

# Santa Fe Extension Master Gardeners Newsletter

## The New Mexico Botanist's Enchiridion Updated

by Pam Wolfe

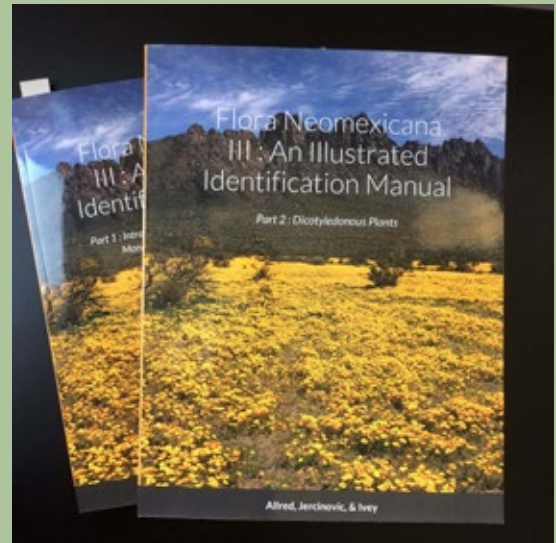
### Book Review

*Flora Neomexicana III: An Illustrated  
Identification Manual*, 2nd ed.

by Kelly W. Allred and Eugene M. Jercinovic

Illustrated by Robert DeWitt Ivey

Lulu, 2020



The long-awaited update to *Flora Neomexicana III: An Illustrated Identification Manual* came out in July of 2020. The manual is now in two volumes, printed on demand by Lulu (Morrisville, North Carolina). The dichotomous keys, organized by groups, families, and genera, attempt to include all taxa of vascular plants found in New Mexico. Each family is given a narrative description and references to publications that support the classification and nomenclature. Genera are similarly introduced. Following each genus key is a field-guide description of the species, including characteristics, habitat, and a small map showing the known distribution within New Mexico. Annotations indicate whether a plant is endemic, exotic, or a hybrid. Illustrations follow the key to each genus.

Allred describes *Flora Neomexicana III*, first published in 2012, as two books in one: Robert DeWitt Ivey's "exceptional line drawings [which appeared] in 5 editions of *Flowering Plants of New Mexico* (1983–2008) [combined] with our text and commentary." The illustrations integrate a botanist's grasp of diagnostic features with the illustrator's ability to render them clearly. An introductory section, *Illustrated Plant Parts and Terms*, shows the reader the difference, for example, between ovate and obovate, sessile and petioled, pubescent and hirsute. The next section, *Recognizing Common Families*, presents an array of diagnostic features including leaf patterns, floral patterns, and seed types. For example, illustrations for the Composite family include five types of achenes, five pappus types, and

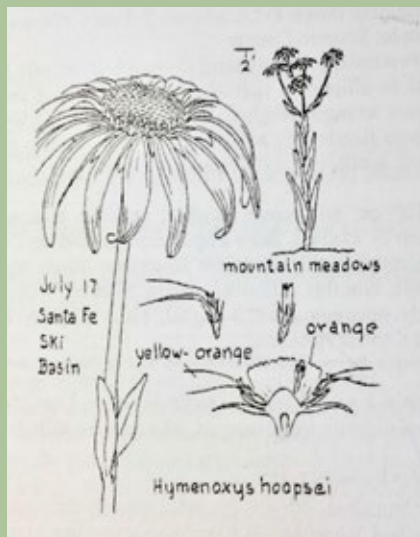
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*The New Mexico Botanist's Enchiridion*—cont. from page 1

two stigma types, with features magnified as through a 10x hand lens. This level of illustrative detail is maintained throughout the manual, with a smattering of field notes in the drawings that might include date, location, and colors. Renderings of grass inflorescence include notes to indicate which bracts are glumes, which are lemmas, which are paleas.

According to Missouri Botanical Garden's [angiosperm phylogeny website](#), assembling a glossary is always a challenge—what to include, what to omit? Allred made no changes to the eight-page glossary in the new edition. Some of the anatomical terms are illustrated in the front matter, but when you settle in for an afternoon of



Robert DeWitt Ivey's rendering of *Hymenoxys hoopesii* (sneezeweed)

sleuthing, it would be wise to have not only a hand lens, a scalpel, and some teasing needles to pull apart a specimen but access to an [online glossary](#); eventually you will probably have to look up a few terms that appear only in the keys.

Another notable challenge is keeping up with shifting taxonomy (oh, those [pesky taxonomists!](#)). The botanical

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Editor: Sarah Baldwin  
Art Director: Jannine Cabossel



community has been busily reclassifying plants, no longer based on visible characteristics alone but through genetics, using evolutionary relationships to determine the taxa. When Indian rice grass appeared in my Denver garden 20 years ago, it was called *Oryzopsis hymenoides*; formerly it had been *Stipa hymenoides*. To grow the same plant recently, I purchased seed for *Achnatherum hymenoides*; you'll find its description in *Flora Neomexicana III* under *Eriocoma hymneoides* (vol. 1, p. 204). For a more in-depth look at the scholarly discussions at play, see the half-dozen references given with the genus-level paragraph for *Eriocoma* (p. 203).

The two volumes describe 3,698 species and 4,060 taxa. "Perhaps 10 to 15 percent of the names/classifications changed," Allred told me via email. "In grasses, the percentage is undoubtedly higher, reflecting some intense molecular/DNA studies that have been ongoing. Obviously, if the change is at the genus level, then all the species in that genus end up having new/different names, as opposed to merely correcting a single species name. The number moved to different families (such as *Peganum* from Zygophyllaceae to Nitrariaceae) would be even lower."

The updated *Flora Neomexicana III* is a must-have guide for avid botanizers.

## What's in a Name?

The slender volume *Flora Neomexicana II: Glossarium Nominum*, third edition, by Kelly W. Allred (Lulu, 2020) offers a delectable treat to those of us who are more likely to remember a scientific name when we know what it means, or who simply take pleasure in knowing. The entries in the lexicon of New Mexico plant names range from short and sweet definitions;

**pilosella**, Latin *pilus*, hair, and *-ella*, the diminutive: finely hairy. *Siphonoglossa pilosella*;

to detailed short biographies:

**gertrudis**, for Elizabeth Gertrude Halbach Heller (1869–1939), wife of Amos Arthur Heller (q.v.), who both travelled extensively in the western United States, particularly in California, collecting numerous plants: they visited Santa Fe in the spring of 1896, collecting 350 numbers while exploring the region on bicycle. *Astragalus puniceus gertrudis*;

including the author's own:

**allredii**, for Kelly Wayne Allred (1949–), enthusiastic but often bewildered New Mexico botanist, raised in Steinbeck's California, educated at Brigham Young and Texas A&M universities, student of grasses (especially *Aristida* and *Bothriochloa*), southwestern plants, and mosses, professor at New Mexico State University 1979–2013. *Linum allredii*.

A wealth of information is packed into the 10-page introduction; skip that at your peril. Use the lexicon itself as a reference, or simply open to any page for discovery and enjoyment.

# Message from the President

by Wendy Wilson

As winter knocks on our doors and our gardens have succumbed to cold, the SFEMG board is busily planning for next year. You all elected brilliant board members: Karen Browne-Armijo, VP; Jennifer Pedneau, project coordinator; Stephen Schmelling, membership coordinator; Darlene Maestas, communications coordinator; Christine Hauschel, secretary; Bonnie Martin, member-at-large 1; and Susie Summers, member-at-large 2. We are still seeking someone for the role of education coordinator. We also need two leaders for the Tree Inventory Project.



2020 SFEMG Board President Wendy Wilson

Because of this odd year and its impact on volunteer hours, all Master Gardeners are eligible for membership next year. You will receive an invitation to join through SUG. Registration at the rate of \$25 begins mid-November and runs through December 31. Registration after December will continue through January at the rate of \$35.

There are some big changes coming for interns in 2021. The 2020 interns have been invited to retake the class at no extra charge to them. We've had positive responses from 45. We also have 60-plus new students interested. That's 100-plus possible interns! We are excited to welcome more Santa Fe gardeners to our membership.

Because of the uncertainty around COVID, we've decided to delay the beginning of the classes; registration will open on February 1, 2021, and classes will start on March 15. The 15-week course will consist of prerecorded presentations from the extension agents, available one week prior to the class to be viewed independently by interns. Attendance (viewing the video) and testing will be tracked through NMSU's Canvas program. The test results will be the basis for a Zoom-hosted class. Either an extension agent or our class leaders will lead a discussion followed by a question-and-answer period, with emphasis on the application of the lesson to horticulture in Northern New Mexico. Once interns have successfully completed the Soil Biology, Climate and Water, and Basic Botany and Plant Identification units, they will be allowed to sign up to work on all projects (including AAMG sites).

We are very grateful to Janet Hirons, Joy Mandelbaum, Laurie McGrath, and Bob Zimmerman for their years of dedicated service to our Master Gardener group. They have been wonderful leaders of projects as well as prior board members. Each has been instrumental to the functioning of the organization. They have been granted emeritus status starting in 2021.



# Introducing Kathy Haq, Incoming Editor of the SFEMG Newsletter

by Sarah Baldwin

Dual loves of nature and of the written word have informed many of Kathy Haq's life choices.



Though she grew up in the suburbs of Sparks, a city just east of Reno, Nevada, Kathy spent much of her childhood exploring the great outdoors. Her parents regularly took her and her older brother on camping trips to seaside locations along the West Coast, and the family spent their summers at Zephyr Cove (Lake Tahoe) and Easter week in Death Valley, California. Through these experiences, she gained an appreciation of the environment as well as knowledge of how to avoid some of its perils (in rattlesnake country, never put your hand above a ledge). Kathy's brother was fascinated by animals, and the family took in creatures ranging from lizards and magpies to a stray pheasant and even a baby alligator.

Journalism is also in the family bones. In the early 1900s, Kathy's great-grandfather founded the first newspaper in Kaw City, Oklahoma. Her grandfather continued in that business. In high school, Kathy edited the school's literary magazine and wrote articles for the local paper. She went on to major in journalism at the University of Nevada–Reno and began her reporting career at what is now the *Reno Gazette-Journal* upon graduation. It was here that she met her long-term partner, Marc Sani. She moved to Santa Fe in 1984 to join Marc when he became a speechwriter for then-governor Toney Anaya.

Her career includes working as a reporter for the *Albuquerque Journal* and for the *Santa Fe New Mexican* and in communications at Los Alamos National Laboratory, Philips Semiconductors, and the University of California, Irvine. At the latter, she was partly responsible for the campus's receiving *Sierra Magazine's* number one "Cool Schools" ranking multiple times for its sustainability practices. Along the way, Kathy got an MBA at UNM's Anderson School of Management.

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*Introducing Kathy Haq—cont. from page 5*

While the couple was dwelling in Dana Point, California, Kathy delighted in living on a monarch flyway and planted milkweed in pots to support the migrating pollinators. She also received certification as a volunteer naturalist through nearby Saddleback College.

Kathy and Marc moved back to Santa Fe several years ago. After seeing an ad for the Santa Fe Master Gardener training, she enrolled and completed the program in 2018. She also started volunteering at the Santa Fe Botanical Garden. These two experiences led her to create, with the help of a landscape architect, a lovely low-water pollinator garden at her property in the southeast part of town. (The June 2020 newsletter ran an article she wrote about her garden.)

Though she had intended to retire when she returned to Santa Fe, life had other plans for Kathy. Because of her dedication as a volunteer at the Santa Fe Botanical Garden, along with her many other qualifications, she has been asked to fill the part-time role of communications manager for the garden. She'll be doing that as well as serving as editor of the SFEMG Newsletter starting in 2021. Please join me in welcoming Kathy in this capacity. I know she'll do a great job.

## We Are Here to Help!

If you have a gardening question, Santa Fe Master Gardeners are available to help. Go to our [website](#), click on the Garden Questions? link, and pose your question. Someone will do research and get back to you.





## Woolly Paperflower (*Psilostrophe tagetina*)

by Ingrid Lincoln

In recent years I have discovered this small gem of a native wildflower. It's often overlooked, but come summer and early autumn the flowers always catch my eye, and I pause to marvel this rather inconspicuous perennial. Masses of shiny yellow blooms cover the basal rosette leaves, which attract nectar-pollinators, including bees and butterflies. The entire plant is covered with woolly, gray-green hairs that deter livestock, rabbits, and deer. Since it's also very drought tolerant and can take intense sun exposure, I wonder why we don't use it more in our gardens and landscapes. In early September around Abiquiu, I saw a beautiful plant arrangement of sage, desert four o'clocks, and woolly paperflowers intermixed.



Woolly paperflower is found at elevations ranging from 4,000 to 7,800 feet. I've observed that the higher the elevation, the smaller the plant. It thrives in dry, gravelly, sandy soils, disturbed areas, desert grasslands and scrub, and pinyon-juniper woodlands.

**Landscape use:** Border or specimen plant. Interplant with other wildflowers in meadows and native gardens. It adds nice texture and color in combination with other plants.

**Planting and care:** Direct sow the seeds in autumn in full sun to part shade. The plant self-sow freely on its own, especially in optimal conditions. Not much care required except to limit self-seeding in subsequent years.

**Propagation:** By seed. It will flower the second year.

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Woolly Paperflower —cont. from page 7

**Plant type:** biennial/short-lived perennial herb

**Bloom time:** April–September

**Size:** 4–20 inches tall and wide

**Sun:** full sun to part shade

**Soil:** adaptable, low fertility

**Water:** low

**USDA Zones:** 6–8

**References:**

Lady Bird Johnson Wildflower Center, [Psilostrophe tagetina](#)

Wildflowers of New Mexico, [Woolly Paperflower](#)

Photo by Russ Kleinman via Vascular Plants of the Gila Wilderness

## Free Seed Summit

In lieu of SFEMG’s Seed School Weekend, cancelled because of COVID, we’re excited to announce the Global Seed Summit, from November 17 to November 20. Presented by the Rocky Mountain Seed Alliance (creator of the Seed School curriculum) and hosted by Urban Farm U., this online summit will teach participants how to save seeds

and why the practice of seed-saving is critical to restoring biodiversity, to the resiliency of our food crops, and to creating a more food-secure future for yourself and your family. Videos of live sessions will be available, free, for 24 hours following each talk. Speakers, schedule, and registration [here](#).





# Backyard Bugs

## Zephyr-eyed Silkmoth (*Automeris zephyria*)

by Pam Wolfe

This handsome (or fearsome, depending on your perspective) animal is in the family Saturniidae, along with giant silkworms and royal moths. The family name comes from the type genus *Saturnia*, named for the Roman queen of the gods, Juno, whose alternate name was Saturnia, after her father Saturn. Its range appears to be quite limited. Images reported to [bugguide.net](http://bugguide.net) were captured in the mountains of central New Mexico; all observations are in Bernalillo, Lincoln, and Santa Fe counties. The [Moth Photographers Group](http://MothPhotographersGroup) has reports from Texas as well. Adult sightings have been recorded May through October east of the Rio Grande.



Larval stage of *Automeris* sp. (~5 cm), near Eldorado, looking for a warm place to overwinter? The Carolinas, perhaps?  
Photo by Jane Trusty.

The larvae are generalist in their food preferences, feeding on oaks (*Quercus*), mountain mahogany (*Cerocarpus*), and occasionally willow (*Salix*). They can be reared in captivity on such readily available plants as apple (*Malus*) and redbud (*Cercis*). Adults do not feed. The larvae spin cocoons to pupate over the winter in plant litter in pinyon-juniper forests. A mated female lays clusters of eggs on potential host plants in late spring.



*I want a garden that is an evolving habitat in which a balance is constantly being sought and found between responsibility and provisional control.*

—M.S. Merwin

# What's That Weed?

## Kochia (*Kochia scoparia* or *Bassia scoparia*)

by Sally Roberts

Kochia (KOH-sha) is yet another of those introduced, invasive plants that we call weeds in New Mexico. In 2016 the scientific name was changed from *Kochia scoparia*, in the Amaranth family, to *Bassia scoparia*, in the closely related Chenopodiaceae family. Through custom we still call it kochia in Northern New Mexico. Some other common names are summer cypress and Mexican fireweed. It is also referred to as tumbleweed, as it breaks off at the base and rolls with the wind like *Salsola tragus*, or Russian thistle, our predominant “tumbleweed” here.



From its native habitats in Europe and East Asia, Kochia was introduced to the United States in the late-19th century as an ornamental. It can be quite an attractive plant, even the strain we have here, because of its pyramidal, compact shape and height (up to four to seven feet), which makes it useful for hedges. It has two-inch leaves that are fuzzy underneath, with insignificant flowers in the leaf axils along the reddish stem, and it turns various red colors in the fall. It is an annual, reproducing only by seed, of which it generates a copious amount. There are wide genetic variations of this plant across the country. One of its major drawbacks is that it is allelopathic, meaning it secretes chemicals into the soil that inhibit the growth of other plants. It is used in revegetation efforts after wildfires.

Planted as a forage crop for livestock, since it grows well in arid and semiarid regions with poor soil and little moisture, kochia is still widely used that way, even though it can make livestock ill if too much is consumed. Wildlife have also adapted this plant for food and shelter purposes. Kochia seeds are valued as a wild food by foragers, which they process into *tonburi*, or “land caviar.”

Kochia is controlled agriculturally by using herbicides, generally preemergent ones applied in the fall, but it is becoming increasingly resistant to these chemicals. Mowing is effective in smaller areas if done before seeds develop and dry, but hand-pulling when the plants are young and have not developed their deep roots is the most effective domestic control without resorting to poisons.

### References:

Colorado State University Extension, [Fact Sheet 2124—Kochia and Russian Thistle](#)  
USDA NRCS Plant Guide, [Kochia](#)  
University of California IPM, [Kochia \(\*Kochia scoparia\*\)](#)

# New & Noteworthy

Have you recently read a plant-related article or book, visited a horticultural website or blog, listened to a podcast, or seen a nature show or documentary you think other gardeners would enjoy or find useful? Send a link to the newsletter (news.sfemg@gmail.com) and we'll include the information in the next issue. **Note that some of these sources may have paywalls.**

Botany One, [State of the World's Plants and Fungi: Does conservation policy help or hinder scientific research?](#), by Laura Skates

Botany One, [Your chance to give botany a voice in a fine art project](#), by Alun Salt

The Garden Professors, [Fall is for fungal fruit](#), by Jim Downer

Garden Rant, [Will gardening continue to trend?](#), by Elizabeth Licata

Netflix, [Kiss the Ground](#) (film about regenerative agriculture, narrated by Woody Harrelson)

*New York Times*, [Infected by a Virus, a Killer Fungus Turns into a Friend](#), by Katherine J. Wu

*New York Times*, [New England's Forests Are Sick. They Need More Tree Doctors.](#), by Marguerite Holloway

*New York Times*, [How Many Plants Have We Wiped Out? Here Are 5 Extinction Stories](#), by Marion Renault

Public Domain Review, [Fungi, Folklore, and Fairyland](#), by Mike Jay

Science Daily, [Cheaters don't always win: Species that work together do better](#)

Southwest Yard & Garden (NMSU), [A Pain in the Grass: Protecting Cold-Sensitive Plants over Winter](#), by Marisa S. Thompson

# The Garden Journal Radio Show

Every Saturday  
10–10:30 a.m.



Tune in to KSFR 101.1 FM on Saturday mornings from 10 to 10:30 to listen to a lively, entertaining, and informative gardening show.

Nov 07 SFEMG edition with host Karen Armijo and Cullen Hallmark on composting yard and food waste for better soil (repeat)

Nov 14 SFEMG edition with hosts Christine Salem and county extension agent Tom Dominguez discussing county extension updates

Nov 21 Soil Stories edition with host Carrie Core debuting a monthly program on regenerative agriculture

Nov 28 Home Grown New Mexico edition with host Christine Salem and Jannine Cabossel, the Tomato Lady, offering tips and techniques for next month's veggie garden; more info at [Giant Veggie Gardener](#)

Schedule subject to change. To listen to previous broadcasts, click [here](#).



## Calendar of Events

As our readers know, most garden-related public events in the 2020 season were cancelled because of COVID. Webinars and other online events continue to occur and are providing valuable information to gardeners. NMSU has two ongoing [webinar series](#). The Santa Fe Botanical Garden has also been offering online learning opportunities. We do not know when face-to-face events will be viable again, but please continue to check the SFEMG [website](#) and the websites of other organizations to see what's on offer.



### *Mission Statement:*

*Santa Fe Extension Master Gardeners is a non-profit volunteer organization whose mission is to learn, teach, and promote locally sustainable gardening through reliable, current research-based practices*

*New Mexico State University is an affirmative action/equal opportunity employer and educator*