

Aquilegia

Newsletter of the Colorado Native Plant Society



“. . . dedicated to the appreciation and conservation of the Colorado native flora”

Volume 30 Number 2

FIELD TRIP EDITION

April - May 2006

COLORADO NATIVE PLANT SOCIETY FIELD TRIPS

Steve Yarbrough, Field Trip Committee Chair

The Colorado Native Plant Society is pleased to present the field trip schedule for 2006! We hope that you will take an opportunity to join us, stretch your legs, breath some fresh air, observe some of our fabulous native plants doing what they do best and enjoy the camaraderie of your fellow society members. Field trips are scheduled from April through the summer months, with one trip on winter botany slated for January 2007. The trips will take place on the eastern plains, in the foothills, in the western deserts and onto the slopes of some of our high peaks. Enjoy moonworts, orchids, grasses, beardtongues, mustards, and much, much more.

Field trips are limited to **20 individuals** or fewer per trip. Be sure to register with the leader or contacts that are listed. Please note that CONPS has policies for society-sponsored field trips which include 1) membership in the Society (Non-members may join the Society on the day of the field trip); 2) refraining from plant collecting, except for scientific study; 3) car pooling and cost sharing; 4) leaving pets at home; and 5) signing a waiver and release of liability form. Most field trips are aimed at adult audiences unless otherwise specified. The written policies and waiver form can be accessed at http://www.conps.org/field_trips.html. Questions on the field trip program can be forwarded to Steve Yarbrough at syarbrough@e2m.net.

Always be prepared for changes in weather. Dress in layers and bring appropriate rain gear. Don't forget snacks and plenty of water. Sunscreen and a good hat are certainly tools of the trade along with your favorite field guide!

Bonnie Prairie Natural Area

Date: Saturday, April 29

Leaders: Peter Root, *Botrychium* expert and Colorado Natural Areas Program staff

This trip, located near the Kansas border on a designated Colorado Natural Area, will focus on the search to find *Botrychium campestre*, the prairie moonwort. Bonnie Prairie is

an excellent example of a little bluestem (*Schizachyrium scoparium*) loess (fine rock powder resulting from the grinding of rocks beneath Pleistocene glaciers) prairie. Trip is limited to 20 participants. To register for this field trip co-sponsored by the Conservation Committee, please contact Steve Yarbrough at syarbrough@e2m.net.

Pawnee Buttes

Date: Saturday, May 6, 8:00am

Leader: Denise Culver, Colorado Natural Heritage Program Help update records of the globally imperiled-state rare (G3S1) Wyoming feverfew (*Parthenium alpinum*) as part of this field trip, co-sponsored by the Fort Collins Chapter. Pawnee Buttes is an excellent spring birding location, and we hope to observe McCown's longspur, chestnut-collared longspur and the federally threatened mountain plover. Meet at the Colorado Visitor Center, I-25 at Prospect Avenue (west side of I-25). To register for this field trip, please contact Denise Culver at 970.491.2998.

Duck Creek, Rio Blanco County

Date: Saturday, May 27

Leaders: Colorado Natural Areas Program (CNAP) staff and Bureau of Land Management (BLM) staff

Duck Creek, an Area of Critical Environmental Concern and a registered Colorado Natural Area, has several species of rare

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plants, including *Lesquerella congesta*. Members will survey for rare plants, while also assisting the BLM in revisiting existing monitoring transects. Limit 10 participants. To register for this field trip co-sponsored by the Conservation Committee, please contact Steve Yarbrough at syarbrough@e2m.net.

Beginning Wildflower Identification

Date: Saturday, June 3

Leader: Sue Kamal

This half-day trip will utilize Janet L. Wingate's *Rocky Mountain Flower Finder* handbook. We will instruct beginners in wildflower identification in the transition zone between Colorado's high plains grassland and the foothills lifezones. A hand lens (10x) will be a valuable item to bring along. We will meet at 9:00 a.m., south of Boulder, off CO Hwy 93 at the Flatirons Vista Trailhead (part of the Dowdy Draw Trail). The trailhead is approximately 2 miles south of the intersection, with traffic light, of Hwy 93 and 170, the road leading to Eldorado Springs. Wear appropriate coverings and hiking shoes; bring lunch and water. Contact Sue Kamal, 970-353-9240 or sue.kamal@unco.edu.

CSU Rogers Mesa Nursery and Seep Walk

Date: June 10, 9:30 am - 4:00 pm

Leader: Ron Grodin, Director, CSU Rogers Mesa Nursery

This trip begins with a field tour of the CSU nursery to show the local native grasses and herbaceous plants grown for the Uncompahgre Plateau Project native plant seed increase. After lunch we will drive to the Fish Hatchery and take an easy walk to view seep plants and other unusual wildflowers blooming near the river. To register, contact Gay Austin austinaceae@frontier.net or 970-641-6264.

Gardening with Altitude

Date: Tuesday, June 13, 6:00 pm

Leader: Panayoti Kelaidis, Denver Botanic Gardens

Join Panayoti Kelaidis (Director of Outreach) on a mile-high tour of the Denver Botanic Gardens in celebration of the recent release of *Gardening with Altitude: Cultivating a New Western Style*. While Curator of Plant Collections, Panayoti designed the Rock Alpine Garden, one of many gardens that we will be visiting as part of this early evening field trip featuring the use of native plants. To register for this field trip co-sponsored by the Metro-Denver Chapter, please contact Naomi Nigro at naomi4CoNPS@hotmail.com.

Mesa Verde National Park, Prater Ridge Trail

Date: Saturday, June 17, 9 am - 5 pm

Leader: Al Schneider

Meet at 9 am at the Prater Ridge Trailhead at the entrance to the Mesa Verde National Park Morefield Campground, about four miles from the entrance station. We will botanize along the first part of the trail on a north-facing slope through *Quercus gambelii*, *Psuedotsuga menziesii*, *Symphoricarpos rotundifolius*, *Phacelia heterophylla* and *Fendlera rupicola*. When the trail reaches the ridge top (after a mile walk with 400 feet elevation gain), we will encounter *Balsamorhiza sagittata*, *Chaenactis*

douglasii, *Packera multilobatus*, *Psilochenia occidentalis*, *Dracocephalum parviflorum* and *Antennaria dimorpha*. Trip is limited to 15 participants. Contact Al at 970- 882-4647 or email albetty@sisna.com.

Native Orchid Hike to Peaceful Valley

Date: Saturday, July 1, All day

Leaders: Denise Wilson, Kevin Horst and Scott Smith

This hike along the Middle St. Vrain into Peaceful Valley will hit the trail to see some 11 species of our native orchids in their wild habitat, including the Fairy Slipper and Clustered Lady's-slipper. Expect variable weather, terrain, some altitude gain and a little bog walking. Bring a lunch. We should return by 4 pm. Trip is limited to 12 participants. To register, contact Denise Wilson at denisewil@aol.com. Thanks to Fantasy Orchids, Inc. and the Conservation Committee for sponsoring this event.

Hoosier Ridge

Date: Friday, July 21 (Rain date: Monday July24)

Leaders: Colorado Natural Areas Program (CNAP) staff and Volunteer Steward

Members joining this field trip will put in a hard day of field survey work, helping map populations and complete CNHP Element Occurrence records for *Armeria scabra*, *Ipomopsis globularis*, *Eutrema penlandii* and *Saussurea weberi*, among others. This trip will start early and be on very high elevation, strenuous terrain. Limited to 10 volunteers with some experience mapping and/or surveying for rare plants. The U.S. Forest Service will provide support for this field trip. To register for this field trip sponsored by Western Native Seed, contact Steve Yarbrough at syarbrough@e2m.net.

Rocky Mountain National Park

Date: Saturday July 22, 9 am - 4 pm.

Leader: Michael Margo, National Park Service

Meet at 8:45 am at the Park Visitor Center west of Estes Park (Hwy. 36), on the east slope of the Park. This trip will allow a wonderful opportunity to see how Rocky Mountain National Park manages restoration in alpine tundra, wetland (in Glacier Basin), and montane upland ecosystems. The trip will offer a chance to see the Park's greenhouse, nursery, and discuss the exotic plant program. To register for this field trip co-sponsored by the Horticulture and Restoration Committee, please contact Steve Yarbrough at syarbrough@e2m.net.

Ninth Annual Middle St. Vrain Weed Survey Backpack

Date: Saturday, July 29

Leader: Pat Butler

In partnership with the USFS and Colorado Mountain Club, we will hike approximately six miles (and about 1500 feet elevation gain) into the Middle St Vrain Creek drainage in the Indian Peaks Wilderness to control several existing stands of Canada thistle (*Brea arvensis*) and yellow toadflax (*Linaria vulgaris*) and look for new infestations. Come join the fun and help remove these pests from the wilderness on a long but rewarding day! To register and receive more information, call Pat Butler at 303-440-0586.

"Field Trips" continues on page 4

***Monarda fistulosa*: Making Good Scents in Colorado**

Ken Keefover-Ring

Ph.D. Candidate, Ecology and Evolutionary Biology, University of Colorado, Boulder

Sometimes you just have to stop and smell the wild bergamot, and that is exactly what I have been doing for the last four years as part of my Ph.D. dissertation research, conducted with Prof. Yan Linhart at CU-Boulder. Like many species in the mint family, *Monarda fistulosa* L. (Lamiaceae), commonly known as wild bergamot, bee balm or horse mint, produces small volatile chemicals called monoterpenes in tiny sacs (trichomes) located on leaves, calyces and even flower petals. When one rubs bee balm leaves, these trichomes are broken and almost immediately one detects the scent of escaping monoterpenes. Also known as essential oils, monoterpenes have been used by humans for thousands of years as fragrances and flavors; however, plants use them for a variety of functions, including: suppression of plant competitors, repelling herbivores or attracting pollinators and seed dispersers (Harborne 1993). Monoterpenes are widely distributed among a variety of plant families and their variation in natural plant populations has been extensively studied. Many labiate species contain individuals with distinct chemical phenotypes, called chemotypes, which are controlled by simple Mendelian genetics (Vernet et al. 1986, Vokou et al. 1993). Plants of a particular chemotype usually produce one monoterpene that dominates their total essential oil composition. This means that individuals of the same species can have very different smells, tastes and interactions with other organisms, such as herbivores and pollinators. Prior to my work, three chemotypes had been identified in *Monarda fistulosa*, containing either geraniol, carvacrol or thymol as their main monoterpene (Marshall and Scora 1972, Weaver et al. 1995, Johnson et al. 1998). The smell of geraniol is sweet or lemony - it is a major component of lemon oil, whereas carvacrol and thymol remind one of thyme or oregano, both of which have these chemotypes. While the existence of these three chemotypes in *M. fistulosa* has been known since the early 1970s, only one study presented detailed information on the distribution of chemo-

types in the species (Marshall and Scora 1972). I have discovered that two of the known *M. fistulosa* chemotypes, carvacrol and thymol, occur in Colorado in pure and mixed populations. Additionally, in one population in southern Colorado, I have found a previously unknown chemotype for this species with essential oil composed almost entirely of the monoterpene linalol. With the support of a Colorado Native Plant Society research grant from the John Marr Fund, I have been characterizing the chemotype variation of *M. fistulosa* over the landscape and trying to understand how these patterns arose and how they are maintained.

The first step to understanding chemical polymorphism in *M. fistulosa* was to map chemotype patterns of populations. The methodology I used was simple. Using historic herbarium records, information from locals and by just driving around, I located about 50 populations of wild bergamot throughout the state. At each site I randomly collected a single leaf from an average of 20 plants, soaked them in pure ethanol for one week to extract the monoterpenes and then analyzed the solution by gas chromatography, a technique that allows separation, identification and quantification of monoterpenes.

Chemical analyses of over 900 Colorado plants revealed variation ranging from populations comprising only carvacrol plants to populations comprising only thymol plants, as well as populations comprising various mixtures of the two. So, what factors are responsible for these patterns? One explanation may be temperature. In Boulder County, where almost half of the populations analyzed occur (Figure 1), it appears that populations high in thymol plants are found at higher elevations or in colder areas, such as deep canyons. These micro site differences may be important in *M. fistulosa*, since in Colorado it has a large geographical range over most of the state with diverse habitats from prairies to high mountain meadows. Also, the idea that plants of a particular

chemotype are excluded from an area due to temperature has been shown for common thyme (*Thymus vulgaris*) in the south of France. In the case of thyme, certain chemotypes were absent from the floor of an enclosed basin that regularly experienced much colder temperatures than the surrounding uplands (Amiot et al. 2005). To unravel this question in *M. fistulosa*, I plan to monitor temperature, humidity and other abiotic parameters at sites with different chemotype compositions.

Another factor that may shape the chemotype composition of populations is herbivory. At a few sites, I have found plants being fed upon by a small tortoise beetle (*Physonota unipunctata* Coleoptera: Chrysomelidae) that specializes only on *M. fistulosa*. The larvae of this beetle have a curious defense mechanism; they accumulate their feces on two projections on the rear end of their bodies, which they curl upward, holding the "fecal shield" over their bodies. Since their diet consists exclusively of *M. fistulosa*, the fecal shield is rich in plant monoterpenes, adding a chemical dimension to their defense strategy. While the beetle larvae will readily feed on both chemotypes, my preliminary data show that when fed only carvacrol foliage they have lower survival and longer development times. Thus, in populations where these herbivores feed, thymol plants may experience more damage and reproduce less than carvacrol plants.

Another interesting find along my chemical odyssey was the discovery of what appears to be a new chemotype of *M. fistulosa*. On a lonely stretch of highway west of Trinidad, Colorado, I spotted an isolated roadside population. Initially, the plant leaves I collected all seemed to have the familiar smell of carvacrol or thymol chemotypes found at many other sites. Suddenly, the scent of one plant was completely different from any other I had previously encountered. Upon returning to my laboratory, I immediately started my gas chromatograph and eagerly watched the monitor as the sample ran. The results

showed one main peak, which was the monoterpene linalol. While linalol has been identified in a closely related species, *M. didyma*, no one has ever reported this compound in *M. fistulosa*. As grandiose as it may sound, I felt I was witnessing an evolutionary event, where a new mutant phenotype had appeared, and if it had some heritable advantage over the resident chemotypes, the linalol chemotype may increase. Then again the plant may get mowed by the road maintenance crew before setting seed, a fate for which its new mutation would be useless. Anyway, the next time you are hiking and encounter wild bergamot in the wild, don't forget to stop and give it a sniff. You may not find a new chemotype, but you will sample just a little of the olfactory genetic diversity that makes up *M. fistulosa* in Colorado.

References

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Vernet, P., P. H. Gouyon, and G. Valdeyron. 1986. Genetic control of the oil content in *Thymus vulgaris* L.: a case of polymorphism in a biosynthetic chain. *Genetica* **69**:227-231.

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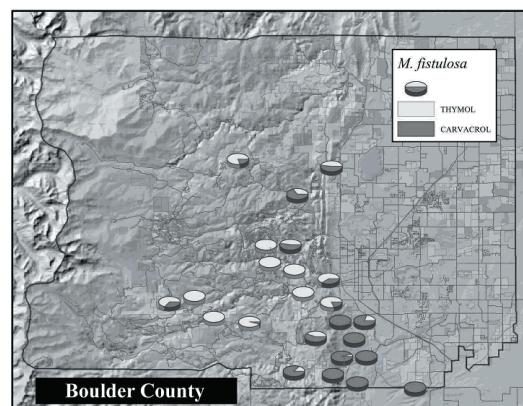


Figure 1. The chemotype distribution of 24 populations of *Monarda fistulosa* in Boulder County, Colorado.

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Shale Barrens of the Laramie River Valley

Date: Saturday, July 29

Leaders: Rich Scully, Georgia Doyle and Mary Jane Howell
The upper Laramie River Valley is located in extreme northwest Larimer County. Along slope breaks among the sagebrush-covered uplands, there are calcareous shale barrens that host several rare plant species, including *Penstemon laricifolius* ssp. *exilifolius*, *Eriogonum exilifolium* and *Phacelia formosula*. The shale barren plant community contains elements of both Colorado and Wyoming floras, including the only Colorado state record of *Oenopsis wardii*. We will make an easy four-mile day hike starting in mid-morning and finishing mid-afternoon. For details and to register for this field trip co-sponsored by the Fort Collins Chapter, contact Rich at 303-823-0766 or richwscully@msn.com.

Cameron Pass

Date: Friday - Sunday, August 4-6

Leaders: Johnny Proctor and Denise Culver

Enjoy a weekend on the trail of the elusive moonworts. Get ready to look hard for *Botrychium lunaria*, *B. lanceolatum*, *B. echo* (G3S3), *B. minganense* (G4S1), *B. simplex* (G5S1) and hopefully *B. lineare* (G1S1). Meet at 6 pm, August 4 at the Aspen Campground for festivities, or meet at 9 am on August 5. Free camping will be available Aug. 4 - Aug. 6. To register for this field trip co-sponsored by the Fort Collins Chapter and the Medicine Bow-Routt National Forest and Thunder Basin National Grassland, please contact Denise Culver at 970.491.2998.

South Platte Park

Date: Saturday, August 5, 9 am - 12 pm

Leader: Ray Sparger

Surrounded by Denver metropolitan suburbs, the South Platte Park unit of the South Suburban Parks provides an important site for wildlife habitat connectivity, as well as functional riparian, wetland and upland ecosystems. This trip will highlight various restoration projects undertaken at this park site. We will meet at 8:45 am at South Platte Park, Carson Nature Center, 3000 West Carson Drive in Littleton (north of Mineral and west of Sante Fe). To register for this field trip co-sponsored by the Horticulture and Restoration Committee, please contact Steve Yarbrough at syarbrough@e2m.net.

Winter Botany at White Ranch

Date: Saturday, January 13, 2007, 1:00pm

Leaders: Carol English and Leo P. Bruederle

This trip will emphasize identification of plants in their winter condition. White Ranch is a Jefferson County Open Space Park located in the foothills northwest of Golden. As such, we will be hiking (or possibly snowshoeing) through open meadows and forested foothills, while identifying the prominent shrubs and trees dominating the landscape. We will also use our understanding of basic botany to identify weeds and other herbaceous plants using characteristics of their growth form, inflorescence and fruit. Why put our hand lenses and field keys away in September with winter botany still ahead? To register for this field trip co-sponsored by the UCDHSC Department of Biology, please contact Leo Bruederle at 303-556-3419 or leo.bruederle@cudenver.edu.

Society Announcements

Book Review

Trees & Shrubs of Colorado

by Jack L. Carter. Revised and Expanded.

Silver City, NM: Mimbres Publishing, 2006. 370 p.

The energetic husband and wife team, Jack and Martha Carter, have produced another book that will delight Colorado plant lovers. This new edition of Carter's classic, *Trees and Shrubs of Colorado*, has been expanded to include 295 species plus a section of 185 color photographs. The main part of the book consists of Jack Carter's keys to the trees and shrubs of the state. With twice the number of plants that were included in the previous edition, the keys have been rewritten and scientific names have been updated. An illustrated glossary, reference section and detailed indexes are additional features of this impressive book. As in the original book, the excellent illustrations of Marjorie Leggitt supplement the keys. A number of illustrators have contributed their work to the revised edition. High-quality photos by Martha Carter and others are a valuable addition, making the book a visual treat. Jack Carter is professor emeritus of biology, Colorado College, Colorado Spring. Other books by Jack Carter are *Trees and Shrubs of New Mexico* and *Common Southwestern Native Plants* (with Martha Carter and Donna Stevens). Scientific illustrator Marjorie Leggitt is currently involved in illustrating the Flora of North America and has taught botanical illustration at the Denver Botanic Gardens since 1990.

Book review by Jan Loechell Turner

Celebrating Wildflowers Week - May 14-20, 2006

Celebrating Wildflowers is a season-long series of events for people of all ages who love our native plants. Activities include wildflower walks, talks, festivals, slide programs, coloring contests, planting events, and seminars that emphasize the values and conservation of native plants. See www.usfs.gov for details.

2006 Annual Meeting

**The Arkansas Basin and Beyond: 10,000 feet of Flora
September 8 - 10
University of Colorado at Colorado Springs**

The meeting begins Friday with the Rare Plant Symposium and an evening program. Saturday's agenda will include presentations and a late afternoon field trip. Longer field trips are planned on Sunday.

Topics: Early botanists of the Pikes Peak region, alpine endemics and specialties of the Pikes Peak tundra, southeast Colorado grassland habitats, the landscape ecology of the Black Forest and the effects of reforestation on the 2002 Hayman burn.

Field Trips: Shortgrass prairie ranch, pinyon/juniper/oak foothills, and limestone canyon.

Lodging: Rodeway Inn and Suites on Garden of the Gods Road and I 25 (719-593-9119 or gm.CO053@choicehotels.com). Book by early July to get the CONPS group rate of \$59.99.

CONPS Website

We hope you have been browsing through the newly designed Colorado Native Plant Society website. There are many new sections on activities of the Society and plants of Colorado. If you would like to contribute articles or photographs, please contact Webmaster, Al Schneider, webmaster@conps.org. Volunteers are also needed to gather information. And note that the web address has been changed - it is now **www.conps.org**. Resave the address in your "Favorites".

Photos Needed for *The Synthesis of the North American Flora*

You may be able to assist with a most ambitious and valuable biological project. John Kartesz, who many of us know as the Reference Plant Expert for the Integrated Taxonomic Information System (ITIS), has been working on the *Synthesis of the North American Flora* for over thirty years. John is now looking for photographs of certain elusive species. The *Synthesis* "provides the only comprehensive source for nomenclature and taxonomy for all known native and naturalized vascular plants and their associated synonyms (nearly 75,000 names), as well as the phytogeography, morphology and other data for the approximately 28,000 unique plant types." It will include over 250,000 photographs. It has been through several versions and the most complete will be available on a CD at the end of 2006. Price will range from about \$60 to \$200 depending on the version (local, with photographs, complete). Contact Al Schneider (webmaster@conps.org) for a list of needed plant photos. Your assistance would be greatly appreciated. For more details about the *Synthesis* see the Biota of North America web site <http://www.bonap.org>.

3rd Annual Colorado Rare Plant Symposium

Help decide the future of rare plant work in Colorado! Join members of the Colorado Rare Plant Technical Committee (RPTC) for the third annual Colorado Rare Plant Symposium, September 8, 9:30 am - 5:00 pm at the University of Colorado at Colorado Springs. The RPTC is an ad-hoc group of agency and NGO botanists that has been working for years to advance rare plant efforts in the state. Your personal knowledge of Colorado field botany makes your contribution to this effort critical. This one-day workshop will be held in collaboration with the CONPS annual meeting. The RPTC will select 20-25 globally imperiled (G2) species known from southeastern Colorado for discussion of their current status and potential threats, as well as present highlights from last year's symposium. The symposium is open to any one with an interest in the rare plants of southeastern Colorado. Watch for more information in future issues of *Aquilegia*.

AQUILEGIA DEADLINE - JUNE 1

Submit contributions for Vol. 30, No. 3 by June 1, 2006. Submit via e-mail as an MS Word or rtf document. See page 7 for additional information.

CHAPTER NEWS

Boulder Chapter

Monthly meetings are the on the second Thursday of the month at 7 PM at the City of Boulder Open Space and Mountain Parks offices in the north building conference room, 66 South Cherryvale Road. From South Boulder Road, go south on Cherryvale 1/10 mile and turn west onto a lane to the offices. Contact Tommi Wolfe, scanesclan@comcast.net or 303-682-1208.

May 11 Annual Picnic and Wildflower Hike to celebrate the spring!

Fort Collins Chapter

Month meetings are held **Wednesday** at 7 PM at the Gardens on Spring Creek, 2145 Centre Ave., Fort Collins. Dinner with the speaker will be at 5:15 pm at The Rainbow on Laurel St. Please contact Denise Culver the day before if you will join us for dinner, dculver@lamar.colostate.edu or 970-491-2998.

Metro-Denver Chapter

Monthly meetings are held September through April at 7 PM in the Waring House Main Room (unless otherwise noted) at the Denver Botanic Garden (the mansion just south of the main entrance on York Street). To enter, head south on York past the Gardens main entrance. Make an immediate right into parking lot that says "Staff Parking." Members are invited to join speakers at 5:30 PM for pizza at Angelo's, 620 East 6th Ave (between Pearl and

Denver Botanic Gardens - Discount Membership

Contact Denver Chapter President Naomi Nigro for details and coupon.

There are several interesting Horticulture and Conservations classes DBG this summer. See www.botanicgardens.org or call 720-865-3580. CONPS members get a discounted fee (\$35) for the May 9 Weed Seminar by Dr. George Beck of Colorado State University. Be sure to identify yourself as a CONPS member. For more information, contact Debbie Whittaker, Public Programs Manager, 720 865-3608, WhittakD@BotanicGardens.org

Washington) in Denver. For more information, contact Chapter President Naomi Nigro, 303-366-6033, or email naomi4CoNPS@hotmail.com.

Plateau Chapter

Contact Chapter President Jeanne Wenger at 970- 256-9227, stweandjaw@acsol.net or Gay Austin, 970-641-6264, austinnaceae@frontier.net for meeting information.

April 29 Rabbit Valley-McDonald Creek to River. Early bloomers, petroglyphs, lichens! 1.5 miles easy to moderate hike to the river. Contact Cindy Carlson for registration and more information at 970-245-6465.

May 13 Early Bloomers in Mee Canyon. Moderate hike. For more information and registration, call Cindy Carlson at 970-245-6465 or contact Bob Clarke at rclarke@mesastate.edu or 970-242-6067.

June 6 Tree Identification Field Trip. 9:00 am - 3:30 pm. Vince Urbina will lead a field trip on the north end of the Uncompahgre Plateau. We will also visit the state champion pinyon pine! Contact Gay Austin for more information, austinnaceae@frontier.net or 970-641-6264.

June 28-29 Fen Development and Paleocology Workshop - Grand Mesa. (Wednesday & Thursday). Cost: \$125. Contact Gay Austin at 970-641-6264 or austinnaceae@frontier.net.

July 1-2 Fen Development and Paleocology Workshop - Prospect Basin. (Saturday & Sunday) Cost: \$125. Gay Austin at 970-641-6264 or austinnaceae@frontier.net.

July 22 - 23 Identifying Alpine Wildflowers. 9 am - 3 pm, Saturday and Sunday. This weekend workshop will emphasize identifying subalpine and alpine plants on Cottonwood Pass. Registration fee is \$10.00; two texts and hand lens are \$18.00. Registration deadline is July 20. Contact Dr. Longpre at 480 474- 2074 or email at sabazia1933@hotmail.com or contact Gay Austin at 970-641-6264 or email at austinnaceae@frontier.net.

Southeast Chapter

Activities are scheduled throughout the year and often held at the Beidleman Environmental Center, on Caramillo St., north of Uintah, off Chestnut, in Colorado Springs. The chapter is recruiting for the office of President. For chapter information or to volunteer, contact Liz Klein, eklein@kiowaengineeringcs.com, 719-633-5927 or Elsie Pope, 719-596-4901.

May 20, June 3 Douglas County Field Trips.

May 27 Pikes Peak Foothills to see Calypso Orchids.

Mid-June Yellow Ladyslipper Orchids, Cheyenne Mountain.

June 24 Early Alpines on Pikes Peak

For information, email Doris Drisgill, ddrisgill@cs.com, or call Liz Klein , 719-633-5927 or Elsie Pope, 719-596-4901.

Southwest Chapter

For news and activities, contact Chapter President Sandy Friedley at 970-884-9245 or by e-mail at friedley@mydurango.net.

May 20 Sandstone Canyon, Yellow Jacket Canyon in Canyons of the Ancients National Monument. 9am - 4 pm. Call Al 970-882-4647 or email albetty@sisna.com or Leslie at 970-882-7241.

July 15 Wolf Creek Pass. Contact Dick Moseley at 970-731-591.

June 24-26 Flora of the Carrizo Mountains from the Bottom to Top, Apache County, Arizona. Contact Charlie King, 970-731-4794.

August 26 Bolam Pass. Contact Leslie Stewart, 970-882-7241.

Aquilegia via Email

Aquilegia is available via email as an Adobe document. File size is typically 2-3 MB and fast internet connections are needed to download or view it. Send your email address to Eric Lane, eric.lane@ag.state.co.us, or Alice Guthrie, molly82@earthlink.net.



Colorado Native Plant Society

Aquilegia

The Colorado Native Plant Society is a non-profit organization dedicated to the appreciation and conservation of the Colorado native flora. Membership is open to all with an interest in our native plants, and is composed of plant enthusiasts both professional and non-professional.

Please join us in helping to encourage interest in enjoying and protecting Colorado's native plants. The Society sponsors field trips, workshops, and other activities through local chapters and statewide. Contact the Society, a chapter representative, or committee chair for more information.

Schedule of Membership Fees

Life	\$250
Supporting	\$50
Organization or Corporate	\$30
Family or Dual	\$20
Individual	\$15
Student or Senior	\$8

Membership Renewal/Information

Please direct all membership applications, renewals, and address changes to the Eric Lane (Chair of Membership), Colorado Native Plant Society, P.O. Box 200, Fort Collins, CO 80522. Please direct all other inquiries regarding the Society to the Secretary at the same address.

Aquilegia is published four or more times per year by the Colorado Native Plant Society. This newsletter is available to members of the Society and to others with an interest in native plants. Articles for *Aquilegia* may be used by other native plant societies or non-profit groups, if fully cited to author and attributed to *Aquilegia*.

Articles from 500 to 1500 words in length, such as unusual information about a plant, are welcome. Previously published articles submitted for reprinting require permission. Digital photographs or line drawings are also solicited. Please include author's name and address, although anonymity may be requested. Articles must be submitted electronically.

Please direct all contributions to the newsletter to:

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509 Collyer
Longmont, CO 80501
E-Mail: molly82@earthlink.net
guthriea@ci.boulder.co.us

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Name(s) _____

Address _____

(Address) _____

City _____ State _____ Zip _____

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- Dues cover a 12-month period.
- ___ Individual, \$15.00
- ___ Family/dual, \$20.00
- ___ Senior, \$8.00
- ___ Student, \$8.00
- ___ Corporate, \$30.00
- ___ Supporting, \$50.00
- ___ Lifetime, \$250.00

Chapter (Circle one): Boulder Fort Collins Metro Denver Plateau Southeast Southwest

In addition to my membership, I have included \$_____ as a contribution to the John Marr Fund (endowment in support of small grants-in-aid of research), \$_____ as a contribution to the Myrna P. Steinkamp Memorial Fund (endowment in support of small grants-in-aid of research), or \$_____ as a general contribution to the Society.

CONPS IS A NON-PROFIT ORGANIZATION – DUES AND CONTRIBUTIONS ARE TAX-DEDUCTIBLE



CALENDAR 2005 - 2006

CHAPTER EVENTS

Boulder Chapter

May 11 Annual Picnic and Wildflower Hike

SOCIETY EVENTS

Workshops

April 29 & 30 Plant Terminology

May 20 & 21 Beginning Plant ID

2006 Annual Meeting

Sept. 8-10 Colorado Springs

TIME SENSITIVE MATERIAL