

Native Plant Society of New Mexico Albuquerque Chapter

Rare Plants and Volcanic Surprises?

By Pam McBride



From Left: Curtis Miller, Jonathan Ice, George Miller, Doris Eng, Kent Condie, Pam McBride, Morgan Loven, Judith Phillips, Gary Runyan, Dana Price, Mona Price, Mike Price

Not shown: Philip Clark, photographer, Lenore and Larry Goodell, Ed and Mary Chappelle, Mary and Ted Pockman



It is a long trip out to the El Calderon Area located within the El Malpais National Monument, approximately 200 miles round-trip, but 19 participants found that it was well worth the effort on August 26, 2017. Over 60 species in flower were identified by Lenore Goodell, Doris Eng, and the author on a scouting trip on August 22. Several more were identified during the field trip or are still in the process of being identified.

The big hits were purple and white owl clover (*Orthocarpus purpureoalbus*), Bailey's rabbitbrush (*Lorandersonia cf. baileyi*),

Orthocarpus purpureoalbus

Purple and white owl clover

Photo © Pam McBride



Left and above, closeup of
Geranium lentum
Photo © George Miller



Geranium lentum, Mogollon Geranium
Photo © Pam McBride

Crestrub morning glory (*Ipomoea costellata*), a white geranium with reflexed petals, identified by George Miller as Mogollon geranium (*Geranium lentum*), and of course the cinders phacelia (*Phacelia serrata*).

Cinders phacelia grows in loose volcanic cinders in two disjunct regions in the U.S.: around the San Francisco Mountains (Flagstaff and Sunset Crater) and around the El Malpais National Monument. The stems are “characteristically stout, erect, sparsely hirsute and canescent-puberulent. The leaves are deeply serrate-dentate and the corolla is funnellform with vertical folds of scales within the tube” (Endangered, Threatened, and Sensitive Plant Field Guide 1998).

Adding to the enjoyment and education of the group, Kent Condie, professor emeritus of geology at New Mexico Tech, explained how cinder cones are formed and how lava tubes collapse. In addition to the many unusual plants the group was able to see in flower, a collared lizard and a horned lizard made an appearance. Most of the group hiked about 2 miles as well as the 0.8 mile El Calderon cinder cone loop and a few hardy souls hiked the entire 3.8 mile El Calderon loop trail, encountering plants like limoncillo (*Pectis angustifolia*), a groundcherry (cf. *Physalis virginiana* var. *sonorae*), and several *Ipomopsis*-scarlet gilia, many-flowered gilia, and long-flowered gilia that either weren’t observed on the first section of the trail or were only growing on the El Calderon cinder cone loop.



Phacelia serrata, Cinders phacelia
Photo © Pam McBride

Thanks to everyone who participated and made it such a wonderful experience!

A Visit to the McFadden Fire Lookout

By Sue Small
08/28/17

As host on the top of an Arizona mountain in the Tonto National Forest, Jim McGrath, excelled in hospitality at his summer McFadden fire lookout.

As always, he was willing to share his botany knowledge, and pointed out primroses that grew two feet high with flowers the size of coffee cups. Bracken ferns were tall enough to cover a 70 pound dog successfully playing hide and seek. Plants that looked to me like Mullein were correctly identified by Jim as Green Gentian, aka Monument plant and Pagoda plant.

With the monsoon rains, Jim had a bumper crop of mountain top ladybugs (*Hippodamia convergens*); these beetles thrive on aphids, yet will also eat pollen, nectar, and flower petals.



Jim McGrath at his McFadden Fire Lookout July 2017
Photo © Sue Small



Mountain top ladybugs

Photo © Sue Small

A shared highlight of the visit was drinking strong black coffee and watching lightning strikes on nearby mountains and clouds glowing with sunset colors.



Prickly poppy in Young, Arizona

Photo © Sue Small



Edward Abbey's Living Room on Aztec Peak

Photo © Sue Small

Jim drove his trusty pickup up, and up, and up to Ed Abbey's Aztec Peak lookout which was monkey wrenched with boulders arranged into a stone living room furnished with rock tables, chairs, and sofas.

What a way for a botanist to spend his summer and entertain his friends. Go visit him next fire season.

Sue and Moses at
Edward Abbey's living
room on Aztec Peak

Photo by Jim McGrath



Flower–Seed Quiz by George Miller

As autumn approaches, flowers fade and seeds dominate the plant's profile, which can bring a new challenge to species identification. Test your skills and match the flower with its seed.



1-Datura wrightii.



2-Glycyrrhiza lepidota



3-Ibervillea tenuisecta



4-Proboscidea parviflora



5-Tribulus terrestris



6-Astragalus crassicaarpus



7-Globeberry-7437



8-Jimson Weed



9-Devil's Claw



10-Wild Licorice



11-Groundplum



12-Goathead.

Searching Desert Willow Form

D. K. Stevenson
27 September, 2017

I thought it would be easy, finding a *Chilopsis linearis* (Desert Willow) in my new neighborhood, uphill and quieter than my former rented home a block from San Mateo and Candelaria. I found invasive similarly-shaped Russian Olives colorfully placed against evergreens, mostly Pinyon and Ponderosa pine. Very few desert willows. Even fewer with a nice form for a photo. Or two.

I was looking for photo to accompany Carolyn Dodson's poetic description and George Miller's beautiful closeup flower photos of the *Chilopsis linearis*, the Desert Willow. Enjoying nature on my quest.

Chilopsis linearis found! In public parks nearby. Waving in the blustery trailhead at Embudito, edging the emerald lawn at Sunset Canyon Park, shading natives in expansive (bearish?) vistas at the Oso Grande Pollinator Garden. The most photogenic *Chilopsis linearis* along a wash outside the fence. It made sense. This gorgeous tree was here and was the best photo subject, especially on a rainy day after a spectacular lightning show the evening before. With Rain.

The first *Chilopsis linearis* on the north side of the parking lot at Embudito reminded me of my days in Oklahoma, each photo showed the leaves billowing off to the left, a clear indicator of the wind direction and speed. The second, on the south end of the same lot, was lower growing and indicated a light breeze. Its seed pods hanging normally and in great abundance thanks to pollinators.

Sunset Canyon Park held the third group of *Chilopsis linearis*, a multi-trunked shrubs with a couple of flowers. This park had the most interesting groundcover in the beds adjacent to the street. I am fairly certain by the shape of these leaves and the lack of showy flowers that this is one of the Ragweed species. Let me know if you agree with me.

Another article idea came to my editorial brain. If *only* more people could identify their local plants and understand that landscapes need to be maintained by someone with plant ID (IDentification) skills, these allergenic species could be cut ground level before the seeds ripen (very soon!) Then replaced with a native groundcover.

Onward to Oso Grande Pollinator Garden. And the gorgeous panoramic view of the western Sandia Mountain range.

I braved the few sprinkles to walk through the Oso Grande Pollinator Garden under gray autumn skies. A light breeze framed a distant mountain skyline. Weather so different a short distance from 'those big rocks' my pilot father described. A different perspective.



Ragweed? OK, which one?
Photo © D. K. Stevenson 09/27/17



Chilopsis linearis behind damp dry wash,
Brickellia californica in foreground
Oso Grande Pollinator Garden fence to
right. Photo © D. K. Stevenson 09/27/17

Before I found The Tree at Oso Grande Pollinator Garden, I witnessed plenty of native purple asters for you to correctly ID on your fall garden visit. The individual plant signs are fading, making me wonder if I had a Sharpie, would I get into trouble for making the wording more legible on the signs? . . . Who maintains the signs? Other mostly seeded plants included *Sporobolus wrightii* (Giant Sacaton), *Brickellia californica* (California Brickelbush), colorfully-fruited *Opuntia* spp., blooming *Salvia darcy* (Mexican Red Sage), and an *asclepias* spp. with dry seed pods ready to fly on the next breeze. Wind? Not here. There may have been other bloomers, but I was on a mission and probably missed a few.

A short time into my stroll through the Oso Grande Pollinator Garden, there it was. The Tree. A *Chilopsis linearis*. A Desert Willow. Nice shape, few seed pods. In its happy place along the damp-fragranted wash. Satisfied I had at least one good old Kodak digital photo, I enjoyed my stroll through the rest of the garden before I got to work on this newsletter. A native plant photo Scavenger Hunt and nature walk. Something to do any time of the year.

USDA Plants New Mexico Pollinator Habitat reference: <https://plants.usda.gov/java/>

"Habitat Development for Beneficial Insects for Pest Management" lists plant families of insectory plants (plants that harbor beneficial insects – predator insects) and the pest to be controlled (aphids, for example). Appendix 2 is New Mexico Insectory Plants for beneficial insects. Unfortunately, they only listed the common *Asclepias tuberosa* in 2011, and do not have the all important '*Asclepias* spp. (many)' like the buckwheat family - *Eriogonum* spp. (many)
USDA Plants page: <https://plants.usda.gov/java/>

The tech note, "Habitat Development for Beneficial Insects for Pest Management", was published in 2011. It is a little hard to find. Here's how I found it:

1. I tried searching the document nam and tech note number , but the search didn't link to the right database.
2. Click on the NRCS pollinator references and documents--Updated under the Spotlight heading on the page. The link: <https://plants.usda.gov/pollinators/nrcsdocuments.html>
3. Search 'NM' to find the NRCS Pollinator Resources column header and click on the link, "Habitat Development for Beneficial Insects for Pest Management" and you can download the document. Here is the IP address for the pdf file: <https://efotg.sc.egov.usda.gov/references/public/NM/bio59%289-18-13%29.pdf>

Find all the *Asclepias* species found in New Mexico:

Start at the State Search on the USDA Plants database, <https://plants.usda.gov/checklist.html>

1. Enter '***Asclepias***' in the search criteria box
2. Check **New Mexico** in the filter by geography
3. Hit '**Enter**' to search.

President's Message

**Chicago!
Your airport has a problem!**

By George Miller
September 6, 2017

O'Hare needs bees.

I'm standing in Chicago's O'Hare International Airport and marveling at a revolutionary concept, at least for airports and office buildings. The Rotunda Building in Terminal 3 has an aeroponic garden to demonstrate how limited indoor space can be used to grow table greens and vegetables.

The room-sized garden features 26 towers with over 1,000 planting niches. Fertilized water drips from the top and recirculates to create a sustainable system which uses two-thirds less water than conventional irrigation. And no weeds. The climate-controlled interior allows year-round production, which is used by four airport restaurants.



Chicago's O'Hare Airport aeroponic garden grows herbs for restaurants in the terminal. Photo © George Miller

I'm visualizing a green revolution with bank lobbies offering customers green calories as well as greenbacks. Hotels, car dealerships, law offices, city buildings could supply fresh produce to shoppers, restaurants, grocery stores, farmers markets, and even homeless shelters.

The airport garden grows a bounty of Swiss chard, basil, dill, parsley, lettuce, and other herbs. But wait a minute! I look closer and don't see any squash on the squash plants sprawling across the floor. The habañero peppers and tomatillos grow lush and green, but no fruit.

Something is missing here. O'Hare needs bees.

Indoor, climate-controlled gardens are great for greens, but most plants require fertilizing to produce fruit. That means bees and other assorted insects, all absent from indoor gardens, a concept that apparently escaped the notice of the airport garden designers.

All the more reason to educate the public on the importance of insect pollinators and the problems with declining pollinator populations and habitat loss. With Albuquerque an official Bee City USA, city-sponsored pollinator week festivities at the BioPark Gardens and Open Space Visitor Center, and the Native Plant Society habitat landscape class and programs, public awareness is increasing.



Indoor gardens without pollinators can't produce fruit. Photo © George Miller

We can all do our part – if only to plant a little patch of sunflowers in our yards.

Plant Profile

Desert Willow, *Chilopsis linearis*

By Carolyn Dodson (cdodson "at" unm.edu)
9/7/17

This small tree, up no more than twenty feet high, has long, narrow willow-like leaves. In spring, showy purple flowers grow in pairs, filling the plant with color and fragrance. By early autumn long slender seed capsules dangle from the branches. In the garden, Desert Willows provide color and nesting sites for birds; along stream banks they are planted for erosion control. Indigenous people used the wood for bows and basketry. Although the leaves are willow-like, the plant is not related to willows.



Chilopsis linearis flower
Photo © George Miller



Chilopsis linearis flower
Photo © George Miller

Bees versus hummingbirds

The colorful streaks on the large, corrugated lower petal attract bumblebees, and once the insects land, the lines guide them directly to the nectar. The bulky bumblebees have a tight squeeze to fit inside the flower, however, so after three or four days of foraging they learn that it is easier to go to the back of the flower, cut a slit in the corolla, and rob the nectar without pollinating the flower. Clearly bees are not entirely satisfactory pollinators, but fortunately another resident nectar-eater appreciates the desert willow's offerings. Hummingbirds serve the trees well. With each feeding session their large feathery bodies carry away more pollen from the flower than a bumble bee, and they spread it farther afield.

An Ornamental Hybrid

Desert Willow is an attractive accent tree for Southwest landscapes. Recently Russian scientists developed the Chitalpa, a hybrid between the the *Chilopsis* of the Southwest desert and the *Catalpa* tree of eastern forests that combines some of he best features of both parents. *Chilopsis* for desert hardiness and color, *Catalpa* for larger blooms. The glossy, bright green leaves of the hybrid are wide and showy and the flowering period is much longer than that of either parent.

CONSERVATION CORNER

**National Wildlife Refuge 20th Anniversary
Celebration in New Mexico**

October 12 – 13, 2017

By Sue Small



**Collared Lizard at El Malpais
National Monument**

Photo © George Miller

Our National Wildlife Refuges in New Mexico host some endangered and threatened species of plants. For example, San Andres National Wildlife Refuge has two cacti which are endangered: the *Coryphantha sneedii* var. *sneedii*, aka Sneed Pincusion, and the *Echinocereus fendleri* var. *Kuenzler*, aka Kuenzler Hedgehog.

You'll find the threatened *Helianthus paradoxus*, aka Pecos sunflower at Bitter Lake National Wildlife Refuge. Our National Wildlife Refuges are important safe places for our New Mexico plants. Join the National Wildlife Refuges in October to mark the 20th anniversary of the National Wildlife Refuge System Improvement Act. This public event begins on Thursday, October 12, 2017, at Valle de Oro, and it's the start of a two-day celebration.

Congressional and local representatives, managers, and friends from New Mexico's National Wildlife Refuges will speak in the morning. Various groups will be tabling,

with refuge tours offered.

In the afternoon, the event moves to Sevilleta for a tour. (Housing at Sevilleta will be available for those who wish to stay the evening and continue to Bosque del Apache on Friday, October 13, 2017)

**Horned Lizard at El Malpais
National Monument**

Photo © George Miller



For more information, contact Sue Small: 505-208-1753, to_suesmall "at" hotmail.com and ArynLaBrake: 505-750-3383, aryn "at" friendsofvalledeoro.org
<https://www.facebook.com/20th-Anniversary-Wildlife-Refuge-Gathering-468448046875193/>

A border wall through Santa Ana National Wildlife Refuge?

By Sue Small

Santa Ana National Wildlife Refuge has been called the 'crown jewel' of the National Wildlife Refuge System.

Since 1943, it has protected the migratory bird routes. It is a primary destination for birders from throughout the world with 400 bird species.

It shares the butterflies and plants with the National Butterfly Center in Mission, Texas, just 19 miles away. There are 300 butterfly species at Santa Ana National Wildlife Refuge.

This area is at the tip of the US Central Flyway and is critical to annual bird migrations. Located along the Rio Grande River on the U.S. border with

Mexico in south Texas, the Santa Ana National Wildlife Refuge is an ecologically important area, encompassing 2,088 acres with 450 types of plants, including 50 acres of old-growth forest.

Santa Ana National Wildlife Refuge is part of the federal National Wildlife Refuge system. Unfortunately, the current administration has chosen this site for a border wall, skirting environmental reviews and legal challenges from private landowners.

A refuge provides sanctuary, a safe haven; cutting Santa Ana National Wildlife Refuge in half with a border wall negates this protection.

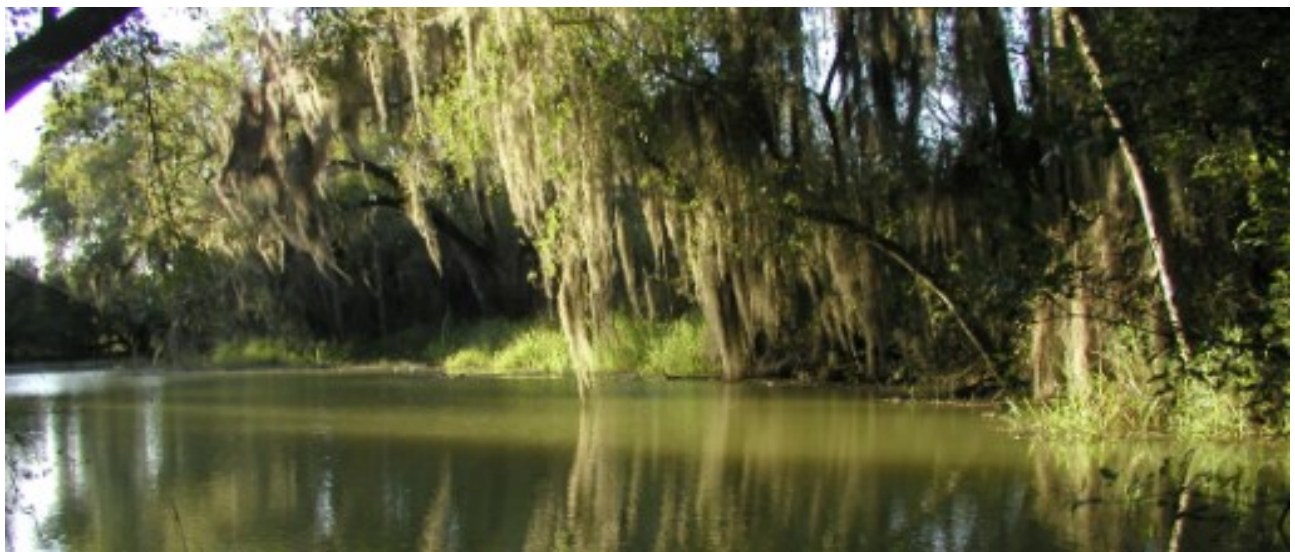
Find out more:

<http://refugeassociation.org/2017/07/santa-ana-national-wildlife-refuge-border-wall-through-the-refuge/>

<https://friendsofthewildlifecorridor.org/wp-content/uploads/2017/07/Fact-Sheet.pdf>

https://www.fws.gov/refuge/Santa_Ana/about.html

<http://refugeassociation.org/2017/07/santa-ana-national-wildlife-refuge-ground-zero-for-border-wall-expansion/>





Save the Date!

***Native Plant Society of
New Mexico
Annual Conference***

etcetera

The Native Plant Conservation Campaign (NPCC) is an organization of native plant organizations, among them Albuquerque BioPark.

Find out more: <https://plantsocieties.cnps.org/index.php>

The link below is a commentary on how native prairies (and undeveloped lands, low areas, bayous, etc.) can absorb floodwaters from hurricanes like Harvey and Irma. Unfortunately, rampant growth in Houston and lack of zoning ordinances requiring stormwater catchment basins coupled with a hurricane of historic proportions created a Perfect Storm. The issue is similar in Florida and other hurricane-prone areas.

Native Plants Could Have Saved Communities: As hurricanes devastate coastal communities, planners could have saved lives and property by conserving and protecting native plant communities.

September 25, 2017 <http://ymlp.com/zmseBr>

Historic use of common milkweed

The heroic milkweed, by Katherine Hauswirth, October 26, 2008. The Christian Science Monitor
<https://www.csmonitor.com/The-Culture/Gardening/2008/1026/the-heroic-milkweed>

Saving the Atala Butterflies: A Success Story

This guest post is by Susannah Nesmith, a Miami-based freelance writer (originally in Horticulture July/August 2017 issue): <http://www.hortmag.com/blogs/editors-blog/saving-atala-butterflies-success-story>

**NATIVE PLANT SOCIETY OF NEW MEXICO – ALBUQUERQUE CHAPTER
2017 ACTIVITIES AND EVENTS CALENDAR**

Scheduled monthly meetings are normally the first Wednesday of every month at 7pm in the NM Museum of Natural History, 1801 Mountain Rd. NW. For more info on programs, contact Jim McGrath at 505-286-8745 or sedges “at” swcp.com

October 4. Meeting. “What tree-rings tell us about historical fire occurrence on the west slopes of the Sangre de Cristo mountains, Taos, New Mexico” Lane Johnson, a historical ecologist with Bandelier National Monument and the New Mexico Landscapes Field Station (US Geological Survey), will talk about new tree-ring based fire history records for the Sangre de Cristo mountains east of Taos. Funded by the Taos Valley Watershed Coalition, a planning group of the Rio Grande Water Fund, the fire ecology project was designed to provide historical baselines of fire-related disturbance in three drainages that provide surface water to the greater Taos area. Lane will discuss methods for developing the 700-year fire history records using tree-rings, how these records are interpreted by fire ecologists, and why these natural records are valuable for critical decision making related to local and regional fire, forest, and watershed management.

November 1. Meeting. “Forty Years of Change in the Sunflower Bee Community in the Southwestern United States.” Catherine Cumberland, PhD student at UNM Biology, is conducting an historical ecology study of pollinators (bees) in the U.S. Southwest, including three sites in New Mexico. This study replicates surveys conducted in the 1970s, when a team of entomologists from the Smithsonian Institute and UC Berkeley sampled bees involved in native sunflower (*Helianthus annuus*) pollination. Survey locations have undergone a variety of changes since the 1970s: human population growth, development, and agricultural intensification have occurred in some areas, while at other locations the human population has remained static or declined. Ms. Cumberland is examining this gradient of anthropogenic impacts for correlation with changes in bee distributions, abundance and diversity. She received a \$1000 grant from NPSNM in 2016 to sample the New Mexico sites. Initial data suggest significant, ecologically important changes have taken place in the sunflower pollinator community.

December 2. Annual holiday potluck and officers election. Saturday, 11am-2 pm. Pam McBride's House, 5409 9th St. NW. Pam will provide some vegetarian posole. Everyone bring a dish to share. From I-25 going north, take the Comanche/Griegos exit. Go west to 4th street, turn right, go to the next traffic light at Douglas MacArthur and turn left. Go to 9th street and turn north. Our driveway is just past a small dirt road, Juanita Lane, on the left. The house is straight back. Park on 9th street and walk in.

Please note: We are planning next year’s field trips and programs. If you have ideas, please let Jim McGrath or any of the board members or core group of volunteers know.

Articles, photos, and news submissions for the Albuquerque chapter NPSNM Winter Newsletter should be submitted via e-mail to Diane Stevenson by Monday, December 18th, 2017 (distevenson331 “at” hotmail.com). Any mistakes you see in this newsletter are mine. *Thank you*

NPSNM Annual Grants and Awards Deadline: December 31, 2017

The Native Plant Society of New Mexico awards grants and makes donations to individuals and organizations that further the mission of the Society. Each year the deadline is December 31. More information is on this link: <http://www.npsnm.org/conservation/grants/>

Application for Science Teacher Award 2018: This award recognizes grade 6-12 science teachers who incorporate teaching about plants, plant science, or native plants in effective and inspiring ways. A one-time award of \$500 will be granted to the teacher, along with one free teacher copy and one free classroom copy of Jack Carter's book, Trees and Shrubs of New Mexico. Fill out the application form here: <https://www.npsnm.org/education/science-teacher-award-2018/>

Become an NPSNM Member:

Join at <http://www.npsnm.org/membership/>

NPSNM is a non-profit organization dedicated to promoting the conservation of native New Mexico flora. The Society, and its local chapters, work to educate its members and promote the conservation of our native flora so future generations may enjoy our valuable resource.

Membership Benefits

Members benefit from regional chapter meetings, field trips, an annual meeting, and four issues of the state newsletter each year. Some chapters also hold plant sales and annual seed exchanges and offer discounts on a variety of books providing information on native plant identification and gardening with New Mexico native plants.

Additional benefits to members include discounts on New Mexico Wildflower and Cactus posters.

Albuquerque Chapter Benefits

Members who show a valid NPSNM membership card

- Qualify for Plant World discounts without having to purchase a Plant World membership
- Receive a 10% discount at Plants of the Southwest
- Receive a 10% discount at Santa Ana Garden Center

NPSNM Albuquerque Chapter

Current Board of Directors – 2017

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