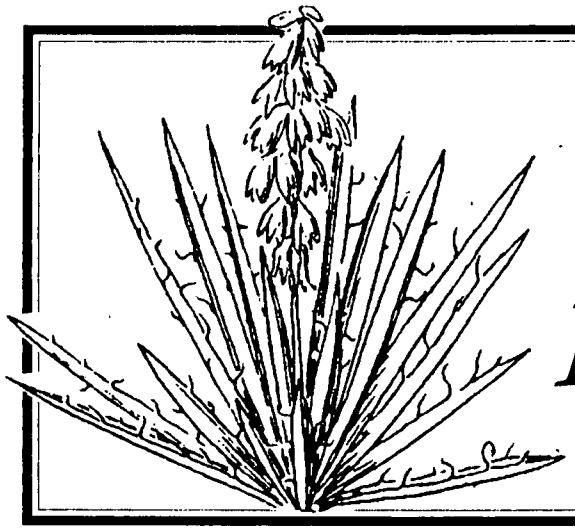

Native Plant Society of New Mexico

NEWSLETTER

July, August, September 2003 Volume XXVIII Number 3

COPING WITH DIFFICULT SOIL

Wynn Anderson

As I travel about the Southwest to meet with garden clubbers, master gardeners, and native plant groups, or when attending regional horticultural conferences, the most common question I encounter (after the ubiquitous and unanswerable "How much should I water?") is, "What can I do with my terrible soil?" My answer is always, "Simply live with it!"

But that response needs a little explanation. Most people want to miraculously change their poor, thin, rocky dirt or soggy, heavy alkaline muck into deep, rich, dark loamy earth — that mythical stuff made in earthworm heaven and simply taken for granted in almost every national gardening magazine. They want to amend their soils the way Jerry Baker suggests on the Home and Garden Channel.

Sure, I patiently explain, you can amend your soil. Adding sand and composted organic

Continued Page 4

Correction: In the last newsletter containing the Annual Meeting Insert, the phone number for the Best Western in Los Alamos was incorrect, as I'm sure many of you already discovered. For those who still need to make reservations, the correct number is 505-662-2441.

SOUTHERN ROCKIES BOOK SALES SOARING

Two days after displaying their first copies of *Southern Rocky Mountain Gardens*, Moby Dickens Bookstore in Taos sold out and asked for more. And the local alternative newspaper, *Horse Fly*, gave it a glowing review, saying, "The Taos area has too many landscapes requiring too much work and way too much water. For those smart enough to seek a better way, this book could be a useful start." Other Taos outlets include: Blossom's Garden Center, Cid's Food Market, Ace Garden Center, and Brodsky Bookstore.

Chick Keller sold a bunch of copies at Earth Day in Los Alamos, and arranged for the *Los Alamos Monitor* to review the book. And Mary Whitmore says a Las Vegas bookstore enthusiastically bought 25 copies "to start," and is planning a window display.

Santa Fe reports that 155 were initially sold to Agua Fria Nursery, Santa Fe Greenhouses, and Plants of the Southwest — and all have recently reordered, as have The Audubon Nature Center and a local bookstore. And Bob Sivinski, showing great marketing savvy, sold 80 copies to Santa Fe real estate agents who are giving them to clients. Books are also available in Alamosa, Colorado.

Add all the copies being sold at chapter meetings, and it's clear *Southern Rocky Mountain Gardens* is off to a great start.

By the way: In the book's credits we inadvertently omitted Melissa Haye Cserhat, the talented Taos designer who gave the book such a smart appearance. Many thanks, Melissa.

INSIDE

LETTERS TO THE EDITOR

Dear Editor,

The Article "Another Reason to Love Wal-Mart" in the most recent NPS Newsletter requires some clarification of the statement "the agency does NOT inspect any plant material." The USDA/APHIS does indeed inspect plant material (after all, the "I" is short for "Inspection"). I know this from personal experience because USDA/APHIS has inspected all the plants I have shipped to the mainland from Hawaii. Indeed, I could not have made the shipments without passing their inspections. Moreover, the day after I got your newsletter I received a box from the Park Seed company in South Carolina with a blueberry bush inside and a USDA/APHIS certification seal on the outside.

Regarding the specific subject of selling *Trillium grandiflorum* rhizomes, I have recently returned to New Mexico from the D.C. area and can elaborate on that subject as well. I have seen the same items for sale at Lowe's in Virginia, and I suspect that they are widely available beyond Wal-Mart. However, if you really want to get your hackles raised about exploitation of wildflowers, I suggest you check out the all-natural, organic farmers' markets around D.C., such as the one in Old Town, Alexandria, Virginia. There, I've seen such things for sale as (apparently) freshly dug lady slipper orchids. Now there's another reason to love farmers' markets!

Dan Benton
Albuquerque

Dear Editor,

Thought newsletter readers would be interested in the following, taken from the May 6th issue of *Landscape Management Magazine*:

The trade organization Professional Lawn Care Association of America wants "to create a positive message about the benefits of a well-maintained landscape." *Landscape Management*, a landscape and lawn care trade publication, writes that PLCAA is sponsoring a meeting next month to address "threatening issues" faced by the Green Industry. These include issues pertaining to pesticide and fertilizer use, air pollution and water restrictions.

PLCAA Vice President for Government Affairs, Thomas Delaney, recently told the PLCAA Board of Directors, which includes representatives from lawn care business and the pesticide industry, the "Green Industry and particularly the lawn care sector is under attack here in the United States and in Canada because of misinformation propagated by zealous activists.

More web links related to this story are available at: http://www.prwatch.org/spin/May_2003.html#1052193605. To discuss this story in the PR Watch Forum, visit: http://www.prwatch.org/forum/discuss.php?id=1052193605

Chuck Fawns
Taos

Editor: I guess those "zealous activists" include us. Keep in mind that the lawn care industry is a $30 billion dollar a year business — so it's not surprising that they are reacting to our message. I take this as proof that our efforts are having a very positive effect.

RECYCLING DONATIONS NEEDED

The Southwest Environmental Center's annual Recycled Goods Sale is July 19th in Las Cruces. SWEC is looking for donated items — things too good for the landfill and still good enough to sell — to support their mission to protect and restore the unique natural heritage of the Southwestern borderlands. Bring suitable items: clothes, furniture, books, appliances, glassware, tools, etc., to SWEC at 275 N. Downtown Mall at the Las Cruces Avenue intersection with the Mall. For more information, contact Kevin Buggie at 505-522-5552.

This **NEWSLETTER** is published quarterly by the Native Plant Society of New Mexico, a nonprofit organization, and is free to members. The NPSNM is composed of professional and amateur botanists and others with an interest in the flora of New Mexico. Original articles from the Newsletter may be reprinted if attributed to the author and to this Newsletter. Views expressed are the opinions of the individual authors and not necessarily those of NPSNM. Manuscripts and artwork are welcome and should be submitted to the editor:

POBox 607, Arroyo Seco NM 87514
andrzej@laplaza.org

Deadline for next issue is Sept 1st 2003

Membership in the NPSNM is open to anyone supporting our goals of promoting a greater appreciation of native plants and their environment and the preservation of endangered species. We encourage the use of suitable native plants in landscaping to preserve our State's unique character and as a water conservation measure. Members benefit from chapter meetings, field trips, publications, plant and seed exchanges, and educational forums. A wide selection of books dealing with plants, landscaping, and other environmental issues are available at discount prices. The Society has also produced two New Mexico wildflower posters by artist Niki Threlkeld and a cacti poster designed by Lisa Mandelkern. These can be ordered from our Poster Chair or Book Sales representative.

Proofreaders: Jane Mygatt, Beryl Schwartz, Donna Stevens, Sally Wasowski, Jackie Tamas and Ann Ellen Tuomey.
Mailing: Carolyn Gressitt

NPSNM Membership Application

Name(s) _____

Address _____

City _____ **State** _____ **Zip** ____

Telephone _____

E-Mail/Fax _____

I (we) wish to affiliate with the checked chapter

- __ **Albuquerque**
- __ **Carlsbad**
- __ **El Paso, TX**
- __ **Gila (Silver City)**
- __ **Las Cruces**
- __ **Otero**
- __ **Sacramento Mts (Ruidoso)**
- __ **San Juan (Farmington)**
- __ **Santa Fe**
- __ **Taos**

I am interested in forming a new chapter in

_____

Annual Dues:

Individual or Family.....	$20
Friend of Society.....	$30
Supporting Member.....	$50
Sponsor.....	$100
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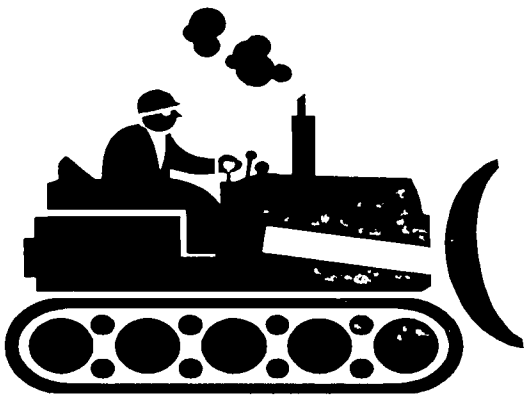
Endowment contribution $_____
Total $_____

Make your check payable to
NPSNM
and send to
Membership Secretary
P.O.Box 2364, Las Cruces NM 88004

Cont'd from Front Page

matter to heavy clay, or adding clay and more compost to windblown sand, might lighten it or thicken it a little. Or, you can simply cope with caliche or gooey clay by using raised beds and creating your own perfect "*Southern Living*" planting mix. Unfortunately, both options can be a lot of work, expensive and, unless done right, of limited success on a large scale.

The key words desperate people pick up on are "done right." What does that mean?



If amendment is your chosen solution, it means taking a bulldozer or front end loader to your whole landscape and removing all (2 or 3 feet) of that seemingly barren stuff in which you can't get magnolias, azaleas or pansies to grow. To do otherwise, (i.e., digging holes and amending or replacing the native soil each time you plant something) is the equivalent of simply planting everything in a whole series of underground pots. Plants are no dummies----they are going to keep their roots in that hole filled with wonderful, yummy soil mix and never venture into the nasty, wild native dirt that surrounds them. That's a prescription for trouble. The growing roots of respectable plants will stay within their "comfy" pot simply circling around and around and, ultimately, a root bound tree and shrub may simply choke itself to death if it doesn't pop out of the ground with some moderate Southwestern 40 mph breeze.

The abrupt interface of two vastly differing soil types inside and outside the planting hole also creates an artificial barrier to normal movement of water through the soil and may interfere with proper drainage so that, without careful attention to irrigation, you can easily drown or, alternately, dry out your plant. In either case it makes for sickly, if not dead plants. Finally, sooner or later, all that yummy organic stuff you added is going to be all used up and you may well have to resort to excessive chemical fertilizers to keep the plant going.

The conclusion that is easily reached by most is that wholesale amending of the soil in the landscape is really only feasible for special situations, usually involving shallowly rooted annuals or short lived perennials – a few pansies if that reminds you of grandmother, or a modest vegetable or cut flower garden.

What about the other alternative — raised beds? Raising the soil level can be a last resort, and again, will provide for a must-have "color" bed of horticulturally engineered 6 pack bedding plants or for growing those satisfying but $10-a-pound tomatoes or other vegetables. Anything larger, especially trees and shrubs, must have room, breadth as well as depth, for healthy root structure.

Raising the soil level to any meaningful degree will also alter existing drainage which may not be a minor subject with your neighbors. On any large scale, terracing and/or construction of soil retention structures is usually required. Professional engineering or design services may be needed to comply with local codes, if not to achieve an attractive result. I must observe that a do-it-yourself installation of a 2-or 3-foot high maze of old railroad ties can often be politely described as an aesthetically challenged landscape.

So, what's the answer? Natives, of course. Take a look at what grows naturally wild in the area around you or in similar areas in the region. Work with, not against, Mother Nature by using the plants that she has adapted to your difficult soil.

A stony caliche ridge ablaze with the miniature, golden, daisy-like flowers of evergreen, shrubby Dogweed (*Thymophylla acerosa*), a sandy wash brightly highlighted by white masses of Sand Penstemon (*Penstemon ambiguus*), or marshy alkaline flats softened by waves of Salt Grass (*Distichlis spicata*) are just hints of what can be achieved by using plants native to those difficult soils in problem landscapes.

In one or more future articles, we will explore some specific native plants suitable for use with specific difficult soil types that New Mexico gardeners may face.

Wynn Anderson is curator of the Chihuanuan Desert Garden at UTEP and VP of NPSNM.

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Send Membership Dues & Changes of Address to:
Membership Secretary,
P.O.Box 2364, Las Cruces NM 88004

"The less diversity of habitat the landscape offers, the less space there is for the creatures that once lived there. America's clean, spare landscaping has devastated our ecology."
Sara Stein

Grass Workshop

August 14-16

Identification & Taxonomy of New Mexico Grasses
Instructor: Kelly Allred
New Mexico State University, Las Cruces
Classroom Work and Field Trips
For more info or to register, contact Nancy Daniel (505) 988-9141

Registration is Limited

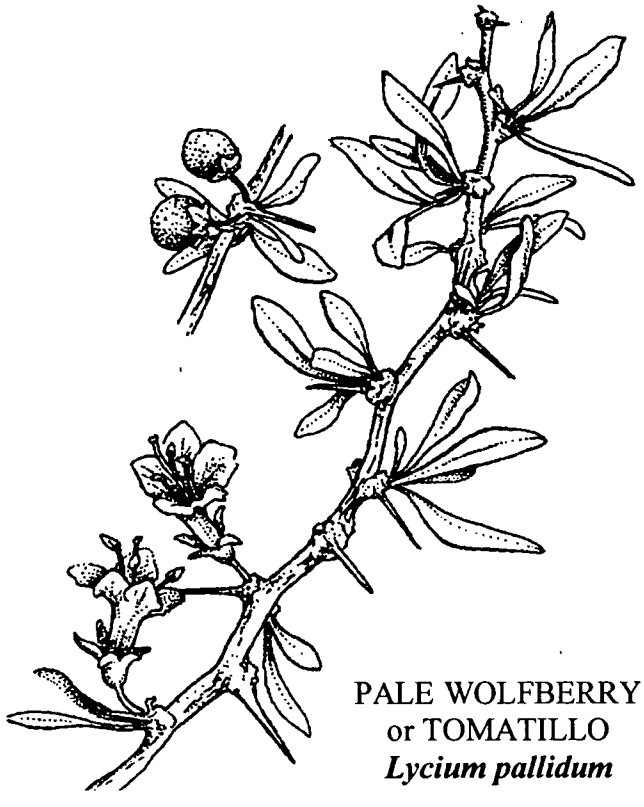
SOULFUL SOLANACEAE

by Donna Stevens

This article is the second in a series about flowering plant families. Knowing the characteristics of the major plant families is essential for learning the native flora.

Even many botanically-challenged folks recognize Sacred Datura, also known as Jimsonweed or Thornapple. Sacred Datura's scientific name is *Datura wrightii*, and it belongs to Solanaceae, the potato or nightshade family. Because the Sacred Datura flower is so large, it's ideal for demonstrating family characteristics.

Examine a datura flower, and you'll find parts in fives: five sepals (the usually green, leaf-like structures under the petals), five petals, and five stamens.



PALE WOLFBERRY
or TOMATILLO
Lycium pallidum

Illustration by W. J. Underwood, from
Trees and Shrubs of New Mexico by Jack L. Carter

In the Solanaceae family, the number of flower parts is an identifying characteristic, although these parts can be arranged somewhat differently. Sepals can be separate or attached to each other. Petals are united, at least at the base, or along their entire length, as in datura. Each of the five stamens is attached to a petal. The flower shapes in Solanaceae are highly variable. Some flowers have very long, narrow floral tubes, like Sacred Datura and the Pale Wolfberry. Others are bell-shaped with very short tubes. But all have five sepals, petals, and stamens, and all are "regular," or radially symmetrical.

The leaves in the Solanaceae family are usually alternate, and the fruits are either berries or capsules. Most Southwestern members of this family are herbs, although there are some shrubs.

Are there any families you could confuse with Solanaceae? Naturally! The morning glory family, Convolvulaceae, also has alternate leaves, flowers with five sepals, five united petals, and five stamens attached to the petals. But morning glories are mostly vines, and there are few vines in Solanaceae. And the petals of Convolvulaceae flowers are twisted in the buds, a trait not seen in Solanaceae.

You are probably more familiar with Solanaceae than you realize: ever eaten a tomato, potato, eggplant or chile? All are nightshades. Besides these delicious edibles, there are many poisonous family members, too: tobacco, belladonna, and datura.

Southwestern members of Solanaceae include the following genera: *Physalis* (tomatillo or ground-cherry), *Nicotiana* (tobacco), *Lycium* (wolfberry), and *solanum*. The genus *Solanum,* from which the family takes its name, includes potatoes and eggplants and also some common native weedy species such as Buffalo Bur, Melonleaf Nightshade and Silverleaf Nightshade.

Note: NPSNM's most recent T-shirt, designed by President Lisa Mandelkern, features a member of the Solanaceae: the beautiful but deadly Sacred Datura.

Donna is VP of the Gila Chapter and curator of the Jack L. Carter Herbarium in Silver City.

GOOD INTENTIONS, BAD INPUT

Excerpted from Sally and Andy Wasowski's book, *Requiem for a Lawnmower*, 2nd Edition, available Fall 2003.

I recently came across an ad from the National Arbor Day Foundation, aimed at attracting new members. The ad offered to send me ten flowering trees if I sent them a $10 membership fee.

The trees offered were: two flowering dogwoods, two flowering crabapples, two goldenraintrees, two Washington hawthorns and two American Redbuds.

Flowering dogwood (*Cornus florida*), Washington hawthorn (*Crataegus phaenopyrum*), and the redbud (*Cercis Canadensis*) are suited to various parts of the eastern U.S., from New England down to the Florida panhandle, and into the midwest.

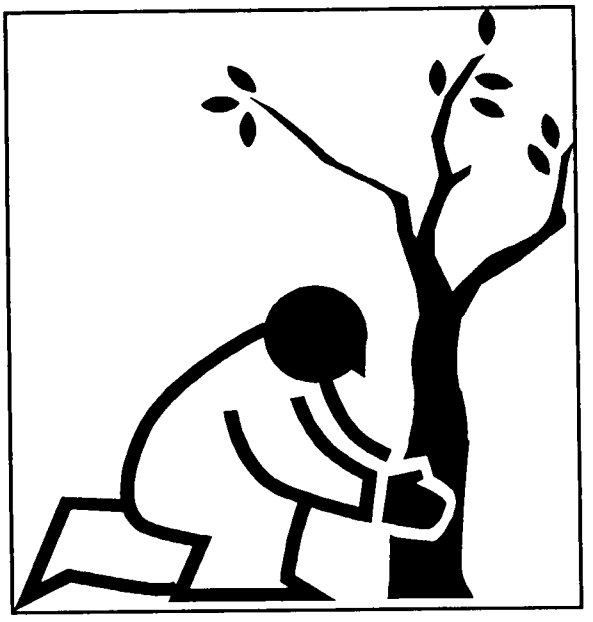
There are several crabapples in the *Malus* genus; *Malus Ioensis*, known as the prairie crabapple, is also suitable to the midwest.

Bougainvillea goldenraintree (*Koelreuteria bipinnata*), while native to China, will grow in southern New Mexico as long as it gets sufficient water. But we're in a long-term drought, so water-guzzlers are not welcome. But what if I lived in, say, Ohio, Illinois, Indiana, Kentucky, Maryland, New York, North Carolina, Pennsylvania, Virginia or West Virginia? The USDA warns that goldenraintree can escape into the wild in those states, and some people consider this tree a potential invasive — certainly a pest!

I couldn't help but wonder if NADF would send me those same trees if I joined – even though they were not appropriate for New Mexico. Or, would someone notice my address and offer me better options? Well, there was only way to find out, so I sent in my ten bucks.

Healthy Trees, Healthy Us.

Trees are among the most majestic creations on the planet. Have you ever stood next to a giant redwood, or hiked through an old-growth forest, or flown over New England in the autumn? But there's more at stake than aesthetics. We need



good healthy trees so we can go on being healthy ourselves, so all that carbon dioxide produced by cars and industry can be converted into oxygen. In Al Gore's *Earth in the Balance*, he wrote, "Forests represent the single most important stabilizing feature of the earth's land surface, and they cushion us from the worst effects — particularly those associated with global warming — of the environmental crisis."

Right Trees, Wrong Trees.

While the plant-a-tree movement is strong and well-intentioned, all too often it results in the wrong trees getting planted.

There are two types of wrong tree: the kind that is good in its rightful place but ill-adapted where it is being distributed, and the kind that is short-lived and trashy no matter where you plant it. Either takes up space, wastes precious water, and then in a few short years — sometimes in just a few months — dies and produces methane and carbon dioxide as it rots. The wrong tree makes the problem worse, not better.

You've probably seen that bumper sticker that says, *Trees Are The Answer.* It's a good thought — as far as it goes. But, to be more effective, it ought to read, ***Native** Trees are the Answer!*

Editor's note: Alas, as of the day this newsletter went to the printer, I had not yet received my trees or a call offering me better options. So stay tuned; I'll update this report in the next issue.

Scarlet Gilia

Ipomopsis aggregata

by Carolyn Dodson

A spectacular sight in the Southern Rockies is a colorful hillside of scarlet gilia. Inch-long showy red trumpets hang in elongated clusters on slender three-foot stalks. Like the other members of the Phlox family, five petals join in a tubular structure protected within a cup of five united sepals. The recurved corolla lobes are spotted with yellow. A basal rosette of finely divided leaves appears the first year of this biennial plant which in the following year gives rise to a flowering stalk with gray-green narrowly segmented leaves. The sticky glands covering stems and leaves emit an unpleasant skunk-like odor. This striking plant grows in dry open areas throughout the Rocky Mountains from British Columbia south to Mexico, blooming from May to August.

The great variation in flower color, length of stamens, and corolla shape led at one time to segregation into 12 species. Today botanists consolidate these into one species, with four subspecies native to New Mexico: *I. a. aggregata, I. a. candida, I. a. collina,* and *I. a. formossima.*

A plant with a striking resemblance to scarlet gilia is scarlet penstemon, a two-foot tall, narrow plant with inch-long brilliant red, tubular, dangling flowers. Since both grow in similar habitat and are seen from a moving vehicle, the two are nearly indistinguishable. Up close, however, you can see that the penstemon has round corolla lobes and narrow, lance-shaped leaves. Scarlet gilia flowers have sharply pointed lobes and finely divided leaves.

Many Names

The various Latin names given to this plant since discovery reflect its complex taxonomic history. The first specimen was taken in 1806 in northern Idaho by the Lewis and Clark Expedition, and arrived back east merely as "a wretched scrap," according to a later botanist. Even so, E.T. Pursh was able to determine it was a species new to science and gave it the binomial name, *Cantua aggregata,* indicating the close resemblance to plants in the *Cantua* genus, but distinct in that the flowers were aggregated. Two decades later closer examination revealed its relationship to the genus *Gilia*, thus the name changed to *Gilia aggregata.* More recently, Californian botanist Verne Grant's finding that the plant belongs with others in the genus *Ipomopsis* on the basis of morphological, chromosomal and biochemical evidence is accepted by most experts.

Scarlet gilia is also known by several common names such ruby honeysuckle, scarlet bugler, skyrocket, and hummingbird flower. To add to the confusion, these names are applied to other red, tubular-shaped flowers. Even the pronunciation of the principal common name is perplexing. Because the plant is Southwestern, and gilia looks like a Spanish name and indeed was named by a Spanish botanist, one often hears the pronunciation "hilia." In fact, the correct pronunciation of this word is with a soft "g" since it is named in honor of an Italian botanist, Philippe-Louis Gili (1756-1821).

Drawing by Robert Dewitt Ivey

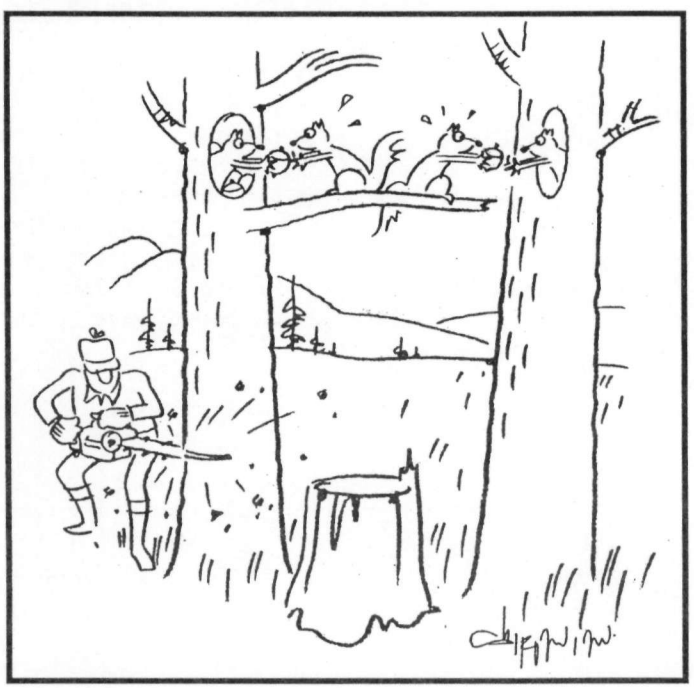
Hummingbirds and Scarlet Gilia

The flaming red, tubular flowers are hummingbird magnets. In a landscape, a mass of these plants in bloom creates a hummingbird garden. Scarlet gilia is a particularly favorite nectar source for migrating Rufous Hummingbirds returning along the Rockies to wintering grounds. :

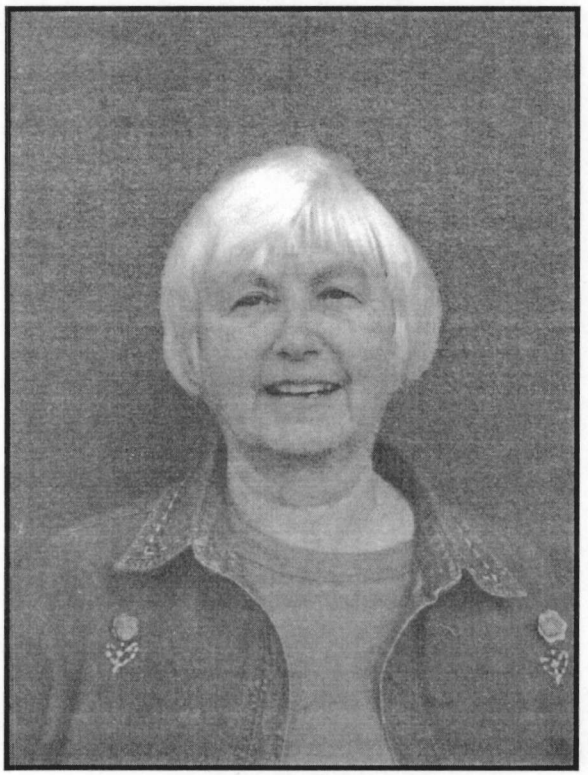
Scarlet gilia even manages to thrive and reproduce at high elevations above the hummingbird routes by relying on hawkmoths for pollination. It attracts these insects with pink or even white flowers that, unlike the scentless red varieties, emit a sweet aroma in evenings. This strategy is effective because hawkmoths forage for nectar late in the day, after their avian enemies roost for the night. In the dim light, pale-colored flowers show up better than red, and the near blind moths rely more on their acute sense of smell than sight for their nourishment.

Native American Uses

Of course, the scarlet gilia plant was known to the successive Native American tribes, and then to the European settlers (after the Lewis and Clark Expedition returned with the "wretched scrap" of a specimen.) The indigenous people and settlers recognized the local plants, named them, and knew their uses. Hopi hunters ate the dried plant for good luck in hunting antelope which browse on it. Utes suck nectar from the flowers, calling them Indian candy. Local Native Americans of the Northwest used *I. aggretata,* or "*timpiute*" in their language, to treat venereal diseases and for other medicinal purposes. This fact prompted a laboratory study carried out on mice by the federal government in the 1940s that showed a possible antibacterial function of dried plant material. Recently a terpenoid substance isolated from scarlet gilia has exhibited antitumor properties. ü



VOLUNTEER PROFILES



Taos Chapter

Several years ago, Judy sort of inherited the project to eliminate noxious weeds from Baca Park here in Taos from some equally committed members of our Taos chapter. She has almost single-handedly (with occasional help from other volunteers) and with awesome determination continued to return vast meadows to native plants by removing thistles, thousands of them, burdock and other invasives.

Last year she secured a grant from the Town of Taos to eliminate more noxious weeds and plant native grasses and trees in their place. She organized this effort, turned out a whole slew of volunteers, and was able to earn our chapter $800 toward this effort while continuing her weed removal efforts.

Fighting noxious weeds on another front, Judy serves on a local committee that advises various governmental agencies on methods to eliminate invasive while respecting the health needs of the community.

Our hats go off to such a dedicated member engaged in these critical activities.

Betsy Robertson

Who in your chapter deserves recognition for his or her work on behalf of NPSNM? Send a short description and photo to Editor, PO Box 607, Arroyo Seco NM 87514

Chapter Activities & Events

ALBUQUERQUE

Programs at Albuquerque Garden Center, 10120 Lomas NE, 7 PM.

July 10. *"Water Conservation Issues on the East Side of the Mountains."* Jeanne M.P. Lubbering, Watershed Specialist and Greg Smestad, Natural Resource Conservationist of the Edgewood Soil and Water Conservation District.

July 13. Field Trip TBA, Wildflower Walk with Pearl Burns.

August 2. Garden Tour, Old Town and West Albuquerque Xeric and Native Plant Gardens led by Gary Runyan. 8 AM to noon. Meet at the Natural History Museum at Mountain and Old Town.

August 15. Set-up for Plant Sale, Pinon and Patio Rooms. 11 AM to 5 PM.

August 16., Annual Plant Sale, Pinon and Patio Rooms 9 AM to 4 PM. Speakers: 10 am David Cristiani, Landscape Architect 1 PM Judith Phillips, Landscape Designer and Author of several books on Landscape Design.

September 4. Plant Identification Workshop. Led by Gene Jercinovic and DeWitt Ivey.

CARLSBAD

August 23. Field Trip to Dragonfly Festival, Bitter Lake National Wildlife Refuge. Sandra Lynn: 505-234-1772

Date TBA. Book Party in Artesia where the NPSNM book inventory lives! Call Sandra, or Lisa Johnston 505-748-1046.

EL PASO (Texas)

Programs 2nd Thursdays at the Centennial Museum on the UTEP campus, 7 PM.

July 10. *"Classification of Flowering Plants from Linnaeus to the Present."* Dr. Ed Freeman, Biological Sciences, UTEP.

Aug 14. *"Otero Mesa"* Greta Balderrama, New Mexico Wilderness Alliance, Las Cruces. (Topic subject to change).

September 11. *"Ants of the El Paso Area."* Dr. Bill Mackay, UTEP.

Early September. A field trip is tentatively scheduled to the Chiricahua Mountains, AZ. Details TBA.

GILA (Silver City)

Programs at Harlan Hall, WNMU Campus, 7 PM. Field trips meet at 8 AM in south parking lot of WNMU Fine Arts Center.

July 20. Field Trip. Georgetown townsite and Cemetery on CMR 73 past Hanover. Easy hike.

August 17. Field Trip. Sheep Corral Canyon, north of Silver City. A moderate hike.

September 19. Program TBA

September 21. Field Trip. Sacaton Creek in the Mogollon Mountains. Easy to moderate hike.

LAS CRUCES

Programs 2nd Wednesdays in Conference Room of the Social Center at University Terrace, Good Samaritan Village, 3011 Buena Vida Circle at 7 PM.

June 11. *"Las Cruces Flora."* Lisa Mandelkern.

June 14. Walk in Caballo Mts. John Freyermuth and Carolyn Gressitt will lead us on a mostly driving trip to Sierra Co. Meet 8 AM at North Main K-Mart parking lot. Bring water, lunch and sun screen.

July 9. *"Native Plant Slide Show."* Orville Wanzer from the Institute for Historical Survey Foundation. Help us identify some mystery plants and creatures!

August 16. Walk in La Luz Canyon. Terry Peterson will lead us on this mostly driving trip to the Sacramento Mountains. Meet 8 AM at the North Main K-Mart parking lot Bring water, lunch and sunscreen.

September 10. *"Plant Communities of the Guadalupe Mts. and the Carlsbad area."* Charles Galt.

September 13. Walk in Yucca Canyon. Charles Galt will lead us on a day trip to Carlsbad Caverns National Monument. Meet 6 AM at Pan Am Center parking lot on University Ave. Bring lunch, sunscreen, water.

OTERO

July 19. Field Trip. Benson Ridge Hike -- Wildflowers and scenery. Contact Don Tribble, gecko@netmdc.com or 505 585-9017.

August 23. Field Trip. Annual White Sands Missile Range Tour and its botanical aspects; led by missile range botanist, Dave Anderson. Four-wheel vehicles required and limited participation. Contact John Stockert, email or phone (best) 505 585-2546.

SACRAMENTO MTS. (Ruidoso)

July 26. Program & Field Trip. *"Regional Flora."* Jack Carter. 10 AM at Cloud Country Party Barn in Cloudcroft followed by a hike in the Cloudcroft area.

August 16. Field Trip. Eagle Creek hike. Presentation and hike at Eagle Creek area led by Linda Barker, U.S. Forest Service. Meet at 8:30AM at Nob Hill to car pool.

September 20. Program & Field Trip. *"Adaptations of Desert and Alpine Plants to their Environment"* followed by hike to Scenic Trail off Ski Run Road. Carolyn Dodson. 9 AM. Nob Hill School Hosting Otero NPS Chapter. Contact: Charles Wood @ 505.437.8284.

SAN JUAN (Famington)

July 19. Field Trip to Vallecito, Colorado; will include a look at the recovery of vegetation after last summer's fires.

August 16. Field Trip to the Purgatory, Molas Lake, Old Lime Creek areas in Colorado.

September 20. Local field trip with invasive plant focus led by Frannie Miller.

SANTA FE

No summer programs. Field Trips only.

July 12. High Plains specialties at either Gallinas Canyon, El Porvenir, or Gascon (depending on bloom). Mary Whitmore 454-0683 (whitmore@newmexico.com). Meet 8 AM, Santa Fe, PERA parking lot, or 9 AM, Las Vegas under the tree by the Roundhouse on South Grand. Moderate hiking.

July 26. Hike up Canon de Valle, a secluded canyon behind Los Alamos. Easy walk. A nice selection of wildflowers of the ponderosa and mixed conifer forests. Led by Dorothy Hoard, 662-2662 (dorothyH@swcp.com). Meet 8AM Santa Fe--PERA parking lot or 9 AM at Sullivan Field parking lot, Diamond Drive at Central Ave., Los Alamos.

August 22. White Mesa Gypsum Plants and Rio Salado Halophytes. We will also walk along the adjacent Rio Salado to marvel at the many salt-tolerant plants. Easy walks. Led by Bob Sivinski. Meet 9 AM at PERA parking lot to carpool.

September 13. Star Hill site in Las Dispensas Canyon -- Special area at owner's invitation, late summer Front Range bloom--Led by Mary Whitmore (see above). Moderate hike. Meet 8 AM, Santa Fe, PERA parking lot, or 9 AM, Las Vegas under the tree by the Roundhouse on South Grand.

TAOS

Programs 2nd Wednesdays at San Geronimo Lodge, 7 PM.

July 9. *"Native Plants & Disturbed Areas."* Anna Dominguez, Ranger Mgr., Carson National Forest.

July 12. Field Trip. Gardens in Progress. A visit to the home gardens of Jean Baillet and Ty Minton.

July 23. Field Trip. Grower's Garden. Joy Robertshaw. Seed garden, Arroyo Seco

July 26-27. Grass Workshop led by Chick Keller, including laboratory work. See notice on page 5.

August 13. *"Drought & Native Woody Plants."* Carlos Valdez, Los Alamos Co-op Extension Service.

September 10. *"Fire, Watersheds & Native Plants.* Greg Miller, Hydrologist, Carson National Forest.

NOTICE

The New Mexico Rare Plants Technical Council is organizing the 4th Southwestern Rare and Endangered Plant Conference to be held 22-25 March 2004 in Las Cruces, NM. We are in the pre-solictitation process of collecting addresses of interested parties. Preliminary information about the conference is available at: http://nmrareplants.unm.edu

If you would like to be added to the mailing list for future information on this conference, please cocntact patriciabarlowirick@starband.net.

Although we will be getting the mailing out in the near future, we encourage you to get started on those research projects to present next March.

Help us get the word out to your friends and colleagues by forwarding this message.

COMMENTARY

by Bob Pennington

By fits and starts, and with begrudged reluctance, native plants are entering the landscaping mainstream. Whereas it might seem a natural course of events, it is government edict and a response to drought that are the driving factors, not a desire to use more natural plants or planting styles. Whether by force or by desire, native plants are being used more and more in landscapes all over the arid West as the attempt is made to have both more green and more people on lands which have never supported too many of either.

If the use of native plants is to increase, as it seems it must, several things ought to happen. On a philosophical level, the attitude that "native = weedy" must be overcome, and a new landscape style more conducive to natural plantings has to become more widely accepted. And, most importantly, the issue of where the materials are going to come from must be addressed.

Recent excellent publications, such as the two regional plant guides produced by the Native Plant Society of New Mexico, are beginning to deal with the issues of native beauty and style.

The other issue is perhaps more difficult because it is based on tradition and dollars. Native plants have been collected from the wild for years, and there are those who have made much of their income this way. But if native plants are going to be used at an increasing rate, and they will, alternatives to digging must be instituted. Fortunately, almost all native plants can now be grown by nurseries and, with the exception of those plants saved from destruction due to development, there really is no need to dig.

Our Native Plant Society is ideally positioned to aid in this effort. Publications already exist to instruct the populace on the value and beauty of native plants. We have the people able to communicate these facts, and now a plan is needed to work with growers and sellers of native plants to convince them not to dig, but grow.

A tall order? Perhaps, but if we want native plant beauty in the wild, as well as using it in town, this must happen.

Bob Pennington is the owner of Agua Fria Nursery in Santa Fe.

CONSERVATION CORNER

by Jim Nellessen

Save All the Pieces

If you like to work on jigsaw puzzles, you usually start by organizing all the pieces. The edge pieces are easy and one often starts with those. Many of the pieces look very similar and you may have no clear idea where they will go or what other pieces will link to them. But you group them together somehow and set them aside or save them for later until you figure out their significance within the bigger picture.

This is essentially the same approach and thought process we should be taking when conserving our native flora, fauna, and the habitats within which they live.

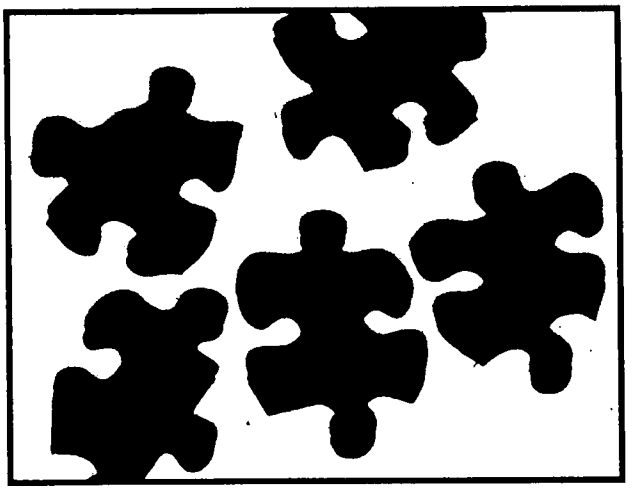
Aldo Leopold once said, "Saving all the cogs and wheels is the first sign of intelligent tinkering." When conserving our native species, we need to be cognizant of populational differences below the species level. These are all cogs and wheels in the bigger picture.

Species are actually made up of genetically varied populations of individuals. Many of us may get frustrated with taxonomists changing the scientific names of plants, but they are only trying to sort out the complex populational nature of the species and some of their links to other species.

Numerous species are very similar to other species. Some species may hybridize, further complicating identification and separation. Many species can be divided into subspecies or varieties. An ecotype is another subdivision of a species that is below the level of a variety.

An ecotype is essentially a population that has become adapted to a particular set of local environmental variables. For example, a plant's rate of photosynthesis may be tied to certain local optimal temperatures, moisture conditions, and time of day. Or a plant's bloomtime may be tied to the photoperiod (the length of the periods of daylight and darkness).

The Scandinavian researcher Turesson first developed the concept of ecotypic differentiation in the 1920s. One of the plants he studied is familiar to us in New Mexico — harebell (*Campanula rotundifolia*), a species found in higher mountains and alpine regions, but also common at low elevations in the northeastern U.S.



Researchers have long noticed ecotypes in some of the wide-ranging prairie grasses. Sideoats grama (*Bouteloua curtipendula*) in New Mexico experiences a longer growing season than sideoats grama in Nebraska or South Dakota. Grasses transplanted from the Southern U.S. to the Northern U.S. may not bloom in time before frost, yet are the same species.

Creosote bushes (*Larrea tridentata*) from warmer, much lower elevation sites in southern California and southwestern Arizona may not tolerate the colder winters in New Mexico. In fact, there is a gradient of chromosome number (referred to as ploidy level) from New Mexico's diploid populations to southern California's hexaploid populations (meaning creosote bushes in California have 3 times the number of chromosomes as in New Mexico).

Ecotypes are a common phenomenon in many wide-ranging species. But they can also occur on a much smaller scale. Remember when we used to have lead in our gasoline? Lead would accumulate in the soil adjacent to our highways. The nonnative Bermuda grass (*Cynodon dactylon*) actually became adapted to higher lead levels in the soil and an ecotype developed adjacent to the shoulders of highways. It has been demonstrated in numerous cases that ecotypes can develop in as little as 40 years.

Conserving the populational structure present in our local habitats is important. Open spaces and natural areas should be of reasonable size to maintain some of the physical and other environmental variables characteristic of the area. The many stark elevational and environmental gradients in our state contribute to and complicate this populational structure. When restoring or revegetating degraded landscapes, it is important to look close to home for seed stock.

Seeds for thought as another growing season is upon us!

Book Reviews

Ferns and Fern Allies of the Trans-Pecos and Adjacent Areas

by Sharon C. Yarborough and A. Michael Powell
Texas Tech University Press, Lubbock, Texas 2002

Reviewed by Sandra D. Lynn

When I bought this book at the NPSNM Annual Meeting in Silver City in 2002, Lisa Johnston, who handles our society's book sales, told me it was "hot off the press." I'm not sure why I wanted it--other than my normal mania for buying plant books--because I didn't know much about ferns and didn't expect to be finding very many in the Guadalupe Mountains where I roam. Like most people, I was thinking of ferns in our arid environment as dwelling only at the margins of seeps, springs, and streams, like the delicate maidenhairs greening the rocks at Sitting Bull Falls. But this book has proven to be the door into a wonderful botanical realm new to me.

First, I was surprised to learn that the pteridophyte flora—ferns and fern allies—in the Trans-Pecos consists of 78 species in 22 genera and 12 families. The book is intended as a field guide to these and includes both the true ferns and the related spikemosses and *Equisetaceae*. Once I realized how many pteridophytes thrive in the northern Chihuahuan Desert, I began to look for them quite literally under every rock. Most of these 78 species have evolved water-conserving strategies and, sure enough, you can find them on steep slopes and among limestone ledges existing only on what they can glean from the occasional shower.

The book offers detailed keys, range maps (unfortunately limited to the borders of Texas, and thus does not include all of the Trans-Pecos nor the "adjacent areas" of the title), a useful quick identification guide, line drawings, a glossary, and a list of references. With the aid of the keys, a centimeter ruler, and a dissecting scope, even I, an utter novice in fern studies, could key a specimen to species. I confess to being thrilled at taking a couple of dried up stems, rehydrating them in a pan of water, and identifying them as *Astrolepsis cochisensis* and *Astrolepsis integerrima.* Among the xeric adaptations in these ferns are scales, hairs, and waxy coatings that conserve moisture, are often diagnostic, and are fascinating to examine under the lens of a scope.

So, my thanks to the authors. Sharon Yarborough is assistant curator of the herbarium at Sul Ross State University in Alpine, Texas, and A. Michael Powell is a professor of biology there. His previous books—*Trees and Shrubs of the Trans-Pecos and Adjacent Areas* and *Grasses of the Trans-Pecos and Adjacent Areas*--are well known to many of us in the Native Plant Society of New Mexico. We are fortunate now to have this book on ferns.

How to Get Your Lawn & Garden Off Drugs: A Basic Guide to Pesticide-Free Gardening in North America
2nd Edition
by Carole Rubin
Harbour Publishing, Medeira Park,
British Columbia 2003, 1990
Paperback 128 pgs $9.95 US, $14.95 CAN
ISBN 1-55017-320-0

Reviewed by Andy Wasowski

Several years ago I ran across Gerry Conkle, owner of a yard maintenance company up in Wisconsin. At the time I was working on my book, *The Landscaping Revolution.* Gerry asked what my book was about. "Low-maintenance native plants and naturalistic landscapes," I said, hesitantly. After all, I was advocating something that might put him out of business. Gerry was silent for a long moment, then replied, "Y'know, I'm a landscaping revolutionary myself. My business used to include the application of toxic pesticides and herbicides. But then I read what these toxics do to people — everything from skin rash to cancer — so I dropped that part of my business. I want to be around to play with my grandkids."

Awareness of the dangers of pesticides is growing, and yet spraying persists. Moreover, as Robert Bateman points out in his foreword to Rubin's book, "In the 50 or so years that we have been spraying poisons on our lawns and gardens we have not eliminated one pest. Instead we have created many new pests, and at the same time we have wiped out many helpful organisms."

Carole Rubin's book is not a weighty tome filled with highly technical jargon. It's friendly (there are a number of smile-inducing cartoons throughout) and accessible to any homeowner. Yet it's chock-full of the kind of info you'll want to have when you confront that neighbor who is continually spraying his yard — and yours — with toxic chemicals.

Rubin leads off with "Pesticide Myths and History," including an eye-opening look at what's really in those bottles. Labels list only the "active ingredient," but that may be only one of hundreds of chemicals in there. What else is in that bottle? The author says that the chemical companies are working hard to keep you from knowing. Sometimes you get more than you bargain for. Rubin says that many brands of fertilizers come prepackaged with herbicides – thus the "weed & feed" designation.

In a section called "The Hormone Factor," Rubin cites the World Health Organization's evidence that pesticides may be contributing to declining human sperm counts and are adversely affecting reproductive organs and behaviors of some wildlife species.

The book includes a lot of good information on how to garden without chemicals, including a list of common garden pests and how to cope with them. In the final analysis, says Rubin, "All that is needed for beautiful pesticide-free lawns and gardens is a selection of healthy, hardy plants that are appropriate to your yard, and then excellent maintenance. It's that simple."

Even if you've already kicked the lawn chemical habit, you'll enjoy this book for the fascinating data that support your decision. You might even want to purchase two copies -- one for your spray-happy neighbor.

WHAT?

You Still Haven't Registered For The Annual Meeting in Los Alamos August 7-10?

Are you really going to miss the fun and fellowship? The field trips? The informative and entertaining programs by folks like Judith Phillips, Terry Foxx, Dorothy Hoard, George Cox, Kelly Allred, Tim Lowrey, Bob Sivinski, and so many others? Are you going to pass up the reception at Chick and Yvonne Keller's home? The Big Banquet and Gary Ziehe's keynote? The silent auction? The plant sale? The book sale?

Of course not! It just slipped your mind. That can happen. Ah, but now that we've reminded you, you're going to grab your phone and call Chick Keller (505) 662-7915 or Truel West (505) 988-9621 and sign up. Without another moment's delay.
Check last newsletter or NPSNM Website http://npsnm.unm.edu for details

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