Native Plant Society of New Mexico

NEWSLETTER

January-March 2002 Volume XXVII Number 1

El Paso Chapter takes on US Border Patrol

Wynn Anderson, President of the El Paso Chapter of NPSNM, points out a portion of the 40-acre tract in the Castner Range the chapter hopes to save from encroachments by the U.S. Border Patrol. Part of a 7,000 acre tract formerly used by the U. S. Army as a firing range, this grassland contains an isolated pocket of Sonoran Desert plants located in the midst of the Chihuahuan Desert. "This gently sloping *bajada* is the only occurrence of such a habitat in Texas," says Anderson, "and contains the last large expanse of Mexican goldpoppy in this state." ***Cont'd page 4.***

INSIDE

The Prez Sez

Bob Sivinski, President NPSNM

Classical botany has traditionally been centered on the essential studies of taxonomy, systematics, and floristics — in other words, the names and identities of plants, their relationships to one another, and where they occur.

During the early explorations of America, plant taxonomists were held in high regard. Mountain peaks were named for Asa Gray, John Torrey, and others. Botanical collectors like August Fendler, Charles Parry and Charles Wright found institutional support and actually made careers of floristic exploration. The heyday of plant systematics is more recent and current now that molecular studies can resolve plant phylogenies and even the time scales of evolution.

So how are we doing in New Mexico in regards to classical botany? The short answer is, not too well. Our academic institutions have little interest in supporting classical botany. A low level of systematic work continues at our two largest universities, but taxonomic and floristic works are seemingly no longer respectable pursuits of academic exploration and communication.

The Range Science Herbarium at NMSU is exceptional in its diversity of floristic and taxonomic projects specific to the New Mexico flora. This herbarium maintains a current list of New Mexico plant species and periodically publishes The New Mexico Botanist newsletter (<http://web.nmsu.edu/~kallred/herbweb/). San Juan College also defies the current trend by actively surveying the flora of the San Juan Basin.

Another bright spot is the huge amount of effort being expended to database the herbarium collections at NMSU and UNM. Yet these institutions are training few new botanists and few opportunities exist in New Mexico for professional jobs in botany.

Why should we care? Because whole botanical disciplines are being forgotten. Botanical taxonomy and floristic studies have contributed to our knowledge of biodiversity, ecology, production agriculture, medicine, and many other aspects of contemporary culture and our understanding of the natural world. These core botanical disciplines require scholarship and training to remain vital.

How can we arrest this dismal trend in New herbaria. The most important collections at UNM, NMSU, and San Juan College need our financial support, donations of botanical books, and properly collected plant specimens.

I was recently very pleased to witness a unanimous and enthusiastic vote by the NPSNM Otero Chapter to donate $500 to the NMSU Herbarium (they do this every year). Also, some individual NPSNM members are designating our herbaria in their wills to receive cash payments or books from personal collections. Anyone wishing to contribute to a New Mexico herbarium can contact me for details.

Next, we need to get classical botany back into our secondary schools. The best avenue toward this goal is to teach the teachers. If schoolteachers cannot learn taxonomy and local flora in their academic classes, then NPSNM should provide that training for them.

We are making a little progress with our plant identification workshops, grants to local flora classes for teachers, and help with science fairs. Yet we have potential for so much more.

The NPSNM education committee needs your participation and ideas. Join us in bringing classical botanical training back to New Mexicans.

CONTRIBUTORS WANTED

We need your help to fill these pages. Can you write an article on native plants, landscaping ideas, environmental issues? Or can you suggest someone who can? Can you come up with ideas for the point/counterpoint feature? Can you send us articles, cartoons, or jokes gleaned from other publications?

Yes? Then let's hear from you.

Are You Logging On to the NPSNM Web Site?

http://npsnm.unm.edu

Native Plant Articles, Chapter News, NPSNM Business (budget, by-laws, etc), and Botanical Links. It's always being updated, so check it out regularly.

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:

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Deadline for next issue is Feb 15, 2002

Membership in the NPSNM is open to anyone supporting our goals, i.e., 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. In addition, 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 which can be ordered by contacting our Poster Chair or Book Sales representative.

Proofreaders: Martha Carter, Jane Mygatt, Beryl Schwartz, Jackie Tamas, Ann Ellen Tuomey, and Sally Wasowski

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- __ **Taos**

I am interested in forming a new chapter in

_____

Annual Dues:

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Endowment contribution $_____
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LETTERS TO THE EDITOR

I was distressed to read about the "benefits" of Russian olive in the last NPSNM newsletter. Good grief — what does the N in NPS stand for? "Native" I believe. Not "naturalized;" certainly not "iNvasive exotic."

I am well versed in the characteristics of Russian olive. In my non-private life, I work for the other NPS: National Park Service. We spend millions of tax dollars fighting invasive exotic plants that are threatening to destroy some of our best-preserved native ecosystems. And that includes killing Russian olives right here in New Mexico. The national parks cannot eradicate these invasives if our neighbors keep cultivating them. Russian olives may be good bird food, but the birds are seed dispersers. The plants will keep coming.

I had faith that the native plant societies of the nation were helping stem the flow. But our own members and advertisers not only plant them, they also sell them. It's disturbing.

We are very lucky in this state. We have an excellent state noxious weed list. It does not include any native plants (some states do). And it does not include Russian olive. How can we in good conscience keep on selling and planting *noxious weeds?* I remain convinced that original native species and communities can do better than non-natives at feeding and sheltering birds, feeding native insects, and preserving our soil.

In my private life, I am spending quite a bit of money restoring our land with native species. And none of that money goes to businesses that sell invasive exotics.

Renee West
Carlsbad Chapter

Ed: Certainly there was no intention to advocate Russian olives by running the ***Point/Counterpoint*** *feature. But as the vast majority of nursery owners in New Mexico sell this noxious weed, we thought it would be interesting to understand how they rationalize this decision. As a successful Chinese general once wrote: "Know enemy, know yourself. A thousand battles, a thousand victories." As noted in the feature,* Blossoms *was the only nursery that agreed to defend their position in print.*

Castner Range Cont'd from Front Page

On November 13th, the El Paso Chapter sent a letter to the Science Applications International Corporation (SAIC) in San Antonio, Texas, stating their reasons why utilizing this land as a new Border Patrol Station and Sector Headquarters would be a bad idea from an environmental perspective. SAIC is a government contractor hired by the Border Patrol to prepare the environmental impact statement regarding this project.

The letter, signed by former President of the Chapter, Sarah Wood, pointed out that the Chapter "has long been deeply concerned with any proposed development of the portion of Castner Range" lying west of US 54. Fusselman Canyon, located within the Range, contains an alluvial fan of granitic soils not found elsewhere on the flank of the Franklin Mountains and thus supports the easternmost extension of a range of Sonoran flora.

Examples of this flora include: compass barrel *Ferocactus wislizeni,* sweet stem *Bebbia juncea,* bajada lupine *Lupinus concinnus* ssp. *orcuttii* (this is the largest Texas population of the several lupines that make up the state flower of Texas), *Calycoseris wrightii, Rafinesquia neomexicana, Malacothrix sonorae,* and *Arabis perennans.* This distinctively diverse mix of Chihuahuan and Sonoran flora is unduplicated in the region.

But the plant best known to the general public is Mexican goldpoppy *Eschscholzia californica* var. *mexicana,* whose spectacular spring displays are a source of civic pride.

Because this area was used as a military firing range from the late 1920s to the mid 1960s, and because of the high cost of removing unexploded ordnance, the land has so far been undeveloped and this ecosystem has remained intact. But, says Sarah Wood, "If the proposed development takes place, it is feared this will open the door to a cascade of additional development and eventual loss of this natural botanical and scenic treasure."

The El Paso Chapter, according to Sarah Wood's letter, is dedicated to preserving this site by having it transferred to the State of Texas as an addition to the Franklin Mountain Wilderness Park after it has been cleared of unexploded ordnance.

Bob Sivinski, President of NPSNM, says the State Society supports the position of the El Paso Chapter.

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EDITORIAL

In last April's newsletter, we proudly announced a new chapter — our tenth! More than that, it was an out-of-state chapter: El Paso, Texas. No other state's native plant society has ever done that!

But then, hard on the heels of this heady news, came word that one of our established chapters seemed to be in very bad shape. There have been no programs in a good many months, and nothing is planned for the immediate future.

When the chapter was formed, forty people had come to the initial meeting, and they were an enthusiastic and knowledgeable group. At least ten of them had enough expertise in various aspects of gardening and botany to put on programs. That was a little over two years ago. So what happened?

Organizations falter for many reasons. An out-of-state friend complained to me that his entire native plant society was in the grip of a few "hard-line old-timers" who have no interest in growth or outreach. "They just want to go on botanizing field trips once or twice a year," he said, "and confine it to their own buddies."

But even good leaders need support. If all the work falls to one or two dedicated members, the time will surely come when they say, "Enough already! I'm burned out! Someone else take over."

Sometimes, because of job or family, the leader simply gets too busy to run things. In both cases, members must step forward and volunteer to fill the leadership void. *Trouble is, this rarely happens.* Members claim either that they are too busy themselves, or else they get a case of the shies: "Aw, shucks, I can't be a leader."

In fact, some of the best leaders I've encountered, both in NPSNM and other groups, *were actively recruited.* Somebody came up to them and said, "Hey, we need you!"

Sandra Ross, the first President of the Taos Chapter is a good example. She came to the first meeting with no other thought than to join. She went home as the new chapter's president. And for two years she was an energetic and creative leader.

In a volunteer organization such as ours, every member has the responsibility to assure continuity. Make sure someone is there to take charge, and be sure to give them plenty of help.

Chapter Activities & Events

ALBUQUERQUE

Meetings held at the Albuquerque Garden Center, 10120 Lomas NE, at 7:00 p.m.

January 3. "*A Virtual Auto Tour to Visit the Rare and Endangered Plants of New Mexico.*" Charlie McDonald, Regional Botanist for the U.S. Forest Service - Southwest Region and current Chairman of the New Mexico Rare Plant Technical Council.

February 7. "*Development of a Database and a Monitoring Program for the Flora of the Gila National Forest.*" Jack Carter, Professor Emeritus of Biology at Colorado College and past President of the Native Plant Society of New Mexico. Meeting tentatively at the UNM Herbarium at 7:00 p.m. Call 505-286-8745 for exact location.

March 7. "*Vegetation of the Northern Chihuahuan Desert.*" Esteban Muldavin, Ecologist for the New Mexico Natural Heritage Program, UNM Department of Biology.

EL PASO (Texas)

The El Paso Native Plant Society meets regularly on the second Thursday of each month except for December, at 7 PM at the Centennial Museum on the campus of the University of Texas at El Paso.

January 10. *"Cacti of the El Paso/Las Cruces Region."* Lisa Mandelkern of the Las Cruces Native Plant Society.

February 14. *"Butterflies."* Dr. Carl Lieb, Associate Professor of Biological Sciences, The University of Texas at El Paso.

March 14. *"Botany of the Guadalupe Mountains of Texas and New Mexico."* Dr. Richard Worthington, Professor of Biological Sciences, The University of Texas at El Paso and Honorary Life Member of the Society.

February/March Field Experience will be a tour of the UTEP Herbarium and the Laboratory for Environmental Biology at the Department of Biological Sciences, The University of Texas at El Paso. Time and date TBA.

GILA (Silver City)

Programs at Harlan Hall, WNMU Campus at 7:00 p.m.

January 18. *"Insects? / Plants?"* Peggy Spofford-Wallace brings discussion & slides on insects evolving to disguise themselves as plants.

February 15. *"Celebration of Charles Darwin's Birthday."* Jack Carter on the life and career of Darwin and his discoveries as scientific & cultural forces in a changing world.

March 15. *"A Few Native Blooming Plants of New Mexico and Texas."* Slide show with identification challenges by Mary Alice Murphy.

LAS CRUCES

Programs and Meetings at Southwest Environmental Center, 1494 S. Solano Dr.

February. Planning meeting for field trips and programs for the rest of 2002. Date TBA.

SACRAMENTO MTS (Ruidoso)

No meetings held in January and February.

March. Meeting TBA.

SANTA FE

3rd Wednesdays at the Evans Science Lab Bldg, Rm 122, St John's College, 7:30 p.m.

January 16. *"Out of the Ashes: The Story of Natural Recovery."* Terry Foxx

February 20. *"Brother Arsene: Early Plant Collecting in New Mexico."* Dave Johnson.

March 20. *"Garden Worthy Native Plants."* Barbara Weintraub.

TAOS

2nd Wednesdays at San Geronimo Lodge, 7:00 p.m.

January 9. *"Microclimates and Plant Choices."* Aspen Evans from Santa Ana Nursery at the Santa Ana Pueblo.

February 13. *"The Spirit of Plants."* Richard DeerTrack from the Taos Pueblo.

March 13. *"The High Desert: How Plants Adapt."* Bob Pennington, owner of Agua Fria Nursery in Santa Fe.

Los Jardineros Comes Through Again for Taos Visitor Center Native Gardens

In 2000, Los Jardineros, the garden club of Taos, donated $6,000 to the Taos Visitor Center for a complex of 9 native, medicinal, and heritage crop gardens designed by Sally Wasowski of the Taos Chapter. The money was earmarked for native plant materials. But before these plants could be bought, a new irrigation system was needed to assure that the plants would be properly established. So, in 2001, Los Jardineros gave an additional $4,000 to cover cost, installation, and maintenance of this system. This donation will also go for a French drain and signage.

Many thanks to Los Jardineros for their generous support.

The Taos Chapter will also donate to this project; the exact amount will be determined at their next board meeting.

Four Ways to Improve Your Nature Photographs

by Andy Wasowski

This article assumes the reader has a basic knowledge of how to focus and how to set proper exposures. And, that the reader owns a single lens reflex (SLR) camera and not a point-and-shoot model. Three of these suggestions won't work without an SLR.

These are only four of many ways to take better pictures, but these are the ones I wish I'd known way back when Sally and I started working on our first book.

1.) Over-shoot

Actually, I did know this one before that book. I had been in advertising for many years and watched numerous commercial photographers at work. One of the first things I noticed — aside from how much they charged — was how much film they shot to get one picture. This is especially important when shooting out in nature. Maybe that flower won't look as fresh in a day or two. Maybe it's too far to drive back for another try. And maybe the lighting was perfect when you were there, but chances are you'll never get the same light conditions again.

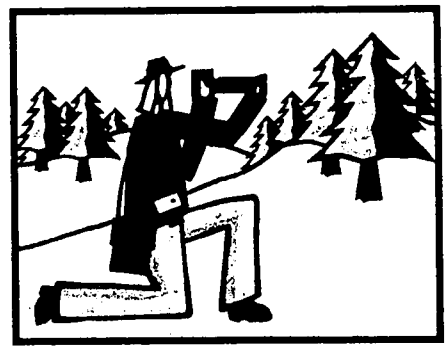
I've seen lots of slide shows where a slide is too dark or overexposed, and I wondered if that was the only shot the guy took. Chances are it was. So take a dozen or more shots and bracket your exposures to be sure you got it right. Film is relatively cheap compared to the expense and trouble of redoing the picture later.

2.) Depth-of-Field

Perhaps a better way to say it is, depth-of-*focus*. Let's say you're photographing a garden. You don't want just the flowers in the middle to be sharp, you want it all crisp, front to back. So you set your camera for *greater* depth-of-focus. Or, let's say you are shooting a single flower in front of an ugly chain-link fence. You'd like the fence to be in very soft focus or even disappear. So you set for very little depth-of-focus.

And this is the key: The *more* depth of focus you want, the *smaller* you set the aperture, or *f*-stop. For very little depth of focus, set a very wide aperture. The higher the *f*-stop number, say, *f*-16, the smaller the aperture. The lower the *f*-stop number, *f*-2, the larger the aperture.

Of course, when you change the *f*-stop setting, you must also change the shutter speed. Remember, the same amount of light is needed for a proper exposure, so by opening up the aperture you must set a faster



shutter speed. Closing down the aperture means you have to slow down the shutter speed.

Think of it this way: You have two cups of water. Pour one cup into a wide mouthed jar and it goes in pretty fast. But pour the same amount into a narrow-necked soda bottle and the water takes more time to go in. Think of that water as light pouring through the lens aperture and you get the idea.

3.) The Polarizing Filter

I can't believe it took me years to discover this simple device. A lot of spoiled pictures would have been saved. Leaves, flower petals, the water in a lake or river can kick off a lot of light, and create unattractive hot spots. But by attaching a polarizing filter to your lens, and turning its outer ring, you can reduce or eliminate the glare. The filter can also intensify colors and make clouds snap out more crisply.

The one drawback is that the polarizing filter is dark and will require an extra *f*-stop or two for proper exposure.

4.) The Tripod

A well-known nature photographer wrote in one of his many books that he did not like tripods. He found them cumbersome and too much trouble when he was shooting in rough terrain.

I have a very different viewpoint. Without a tripod, you must shoot at a shutter speed fast enough to compensate for shaky hands — at the very least a 60th of a second. I find far too many instances when I must shoot much slower — even a full second in dim light. You simply can't do this without a tripod.

The tripod also allows you to frame the picture just the way you want it, exposure after exposure (*see Overshoot).* You'll have time to study every detail in the scene and eliminate an unsightly dead branch or wait for the sun to reappear from behind a cloud. Once, after snapping off five or six exposures of a particular scene, I rechecked my framing and spotted a gum wrapper that I hadn't noticed before. You want to catch oversights like that at the site, not days later on the light table.

An alternative to the tripod is the monopod, which has just one expandable leg. In tight areas, this can give you enough stability to shoot at slower shutter speeds that would be impossible hand-held.

Hidden Symbiosis:

A match made underfoot

By: Juliana Medeiros
UNM Herbarium

Although legumes are well known for their symbiotic relationship with the nitrogen fixing bacteria *Rhizobium*, they are not the only plants that form this kind of symbiotic association. Large contributions of nitrogen are made to natural ecosystems by Actinorhizal plants which are a diverse group of trees and shrubs, consisting of 160 species from eight families. The name actinorhizal comes from actino- (for bacteria) and rhizal (for root). These plants form nodules on their roots which are inhabited by symbiotic nitrogen fixing bacteria from the genus *Frankia*.

There are around 80 actinorhizal plants native to the Western U.S., and several species are found in New Mexico, including the native shrubs Mountain Mahogany (*Cercocarpus montanus*, family Rosaceae), and buffaloberry (*Shepherdia canadensis*, family Elaeagnaceae), and the invasive exotic tree Russian olive (*Elaeagnus angustifolia*, family Elaeagnaceae). Mountain mahogany forms some of the most extensive stands of actinorhizal plants in the world, and is the most important browse species in the Western U.S. It can be found in mountain habitats all over New Mexico and is usually associated with spruce/ponderosa, ponderosa/piñon or piñon/juniper woodlands.

Known as endosymbionts, *Frankia* inhabiting actinorhizal plants are filamentous, branching bacteria of the order Actinomycete. They live saprophytically in soils, i.e., living off decaying matter, until they meet and colonize plant roots which are able to form root nodules where the bacteria can live. Root nodules are perennial clusters of modified lateral roots in which the cortex contains cells inhabited by the endosymbiont. The bacteria consist of three types of cells: spores for reproduction, hyphae which perform metabolic functions, and vesicles which contain the enzyme nitrogenase and are the sites of nitrogen fixation.

Although 78% of earth's atmosphere is nitrogen gas, plants cannot make use of it in this form. *Frankia,* and other prokaryotes, can transform atmospheric nitrogen into ammonia using nitrogenase. Nitrogenase is an iron and molybdenum containing enzyme which is permanently damaged by the presence of oxygen and requires high amounts of energy to produce and operate. One of the most interesting aspects of Actinorhizal root nodules is that, like legume nodules, they contain a form of hemoglobin. Analogous to vertebrate hemoglobin, this compound presumably protects the bacterial nitrogenase by transporting excess oxygen out of the nodules.

Frankia bacteria provide their host plant with a steady source of fixed nitrogen in exchange for sugars produced by the plant through photosynthesis, as well as shelter from predation and the extremely harsh conditions of soil habitats. Within the nodule the endosymbiont is provided with a stable habitat and the ample resources needed to run the nitrogen fixing machinery in excess of its own needs. Nitrogen is in great demand by living organisms and is limited in all but a few environments. Actinorhizal plants incorporate the ammonia provided by their endosymbionts first into amino acids, which are then used to make a variety of structural, enzymatic, and genetic components.

Mountain mahogany
Cercocarpus montanus

Drawing by Robert Dewitt Ivey

Both host and symbiont communicate with each other through chemical signaling during the entire life of the nodule, maintaining the numbers of bacteria in balance with the plant's nitrogen needs.

The Actinorhizal symbiosis is an intricate balance of action and reaction by plant and endophyte that results in these plants having the exceptional ability to colonize disturbed or marginal habitats, such as river flood plains and steep mountain slopes, where they quickly establish pure stands.

Roots of an Actinorhizal plant with a cluster of nodules typical of those found on Mountain Mahogany and Russian Olive.

Actinorhizal plants are found from the tropics to the Arctic worldwide but are most common in the temperate zone where they are the primary means of adding fixed nitrogen to forests and arid ecosystems. Ecologically diverse, they occur in alpine, tundra, forest, shrubland, grassland, desert and riparian habitats. Within these habitats Actinorhizal plants specialize in soils low in combined nitrogen (ammonia and nitrate). Because nitrogen is readily available to them, their leaves and roots have a higher nitrogen content than those of most plants. As these die, they build up soil organic matter and create a more favorable habitat for other plants. High nitrogen content also makes them nutritious for browse animals. All of these characteristics make Actinorhizal plants such as *Cercocarpus montanus* excellent candidates for land reclamation projects and low water landscaping, as well as fascinating members of our native plant community.

There are several important things to know when planting Actinorhizal plants. Wild harvested seeds of mountain mahogany and buffaloberry can be germinated at 20° C, but only after storage in wet sand at 3° C for 90 days. Soils where actinorhizal plants are not already growing need to be inoculated with *Frankia* in order for seedlings to develop nodules.

This can be accomplished several ways. First, some *Frankia* strains are available commercially. Second, grow seedlings in a small amount of soil from underneath an established, nodulated individual of the same species. Third, an inoculant also can be obtained by grinding up nodules from the same plant species, mixing them into solution, and placing this solution into the growing medium.

Despite the extra effort needed to establish symbiosis, the benefits of nutrient enrichment can make Actinorhizal plants a great addition to any landscape.

To learn about a type of symbiosis between plants and cyanobacteria go to:
http://plantnet.rbgsyd.gov.au/PlantNet/cycad/nitrogen/nfixcontents.html

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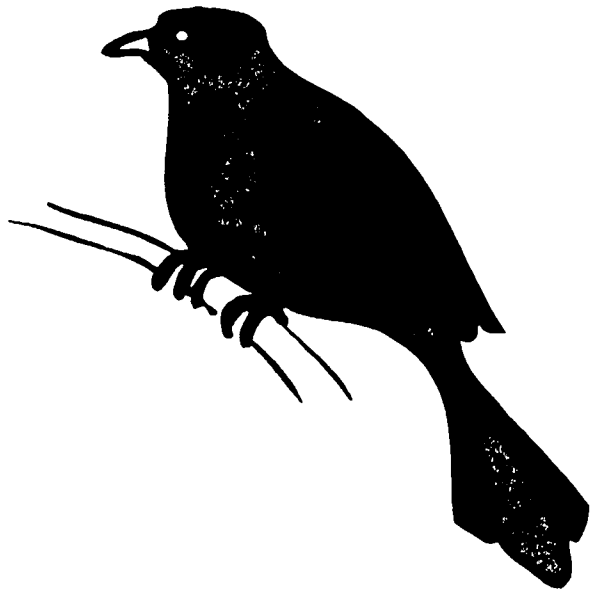
"But how do you tell the wild flowers from the tame ones?"

WILDSCAPING

The Ultimate in Gardening for Wildlife.

by Wynn Anderson



Most folks hang out a hummingbird feeder or two, maybe nail a tray to a tree for holding commercial birdseed, or perhaps even install a store-bought bird bath and proudly call their garden a *wildscape*. Such endeavors can be laudable and are certainly evidence of an appreciation for nature. But, the truth is —these are not real wildscapes.

A true wildscape attempts to emulate nature in the landscape in order to provide a functioning natural ecosystem that meets the basic needs of a diverse array of creatures. Hummingbirds and butterflies are always welcome in any garden, but an ideal wildscape should include all birds, reptiles, mammals and insects — not only the cute and cuddly, but the bad and the ugly. After all, every critter has its place in a balanced ecosystem.

Clearly a typical urban residential landscape is an artificial creation. It is a relatively small plot of land. It is also most likely isolated from any significant area of indigenous wild land. And, it is surrounded by a hostile barrier of preying pets, fearful and intolerant neighbors, and a chemically poisoned wasteland of sterile lawns and gardens. This landscape is simply never going to be truly wild again or ever flourish as an ideal independent ecosystem. However, there are limits on any wildscape that are placed by practical good sense and by nature itself.

The fun is in trying to find and define those limits in your own landscape. For example, can you imagine what a pair of cute deer can do to a residential lot in a couple of weeks? And while I may tolerate resident mice, scorpions and black widow spiders or even an occasional rattlesnake passing through my wild garden, I certainly don't want them in my home.

Now, before this goes any further, there are three essential principles that must be accepted before undertaking the creation of a wildscape.

1. Use of pesticides and other chemicals must be minimized. Remember, if you want to have butterflies, then you gotta have the worms! In this day and age, I hope an explanation of the damage that even minute amounts of poisonous chemical pollutants in the food chain can do to wildlife is not necessary. For example, up to half of a hummingbird's natural diet is protein derived from eating insects, and it takes very little insecticide residue to kill one of these tiny birds.

2. Confine your pets. While a kid with a BB gun can wreak occasional havoc, free roaming pets — especially cats — will permanently devastate local wildlife. A bell on the collar is not the solution nor is excessive feeding of your animals. Only confinement or restraint can control the natural predatory instincts of cats to stalk and kill or of dogs to chase and maim small creatures.

3. Educate your neighbors and yourself. A good wildscape is designed to please wildlife but not necessarily your neighbors. So take time to explain what you are doing and why you are doing it to all those who may be affected in your neighborhood. Investigate local building codes to learn of any restrictive covenants and ordinances that may impact the use of your property. Make sure you comply with them or seek proper variances. You will be surprised how cooperative most people will be once they understand what you're up to.

How to Proceed

If you are prepared to make those commitments, then you are ready to begin — and that means having a plan. Take the time to prepare a landscape design — whether it is something you scratch out at the kitchen table or have prepared professionally, either a retrofit of an existing landscape or the creation of a new one.

A plan is especially useful if you choose to install the landscape over a long period of months, if not years, to spread the cost, or the labor if you are doing it yourself, into affordable segments. If that is the case, always try to plant trees first, as they take the most time to establish and achieve the size and maturity needed to contribute to the wildscape.

The three basic needs of all wild creatures that must be provided for in your plan are food, water and shelter.

Food

Natural sources of food, in contrast to artificial feeders, require the use of plants with which the animals are familiar. In short, use of native plants that produce seed, fruit, nuts, nectar or forage. While hummingbird feeders can provide all the energy producing sugar these little beauties may need, they cannot provide the equally essential vitamins and minerals that natural nectar produces.

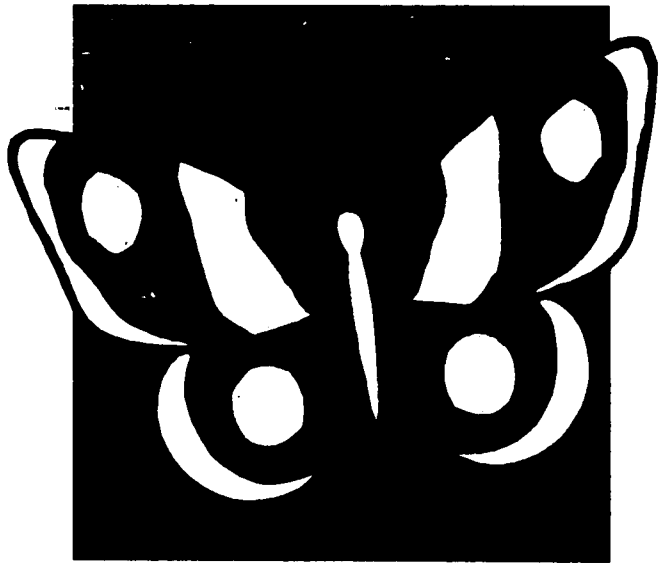
To choose which native plants to use, observe the native food sources in natural areas around you. Look for diversity of food material as well as availability. At some point, you may also turn to the library, the internet and other possible local information resources such as your county extension service. Some federal, state, or local governmental agencies overseeing services such as parks, fish and wildlife, forestry or land management may also have professional wildlife biologists and specific literature or programs such as master naturalists or Master Gardeners that can be of assistance. A local native plant society or chapter of the Audubon Society will often have knowledgeable members to help you identify suitable plants native to your area and possible sources for them.

Water

A fresh, clean, dependable water source is easy to provide. Traditional birdbaths and shallow standing pools and basins can quickly stagnate and, without frequent and regular cleaning and refilling, become a polluted source of disease or parasites. Larger ponds, unless thoughtfully constructed to provide easily accessible shallows safe from predator ambush, are of only limited use to most wildlife. Ponds also must be oxygenated and properly balanced to avoid odors and mosquito problems.

The best sources tend to be small pools that are equipped with automatic float refill devices to insure a dependable water supply and a small submersible pump to slowly recirculate and oxygenate the water over short, shallow, inclined watercourses or stair-stepped ledges. Irrigation bubblers can also be effective. Let them drip into a basin, trough or onto the irregularly pitted surfaces of large rocks.

Imaginatively designed wildlife water sources can do double duty as attractive water features in the landscape. Avoid fast flowing, water wasting fountain sprays and splashing waterfalls. Also, don't make the mistake of locating the water source in a high traffic area where frequent human presence may deter its use.

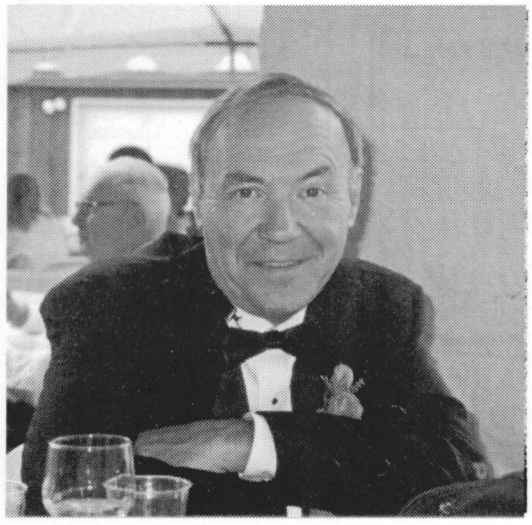


Shelter

Natural protective shelter is the core of a successful wildscape. You can define shelter as a secure habitat that provides nesting, roosting, sunning and display sites, and protection from storms and predators. In small areas, such an environment can only be provided by layering the landscape with an overstory of fruit or nut producing trees, a multilevel understory of berried or sweet nectared shrubs, and a diverse ground covering of nectar-rich, seed producing, larval hosting perennials, grasses, and annuals. These layered plantings should ultimately open onto or surround an area of clear, open, overhead space. On the ground, this

Continued on page 14

IN MEMORIAM



JOE DUFT

OCTOBER 16, 1935
NOVEMBER 20, 2001

On November 20th, the Native Plant Society of New Mexico lost a valued member. Joe Duft was active at NPSNM Board meetings and served as Vice-President from 2000-2001. He initiated and directed the construction of an interpretive Chihuahuan Desert garden by the Otero Chapter at Oliver Lee State Park, and also proposed and helped organize a successful NPSNM Cactus Identification Workshop in 2001. Bob Sivinski echoed the thoughts of many of us when he said, "Joe's enthusiasm, creativity and leadership will be sorely missed by NPSNM."

In 1957, Joe received a bachelor of science degree in forestry from the University of Montana and began his career with the State of Utah Division of Forestry. After a hitch in the U. S. Army, Joe worked with the Bureau of Land Management in Nevada, and then the Interagency Fire Center where he fought fires and trained firefighters in 11 states until his retirement in 1986.

In 1998, Joe moved to Alamogordo and became active in Master Gardeners, NPSNM, and Friends of Oliver Lee State Park.

Joe is survived by his wife, Maxine, three daughters and one son.

The Gila Chapter in Silver City is hosting next year's annual meeting August 15-18. Please mark your calendars. Details will follow in next quarter's newsletter.

THIRSTY TREES

The Santa Ana Pueblo Bosque Restoration Project has discovered the following:

An acre of tamarisk at the Bosque del Apache uses four acre feet of water per year; approximately 1,300,000 gallons of water.

An acre of Russian olive uses up to eight acre feet of water per year; approximately 2,600,000 gallons of water.

But an acre of native cottonwoods only uses 2.6 acre feet of water per year; approximately 845,000 gallons of water.

From High Country News, November 19, 2001

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Taos Chapter Honored

The Taos Chapter of NPSNM received the 2001 Native Plant Landscaping & Wildflower Program Achievement Award of Merit from Keep New Mexico Beautiful, Inc, according to Robert Hilton, past president of the chapter.

The award was for two native plant beds installed at Fred Baca Park in Taos. The project was funded by a grant from Keep New Mexico Beautiful, Inc. Construction was furnished by the Town of Taos Buildings and Grounds department, and planting was done by members of the Taos Chapter, including Robert and Sara Hilton, Jim Tuomey, Karen Epperson, and Honore Maloney.

The award was presented to the chapter at the Annual Awards Ceremony Luncheon held Saturday, October 27th at the Doubletree Hotel in Albuquerque.

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Wildscaping Cont'd from Pg 11

open area can become an attractive wildflower meadow or grassy patch of prairie, perhaps with areas of exposed soil to provide for dust bathing, preening and sunning for birds and reptiles as well as scratching room for ground feeding birds and mammals.

The patch of open sky is important not only to the well-being and security of ground dwellers and feeders, but to butterflies and hummingbirds who need room for their swooping aerial displays required for territorial defense and successful mating. Providing such a richly layered landscape will create a full range of microclimates and topographical features from which a greater variety of birds, mammals, reptiles and insects can select their preferred niche.

Obviously, the urban setting in which most of us live creates limits on the ideal wildscape. But, whether we have a 500-square foot condominium patio garden or a sprawling 5-acre rural yard, creating a friendly sanctuary for wildlife is both important to help compensate for the alarming consumption of natural habitat by unbridled urban growth and agricultural use, and as a personally rewarding, aesthetically pleasing, educational endeavor.

Wynn Anderson is President of the El Paso Chapter, and the Botanical Curator of the Chihuahuan Desert Garden/UTEP.

"We abuse the land because we regard it as a commodity belonging to us. When we see land as a community to which we all belong, we may begin to use it with love and respect."

Aldo Leopold

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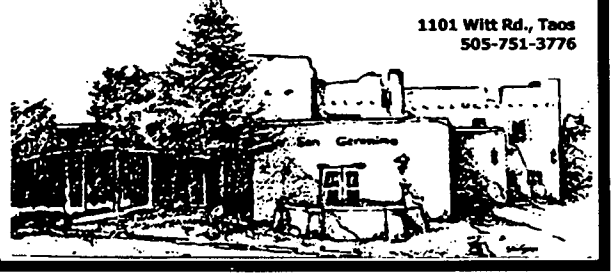

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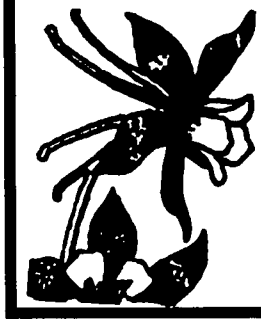

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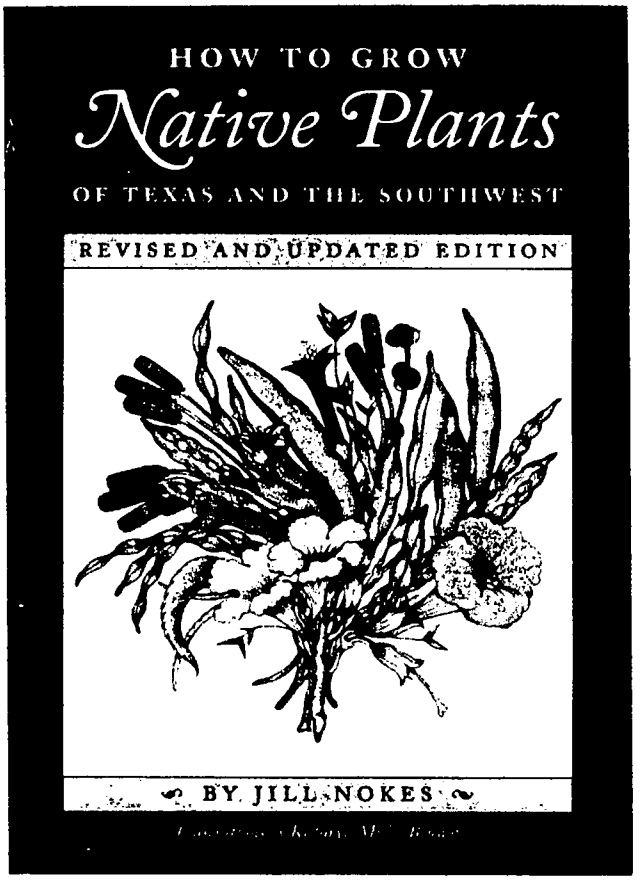
Book Reviews



How To Grow Native Plants of Texas and The Southwest

Revised and Updated Edition

by Jill Nokes

University of Texas Press, 2001
566 pages, color illustrations
Hardcover $ 60.00 Softcover $29.95
ISBN 0-2292-75574-0

WELCOME BACK!

Many of you are already familiar with *How to Grow Native Plants of Texas and the Southwest* by Jill Nokes. For anyone interested in growing a native plant, this book has become a classic since it first came out in 1986. It contained the information amassed up to that point on how to propagate native woody plants of the American Southwest, along with illustrations of seeds and techniques drawn by Kathryn Miller Brown.

In writing the original edition, Jill consulted with Lynn Lowrey, Benny Simpson, and many other native plant pioneers who shared their secret successes and, yes, even their failures, as well as their decades of observations of these plants in the field. Although this book focused on extensive and detailed propagation information, it also contained notes on natural habitats, garden uses, and cultivation.

Thanks to this book, native plant growers sprang up all over Texas and adjacent states.

Gone but not forgotten

Then, in 1998, Jill discovered that her book had quietly gone out of print; the publisher had not even had the courtesy to let her know. She had been planning a second edition for several years, but this news galvanized her into action.

In the intervening years, Jill's original mentors — Lowrey and Simpson — had died, and she found herself the living link between these fathers of the native plant nursery movement and a whole new generation of commercial growers. "I talked with very few people who were reluctant to share trade secrets," Jill acknowledged. "Most of these people have forsaken worldly goods and fame to pursue their passions for plants."

It was with the help of these new growers that Jill rewrote her book. But, what she had thought would be a project taking a few months turned instead into more than two years of hard work.

Better than ever

Nothing from the original edition has been lost, while much has been added, including 15 new genera of plants, additional species in the original genera, and photographs, not to mention updated techniques garnered from 14 more years experience — Jill's and the growers' who assisted her. Literally, every paragraph contains new information, and every plant entry contains new paragraphs. The original book was an inch thick; this new edition is two-inches thick!

Although this book has primarily been used by growers and other landscaping professionals, there is a good deal of information in these pages that is so basic and down-to-earth, that any homeowner — brown thumb gardener or Master Gardener — will find it an invaluable addition to their gardening library.

Sally Wasowski

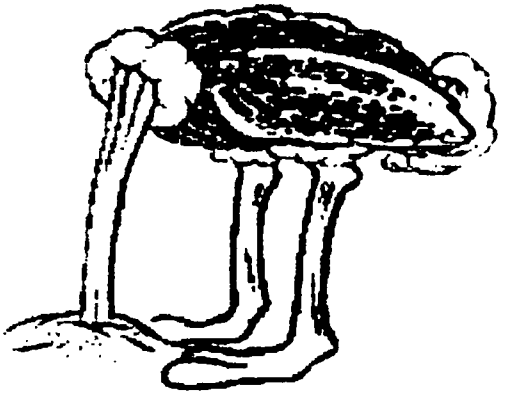
Keep Off the Grass

What began as an anti-lawn party has become a mini-revolution. In May 1991, the Montreal suburb of Hudson passed a law banning the "cosmetic" use of pesticides within town boundaries— making it illegal to douse those dandelions in the garden or on private lawns. Recreational facilities such as parks and golf courses were also restricted from using pesticides. TruGreen Chemlawn and Spray Tech, two pesticide-application companies, didn't care for the ruling and challenged the law, taking it all the way to Canada's Supreme Court. This summer it became official: The high court ruled that municipalities across the country now have a right to ban pesticide use on public and private property. And for good reason: Of the 36 most commonly used lawn pesticides, 13 have been found to cause cancer, 14 cause birth defects, 15 have been linked to liver or kidney damage, and 21 damage the nervous system.

***From the Nov/Dec 2001 issue of* Sierra Magazine.**

HEAR NO EVIL, SEE NO EVIL...

In the Bill Moyers special, *"Earth on Edge,"* aired last June on PBS, marine biologist Carl Safina commented on society's reluctance to face up to the danger signs of environmental decline. "We don't like to react to the first warning light that comes on the dashboard," he said. "We like to make sure that we're really hearing a big grinding noise before we all agree that maybe we should stop and get out and take a look at what's wrong."



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