Doug Moore, Education Director

The FoMC Education Program spring schedule is taking shape with field trips and activities starting to fill up the calendar in February, March, and April.

February 18 is the starting date for the popular four week “Nature of Madera Canyon” OLLI class. A photography-based lecture program, the 4 week class discusses the natural history of Madera Canyon and the Sky Islands. Class will be held on Tuesday mornings in Green Valley; for more information, check the Osher Lifelong Learning Institute at UA (OLLI-UA) website.

Currently, Doug is working with teachers from Mt. View Elementary in Rio Rico to schedule field trips for their three 4th grade classes on Thursday mornings in March. Standardized testing halts elementary school field trips the first weeks of April, but Sopori Elementary kids will do their annual nature walk later in the month. We hope to again have a field trip with Montessori de Santa Cruz students later in April also.

The FoMC continues building relationships with local high school science programs. The Sahuarita HS Biotech class is again coming up to the canyon for a field trip on March 25 (3rd year for this activity!), then Walden Grove AP Environmental Science students will be up for their 2nd year in early April. The high school students are a lot of fun and provide a challenging change of pace for the docent naturalists.

Several community organizations have asked for A/V Madera Canyon nature presentations this spring, including a GV PEO chapter at La Posada and Sonora Del Webb. Adult activities are being planned for FoMC members- spring nature walks, birding, and a geology hike. Keep your eyes open for FoMC e-mail blast announcements for info & sign-ups!

Books

Book Review: A FIELD GUIDE TO
MADERA CANYON WILDFLOWERS
IN THE SANTA RITA MOUNTAINS OF SOUTHEASTERN ARIZONA

By Joan W. G. Lewis

With Philip Jenkins

Herbarium Curator, University of Arizona

This slim and highly attractive volume, written and illustrated by a member of the Friends of Madera Canyon, is without any doubt the best field guide to the wildflowers of Madera Canyon. It includes nearly 200 of the flowering plants of the Canyon, those most often seen in bloom at various seasons of the year. Each plant is illustrated by a watercolor painting by Ms. Lewis, prepared specially for the book. Each picture carefully illustrates the features that allow for accurate identification of the plant shown – including the tricky yellow composites!

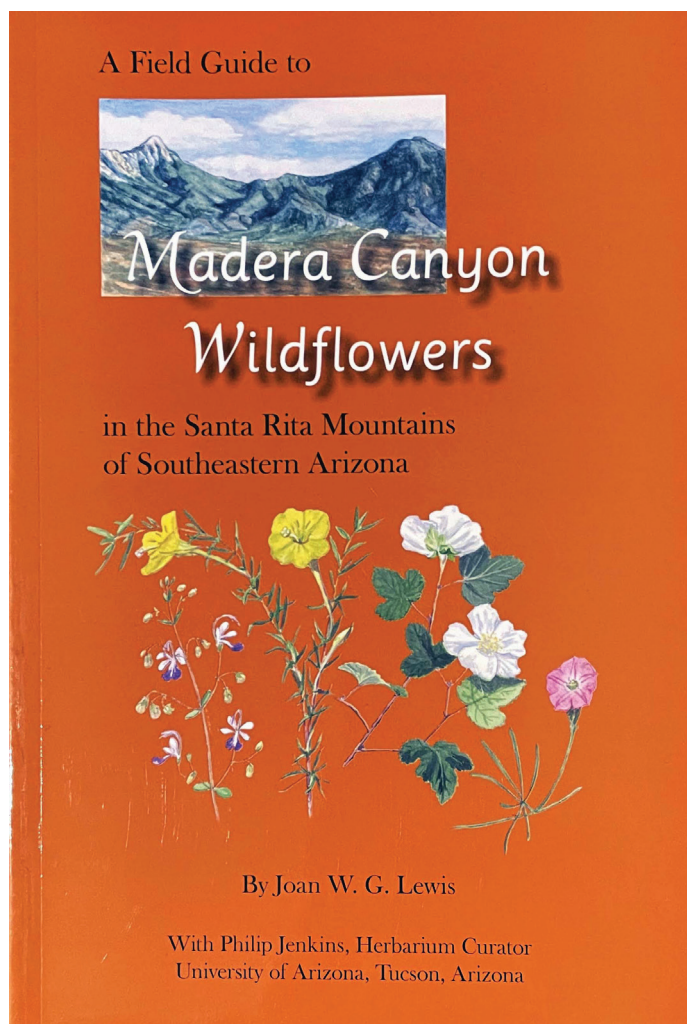
Coverage of *Wildflowers* extends from the area of Proctor Road near the mouth of the Canyon up to Josephine Saddle, that is, elevations from 4,450 feet up to 7,080 feet. Just as important, the trails on which a plant is likely to be found are given next to each flower pictured, along with the months it can be found in bloom.

For a relative newcomer to Southeastern Arizona, such as this reviewer, who seeks to learn more of the native species here, this little book is frequently of critical assistance. While the flora of Arizona's Sky Islands is similar at similar elevations and exposure, the plants do differ from one mountain range to another. One needs either immense experience of the flowering plants of the entire region, or a field guide for a particular locale. This book fills that latter role for Madera Canyon.

Madera Canyon Wildflowers, the product of years of collecting and study and benefiting from the advice of experts in the field, including Friends of Madera Canyon Director of Education Doug Moore, first appeared in 2008. Profits from the sale of the book go to the Friends to help fund our programs of Canyon preservation and conservation.

Madera Canyon Wildflowers is available for \$20.00 at the Santa Rita Lodge in the Canyon or for \$15.00 if you come by the Friends of Madera Canyon's table at events we attend throughout the year.

Review by Bob Pitcher



The Editor's Desk

Mining in Biodiversity Hot Spots

We started the New Year with the Arizona Department of Environmental Quality (ADEQ) clearing a regulatory obstacle for the contentious open-pit mines about ten miles north of Madera Canyon. ADEQ granted the Copper World project an air quality permit. Supporters commended ADEQ, while the Center for Biological Diversity (CBD) referred to the ruling as “another dangerous gift to the mining industry.” Copper World, owned by Toronto-based Hudbay Inc., has been the target of several complaints and legal challenges from residents and environmental organizations who claim the open pit mine will expose people to harmful chemicals and significantly impact the Santa Ritas and the Santa Cruz River. According to its supporters, the mine’s \$1.7 billion investment will produce \$850 million in taxes, including \$170 million going directly to Arizona, and more than 400 direct jobs and up to 3,000 indirect jobs in the state.

To build “green infrastructure” like solar panels, electric vehicles, and wind turbines, the federal government promoted the development of new domestic mining for metals like copper, lithium, and manganese under the Biden administration. This has persisted despite concerns about mining, water use, and tribal ties to the land.

The environmental advocacy group Save the Scenic Santa Ritas (SSSR) is reviewing the terms of the permit closely, along with the CBD. Both SSSR and CBD spearheaded strong resistance to Hudbay’s previous Rosemont Mine proposal for a half-mile deep pit on the east side of the Santa Ritas. Hudbay moved its operations to the western slopes of the Santa Rita Mountains on private land once known as the Helvetia Mining District after legal issues stalled that project. Hudbay started preparing the property for the Copper World project’s tailing piles in 2022 by clearing land, building roads, and installing drill pads.

Hudbay, and several other mining companies operating in the Patagonia Mountains are extracting minerals from a biodiversity hotspot. Biodiversity hotspots number 36 areas worldwide that cover only 2.4% of the Earth’s surface but contain more than 60% of the planet’s terrestrial life forms. So, why are we letting them do this? To be sure, there is no upside for Madera Canyon, the Santa Ritas, or Las Ciénegas. Nor is there an upside for the health of the thousands of humans who inhabit the area.

If copper is so important there is another way to get it out

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of the ground, solution mining.

Open pit mining and solution mining are two distinct methods of mineral extraction, each with its own advantages and disadvantages. Open pit mining involves the removal of large quantities of “overburden” to access ore deposits located near the surface, while solution mining uses solvents to dissolve minerals and extract them from underground deposits. What miners call overburden, most of us would call ecosystems.

Open pit mining is characterized by its large-scale operations and relatively low operational costs. It allows for the extraction of substantial volumes of ore in a short period, making it economically viable for large deposits (Wang et al., 2019). The method is particularly advantageous for minerals located near the surface, as it requires less complex infrastructure compared to underground mining (Pysmennyi et al., 2022). However, open pit mining has significant environmental impacts, including habitat destruction, soil erosion, and water pollution from runoff (Guedes et al., 2021). The formation of waste piles and the alteration of the landscape can lead to long-term ecological consequences, necessitating effective reclamation strategies post-mining (Guedes et al., 2021; Chen, 2023).

In contrast, solution mining, also known as in-situ leaching, involves injecting a solvent into the ground to dissolve minerals, which are then pumped to the surface (Namin, 2023). This method is particularly effective for extracting soluble minerals such as potash and uranium, and it minimizes surface disturbance compared to open pit mining (Namin, 2023). Solution mining can be more environmentally friendly, as it often results in less waste generation and lower emissions (Namin, 2023). However, it is limited to specific types of minerals and requires careful management of the chemical solutions used to prevent groundwater contamination (Namin, 2023; Hou, 2023). It can be used to mine copper. JCM

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The Last Page



A Squash flower with small flies (Diptera) and a few beetles (Coleoptera). The insects are likely drinking nectar from the nectaries around the base stigmata. Photography by Rusty Lombardo.

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