



The Native Plant Fave Five

As we prepared for this year's plant sale, the usual banter occurred: "We *have* to include that one. It's my favorite!" Which got me to thinking. What would happen if I asked the experts what their favorite five plants were? The responses that follow are from professional botanists, landscape architects, foresters, naturalists, entomologists—all people who share a passion about the native plants of the Chihuahuan Desert region. Choosing just five wasn't easy. Which are *your* five favorites?

◀ *Leatherflower (Clematis pitcheri) is a lovely vine that grows in the dappled shade of Modesta Canyon.*

Betty Alex's Five Favorites from Big Bend National Park

When Cathryn asked me to write about my 'five favorite plants' I thought it would be difficult to pick—it was! I have to say that I have never met a plant native to the Chihuahuan Desert that I did not love—even lechuguilla, which I find to be the most admirable of plants for its incredible tenacity. So I have 'snuck' references to several others of my favorites into the text.

Confused Ladies' Tresses (*Deiregyne confuse*)

Distribution: Chisos Mountains, Big Bend National Park

Blooming Time: May through July

Why a Favorite? Everyone loves orchids. Well, not everyone. I personally had been rather unimpressed with orchids until I found out that there were two white "mystery" orchids lurking in the Chisos Mountains. In the 1980s, when I told him I had found a population of scarlet ladies tresses (*Spiranthes cinnabarina* [now *Dichromanthus cinnabarinus*]), Dr. Barton Warnock asked if I had found the "two white orchids," and I had to admit I didn't even know to *look* for them. After doing some research and some hard hiking and searching, I found Michoacan ladies tresses (*Stenorrhynchos michuacanus*), an exquisitely elegant and cryptic plant, but frankly I didn't hold much hope of finding the other white orchid.



▲ *Confused ladies' tresses (Deiregyne confuse), one of the white "mystery" orchids of the Chisos Mountains, Big Bend National Park. Photo by Betty Alex.*

The *Flora of North America* (2002) states, “*Deiregyne confusa* is known in the United States only from the original collections made in 1931 in the Chisos Mountains of Brewster Country, Texas.” Wow! At that time it had not been collected in the U.S. in 73 years, and the location was given as “Chisos Mountains.” Big help. The whole story of its discovery is too long to tell here, but when people who are observant are in the right place at the right time, miracles can happen. Botany Technician Allison Leavitt spotted a “little white flower” and Dr. Joe Sirotnak, Big Bend National Park’s Botanist, climbed an unstable cliff to discover the first of several confused ladies’ tresses populations. I don’t know that *D. confusa* is the most beautiful orchid we have in the park (my personal beauty favorite is Wendt’s malaxis [*Malaxis wendtii*]), but it is definitely the most illusive and was the most exciting to find.

Silverlace Cactus

(*Mammillaria lasiacantha*)

Distribution: Widespread throughout the Trans-Pecos (except the Davis Mountains). Prefers limestone habitats.

Blooming Time: February through March

Why a Favorite? “A True Beauty” was the caption of an email from another NPS employee who was searching for the identity of a cactus that he had photographed. I knew immediately from the time of year (February) and the caption of the email what the species was without ever seeing the photo. Silverlace cactus is one of the true gems of the most desolate parts of the Chihuahuan Desert. Barren, marly limestone ridges are the most common habitat for these



▲ *Silverlace cactus (Mammillaria lasiacantha) is a tiny, golf-ball shaped cactus that blooms early in the spring. Photo by Betty Alex.*

tiny—usually hidden—treasures, which are the same color as the limestone they inhabit. The largest silverlace cactus I have ever seen was almost four inches across, but it was a real rarity; they are usually not over one to two inches in diameter, often smaller than a dime. The cream-colored flowers grow in a corona around the top of the plant, and the blooms are made striking by the bright stripe of color down each petal—the stripe may be bright pink to pinkish tan to purplish tan, or greenish brown. No matter the color of the stripe, I have seen the discovery of a tiny, tiny cactus covered with blooms and buds bring grown men (and women) to their knees—literally, like penitents at an altar in the barren Boquillas limestone—as they scrambled to take dozens of photos of their charming discovery.

I am fortunate to have an aberrant

natural population growing just feet from my door. These silverlace cactus have decided that the two igneous dikes that run across my property are really decent homes. The dikes poke up through Aguja clay and alluvium and the cactus are quite dense along the length of the dike outcrops; but, no dike, no silverlace. Since the dikes are composed of white rhyolitic rock, the cactus are just as hard to find there as they are in limestone, but there are many other white rock outcrops where they *do not* grow. I have also found these beauties growing in clay flats, but the clay was eroded from marly limestone. So, I like to think that the population on my property is a gift of special and rare beauty to my husband, Tom and I. I know that each February, the three things that tell me “Spring has sprung!” are the blooms of the

bluebonnet, the arrival of the turkey vultures, and the joy of finding the tiny jewels of *M. lasiacantha* flowers dotting stark, rocky hillsides in the heat of early spring afternoons.

Ojo de Vibora (*Evolvulus alsinoides*)

Distribution: Trans-Pecos mountains

Blooming Time: June through August

Why a Favorite? If silverlace cactus is the tiny jewel of spring, ojo de vibora is its summer counterpart. “Ojo de vibora” is my favorite name for this tiny plant—snake eyes! What a descriptive and somehow oddly inappropriate name for such an exquisite blossom. The first time I saw ojo de vibora was July, 1981, when I was bush-whacking my way toward the entrance to Closed Canyon on what is now Big Bend Ranch State Park. I thought someone had scattered blue confetti along the stream bank! When I got close enough to see that they were flowers, I was immediately in love. That may have been the moment when I ‘discovered’ the beauty and diversity of Chihuahuan flora, so this little plant has a special place in my heart, even though it is not restricted to the Chihuahuan Desert.

I have found references to the species being used in India Ayurvedic medicine as an antifungal, anthelmintic, aphrodisiac, febrifuge, diuretic, and anti-inflammatory; as a remedy for dysentery, anxiety, panic attacks, nervousness, insomnia, insanity, epilepsy, uterine bleeding, gastric and duodenal ulcers, leucoderma, and conjunctivitis; and to enhance intelligence and improve memory. My word. I have often collected and processed local herbal remedies—and they have usually worked—but even the promise of curing

my insanity would not get me to pick and process these extraordinary little gems. Less than ½-inch across, the five-petaled, true-blue flowers grow singly on prostrate stems that may lie atop other vegetation or simply trail across the rocky ground. A bright, white spot in the center of each flower may have given rise to the name ojo de vibora, and the plants are quite noticeable when blooming, but otherwise they are overlooked. The flowers open in midday and usually close well before evening, but one particularly warm summer night I actually saw them still open by the light of a full August moon—one of the rare treats of the desert.

Havard’s Ipomopsis (*Ipomopsis havardii*)

Distribution: Dry hillsides in the Trans-Pecos

Blooming time: March through October

Why a favorite? My granddaughter Chelsea insists on calling these flowers “shooting stars,” and although I have never heard that common name, it is definitely appropriate. The shape and color combinations are striking: four petals up, one down, pink linear stripes on the sharp-pointed, slightly reflexed petals, and long, curled, exserted stamens with white filaments and lavender to purple anthers. Up close, they are spectacular. Unless damaged or disturbed, the plants tend to form very neat globular shapes, and when they are in bloom they produce bouquets of pink/white flowers that hide the hairy-prickly leaves and stems. A friend of mine described them as “a pile of pink flowers,” and those piles may be a few inches to a meter across. This is also one of those admirably tenacious plants. Havard’s ipomopsis lives



▲ *Ojo de vibora*, a member of the morning glory family, is a tiny jewel of the summer in the Chihuahuan Desert. Photo by Betty Alex.

where not many other species will, and it seems especially to prefer disturbed road edges in gooey bentonite clay soils. Several populations that grow along bladed dirt roads are constantly whacked off at road level only to re-emerge as soon as the moisture is right. About half of one of those roadside populations is composed of entirely white-flowered plants—even the anthers are white. And Havard’s ipomopsis blooms just about any month of the year that there is sufficient ground moisture. Hiking in the desert after a hard freeze had reduced almost all herbaceous growth to brown crispies, I happened upon two dozen Havard’s ipomopsis in full bloom. Usually there are only one to a dozen plants, but there is one hidden valley where I ran out of counting time when I got to about 800 plants, all blooming. It was quite a sight. You will only find this species in Brewster, Presidio and a tiny part of Hudspeth counties in the U.S., and you will only find them when the time is right. One botanist friend who has been living and working in the Trans-Pecos for several years described these plants to me and asked if they were an exotic—because she had never seen them before—and she’s been paying attention. I guess that is my favorite thing about Havard’s ipomopsis—it is a delicate, unpredictable treat.

Pitaya or Strawberry Cactus (*Echinocereus stramineus* & *E. enneacanthus*)

Distribution: Trans-Pecos region

Blooming time: Year round

Why a favorite? I’m cheating on this one because the two ‘mound cactus’ that are called pitayas are often difficult to tell apart—they were considered

varieties of the same species for many years, and telling them apart can be challenging even for botanists. They are invariably the first non-prickly pear cactus that Chihuahuan Desert novices notice, because of their elegant domed shape and their size. They grow from the Rio Grande to Emory Peak in Big Bend National Park, and from the Lower Pecos River area through the lower Big Bend region and along the Rio Grande almost to El Paso. Occasionally you will find the two species growing side by side as they do naturally around my house and at several spots in Big Bend Ranch State Park. The blossoms come in amazing shades of fuchsia and magenta and they usually appear to be lit from within. But they don’t have one or two flowers—they are riotously replete with blooms. It is not unusual to find strings of cars parked near large blooming plants, even during the slow summer season, because no one can

resist the urge to photograph their breathtaking flower show. In 1987 during a dazzling “flower year,” I counted 118 open blossoms on an *E. stramineus*, and there were also numerous buds and wilted flowers.

But the best part of pitayas is the fruit. On our honeymoon, Tom and I were backpacking out from a remote area of the park; it was August; it was 2 pm; it was 118 degrees; there was no wind and no clouds; we were whupped. We topped out on a ridge that we would follow most of the way back to the road (and to our truck and shade), and found pitaya after pitaya in fruit. We plucked one or two from each plant, leaving many for the local critter inhabitants, slurped and crunched the wonderful, sweet, seedy flesh and immediately found a second wind. The

▼ *The flowers of Havard’s ipomopsis resemble a shooting star. Photo by Betty Alex.*





▲ The multiple blooms and bright color of the pitaya or strawberry cactus make this species a show-stopper in Big Bend National Park. Photo by Betty Alex.

fruit sugars literally lifted us from the desert and inspired us to hike up to Boot Canyon that afternoon. The next day on our hike to the South Rim we again found numerous pitayas; again we indulged ourselves, and again found that our strength, stamina, and general outlook on life were improved. Now anytime we are hiking the desert during pitaya season, we look forward to the rejuvenation of a ‘pitaya fix.’ The plants that grow near our house

get some supplemental watering to make sure that they bloom (and fruit!). We are particularly fond of the much smaller, and much tastier, fruit of *E. enneacanthus*, but both of the pitayas deserve the name “strawberry cactus” because that is the closest common taste to which they can be compared. Personally, I think pitayas are better. Pitayas are magic because their beautiful blossoms lift your spirit, and their wonderful fruit revitalizes your body and soul. Desert manna.

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Wynn Anderson’s Five Favorites from El Paso

When Cathryn inquired to ask if I would write up a description of my five favorite plants native to the El Paso region for an article in *Discovery*, I really wanted to say no. Truth be known, I hate such tasks. For me, it’s like choosing a favorite among your children—one has the best smile, the strongest will, and another the sweetest disposition. Everyday I am greeted by the diverse special attributes displayed by the 600 or so plant species we grow at the Chihuahuan Desert Gardens at UTEP. But then, life is about having to make choices and since I can never seem to turn down an opportunity to promote appreciation for and wise use of our incredible native Chihuahuan flora, I decided to indulge myself by picking plants largely unfamiliar to most, or at least not likely to be described by other contributors. To make the job all that much harder, I decided to select a single tree, a solitary shrub, one flowering perennial, a colorful annual, and a single grass to make up the following five of my favorite El Paso area plants:

Western Soapberry (*Sapindus saponaria* var. *drummondii*)

Distribution: Along streams and fencerows, throughout Texas

Blooming Time: March through July

Why a favorite? Western soapberry is my favorite tree. Cursed by many as weedy with its penchant for suckering (and sometimes called the poor man’s chinaberry—how can you get any poorer than that one?), I have grown to not only appreciate, but to prefer, this tough, drought-resistant, hard-to-kill tree. Western soapberry has lovely sprays of small white flowers in late spring which attract a huge and diverse array of pollinators (from a variety of native bees to moths and butterflies and, oddly, the orange-winged, black-bodied tarantula wasps); a classic tight and tidy



▲ A male tarantula wasp (*Pepsis* sp.) nectars on the white blossoms of a western soapberry tree. Photo by Cathryn Hoyt.



▲ *Desert rosemary flourishes in the deep sand dunes around El Paso. Photo by Wynn Anderson, courtesy of UTEP.*

mature habit that produces a heavier shade canopy than most of our native deciduous trees, and glistening, golden, translucent marble-sized berries that feed a number of birds and mammals despite the presence of a distasteful and mildly toxic deterrent, saponium. The soft pithy translucent covering of the black ripe seeds will even produce reasonable soapy lather in a pinch and the plant is sometimes found as an ingredient of herbal shampoos.

Desert Rosemary (*Poliomintha incana*)

Distribution: Sandy soil in the Trans-Pecos

Blooming Time: April through October

Why a favorite? Desert rosemary will surprise some as a favorite shrub choice given the flashy beauty of dangling yellow bells of *Tecoma stans* and the royal purple display of *Salvia pinquifolia* in the canyons of the Franklin Mountains, or the profusion of yellow summer daisies on *Viguiera stenoloba* in our arroyos. But, in recognition of the fact that El Paso sits smack dab in the middle of one of the largest sand dune

areas in the Chihuahuan Desert region, I feel compelled to single out this delightful representative of the deep sand community. A woody member of the mint family, desert rosemary is a medium-sized, mounding dune stabilizer with wonderfully fragrant, ashy gray foliage that is easily covered with a profuse display of small, pale pink to bluish flowers (much to the delight of our small, native bees!) as many as three or four times from late spring to early fall. Although obviously requiring excellent drainage, this poliomintha seems quite adaptable to heavier garden soils at the Chihuahuan Desert Gardens. As a cooking herb, the fresh foliage is strongly laced with fragrant oils but may be used as an “yerba buena” in savory recipes. It makes a fine aromatic tea and the fresh flowers provide a tasty, refreshing addition to a summer fruit salad.

Shaggy or Beard Stenandrium (*Stenandrium barbatum*)

Distribution: Limestone slopes and ridges, and in clay shales and rubble in the Trans-Pecos

Blooming time: March through June

Why a favorite? My favorite color perennial is a rather obscure plant that won’t be found in any garden setting but will be familiar to those who explore the limestone ridges of our hottest desertic mountains. It is a real delight to unexpectedly come across rose-red to hot pink flowering tufts following bare seams and cracks or scattered in dust-filled pits across flat lying rock ledges and shallow swales. *Stenandrium barbatum*, sometimes called “shaggy or bearded stenandrium” is one of those little beauties probably best appreci-

ated on your belly—but then laying your belly across a rough, sharp-edged, outcrop of sun-baked limestone is an experience in itself. The relatively large, bright, rose-pink flowers, streaked with creamy white lines leading down a nectar-rich throat, all but eclipse the tufts of stiffly-haired, grey-green foliage that seldom rises more than one or two inches above the rock surface. Hummingbirds are principal pollinators of this very drought-tolerant, heat-loving perennial that I love to photograph especially after a hard, hot climb. While an excuse to rest aging knees is always welcome, more and more I simply appreciate this gorgeous reminder of the wonderful hidden beauty of our desert.

Mexican Goldpoppy (*Escholtzia californica* ssp. *mexicana*)

Distribution: Limestone slopes of the Franklin Mountains near El Paso

Blooming Time: February through March

Why a favorite? For El Paso, there can be no other choice for a favorite wildflower than the bright and cheerful ephemeral Mexican goldpoppy, *Escholtzia californica* ssp. *mexicana*. Every few years, after good fall rains and strategically timed winter moisture, these colorful opportunistic annuals dominate the coarse granitic soil along the northeastern flanks of the Franklin Mountains from early February to late March. Making their only massed appearance in Texas, they seem to descend out of the mountain canyons like rivers of gold to spread across the lower slopes and alluvial fans in a sea of stunning beauty where protected from the sprawl of El Paso’s urban development. A profuse re-seeder, the poppies are easy to establish in a good xeriscape

from commercially available seed. With regular bi-monthly moisture in late fall, they will germinate and set a dainty rosette to wait out the winter and greet early spring with a flush of foliage, bloom madly through March, setting fruit, flinging ripened seed, and dying well before oppressive dry heat arrives in May. Maybe it's not always bad to live quick and die young!

Bush Muhly (*Muhlenbergia porteri*)

Distribution: Loamy soil or rocky slopes of the Trans-Pecos

Blooming time: summer through fall

Why a favorite? There are many beautiful native grasses in our region

and some have found their way into horticultural usage in recent years. Deer grass, *Muhlenbergia rigens*, and bull muhly, *M. emersleyi*, for example, provides soft texture and graceful interest, as well as lush green mounding counterpoints to many irrigated desert landscapes. None; however, speak as well as bush muhly, *Muhlenbergia porteri* to tenacious survival in harshly hot and dry conditions whether on the monotonous flats of endless desert scrub or, closer to home, the unirrigated dry zone of a good urban xeriscape. Yes, that rather ugly, scraggly grass that seemingly survives mostly about the base of scattered creosote and tarbush

where cattle are less inclined to endanger their heads is my favorite grass—especially for an urban wildscape. On occasion, I have had the good fortune to encounter it in wild, ungrazed environments and was surprised at the rather dense, but soft, knee-high mats that filled in the dry voids between shrubs and low swales. It is especially pleasing when in autumn bloom, an ethereal reddish haze of intricately branching mass of tiny rosy flowers and seeds that literally glow softly pink in all but the harshest midday sun. In garden areas without regular irrigation, its slowly spreading stolons flourish in neglected spots, and can create a low,

▼ *Mexican goldpoppies put on a spectacular spring display in the Chihuahuan Desert Garden at the University of Texas at El Paso. Photo by Cathryn Hoyt.*



shady, moisture conserving microenvironment with habitat rich in food and shelter for a multitude of desert insects, lizards, small mammals, and ground feeding birds—including quail.

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Beth Francell's Five Favorite Landscaping Plants

Thanks for the opportunity to expound on my favorite subject!

Esperanza or Yellow Bells (*Tecoma stans*)

Distribution: Rocky areas in mountains of the Trans-Pecos

Blooming time: July through November

Why a favorite? When yellow bells bloom along with scarlet bouvardia our hillsides and gardens are spectacular in red and yellow. The narrow-leaf variety of yellow bells (*Tecoma stans* var. *angustatum*) is the hardy one for the Davis Mountains zone 7a. The wide-leaf variety is only hardy to zone eight

and will not acclimate. This plant dies all the way to the ground in winter and should be cut back and mulched with stones to hold heat. The display is worth the wait. The leaf texture is rough with dark green, toothed, lance-shaped leaves that begin to emerge in April. The flaring shape of the plant complements the large clusters of trumpet-shaped blooms that start in July. Yellow bells contrasts beautifully with many of our gray-green or lime-green

natives such as cenizo, turpentine bush, and mariola. The bells keep coming for a long time; especially if deadheaded.

It should always be planted in the late spring or early summer so it can have many months to put down deep roots before our first freeze. Yellow bells likes full sun, well drained soils, and prefers to dry out between waterings. One of my most delightful surprises was finding a large bright yellow spider with black eyes perfectly camouflaged in a bell waiting for its next meal.



▲ *Perfectly camouflaged, a crab spider (Misumena sp.) waits for its next meal in a yellow bell flower. Photo by Cathryn Hoyt.*

Trompetilla or Scarlet Bouvardia (*Bouvardia ternifolia*)

Distribution: In dry soil, rimrock, or among boulders in the mountains of the Trans-Pecos

Blooming time: May through November

Why a favorite? Scarlet bouvardia is difficult to find in nurseries, but easy to grow from seed. This deciduous shrub is almost invisible in the winter but makes a lovely medium green, three-foot mound in the summer. It will grow in light shade or full sun and loves to grow in between large boulders. Scarlet bouvardia will take to late winter shaping and is fairly easy to transplant when dormant. It is hard to understand why more nurseries are not growing it. I ordered one Logees Greenhouse was

selling. The leaves are much broader and it is not winter hardy in zone 7. The tubular flower is very similar but this variety comes from a tropical zone in Mexico. The flowers are the most brilliant red of any native. It always pleases men who generally favor red flowers. The abundant blooms radiate in clusters of 4 to 12 and are two inches long making it exceptionally showy especially next to yellow flowers. Scarlet bouvardia is long lived and undemanding and self sows in the right conditions.

Goldenball Lead-tree (*Leucaena retusa* or *L. cuspidata* [more available])

Distribution: Dry canyons in the western part of the Edwards Plateau and west to the Davis and Chisos mountains of the Trans-Pecos.

Blooming time: April through July

Why a favorite? In Fort Davis these quickly make beautiful small trees ten or more feet tall. It is a graceful, thornless member of the bean family whose leaves stay a gorgeous lime green color all through the growing season. Unlike most acacias that bloom only once a year for a very short time, the lead-tree blooms off and on all summer with golfball-sized golden puffs. It shines even from a distance. Give lead-tree a little protection from our high winds because the branches can be brittle. Even if a branch is broken all the way to the ground, the tree will quickly re-sprout from the stump and be a nice tree again in a couple of years. A little winter shaping can keep it from being too top heavy and thus fragile.

Mountain Laurel or Mescal Bean (*Sophora secundiflora*)

Distribution: Scattered in mesic places in



▲ *Scarlet bouvardia* is showy and hardy. It naturally grows in the rock outcrops at the Chihuahuan Desert Nature Center & Botanical Gardens. Photo by Cathryn Hoyt.

mountains of the Trans-Pecos

Blooming time: Spring

Why a favorite? I love this small tree or large shrub because of its fragrance and greenish silvery color and the fact that it is evergreen—so important in the winter landscape. It always looks full and lush and is not a favorite of deer which in Fort Davis and Alpine is a big factor. Mountain laurel has a coarse texture with dense, almost succulent, rounded leaves. The shape is graceful

and it responds well to pruning. It is not averse to growing in our rocky soils and on rocky hillsides. Mountain laurel is readily available from nurseries and there is even an extra silvery cultivar that is very striking when covered with deep purple blooms. Its only problems are slowness to grow in the beginning and the little worm which destroys bloom buds and tip growth. This tiny caterpillar creates a web like structure but is easily controlled with Dipel Dust. Dipel must be used every year

when the worm starts or your bloom buds will be reduced. This pest never totally kills its host tree. I often order at least a 15-gallon size tree because of its slow growth. After the first year or two; however, its growth can be fairly rapid up to ten or more feet. It is important to get a plant from a seed source from the Davis Mountains because the ones from farther south in Texas are cold damaged here.

Agarita (*Berberis trifoliolata*)

Distribution: On rocky slopes and flats from coastal south Texas through the Trans-Pecos

Blooming Time: February through April

Why a favorite? This favorite evergreen is sadly very difficult to acquire out here. It is virtually impossible to transplant from the wild even if that were an ethical thing to do. The only way to acquire it is to propagate it from seed

which is not difficult. Agarita is not grown in Arizona where many of our Chihuahuan natives are grown because it is a carrier of a type of rust injurious to some agricultural crop. Nurseries in Texas do grow agarita but it is usually the more olive green *B. haematocarpa*. *B. trifoliolata* is the most exquisite blue green color which contrasts so wonderfully with our reddish-purple-brown rock formations. It rewards the gardener with heavenly, honey-scented blooms in the spring that are great for bees. Bees need all the support we can give them. Even though its leaves are a little prickly—which means it should be planted away from paths—I do not find it difficult to prune or handle. Naturally, in full sun, it grows into a large 6-foot round ball but it will take some shade and shaping. Many of our natives are much better armed. It reminds me of a lovely holly and its red berries are relished by birds and make great jelly. Useful, beautiful, and evergreen is almost too much to ask from one plant.

Beth Francell is a landscape architect and owner of Rebloom Designs in Fort Davis. She is an active member of the Big Bend Chapter of the Texas Native Plant Society.



◀ *Useful, beautiful, fragrant, and evergreen: this combination of characteristics makes the agarita one of Beth Francell's favorite native shrubs. Photo by Cathryn Hoyt.*

Patty Manning's Five Favorite Perennials

Of course, the favorite five plants change over time and it's very difficult to narrow the number down to five. Most native plant enthusiasts would concur. Any plant can be a favorite at any time for whatever combination of reasons exist at the time of an encounter. Maybe it's in a place you don't expect to find it, or maybe the light is particularly favorable, or maybe it occurs in a different association of other plants than you have programmed yourself to expect. But given the task, I will proceed to describe five that are currently really cool for me.

Long-leaf Echeveria (*Echeveria strictiflora*)

Distribution: On ledges and rocky slopes in the Trans-Pecos

Blooming time: June through August

Why a favorite? I always enjoy long-leaf echeveria. First of all, I just love succulents, and seeing this one is always a pleasure. It is not uncommon to find it in the Davis Mountains, but I have been pleasantly surprised to find it in more desertic habitats, when I least expect it. The leaves are clustered in a low growing rosette and are a very attractive green to blue green. The inflorescence is tall, slender, and arched with pinkish-orange to pinkish red flowers. It cultivates well and is easy to propagate. Long-leaf echeveria seems to grow better and stays more attractive in locations where it won't get scorched by direct sunlight for too many hours during the day.

Arizona Cockroach Plant (*Haplophyton crooksii*)

Distribution: Dry rocky slopes in canyons in the Trans-Pecos

Blooming time: Summer

Why a favorite? One of my next favorites, of late, is Arizona cockroach plant. It is a twiggy, somewhat low-growing shrub in the Dogbane family (Apocynaceae). Although it does occur in various places in Brewster, Presidio, El Paso and Hudspeth counties in Texas, I have only encountered it in profusion in the Chinati Mountains State Natural Area. It also occurs in New Mexico and Arizona. What attracts me in particular are the quarter sized, opaque, light yellow flowers which are open in the summer. The fruits are equally interesting, in that they are long, thin twin



▲ *The arched inflorescence of long-leaf echeveria is a striking pinkish-orange. Photo by Cathryn Hoyt.*

follicles. Both the common and the scientific name of this plant has something to do with my fascination and delight as well. Apparently extracts from the leaves of cockroach plant repel or kill cockroaches, ticks, fleas, mosquitos, and flies when mixed with molasses.

Cochise Beardtongue (*Penstemon dasyphyllus*)

Distribution: In Texas, found only in Brewster and Presidio counties

Blooming time: April through May

Why a favorite? Cochise beardtongue is a new favorite. I'd never seen but one of these plants until last summer, when, by chance, I was on the Pinto Canyon road at just the right time. They were in full bloom and, while not abundant, were frequent in one particular area. The flower color is outstanding; a deep cobalt blue, almost purple. Cochise beardtongue is a perennial, and I'm trying to grow them out from seed this year, which is very exciting.

Fendler's Penstemon (*Penstemon fendleri*)

Distribution: Calcareous, rocky, sandy soil throughout west Texas

Blooming time: April through May

Why a favorite? Speaking of penstemons, another one that is much more common always makes me happy. *Penstemon fendleri*, or Fendler's penstemon, is one of our more reliable spring bloomers in the grasslands around the Davis Mountains. The erect, glaucous blue-green stems and pinkish-lavender flowers can make me do a double take driving down the highway at 70 MPH. They get me every time.

Toothed Serviceberry (*Malacomeles denticulata*)

Distribution: On talus slopes, rimrock, and in canyons of the mountains in the southern Trans-Pecos

Blooming time: spring and summer

Why a favorite? Last on this particular list of favorites would be toothed serviceberry (*Malacomeles denticulata*). This is a shrub in the rose family that is



▲ Found in the Chinati Mountains, the Arizona cockroach plant has beautiful, light yellow flowers during the summer. Photo by Patty Manning.

usually found in limestone canyons or drainages and at lower elevations and latitudes in the Trans-Pecos. It ranges all the way down to Guatemala. It has long, arching stems, smallish white flowers, and fleshy fruits that turn from white to rose, to dark red to blue-black. The largest one I've seen was huge; about 12 feet tall and very old. I'm not sure exactly why I like this shrub so much, but it may have to do with the small, rounded leaves with serrated margins. I tend to like small-leaved plants for some reason. But, I also love to see it in fruit. Toothed serviceberry looks very lush in fruit, and lends a sort of opulence to the surroundings. At any rate, I'm always drawn in when I happen upon one.

Patty Manning is the Director of the Native Plant Program of Sul Ross State University. She works with the Millenium Seedbank Project to preserve seeds of plants of the Trans-Pecos region.



▲ Fendler's penstemon will bring traffic to a halt with its striking display of purple flowers. Photo by Cathryn Hoyt.

Cynthia McAlister's Five Favorite Pollinator Plants

It is challenging to decide which five, of all the plants I have observed over the last 18 months, are my favorite pollinator plants. I am fascinated by the relationship between the plant and its insect pollinators. A flowering plant being visited by insect pollinators is more than just the plant, or just the insect. It seems a thing unto itself; the mutualism made manifest; a vital ecosystem process in action; the means by which angiosperms have diversified. I have enjoyed watching insects at work in the botanical gardens. Here are five plants that are particularly interesting to me today. Ask me tomorrow, and I may come up with five different favorites!

Mexican Blue Sage (*Salvia chamaedryoides*)

Distribution: Chihuahuan Desert region

Blooming time: Summer

Why a favorite? My first favorite pollinator plant is lovely Mexican blue sage. At the Chihuahuan Desert Nature Center, it blooms profusely in the angles of a raised, triangular salvia bed. Luminous indigo blooms bob gently from spiky flower stalks. Papery cup-like sepals protecting the flower base are tinted indigo. Aromatic foliage is soft grey-green. And to this charming plant comes a charming bee pollinator, the busy little *Anthophora*. *Anthophora* is an easy bee to recognize; its abdomen is prominently and distinctly black and white striped. It is a bit unusual to find both sexes visiting flowers at the same time, but both are here at the Mexican blue sage. Male and female bees look



▲ An *Anthophora* bee visits the Mexican blue sage in the botanical garden. Photo by Cathryn Hoyt.

much the same, but here is how to tell them apart. Their behavior is one clue. The females are the ones working in the flowers. They go from bloom to bloom, buzzing softly as they move, collecting nectar and pollen. Occasionally they fly away, taking provisions back to their nests. The male is the one hovering around the flowers. Constantly on the move, he checks out his territory and chases away intruders. Periodically, he flits to a flower to get a sip of nectar, but right away he is back at his post. If you stand in his territory for a little while, he may check you out. As

he turns to face you, more inquisitive than aggressive, you will see that he has a bright yellow face, (often the yellow face is a male character). If these plants are blooming and the sun is shining, and the wind is not too gusty, you are quite likely to see these friendly little bees buzzing around.

Western Soapberry Tree (*Sapindus saponaria*)

Distribution: Along streams and fence-rows, throughout Texas

Blooming time: March through July

Why a favorite? The soapberry tree, is

one of my favorite pollinator plants because its dense clusters of creamy white flowers attract a dazzling array of wasps. The single specimen in the botanical gardens is about six feet tall, and now that it has been released from a protective wire cage, it is easy to observe its insect pollinators. Hundreds of wasps hover on and around the flowers. They forage in blooms, sip nectar, fly from flower to flower, chase away competitors, look for mates, fly away from the tree, and fly in to the tree— attracted by what? Perhaps the masses of white flowers, their soft scent, or the sight of so many other insects already foraging there. All this activity appears as a cloud of wasps buzzing around the shrub. Tarantula hawks—always an impressive insect—are even more so when half a dozen or more are working one small shrub. Other spider wasps, vespid wasps, and sphecid wasps flit through the flowers; all in combinations of black, brown, yellow, red, amber, creamy white; with golden wings, black wings, brown wings, clear wings. Who knew there were so many kinds of wasps! After days of serving wasps and other insects, the tree is finally through blooming. The wasps move on, and fruit begins to form. Mature fruit is a translucent amber globe with one seed inside. But our soapberry will be bearing no fruit this season. Despite all the pollination, a crowd of orange leaf beetles descended upon the tree and within two days had devoured every piece of developing fruit. Oh well, a beetle has to eat.

Prickly Pears and Cholla (*Opuntia spp.*)

Distribution: Widespread

Blooming time: April through May



▲ A bee finds shelter from a gentle spring shower in a prickly pear blossom. Photo by Cathryn Hoyt.

Why a favorite? I am a bit embarrassed to admit that I have been mostly unimpressed with *Opuntia*. Both prickly pear and *Cholla* just have not been all that attractive to me. But after observing their pollinators, I am a changed woman. Large buds open into large flowers with all the flower parts visible and colorful. In the pale yellow prickly pear bloom, a large megachilid bee, *Lithurgus*, comes to feed and gather pollen. She is an inch long, very black, with creamy white bands across her abdomen. On her face she has what looks like tiny horns protruding just below her antennal sockets. The bee book calls this a “mid-facial prominence;” function is unclear. Males are smaller, (they lack the facial prominence), and they lie in wait, seemingly asleep in the flowers. To the vibrant magenta *Cholla* flower comes *Diadasia*, a medium-sized bee covered in light tan pubescence. She moves through the pollen-covered

anthers, gathering provisions for her underground nest. Both of these bees will visit other plants, but they so prefer *Opuntia* that they are known as cactus bees, more scientifically, they are “oligolectic on *Opuntia*,” that is, they prefer to forage on *Opuntia*. Once the cacti are through blooming, these bees will be gone.

Texas Thistle (*Cirsium texanum*)

Distribution: On disturbed soils, especially roadsides and in fields throughout the western part of the Trans-Pecos

Blooming time: Late spring and summer

Why a favorite? Texas thistle, is one of my favorite plants period. I like the contrast between the prickly, spiny leaves and the soft, dense, dark lavender flower head. Thistle is one of my favorite pollinator plants because, although the flower often stands alone in a grassland sprinkled with yellow Asteraceae, it manages to attract a host

of pollinators—maybe a graceful Black Swallowtail, Painted Lady, Variegated Fritillary, or a skittish skipper. I have seen the long purple flowers moving around as if something is trapped inside, and upon inspection, found a bee, a tiny, shiny black bee, or an iridescent green sweat bee, covered with white

pollen, working deep within the flower head. Most delightful was the day I saw a fuzzy yellow abdomen poking up out of the purple flowers, the rest of what I presumed to be a bumblebee nestled deeply in the flower, furiously foraging. However, when I could see the entire insect, I discovered, not a bee at all, but

a beetle aptly named, a bee-like scarab beetle.

Texas Kidneywood (*Eysenhardtia texana*)

Distribution: On calcareous soils throughout southern and western Texas

Blooming time: April through September

Why a favorite? If you can only visit one plant and you want to see insect pollinators, visit the Texas kidneywood in the legume garden (Fabaceae) at the center of the botanical gardens. In the blazing hot summer sun, the pungent aroma of foliage mixed with the sweet fragrance of hundreds of racemes of tiny white flowers, is intoxicating, for me, and for the insects too, I believe. Here, at the heart of the gardens, every kind of pollinator comes to forage. Butterflies, moths, skippers, wasps galore, bees, beetles, and bugs. And flies, not only flies that look similar to the house flies that we are all familiar with, but flower flies, bee flies, hover flies, and tachinid flies. Fly pollinators are definitely an under-studied and under appreciated group. I can spend hours working slowly around these tall shrubs, collecting and observing. If my movements disturb the insects, I go on to a neighboring shrub. By the time I get back to where I started, a different kind of wasp, bee, or fly may have arrived.

Cynthia McAlister is a graduate student at Sul Ross State University and is the CDRI's entomology intern. For the past two summers she has been collecting pollinators in the botanical gardens as part of CDRI's What's the Buzz? Pollinators of the Northern Chihuahuan Desert project. The project is supported by a grant from the Institute of Museum & Library Services.



▲ Texas thistles attract a variety of pollinators including the large flower scarab beetle, a tiny, shiny black bee, and several leaf beetles. Photo by Cathryn Hoyt.

Oscar Mestas' Five Favorite Native Trees

Western Soapberry (*Sapindus saponaria* var. *drummondii*)

Distribution: Along streams and fence-rows, throughout Texas

Blooming Time: March through July

Why a favorite? Western soapberry is my favorite tree. It ranges from Louisiana to Arizona and Texas to Colorado. It adapts well to most sites, tolerates many different soil types, will take our heat, and will survive once established on the little bit of rain that we get. For those of you visiting Marfa, TX there is a beautiful specimen growing across the street from the Town & Country gas station. There are actually two western soapberry trees there—very stately and well-shaped. These two trees are great examples of what a great street and shade tree they can be. The trees naturally grow in clumps made up of root suckers and are clones of each other. This can be a problem if you have very loose gravelly or sandy soils. The flowers on the female trees are creamy white and appear in late spring. The flowers attract the steel blue, orange-winged tarantula-killer wasp (see page 11).

Before dropping their leaves in the fall, most soapberries will turn yellow. The berries or fruit are the size of a small rosary bead and are black surrounded by a translucent yellow covering. The fruit attracts the box elder bug which is not detrimental to the tree but can be a nuisance.

Alligator juniper (*Juniperus deppeana*)

Distribution: On grassy, open rocky hills and slopes in the mountains and foothills of Arizona, New Mexico, and



▲ *Western soapberry tolerates many different soils, is drought-hardy, and will take the heat. In the late spring, its spikes of white flowers attract an incredible variety of pollinators. Photo by Cathryn Hoyt.*

western Texas.

Why a favorite? My next favorite tree I think would be alligator juniper. Native to the Southwest, alligator juniper is a great evergreen tree with beautiful dense green or blue green foliage when young. The tree opens up revealing the very interesting (alligator-hide looking) bark when mature. Again it adapts to various soil types—the one at my house in Mesilla is growing in clay soils and doing well. Tolerant to the heat and drought, it does like a little extra water in the heat of the summer. The trees

are very dense when young and can be used as a screen or wind break. Mexican feather grass (*Stipa*) loves to grow around and under the tree making for a very interesting grouping of plants. It has a moderate growth rate if given additional moisture and richer soils.

Bigtooth maple (*Acer grandidentatum*)

Distribution: Canyons of the Edwards Plateau and into the mountains of the Trans-Pecos. Ranges from Texas northward into Washington.

Why a favorite? Again, I like this tree

because it has a very large range. Bigtooth maple is also called canyon maple because, in our area, you will most likely find it growing in a canyon of one of our sky islands in Culberson, Jeff Davis, Presidio or Brewster counties. This tree prefers cool, moist condi-

tions but will tolerate warmer places if you can provide it with additional moisture. Bigtooth maple does not like full sun. I really like this tree because of the beautiful fall color. After turning brilliant reds, oranges, and yellows, the leaves drop in the fall. Bigtooth maple

prefers well drained soils. This would be a great understory tree for those of you who may already have a mature tree canopy. If there is a shady northeastern corner of the yard that doesn't get a lot of sun, give this one a try.

Mescal Bean or Mountain Laurel
(*Sophora secundiflora*)

Distribution: Scattered in mesic places in the mountains of the Trans-Pecos

Blooming time: Spring

Why a favorite? Fourth in line of my favorite trees is mescal bean. Other names for this tree are Texas mountain laurel and frijolito. This tree only occurs in New Mexico and Texas—it is very common in the Hill Country of Texas. This is one of my favorite spring flowering trees. The purple clusters of wisteria-like flowers are very fragrant. This small evergreen tree has glossy leaflets and may reach a height of 15 feet. It makes a great accent or patio tree tucked into a corner or planted in front of a lighter colored background. The hard, red seeds are about the size of a pinto bean and are enclosed in a hard, light brown seed pod. The seeds are poisonous but I have never heard of anyone getting ill—just be smart and don't eat them. There is a cultivated variety or hybrid out in the market with a very pubescent silvery/gray color to the leaf called "silver peso." Mescal bean definitely does not like growing in clay soils. I really like this tree for its fragrance and the beautiful flowers even though the bloom time is short-lived in the spring.



◀ *Mountain laurels have grape-scented sprays of flowers in the spring and glossy, evergreen leaves. Photo by Cathyn Hoyt.*



Desert Willow (*Chilopsis linearis*)

Distribution: Commonly found along water courses and dry stream beds

Blooming time: April through September

Why a favorite? This was tough having to only pick five of my favorite trees, but my last choice is desert willow. Desert willow is not a true willow but is in the catalpa family—just take a look at the seed pod and the flower. That will give it away as to what family it belongs.

I really like this tree, its open form, willow-like leaves, and beautiful flowers. Native varieties usually have pink flowers, but hybrids can be found in the nursery industry with flowers that

range from white to dark burgundy. Some folks hate the lingering seed pods but I think of them as added decoration during the winter. Desert willow is a desert native that grows in all soils—its only draw back would be the cold. It does well below 5000 feet. This tree starts to bloom in the late spring and continues throughout the growing season. In the evening, I notice a pleasant mild scent in the air when walking near the tree.

Oscar Mestas is the Urban Forester for the West Texas region. His office is in El Paso, but he makes his home in Mesilla, New Mexico where there's water for his trees.

◀ *The alligator juniper, with its broad canopy and scaly bark is an interesting tree suited to southwestern landscapes. Photo by Cathryn Hoyt.*

Jackie Poole's Five Favorite Rare Plants of the Chihuahuan Desert

There are very few plants that I don't like. Even poison ivy can produce brilliant fall color. Limiting my selection of rare plants of the Texas Chihuahuan Desert narrows the field, but there are still many choices. If you ask me again tomorrow, I would probably come up with a different five.

Brush-pea (*Genistidium dumosum*)

Distribution: West Texas in Brewster County; Coahuila and Nuevo Leon

Blooming time: June through October

Why a favorite: Brush-pea is a species that will not be sold at your local nursery. Most of the time it appears to be an unkempt bundle of dead sticks. But give it a little moisture and tiny green leaves spring forth from the stems, and perhaps eventually a small, yellow, pea-like flower and a small green pea-like fruit. For a species with so few populations (probably less than a dozen world-wide), this



▲ *The tough little brush-pea responds to summer rains with a display of small, yellow pea-like flowers. Photo by Betty Alex.*

shrubby member of the legume family grows on widely different substrates. It occurs on limestone rocklands and outcrops in southern Brewster County and Nuevo Leon, but in Coahuila it grows on volcanic tuff and sandstone. This plant is tough and that's why I like it.

Terlingua Creek Cat's-Eye (*Cryptantha crassipes*)

Distribution: Endemic to a small region of the Chihuahuan Desert in southern Brewster County

Blooming time: Late March through early June

Why a favorite: Terlingua Creek cat's-eye is a state and federally listed endangered species that only grows on a very specific geologic formation, the Fizzle Flat lentil, in a very limited area north of Terlingua and west of Highway 118. This location has been referred to as a moonscape. The creamy platelets of gypseous chalky shale support only about one plant per square meter. The white flowers with yellow centers top stalks arise from a mound of hairy, silvery leaves. This odd habitat contains several other rare and unusual plants. Although the Terlingua Creek cat's-eye is an attractive plant, I really love its habitat. The stark barren cream-colored foreground set against the darker browns and reds of the surrounding mountains below a clear blue sky is truly beautiful.

Livermore Sandwort (*Arenaria livermorensis*)

Distribution: Known only from the Davis Mountains of Jeff Davis County

Blooming time: August through October

Why a favorite: Livermore sandwort was described by John Karges as "old-growth scraggly-ass." This tiny plant



▲ *The Terlingua Creek cat's eye is endemic to the Chihuahuan Desert and is only found on gypseous chalky shale of the Fizzle Flat lentil. Photo by Betty Alex.*

forms mats of tangled stems, and more resembles an unkempt moss. Although this species is in the carnation family, it is a very plain relation. It doesn't even have petals! The only place on the planet where you might encounter this plant is at the highest elevations around Mount Livermore on rock outcrops and cliffs. One of my fondest memories is finding this plant on the edge of a deep chasm. I had to lay prone and lean over the edge to photograph it.

Hinckley's Oak (*Quercus hinckleyi*)

Distribution: Endemic to the Chihuahuan Desert in Brewster and Presidio counties in West Texas; and Chihuahua

Blooming time: Blooms in the spring; sets acorns in late August through September

Why a favorite: Hinckley's oak is not a stately tree, but a low shrub with sharp-pointed toothed leaves that hangs on



in the arid desert. From leaves found in packrat middens in eastern Big Bend National Park, this diminutive oak was more common and widespread 10,000+ years ago. The plant community and climate were much different then: pinyon pines and other species that are now more common in wetter or higher elevation sites. But the Hinckley oak persists primarily in Presidio County. I searched for days before I finally found this species, and then like many rare plants, you develop an eye for the species and its habitat, and find several other populations.

Pecos [Puzzle] Sunflower (*Helianthus paradoxus*)

Distribution: Drainages of the Rio San Jose, Rio Grande, and Pecos River in New Mexico, and Pecos River in West Texas in Pecos and Reeves counties

Blooming time: August through November

Why a favorite: Pecos (puzzle) sunflower,



▲ Widespread during the last Ice Age, the Hinckley's oak (small shrub in front of the light green sotol and to the right of the candelilla) now struggles to survive in the desert mountains. Photo by Cathryn Hoyt.



a state and federally listed threatened species, has always intrigued me. First collected in the mid-1800s near the Pecos River in west Texas, the species was only sporadically collected and even considered by some to be extinct by the mid-1900s. Some scientists thought that the species was a hybrid (incapable of reproducing on its own) between the common annual sunflower (*H. annuus*) and the prairie sunflower (*H. petiolaris*). However, the extensive work of Dr. Loren Rieseberg and his students showed

◀ The leaves of Hinckley's oak are small, leathery, and tipped with spines. Photo by Cathryn Hoyt.

that the Pecos sunflower was indeed a species capable of breeding on its own, and that it had been derived through the hybridization of the common and prairie sunflowers some 75,000 to 208,000 years ago. Pecos sunflower grows in cienegas (desert marshes) scattered along the Pecos River and its tributaries, and is highly threatened by over-pumping of groundwater.

Jackie Poole is a botanist in the Wildlife Diversity Program of Texas Parks and Wildlife Department. She has been working with rare plants since 1982 and is the senior author of *Rare Plants of Texas* (2008, Texas A&M Press, College Station).

Mike Powell's Five Favorite Cacti

Five of my favorite cacti in the Chihuahuan Desert region were selected from the 109 species that occur in the northern part of this desert province, Trans-Pecos, Texas. All 109 of these species have been the subject of long-term study in the field and in the greenhouse. Picking only five favorites was not easy. The list of potentials was quickly narrowed to about 20 species, but some of the top five could readily be replaced by several others. Criteria for determining a "favorite" included: scientific aspects; challenges involved with study and observation; people associated with field trips and study, especially my wife Shirley; downright sentimental components (you know, spend a lot of time in the field looking for the plants, propagate them from seed and cuttings, nurture their development in the greenhouse and field plot through flower and fruit production, carry out artificial cross-pollination, grow their progeny, etc); and other factors.

Roetter's Hybrid Hedgehog Cactus (*Echinocereus x roetteri*)

Distribution: Trans-Pecos Texas; southern New Mexico; and adjacent Mexico. The species is best known in eastern Pecos County, for example in the vicinity of Bakersfield, where it assumes the name *E. x roetteri* var. *neomexicanus* (Lloyd's hedgehog cactus).

Blooming Time: April through May.

Why a Favorite? The "x" in the species name signifies that it is a hybrid. Many multi-stemmed plants in eastern Pecos County, formerly known as *Echinocereus lloydii*, exhibit intermediate characters,



▲ *Roetter's hedgehog cactus is a beautiful hybrid of claret-cup cactus and the yellow-flowered rainbow cactus. Photo by Cathryn Hoyt.*

including their relatively large, bright orange flowers, between the red-flowered claret-cup cactus (*E. coccineus*) and the yellow-flowered rainbow cactus (*E. dasyacanthus*). (The claret-cups and rainbows are two of my other favorites, and

I get to sneak them in here as extras, because they are part of the *E. x roetteri* story). The possibility of hybrid origin for *E. lloydii* led us to test the hypothesis through experimental interspecific hybridization. Specimens of the sus

pected parental species (the claret-cup and the rainbow) were brought into the greenhouse and cross-pollinated. Resulting seeds (with hybrid embryos) were germinated and the plants grown to flowering stages, requiring a period of five years. The first generation artificial hybrids subsequently were taken through a total of four generations and backcrosses to both parents, involving a period of about 20 years. The experimental hybrids matched those in the natural populations, and the results were published in botanical journals. During the course of the study, the claret-cup cactus in our area was documented to be dioecious, i.e., consisting of separate female and male plants, a rare condition among cacti. Assorted populations of rainbow cacti with red, orange, and pink flowers, formerly assigned to yet another species by some cactus specialists, were documented to be part of *E. x roetteri*.

Mariposa Cactus (*Echinomastus mariposensis*) [= *Sclerocactus mariposensis*].

Distribution: Southern Brewster and Presidio counties; Coahuila, Mexico.

Blooming Time: February through March

Why a Favorite? This species, a neat little plant with a dense covering of grayish spines and white flowers, was once thought to be rare in its limited range in certain limestone habitats north of the Rio Grande. In connection with a regional study of rare or poorly known plant species, before I developed a special interest in cacti, Shirley and I began walking through the known or suspected range of *E. mariposensis*, attempting to evaluate the extent of its populations. Its early flowering time regularly gave us good reason to get



▲ One of the earliest spring bloomers, Mariposa cactus has dense greyish spines, and delicate white flowers with pink ribs. Photo by Cathryn Hoyt.

into the field, before ordinarily there is much reason for botanists to venture out. We discovered or rediscovered rather extensive, healthy populations, many of them with thousands of juvenile plants, from near Lajitas east to north of Black Gap.

Graybeard Cactus (*Echinocereus viridiflorus* var. *canus*)

Distribution: Presidio County, Solitario.

Blooming Time: March through April (-May).

Why a Favorite? In the mid 1980s, Sul Ross graduate student Jeff J. Clark began a floristic thesis study in the Solitario, a rugged geologic dome on the eastern edge of the Bofecillos Mountains. One of the things Jeff and I discussed about his project was a careful vegetative comparison between novaculite exposures in the Solitario and in the Marathon Basin, about 55 miles away. In the Marathon Basin, novaculite substrates support at least six endemic cactus taxa. Jeff and I

speculated that the Solitario novaculite might hold one or more of the Marathon Basin cacti, or perhaps something new. Sure enough, Jeff discovered a novel taxonomic entity, ultimately described as *E. viridiflorus* var. *canus*, related to *E. viridiflorus* var. *neocapillus* of

the Marathon Basin; the var. *canus* has white spines, remarkable white-“hairy” seedlings (like those of var. *neocapillus*), and bright green flowers. I have special memories of a visit to the type locality of var. *canus*, with Jean Hardy, Patty Manning, and Shirley.



▲ Endemic to the novaculite of the Solitario, graybeard cactus was discovered by Sul Ross University student Jeff Clark. Photo by Cathryn Hoyt

Desert Night-blooming Cereus (*Peniocereus greggii*)

Distribution: Throughout much of Trans-Pecos Texas; southwestern New Mexico; northern Mexico, south to Zacatecas.

Blooming Time: May through June

Why a Favorite? There is satisfaction associated with finding rare or cryptic things. *Peniocereus greggii* was once thought to be relatively rare in Trans-Pecos, Texas. Early on we started looking for these plants during various field trips. Ultimately we realized that *P. greggii* is more hidden than rare; its slender stalks grow beside the stems and under the canopy of shrubs, at least until the cactus stems grow above the nurse plants, or until the tending shrubs die. One of the challenges offered to students in my cactus and succulents classes, during field trips, was for each student to find her/his very own *P. greggii* plant. Most of them succeeded, after some spirited competition. One memorable “find” involved a female student, on the last trip of that particular semester; after finally discovering her very own night-blooming cereus plant, there in Pecos County hiding under a creosote bush, although eight months pregnant, she danced a jig and squealed with delight, creating quite a show for classmates and prof. We have seen these night-blooming plants grown from seed to bloom, and watched their flowers open at dusk, with flower parts visibly moving.

Snipe Cactus (*Ancistrocactus brevipalmatus* var. *pallidus*)

Distribution: Central and southwest Brewster County, southern Terrell County.

Blooming Time: February through

March.

Why a Favorite? The existence of a white-flowered, rare, possibly undescribed taxon of *Ancistrocactus* was first brought to my attention by the encyclopedic cactus expert, Allan D. Zimmerman. The cactus entity was known from only a couple of collections, and it was either very rare, very cryptic, or both. Shirley and I made special trips to look for the small, hook-spined, white-flowered plants, another early bloomer, initially without success, eventually causing her good-natured complaint, “this is like snipe hunting.” Our snipe hunts finally added new localities for the white-flowered *Ancistrocactus*, and after the taxon was described, the common name became snipe cactus. In my opinion, var. *pal-*

lidus is the most cryptic cactus taxon in the region.

PlusOne

Strawberry Cactus (*Echinocereus stramineus*)

Distribution: Southwestern Texas; southern New Mexico; north-central Mexico.

Blooming Time: March through May

Why a Favorite? Two main reasons: one is the spectacular beauty, especially of larger plants (with 50 to 100 or more stems) when in full flower (most stems with one or more flowers). Individual flowers are relatively large and bright magenta in color. Populations of these plants provide a brief but extraordinary splash of color in the springtime desert. The second reason is more esoteric. Did you know that there are

two kinds of strawberry cacti? One kind is diploid (two sets of chromosomes), and the other is tetraploid (four sets of chromosomes). The tetraploid plants (*E. stramineus*) have flowers and strawberry-tasting fruits twice as large as the diploid plants (*E. enneacanthus*). Apparently the extra two sets of chromosome are responsible for the larger flowers and fruits. The chromosome number was first determined by my colleague Jim Weedon.

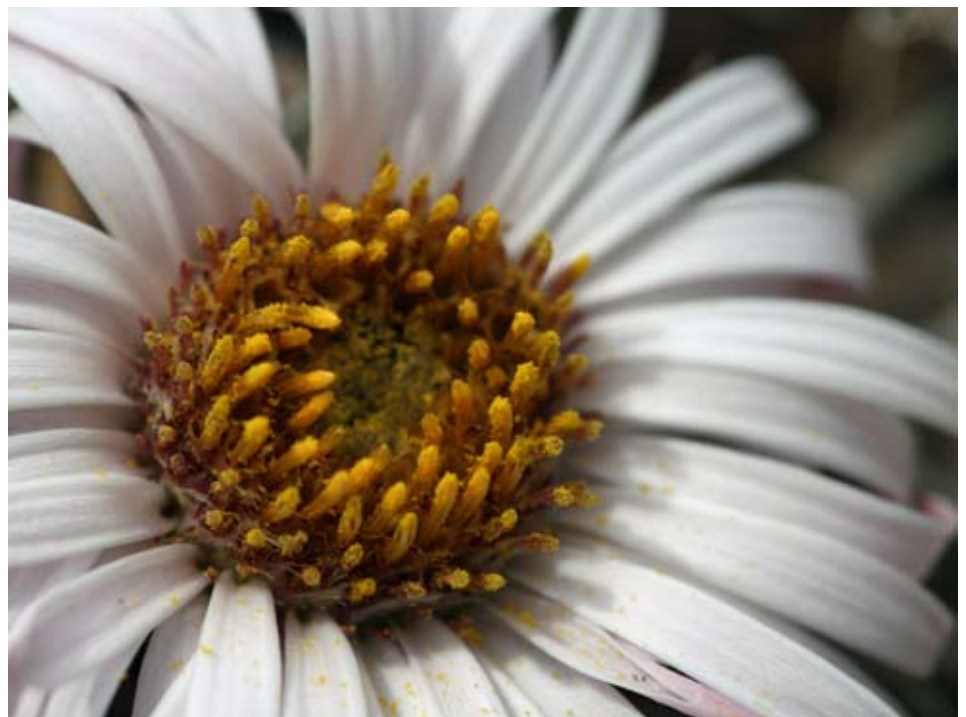
Mike Powell is professor emeritus of biology and director and curator of the A. Michael Powell Herbarium, Sul Ross State University. He is the senior author of Cacti of the Trans-Pecos and Adjacent Areas (2004, Texas Tech University Press) and Cacti of Texas: A Field Guide (2008, Texas Tech University Press.)

Jean Hardy's Five Favorite Native Plant Books

As a bookseller and a botanist, I have developed quite a collection of native plant books over the years. Asking me to choose my favorite five titles is a Sophie's choice—painful as heck. Only five? Here goes:

Barton H. Warnock (1977) *Wildflowers of the Davis Mountains and the Marathon Basin, Texas*. Sul Ross State University, Alpine.

For field identification of native plants in the greater Big Bend area, I choose Barton Warnock's *Wildflowers of the Davis Mountains and the Marathon Basin, Texas*—the second of three books Dr. Warnock published through Sul Ross State University in the 1970s. The other two, *Wildflowers of the Big Bend Country* and *Wildflowers of the Guadalupe Mountains and the Sand Dune Coun-*



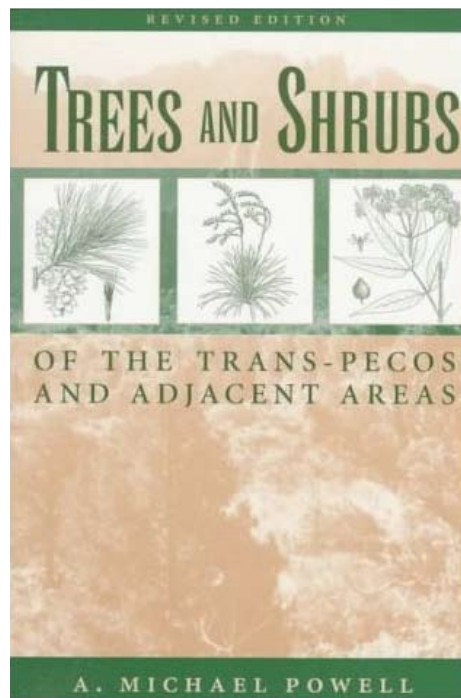
▲ Warnock's *Wildflowers of the Davis Mountains and the Marathon Basin, Texas* is useful for identifying the small wildflowers of spring. Photo by Cathryn Hoyt.

try, Texas, complete his documentation of Trans-Pecos plants. An ambitious undertaking by a man of great energy who preferred being in the field to being in the laboratory, the Warnock canon provides hundreds of color photographs that help you determine what plants you are looking at along roadsides and nature trails. Although much of Warnock's taxonomy is outdated, and some scoff at the informal, popular format, the books are helpful and much in demand, and no serious student of Trans-Pecos plants should be without them.

The Big Bend volume is out of print and quite pricey in the used book trade, yet it is the slimmest volume. Warnock once told me he wrote it in six weeks at night and on weekends while he taught a full load of classes in biology; that's why he wanted to rewrite and expand the book, but he never managed to do it. The Davis Mountains and the Guadalupe Mountains books are readily available from area book dealers, though supplies will be exhausted within a few years. I recommend the *Davis Mountains and Marathon Basin* volume over the others because it covers more species and includes the most information.

A. Michael Powell (1998). *Trees and Shrubs of the Trans-Pecos and Adjacent Areas*. University of Texas Press, Austin.

For scientific identification, I turn to A. Michael Powell's *Trees and Shrubs of the Trans-Pecos and Adjacent Areas*. Our desert is often called a "scrub" or "shrub" desert, for its diverse and abundant tree and shrub species. This book's excellent scientific descriptions, key, and range information, and its



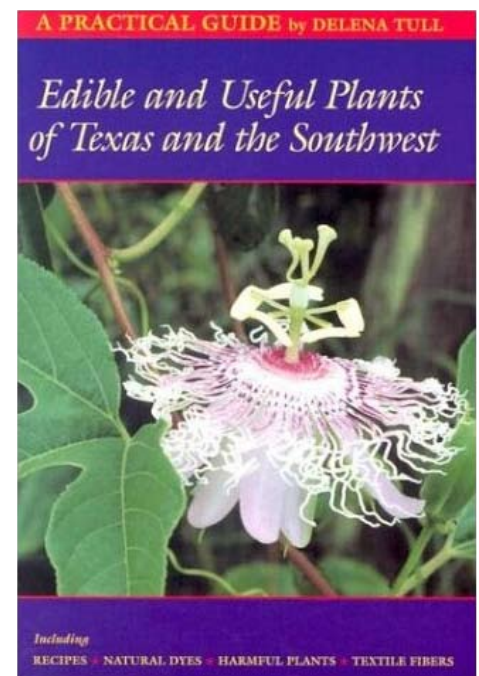
superior illustrations, help in correct identification—and you can count on the taxonomic accuracy. It's great for zeroing in on a hard-to-identify woody plant. Powell has written several other excellent books on our regional native plants—the grasses; the ferns and fern allies (with Sharon C. Yarborough), and the cacti (with James F. Weedon). Watch for the latest, the widely anticipated *Cacti of Texas: A Field Guide, with Emphasis on the Trans-Pecos Species* by A. Michael Powell, James F. Weedon, and Shirley A. Powell, available soon from Texas Tech University Press. I've seen a review copy and it's a beauty.

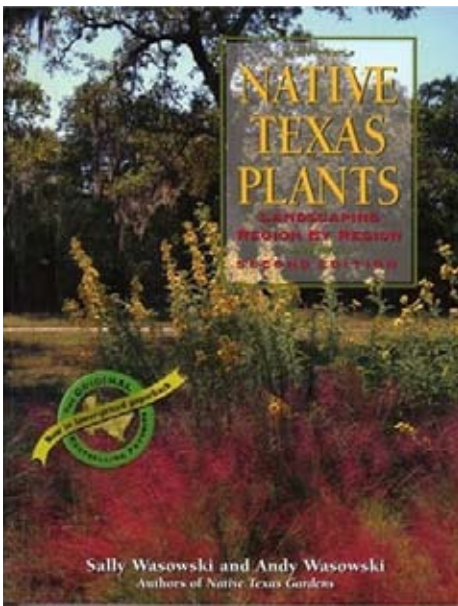
Delena Tull (1999). *Edible and Useful Plants of Texas and the Southwest: A Practical Guide*. University of Texas Press, Austin.

When I want to know more than identification of a plant—its history, uses, edibility, toxicity—I consult Delena Tull's *Edible and Useful Plants of Texas*

and the Southwest: A Practical Guide.

This is a how-to book for those who get a kick out of making things with plants. Want to know how to whip up a batch of fresh prickly pear jelly, wild persimmon bread, mormon tea, or other teas and herbal foods? Use one of her many dependable recipes. Tull also tells you how to make dyes, prepare plant fibers for weaving, and to make rubber, wax, oil, and soap; to extract medicinal substances for myriad ailments; and to distinguish edible from poisonous plants and berries. Her book is a fascinating compendium that you will turn to again and again. An interesting side-note: The first edition of this book, *A Practical Guide to Edible and Useful Plants Including Recipes, Harmful Plants, Natural Dyes and Textile Fibers* (Texas Monthly Press, 1987) is a smaller, more modestly produced volume that has become quite collectible and hard to come by. I treasure mine.





Sally and Andy Wasowski (1997). *Native Texas Plants: Landscaping Region by Region*. Lone Star Books, Lanham.

When it comes to growing native plants in the landscape, I have to recommend *Native Texas Plants: Landscaping Region by Region*, by Sally and Andy Wasowski (2nd ed) and especially *Native Plants for Southwestern Landscapes*, by Judy Mielke (UT Press 1993). Both offer authoritative horticultural information and excellent color photographs of native plants for the home landscape. There is a newer book that I am reluctant to mention because of my personal involvement in it (as co-publisher, copy editor, and co-photographer), but my story would be incomplete without selecting:

A. Michael Powell and Shirley A. Powell (2005). *Native Plants in Landscaping: Trees, Shrubs, Cacti and Grasses of the Texas Desert and Mountains*. Iron Mountain Press, Marathon.

Native Plants in Landscaping is the only book on ornamental plants dedicated

to the remarkably cold-hardy and arid-adapted native species of Trans-Pecos, Texas. It contains solid information on species you will find covered in no other landscaping book. It's attractive, affordable, and home-grown right here by one of the founders of the CDRI.

Donovan S. Correll and Marshall C. Johnston (1979). *Manual of the Vascular Plants of Texas*. University of Dallas Press, Dallas.

If you have the slightest tendency to be a true native-plant nerd like me, the most important book you will ever acquire on the subject is *Manual of the Vascular Plants of Texas*, by Donovan S. Correll and Marshall C. Johnston. My battered, dog-eared copy has copious marginal notes, underlinings, and a loose spine, because I have referred to it over the years more than any other single book. At 1881 pages, this is a tome that represents a monumental amount of research and compilation of data. Much of it will remain arcane to the layperson, but that only adds to the book's mystique. Its lengthy and academic key to identifying plants is challenging but worth mastering the scientific terms in the glossary. *The Manual* is still available in selected bookstores.

So that's my five, with five other close runners-up slipped in, for good measure.

Jean Hardy is a botanist, publisher, and owner of Front Street Books in Alpine and Marathon, Texas. She has studied, photographed, and written about the plants of the Trans-Pecos for over 30 years.

