



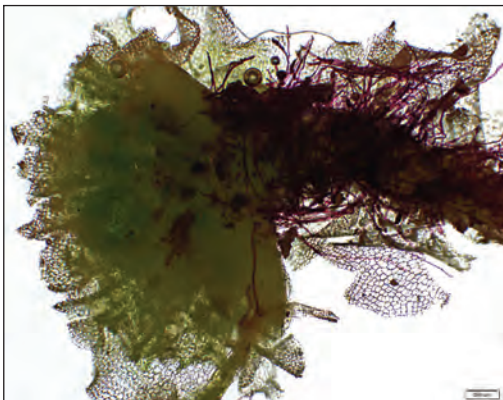
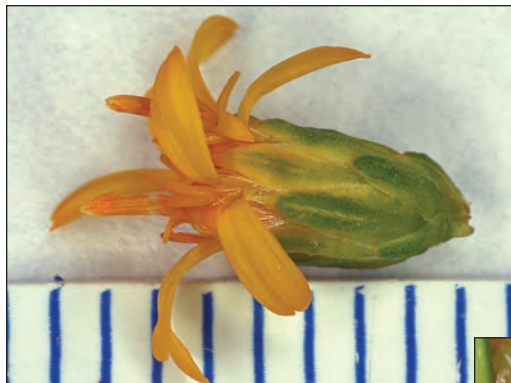
NEWSLETTER

of the

NATIVE PLANT SOCIETY OF NEW MEXICO

JANUARY, FEBRUARY, MARCH 2014

VOL. XXXIX NO. 1



Photos: Russ Kleinman

Non-professional botanists are doing great work
(see page 5). Clockwise from top left: *Asclepias asperula*, *Solidago missouriensis*,
Carex lenticularis, *Brothera leana*, *Fossombronia* sp.

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From the President

by Renée West

Saying goodbye can be difficult, and in the past year, members of the Board and committee chairs have moved away or resigned. And now we're saying goodbye to Cindy Roper—a particularly difficult goodbye because Cindy has been most valuable in taking care of our website and our Board. She has spoiled us!



up meetings and securing locations, keeping the website updated with the latest stuff, putting up with the website when it seemed to ignore her changes, getting us on Facebook, even helping us hire her replacement.

Cindy will still have many demands on her time in her other endeavors. We wish her well in all of them!

Cindy is our administrative coordinator and website editor and has been doing a fantastic job of managing the little details that make us operate efficiently. As this issue of the newsletter is being prepared, the Board is working diligently—with Cindy's assistance—reviewing resumés and conducting interviews, trying to find a suitable replacement. A committee composed of the four executive officers—Barbara Fix, Pam McBride, John White, and myself—as well as Tom Antonio, past president, is considering the many resumés we received by the December 2 deadline. We hope to have a selection for the approval of the full Board of Directors by about mid-December.

You may remember we are still in need of people to fill the positions of membership secretary (a Board position), and conservation chair. These are two important positions (and both are totally volunteer). If you or someone you know would like to participate in running the Society at this level, please let us know!

We will be having our annual winter meetings early in the year. The first is the Finance Committee, where we plan a budget for the year. The budget will be presented at the meeting of the entire Board. Members are always welcome to attend. Look for announcements of location, date, and time on our website. ❖

In her two and a half years with us, Cindy has taken care of so many logistical issues it's hard to list them all: setting

NPSNM News

Membership Coordination

The NPSNM Board of Directors happily announces that Lindsey Kirchhevel will continue through next year as our contract membership coordinator. Lindsey keeps our membership lists up to date with renewals and new applications, both by snail mail and online. We thank Lindsey for keeping our membership organized.

Many Thanks to The Cleanery

In support of Earth Day 2013, Albuquerque's The Cleanery kindly ran a one-week special and donated 5% of all sales, or \$500, to NPSNM, for which we are very appreciative. The Cleanery has achieved Gold Level Green Business Certification with the Green Business Bureau, to become New Mexico's only green-certified dry cleaner. Many thanks to Kurt Lucero, who also promoted NPSNM in an e-mail blast to 3,000 people, as well as on Facebook and Twitter. If you are in the Albuquerque area, consider stopping by and thanking The Cleanery for their support!

Win-Win Book Deals

If you would like to purchase some really fine botanical books and have 10% of your purchase price go to the Native Plant Society of New Mexico, check out Exotic Plant Books, <http://exoticplantbooks.com/>. The owner, Daiv, stocks unusual books at good prices (e.g., the new *Flora of the Four Corners Region*; see review on page 7). When you finish your checkout procedure, you will find a drop-down menu listing a number of native plant societies. Click on "New Mexico" and Daiv will credit our Society with 10%, which our Society can redeem in books at any time. ❖

If you received this newsletter via email, and would prefer a hard-copy, please notify the administrative coordinator, nativeplantsnm@gmail.com.

What's Rare in New Mexico

by Bob Sivinski, Albuquerque Chapter

The November 2013 meeting of the New Mexico Rare Plant Technical Council (NMRPTC) marked the 15th anniversary of that persistent, yet little known, organization. The NMRPTC is partly an offshoot of the New Mexico Native Plant Protection Advisory Committee, which was the group of botanists who authored and published *A Handbook of Rare and Endemic Plants of New Mexico* (1984, UNM Press). Part of that group morphed into the New Mexico Endangered Plant Recovery Team, which for more than a decade advised, and was appointed by, the U.S. Fish and Wildlife Service, Region 2 office in Albuquerque. Craving a more inclusive and productive organization, New Mexico field botanists, botany professors, university students, agency biologists, and botanical consultants gathered in 1998 to form the group they called the New Mexico Rare Plant Technical Council. Their purpose was to catalog all the rare plants in the state and make fundamental information about rare plants available to the public.

The first business of the NMRPTC was to define its concept of "rare." This is what they adopted as a definition:

RARE = A taxon that is narrowly endemic to a specific geographic feature (e.g., mountain range, geologic outcrop) or subset area of a phytogeographic region (e.g., southern Rocky Mountains, northern Chihuahuan desert). It can be locally abundant within its narrow range, but typically will not extend more than 100 miles in length of range; **OR** A taxon that is more widespread, but is numerically rare (never locally common) throughout its range or is numerically abundant only in a few small, widely scattered habitats.

A species need not be threatened or endangered to be included—only very limited in distribution or number of populations. On its first rare plant list, the NMRPTC volunteer group considered as rare about 130 plants (a num-

ber that has grown to 193); the group then got busy writing short reports for each that included a brief morphological description and identifying features, distribution, habitat, conservation concerns, and relevant comments (e.g., taxonomic problems).

The NMRPTC decided it would produce a website of rare plants instead of a hard-copy book because new information is continuously being discovered. It is a lot easier to update a website, and to do so frequently, than it is to print a new book edition. The Native Plant Society of NM, NM State Land Office, and T&E Inc. gave small grants to buy an Internet server and slide scanner, both of which were hosted by the University of New Mexico Herbarium. The website is now hosted on the UNM main server; you can find it at <http://nmrareplants.unm.edu>. Additional small grants from state and federal land management agencies supported the making of distribution maps and photos. The NMRPTC also arranged the Fourth Southwestern Rare and Endangered Plant Conference in Las Cruces in 2004 and used the proceeds from the registration fees to hire artists to make line drawings of some rare plants that lacked illustrations.

So the NM Rare Plant Website continues to evolve. The 2013 meeting of the NMRPTC elected Daniela Roth (NM Forestry Division botanist) as the new chairperson and set to work adding species to the list of rare plants. The website will also get a new make-over in the coming year to make it easier to update and more user friendly. Anyone who contributes to the website and attends the infrequent meetings can join the NMRPTC. We are always looking for volunteers to take better photographs of the rare plants, illustrators to make line drawings, and computer-savvy people to help maintain the website. Feel free to subscribe to the discussion group (instructions on the website) where future NMRPTC activities will be announced. ❖

Legacy: What we leave behind, we give to the future.

NPSNM encourages members to consider
including NPSNM in their wills.

For further information, call Barbara Fix at 505/989-8654.

The Newsletter of the NPSNM

January–March 2014. Vol. 39 No. 1. This newsletter is published quarterly by the Native Plant Society of New Mexico (PO Box 35388, Albuquerque, NM 87176) and is free to members. The NPSNM, a nonprofit organization, 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.

Next deadline is March 1, 2014. Articles and high-resolution artwork supporting the NPSNM's mission are welcomed and can be sent to the editor, Sarah Johnson, at sarita@gilinet.com, or PO Box 53, Gila, NM 88038.

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Mission The Native Plant Society of New Mexico (NPSNM) is a non-profit organization that strives to educate the public about native plants by promoting knowledge of plant identification, ecology, and uses; fostering plant conservation and the preservation of natural habitats; supporting botanical research; and encouraging the appropriate use of native plants to conserve water, land, and wildlife.

The Role of the Non-Professional Botanist in Sustaining the Floristic Tradition

by William R. Norris, Gila Chapter

Floristic botanists around this country are singing the blues these days. Why? Some of us spent many years in graduate school studying the flora of some botanically significant region, or conducting a taxonomic revision of some intriguing (to us) plant group, only to find upon graduation that no college or university wants to hire us. Those faculty lines that, when we were college students, were occupied by legendary botanists who seemed always to have a hand lens dangling from their neck are now more often than not filled by other very well-trained botanists who spend much less time studying plants in their natural setting. Furthermore, many state and federal agencies charged with managing our natural resources do not routinely hire full-time botanists. And those of us who did manage to land one of those rare university or agency “botany” positions are saddened to watch helplessly as herbarium collections are mothballed (for lack of a qualified botanist on staff to curate them) or shipped off to a flagship herbarium miles away to make room for alternate (translate: more lucrative or politically expedient) academic activity.

How did things get so bad for professional field botanists? The least plausible of all the reasons one can offer for our dwindling ranks is that there is no important botanical field work left to be done. Is it essential for botanists today to invest serious field time in out-of-the-way habitats in this state? Just ask Patrick Alexander about the new species of mustard he recently helped discover while exploring gypsum habitats in New Mexico. Or Ken Heil and Steve O’Kane, who just published *Flora of the Four Corners Region* based on their many years of botanical field work. Or consult the many issues of *The New Mexico Botanist* (<http://aces.nmsu.edu/academics/rangescienceherbarium/the-new-mexico-botanist-.html>) to read the dozens of reports of plant species found for the first time in some New Mexico county or new to the state. Is it important to monitor rare plant species, and to take drastic measures to save imperiled populations of such species? If you need to be convinced, ask Bob Sivinski about the recovery effort he spearheaded to save the Trans-Pecos sunflower. Is it important to maintain an up-to-date checklist of a state flora, with accompanying dichotomous keys to provide a roadmap for accurate plant identification? I can tell you that recent publication of *Flora Neomexicana III: Identification Manual*, by Kelly Allred and Robert DeWitt Ivey, has made life much easier for plant taxonomy students and their professors in our state colleges and universities. Likewise, Jack Carter’s *Trees and Shrubs of New Mexico*,

recently revised and expanded, continues to make woody plant identification accessible to plant enthusiasts.

Professional botanists who conduct fieldwork in NM are few and far between. Note that more than half of the botanists mentioned in the previous paragraph are now retired. In short, there are not enough of us sprinkled around the state to do all the worthwhile botanical work that needs doing. But much of the slack has been taken up by a cadre of dedicated, non-professional botanists who, despite lacking any credential affirming successful completion of a university program in “botany,” have nevertheless made very important contributions to our knowledge of the New Mexico flora. To illustrate this point, I will highlight the accomplishments of some of these individuals.

Most members of the NPSNM know Charles (“Chick”) Keller, former president of this organization. Chick worked as an astrophysicist at the Los Alamos National Lab for more than 30 years but was always interested in nature studies. After attending several workshop courses taught by William C. Weber in the mid-1980s, he started a personal herbarium that concentrated on the Asteraceae, especially species in the genera *Senecio*, *Erigeron*, and *Solidago*. Some of you may have seen and used Chick’s published dichotomous key to goldenrods (published in *The New Mexico Botanist* in 1999) that evolved from his study of the latter genus. Working with the Pajarito Environmental Education Center, he helped develop the Jemez Mountain Herbarium, with some 4,000 sheets concentrating on the Jemez Mountain and Los Alamos floras. Chick is responsible for locating state records

Continued page 6



Chick Keller

The Non-Professional Botanist (continued from p. 5)

for a number of plant species in New Mexico. Furthermore, he was instrumental in getting NPSNM to provide modest funding to the state's major herbaria in recognition of their importance. In a recent e-mail to me, he said, "I tell our people, you don't have to know the names of every plant. You can make a good contribution by just noticing when a plant is really unfamiliar. The more eyes on the ground we have, the better our coverage."

The next time you pull out your worn (at least, mine is) copy of *Flora Neomexicana III* to key out some New Mexico plant or another, take a moment to read the title page: "Editor, Eugene M. Jercinovic." In addition to providing his

bia rayturneri) on the Pitchfork Ranch in southwestern New Mexico, recently published in the scientific journal *Novon*. Gene also has developed a scholarly knowledge of state botanical history, and has published biographies of such luminaries as Bill Martin, Bob Hutchins, Dale and Marian Zimmerman, and Jack and Martha Carter (in press).

Although not every New Mexico plant enthusiast may currently own the above botanical reference book, almost every one of us can call up beautiful color images of more than 1,300 vascular plant species (almost a third of the state flora) by typing in <http://www.gilaflorea.com> on our favorite Internet search engine. This, of course, is the url of the *Gila Flora* website, created by Russ Kleinman after he retired from a successful career as a general surgeon. Russ's interest in plants began with a desire to learn the names of the plants that grow around his house near Pinon Alto. This interest soon expanded ever so slightly to encompass the entire 3.3 million acres of the Gila National Forest, which he knows intimately from years of backpacking and Search and Rescue activity within its boundaries. After conquering (and photographing) the vascular plants of the forest, Russ moved on to begin a study of the mosses of the Gila region. Working closely with Kelly Allred, he has identified and photographed more than 100 moss species, including one (*Brothera leana*) not only new to New Mexico, but new to the western United States. To date, Russ has had three

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Eugene Jercinovic (right) with Robert DeWitt Ivey

invaluable editorial services, Gene, a retired public school math teacher, wrote the taxonomic keys to milkweeds (*Asclepias*) and beargrass (*Nolina*) for this now standard flora of New Mexico. He is also an accomplished field botanist, who with his wife Betty has conducted plant inventories of the Manzano and Florida mountain ranges in this state. Gene has a sharp eye for the unusual, a trait that served Gene well when he discovered a plant species new to science (*Euphor-*



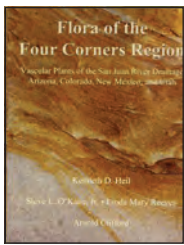
Russ Kleinman

New and Recent Books

Flora of the Four Corners Region: Vascular Plants of the San Juan River Drainage—Arizona, Colorado, New Mexico, and Utah

By Kenneth D. Heil, Steve L. O'Kane Jr., Linda Mary Reeves, and Arnold Clifford

Missouri Botanical Garden Press, 2013. 1,098 pages.



Review by Al Schneider, President, San Juan/
Four Corners Native Plant Society

Let's cut to the chase: BUY THIS BOOK! Whether you live in, near, or far from the Four Corners, and whether you are a book collector, a casual observer of wildflower beauty, a budding amateur botanist, or a professional working in the field, you will

more than enjoy owning this masterfully created book.

Facts: The book was 15 years in the making after the scheme was hatched over lunch at the Elk Ridge Café in Blanding in 1996. Major collectors were Ken Heil, Steve O'Kane, Arnold Clifford, and Wayne Mietty, with considerable assistance from Rich Fleming, Cyndie Holmes, Dave Jamieson, Les Lundquist, Lynn Moore, J. Mark Porter, Tim Reeves, and Glenn Rink. The 60+ list of major contributors (especially those writing the individual keys and descriptions) reads like a who's who of botany. The highly respected botanist Peter Raven, lately of decades at the Missouri Botanical Garden (which published the *Flora*), praises the book in his Foreword: This is an "outstanding flora. . . . I congratulate the authors, illustrators, and editors on a job exceedingly well done."

The four-pound *Flora* covers the Four Corners region drained by the San Juan River, from its headwaters at the Continental Divide at 4,292 meters to its confluence with the Colorado River at 1,130 meters, an area of 65,382 square kilometers—the size of West Virginia. The *Flora* covers this region in 1,098 pages, cataloging 120 families and 2,355 taxa (41 endemics). There is a glossary of 32 pages and over 23 pages of Literature Cited. The heavy-stock pages are graced with 118 of Steve O'Kane's superb photographs, splendidly reproduced; 200 lovely and valuable line drawings, almost all by Linda Reeves; eleven mesmerizing color botanical illustrations (some full-page) by Carolyn Crawford; a most unusual and ethereal set of fifteen Glenn Vandre landscape watercolors of the vegetation associations and life zones covered by the *Flora*; and inside the front and back covers are full-sized political, topographic, and river maps of the area covered. The type face is large and easy on the eyes. All of this is wrapped in a very handsome dust cover, with pic-

ture sandstone on the front and an exciting full-color collage of the area's flora and terrain on the back.

From what I have told you so far, you should already be writing your check—but wait, let me tell you much more. The introductory material very nicely contains the expected scope of the project, methodology, geology, climate, plant communities, etc. But we also get an unexpected number of other pieces of very thoughtful and welcome information: a two-page list of historical collectors in the San Juan area, a list of endemics, one and a half pages defining *weed*, plant migration routes, and definitions of measurements, for example:

Flower length = Point of insertion of the pedicel to the apex of the longest petal

Because the *Flora* just came on the scene in September 2013, I have not had much time to work with its heart and soul, the keys and descriptions, but those I have used and examined are compact, accurate, and helpful. For example, plant keys often require discriminating between annual and perennial plants, but how are we to do that? Certainly most of us can tell a perennial tree from a *Gilia*, but how about a *Gilia* from an *Ipomopsis*? The opening of the *Lupinus* key gives us assistance with that genus by asking us about its cotyledons:

1. Plants annual, the cotyledons commonly persistent
- 1' Plants perennial, the cotyledons not present at flowering

And let's have a standing ovation for the *Salix* keys—yes, plural "keys": vegetative, pistillate, and staminate keys.

The complete plant descriptions make it easy for the reader to focus in on specific plant parts by capitalizing and bolding key words (**STEMS**, **LEAVES**).

The complete descriptions also include, I am glad to say, the etymology of the specific epithet, synonyms, habitat, associated plant communities, a list of all the counties in the Four Corners area where the plant has been found (really amazing!), elevation range, flowering time, entire U.S. range, unusual characteristics, and Native American uses.

Nothing is perfect; what are some of the problems in the *Flora*?

Any reference book published today should provide a web address for comments and corrections to be posted. Weber and Wittmann's new *Colorado Flora* does not provide a web address, Allred's new *Flora Neomexicana III* does not, and, following in this unfortunate pattern, Heil and

Continued page 10

Chapter Activities & Events

For further information on the following events, notify the contact person listed, or visit the chapter's web page: First go to www.npsnm.org; click on Local Chapters; then

Albuquerque

All scheduled monthly meetings are first Wednesday of the month at 7 p.m. in the NM Museum of Natural History, 1801 Mountain Rd. NW. For more info on programs contact Jim McGrath at 505/286-8745 or sedges@swcp.com.

Jan 8 Meeting. The Sandia Mountain Natural History Center: A Place for Education and Research. Paul Mauer-mann, director, Sandia Mountain Natural History Center.

Feb 5 Meeting. The Changing Faces of Lincoln County: A Photographic Documentation of Historic Changes in the Native Vegetation of Lincoln County, NM. Hollis Fuchs, retired NRCS Area Director for southern NM, uses repeat photography to document changes in native vegetation from early Anglo-European settlement to the present day.

Mar 5 Meeting. Managing the Bosque: A Tale of Two Cities. Gail Garber, executive director of Hawks Aloft, compares bosque management strategies of Rio Rancho and Corrales and highlights the bosque plants that best support wildlife.

El Paso

All programs are second Thursdays at 7 p.m. (coffee social at 6:30) at El Paso Garden Center, 3105 Grant Ave. unless otherwise noted. All events free unless a fee is specified. Non-members always welcome. Info: Jim Hastings, 915/240-7414.

Jan 9 Meeting. A Waterless Landscape. Sylvia Hacker of Las Cruces.

Feb 13 Meeting. Exploring Resler and Thunder Canyons. Scott Cutler, El Paso.

Mar 13 Meeting. Dining with Native Plants at Your Table. Jim Hastings, El Paso.

select the chapter. **Hikers** should always bring plenty of water, hat, sun protection, lunch and/or snacks, field guides, and wear sturdy shoes, suitable for rough, uneven ground.

Gila (Silver City)

All programs are free and open to the public. Meetings are third Fridays at 7 p.m. at WNMU's Harlan Hall, Rm. 110, with refreshments following the program. Activity updates posted on www.gilanps.org.

Jan 17 Meeting.

Feb 21 Meeting.

Mar 21 Meeting. Speakers for January, February, and March meetings are still pending confirmation.

Las Cruces

Meetings and workshops are second Wednesdays (unless otherwise noted) at 7 p.m. in the conference room of the Social Center at the University Terrace Good Samaritan Village, 3011 Buena Vida Circle, Las Cruces. Field trips are Saturdays; most last into the afternoon. Participants must sign a release-of-liability form. Children must be accompanied by their parents. Programs and field trips are free; nonmembers always welcome. Contacts: Carolyn Gressitt, 575/523-8413; Al Krueger, 575/532-1036.

Jan 8 Meeting. Desert Pollinators. Sylvia Hacker, master gardener.

Jan 11 Workshop. Cheryl Garing will guide us through the process of seed germination. 9 a.m., conference room, Social Center, University Terrace Good Samaritan Village.

Feb 12 Meeting. The Changing Climate. David DuBois, NM state climatologist.

Feb 15 Field Trip. Tour the NMSU campus to observe elements of its landscaping.



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Mar 12 Meeting. What Is Native: Low Elevation Flora. Patrick Alexander.

Mar 15 Field Trip. Spring wildflowers in the Doña Ana Mountains. Ray Bowers, leader. Meet 8 a.m.

Otero (Alamogordo)

For field trip information, contact Tim Mills, tim.mills1@gmail.com, 210/883-7170; or Helgi Osterreich, hkasak@netmdc.com, 575/585-3315 or 575/443-3928. More info should be available by the beginning of each month.

Jan 25 Talk. Gypsum Plants. Dr. Patrick Alexander. 3:00 p.m. at 1010 16th St., Alamogordo.

Feb 12 Dinner/Talk. Dinner at 6 p.m. at Margo's on 1st St., afterwards Hildy Reiser will talk about recent travels to Borneo and Malaysia. Note that this is a Wednesday.

Mar 15 Work/Hike. Oliver Lee Memorial State Park. Roger Parker will welcome anyone who wishes to help pull weeds at the Desert Garden at 8 a.m. Hike at 9 a.m., Charles Wood, leader. Hike will take about four hours; bring hiking shoes/clothes, food and water.

San Juan (Farmington)

Meetings are third Thursdays at 7 p.m. at San Juan Community College. For more info, contact Donna Thatcher, dthatcher@fmtn.org or 505/325-5811.

San Juan (Southwest Colorado)

Fall, winter, and early spring programs about the flora of the Four Corners states will again be in the Lyceum Room of the Center of Southwest Studies, Fort Lewis College. For details see <http://www.swcoloradowildflowers.com>.

Santa Fe

Meetings are third Wednesdays at 6:30 p.m. at Christ Lutheran Church, 1701 Arroyo Chamiso (in the triangle of Old Pecos Trail, St Michael's Dr., and Arroyo Chamiso; across

street from fire station). For more information, contact Tom Antonio, tom@thomasantonio.org, 505/690-5105. Meetings and talks are free and open to all.

Jan 15 Meeting. Phytoactives: The Language of Plants. Dr. Ivette Guzman, Northern NM College plant biochemist.

Feb 19 TBA.

Mar 19 Meeting. The Solution Is Never that Simple: The Impact of the Introduced Salt Cedar Leaf Beetle on the Southwestern Willow Flycatcher in NM. U.S. Fish and Wildlife Service biologist Debra Hill.

Taos

Meetings are third Wednesdays at 7 p.m. in Coronado Hall at the Taos Convention Center. Please check the NPSNM website for updates and additional information on activities, or contact Sallie at taos800@aol.com or 575/776-0860.

Jan-Mar Seed planting in the greenhouse February/March (great volunteer opportunity); details forthcoming. The Taos chapter's schedule of summer hikes and field trips will be announced by March.

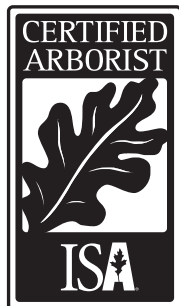
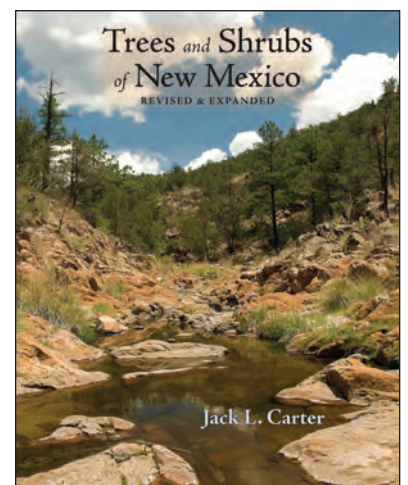
AVAILABLE NOW!

A fully revised & expanded edition of **Trees and Shrubs of New Mexico** by Jack L. Carter

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www.mimbrespublishing.com or the NPSNM website

This Brand-New Edition Features:

- Over 500 full-color photos
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- Updated nomenclature and taxonomic information
- Biographical sketches of noted botanists
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Flora of the Four Corners Region (continued from p. 7)

O'Kane's *Flora of the Four Corners Region* does not. How are we to know of mistakes in these books, such as those I point out below and the ones that you will find? (Author's note: I am pleased to say that a web page has now been established. Please make a note in your copy of the *Flora of the Four Corners Region*: Send your corrections to coloradowildflowers@yahoo.com and these corrections will be posted at www.swcoloradowildflowers.com/floraofthefourcornersregion.htm.)

In some ways the large number of contributors that I mentioned above is good; we get the top experts in each family writing the descriptions. But in other ways, confusion can result—and does. For example, the Angiosperm Phylogeny Group (APG) recommendations are followed by some contributors (for Scrophulariaceae) but not others (for Chenopodiaceae). Be prepared to be flexible and speak several botanical languages.

Colorado Flora very nicely indicates where its treatment of a family, genus, or species is in conflict with the treatment in the monumental *Flora of North America*. That same contrast and comparison definitely should have been carried out in the *Flora of the Four Corners Region*.

I find it very unfortunate that the keys do not provide a way for you to backtrack when you make a mistake in keying. If, for instance, you arrive at choice #27 in a key and you realize that you are in the wrong place, there is no indication about what number you were at before #27. You cannot easily retrace your steps. Look at Weber and Welsh's floras; they both provide this thoughtful and time- and frustration-saving numbering in brackets [].

I am quite puzzled by the choice of plants that have line drawings. Let's look at the major genera in our area. *Astragalus*: out of 73 taxa there are 11 drawings, all but 2 or 3 are drawings of rare or very uncommon plants; *Erigeron*: out of 39 taxa there are only two drawings, both of very uncommon plants; *Eriogonum*: out of 37 taxa there is just one drawing of an uncommon *Eriogonum*; *Penstemon*: out of 28 taxa there is just one drawing of a common *Penstemon*; *Poa*: out of 23 taxa there is but one drawing of a common *Poa*. There are no drawings of any *Allium*, *Carex*, *Castilleja*, *Draba*, *Gilia*, *Mertensia*, *Oenothera*, *Ranunculus*, *Senecio*, etc. (And while we are on the line drawings, it sure would have been nice to have a ruler on each drawing. The point of the drawings is not just to look good (which they certainly do), but also to help identify.)

The glossary gives fine definitions (and has some very

unusual and welcome entries, such as Hawkmoth, disjunct species, relict species, Ramah Navajo, Piki, Park, sub, tuff, Ant Lion, and two definitions of herb), but the glossary omits some necessary entries: inflorescence, villous, limb, spp, sp, ssp, dorsal (but ventral is there!), sori, sporophore, trophophore. Scale, awn, and bristle are not defined sufficiently to assist with keying Asteraceae.

Other problems: Weber, Kearney and Peebles, Welsh, Heil and O'Kane (in their online checklist), and Allred all indicate that *Ephedra cutleri* and *Yucca harrimaniae* both occur in the Four Corners area; neither plant is in the new *Flora of the Four Corners Region*. What else is missing?

The etymology of *Botrychium* provided by the *Flora* really causes a head-spin and chuckle:

from the Latin 'botry', meaning a 'bunch of grapes', + 'oides' meaning 'like'

There obviously is no *oides* in the word *Botrychium*. The ending *ium* is from the Latin *ion*, a diminutive; thus the meaning is "a bunch of small grapes."

The problems I have pointed out are the inevitable cost of being human; we make mistakes. The excellence of *Flora of the Four Corners Region* enormously outweighs the few errors, but the inevitability of these errors just confirms to me the need for a website that would correct the mistakes.

Okay, I have convinced you to buy the *Flora*, but how much is such a fabulous work of science going to cost you and where should you buy it? The Missouri Botanical Garden price is only \$72. However, check out www.exoticplantbooks.com (go to the "new/specials" link) and you will find it for \$57.60 plus only \$2.45 for postage. Get your local NPSNM chapter to register with Exotic Plant Books and your society will receive a credit for 10% of what you spend. The New Mexico and San Juan/Four Corners Native Plant Societies are registered. The latter has, over the past two years, accumulated enough credits to get 13 free copies of Weber's *Colorado Flora*, which have been given to Fort Lewis College students.

After approximately 20,000 miles of walking, 150 miles of horse riding, and 150,000 miles of driving to, from, and on field trips to collect over 23,000 specimens (including 1,700 county records, 42 state records, and 17 new species), Ken and Steve deserve a great thank you from us and a long rest for themselves. The former they have been receiving; the latter they have not taken, for they immediately began work on a flora of New Mexico, and if all goes well we can expect that in the next few years. ❖

In Memoriam: Bob J. Reeves

by Carolyn Gressitt, Las Cruces Chapter

Bob Reeves, past president of the Native Plant Society of New Mexico, died from congestive heart failure on August 28, 2013. Bob was born in Dallas, Texas, on June 26, 1928.

Bob graduated from the University of Miami, Florida, with a double major in art and botany. He received a master's degree in art from the University of New Mexico. He was the recipient of the first master's degree in horticulture awarded by New Mexico State University and was inducted into Phi Beta Kappa. He became the horticulturist at NMSU and held that position until he retired in 1989. Many of the mature plantings on the NMSU campus are the result of his efforts.

Bob served in the U.S. Army in Korea. He was a member of numerous organizations, including national, state, and local Cactus and Succulent Societies. He helped found the NPSNM and was a long-time member of the Las Cruces chapter and state president from 1991 to 1992. Bob was recognized as being one of the most knowledgeable people in New Mexico on the subject of cactus and succulents.

Bob traveled widely and the trip he enjoyed the most, fulfilling a life-long dream, was going to South Africa, where he was able to see plants that he knew about in their native habitat.

In addition to his interest in plants, which started when he was in elementary school, Bob was proficient in many crafts: weaving, ceramics, and especially silversmithing. He won numerous awards in various juried shows, including a first-place in silversmithing at the Texas State Fair when he was just a teenager.

In the past number of years, Bob suffered from macular degeneration, and some of the things that he most enjoyed were taken away from him. Despite not being able to see clearly, he continued with great effort to read his horticultural



Bob Reeves

journal and to go on field trips to the extent possible.

John White sends this remembrance: "Bob and I go back a long way. He was a graduate teacher's assistant when I was a horticulture undergrad student. He was a good horticulturist and cared about people and plants. He will be missed."

Bob was kind, thoughtful, unassuming, and self-sacrificing. He was always willing to share his knowledge and expertise. When he could no longer drive a car, Lisa Mandelkern—and later, John Freyermuth and I—would take him to Las Cruces chapter meetings. We miss his company, his careful, modestly given contributions to our discussions, and his

steadfastness.

Our thanks for the details of Bob's life go to Jim Mealy, Bob's loving partner for 60 years. ❖

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NPSNM is a growing presence on Facebook, with well over 400 followers! You can find us at www.facebook.com/NPSNM. And you can visit the Las Cruces, El Paso, and Taos chapters, too; each has its own Facebook page.



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The Non-Professional Botanist (continued from p. 6)

separate papers devoted to New Mexico mosses accepted for publication in peer-reviewed scientific journals.

Russ's interest in bryophytes rubbed off on another non-professional botanist, Karen Blisard (coincidentally, his spouse), who undertook her own survey of an understudied group of New Mexico plants: liverworts. Karen, a retired pathologist, regularly puts her great microscopy skills to good use while studying the subcellular structure of her various liverwort collections made in the Gila National Forest and elsewhere in this state. As Karen will tell you, liverwort identification often depends on examination of cell shape, the presence or absence of oil bodies, and more details that are impossible to see even with a hand lens. When stumped by a



Karen Blisard

particular specimen, she often sends it to national liverwort expert Dr. Paul Davison (University of Northern Alabama) for help. Karen's major accomplishment in her liverwort studies thus far is certainly her discovery of the first New Mexico record of a ribbon liverwort in the genus *Fossombronina*. After just a few years of studying liverworts in this state, she is arguably the state's liverwort expert.

Looking forward, Max Licher (professional architect and non-professional botanist based in Sedona, Arizona) is poised to undertake an important project that will enhance our knowledge of New Mexico sedges. He has pursued botany as a "hobby" for about 15 years, cutting his teeth during his decade-long study of the Sedona/Oak Creek Canyon (AZ) flora that resulted in his documentation of 1,200 vouchered taxa (wow!) from that area. Max routinely photographs the plants that he encounters while in the field, and has to date built a library of digital images for over 2,000 plant taxa, many of which can be accessed on SEINet (<http://swbiodiversity.org/portal/index.php>). In recent years, Max



Max Licher

and his colleague Glenn Rink (Northern Arizona University) have conducted an exhaustive study of Arizona *Carex* species that has resulted in their preparation of a careful, detailed key, species descriptions and range maps to this genus that they have generously made available to New Mexico botanists who request it. In January 2014, Max will join forces with three other professional botanists (Glenn, Jim McGrath, and me) at the University of New Mexico herbarium to begin work on a comprehensive study of New Mexico *Carex* species.

I hope the above vignettes, each profiling a different non-professional* botanist, make clear that there is plenty of room for plant enthusiasts lacking formal training in plant science to make significant contributions to our knowledge of the New Mexico flora. You probably noticed that each of the profiled individuals has successfully collaborated with at least one trained botanist while working on a given botanical project. The benefits to such collaboration go both ways. In my own career as a botanical educator (and occasional researcher) at Western New Mexico University, I have consulted Chick, Gene, Russ, Karen, and Max on numerous occasions to request information about plant distributions, plant identification, potential field trip locations, and so on. May such collaboration among plant enthusiasts, regardless of formal training, continue! ❖

Bill Norris is professor of botany in the Department of Natural Sciences at Western New Mexico University and curator of the Dale E. Zimmerman Herbarium at WNMU.

*I thank Gene Jercinovic for making me aware of the subtle differences in meaning between the terms *amateur botanist* and *non-professional botanist*.

A Busy Year in the Dale A. Zimmerman Herbarium at Western New Mexico University

by William R. Norris, Gila Chapter

The Dale A. Zimmerman Herbarium at WNMU was a busy place in 2013. Activity in the front room (i.e., “mud room”) of this facility peaked here on Friday, December 6, as 24 students representing two different WNMU classes (Plant Taxonomy, Range Vegetation) scrambled to wrap up work on plant collections due by the end of the day. These students were variously occupied cutting out specimen labels, stuffing these between newspapers containing the corresponding dried plant specimen, returning plant press components (boards, cardboard corrugates, blotters, cam-buckle straps) to the appropriate shelf, and finally submitting their completed plant collection with sighs of . . . relief? exhaustion? satisfaction? triumph? Probably some mix of these sentiments and others that I dare not contemplate.

Although student use of the herbarium is concentrated during the fall semester at WNMU, other activity occurs here year-round. Specimens of vascular plants, mosses, and liverworts are continuously submitted to the herbarium by Russ Kleinman and Karen Blisard, who are studying mosses and liverworts of the Gila National Forest and other regions of the country. Other specimens collected during ongoing floristic studies of the Gila Cliff Dwellings National Monument (Richard Felger, Kelly Kindscher, Russ Kleinman, myself) and City of Rocks State Park (Tim Geddes and myself)

are likewise being identified and prepared for accessioning into the herbarium. And the Dale A. Zimmerman Herbarium also gratefully accepted a gift this year of many important specimens of southwestern woody plants donated by Jack and Martha Carter.

Who processes these specimens? Virtually every afternoon during most weeks this year, Angela Flanders volunteered three hours of her time to mount, stamp, repair, sort, and file these specimens into their respective folders housed in the herbarium cabinets in the collection room at the rear of the herbarium. She also carefully entered data from specimen labels into our herbarium database (documenting roughly 24,000 specimens to date) which will soon be uploaded to the online SEINet database accessible by plant enthusiasts and researchers around the world. Jane Spinti, Robbin Brodsky, and Deb Nicholl also volunteered many hours of their time to mount plants in the herbarium. If it were not for the efforts of the above individuals, our herbarium would be filled with tippy stacks of newspapers containing unprocessed plant specimens. So *thanks* to Angela, Jane, Robbin, and Deb!

Only two months or so until the 2014 field season begins, and the above cycle of activity resets. I can't wait! ❖

Bill Norris is curator of the Dale E. Zimmerman Herbarium.



2013 Western New Mexico University Plant Taxonomy class (professor: Russ Kleinman) collecting plants in Chihuahuan desert habitat along WD Ranch Road in Hidalgo Co., NM. From left to right: Alfred Perrault, Kayla Sexton, Katherine Sanchez, Christina Camacho, Alice Boughan, Kathy Sorells, and Jane Kruse.

Photo: Russ Kleinman

Dear Friends:

About this time each year, the Native Plant Society of New Mexico reaches out to the membership, and all friends of the flora of New Mexico, requesting financial support for the New Year. Your tax-deductible contributions have made an important difference, growing the funds available to assist with projects in education and basic research. Additionally, as we strengthen the year-to-year support for active programs, we are adding to a financial investment base that will last long into the future.

Because the NPSNM has a relatively small but extremely committed membership, the Finance & Investments Committee expects that again this year we will see an increase in funding. For this we must thank each of you. We thank you for recognizing the long-term value of financial gifts that continue to grow and increase our support for the protection of the flora of New Mexico.

In the recent issue of the Newsletter we reported that in less than five years the Carter Conservation Endowment Fund has increased to over \$40,000, with hopes of reaching \$50,000 this year. This means that presently and long into the future we will see an increase in the funds available to protect the flora of New Mexico. Currently, from membership dues and gifts above dues, the NPSNM Board has \$6,000–8,000 available to support proposal requests and major herbaria. With continued contributions from our membership and friends, over the next year we plan to increase the funds available to support additional proposals. The future looks extremely bright, and we know you will continue to help us protect our small part of planet Earth for future generations.

Use the form provided below, or contribute through PayPal on the website, www.npsnm.org. Every contributed dollar is being used to protect the flora of New Mexico well into the future.

~Jack and Martha Carter

November 29, 2013

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New Mexico wildflower posters: \$8 (nonmembers, \$10)
Cactus poster: \$5 (nonmembers, \$8)

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