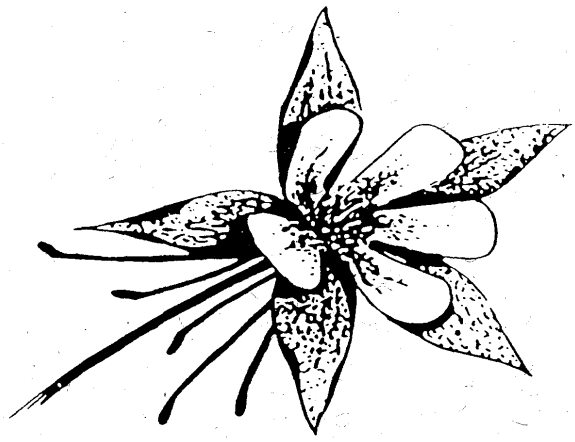
Aquilegia



Newsletter of the Colorado Native Plant Society

". . . dedicated to the appreciation and conservation of the Colorado native flora"

Volume 25 Number 7 **November - December 2001**

RARE PLANT SURVEY CONDUCTED AT CHEYENNE MOUNTAIN STATE PARK

Robert Fenwick, Ecologist

Cheyenne Mountain State Park consists of 1680 acres of high quality grassland, shrubland, and forest in the foothills transition zone just south of Colorado Springs. Elevations range from 6000-8000 feet, and the park contains a wide variety of native plant communities. The eastern side of the park consists of an extensive mixed-grass prairie that gradually transitions into oak-dominated shrubland and foothill prairie. In the center of the park, the oak mixes with Ponderosa pine and mountain mahogany to form a large area of woodlands. As elevation increases toward the western boundary, Douglas-fir and white fir mix with Ponderosa pine and Rocky Mountain juniper to form mixed montane forest. Deep ravines and canyons are dominated by dense stands of Douglas-fir, with a few white fir and Ponderosa pine in admixture.

Prior to its purchase by the state, the parcel was privately held and used as a cattle ranch and homestead. For the last 20-25 years, cattle were grazed on the property at a very low density (approximately eight to ten head) and vegetation within the park remained in excellent condition (Chris Lieber, City of Colorado Springs, pers. comm.), with few weed infestations. Given the minimal amount of disturbance to this property, the high quality of resident plant communities, and the relative absence of noxious weeds, the park was thought to have the capacity to support rare plant populations. Furthermore, a good diversity of plants had been recorded from the area and potential habitat for a number of rare species was thought to exist within the park. As such, a survey was conducted on 14 July 2001.

METHODS

Rare species and records for the area were researched using data from the Colorado Natural Heritage Program (CNHP). Rare plant records from a 10-square-mile area around the park were examined, and those with elevations and habitat types similar to the park were considered likely possibilities. Species lists from The Nature Conservancy's Aiken Canyon Preserve and nearby City of Colorado Springs Open Space were also examined for rare species of potential occurrence within the park. Tass Kelso, local botanist and Professor at Colorado College, was also consulted regarding the site's rare plant potential.

Once a list of possible species was generated, a full description of each plant, it's flowering period, habitat preferences, and diagnostic information were compiled. This information was gathered using: *Rare Plants of Colorado*, *Colorado Flora: Eastern Slope*, and *Colorado Rare Plant Field Guide*.

Next, a field map of the site was generated using ArcView GIS to show the park boundary superimposed on a topographic map of the area. A scale bar and compass bearing were also included for use in the field. Participants were encouraged to denote the areas that they surveyed, as well as the locations of any rare plants and noxious weeds that they encountered.

A data sheet for use in the field was also created. This sheet prompted observers to include as much information as possible regarding: certainty of identification, location, habitat features, population size, evidence of reproduction, overall condition, and defensibility of the population. Each participant was given a field map, potential species list with descriptions, and field data sheets.

Volunteers were recruited with the assistance of the Colorado Native Plant Society (CoNPS). Leo P. Bruederle (Editor) was an invaluable help in editing and printing an announcement in *Aquilegia*; while Dan Fosha, President of the Society's new Southeast Chapter, announced the event at their Chapter meeting held just prior to the survey.

*"**Rare Plant Survey**" continues on page two*

Contents

"Rare Plant Survey" *continued from page one*

A total of 11 people volunteered their efforts on the day of the survey. Most were CoNPS members and highly skilled in plant identification. Three teams of three and one team of two were created in order to adequately cover the park in the time allotted and provide for safety concerns. Survey areas specifically included sites of probable park facilities development, poorly known portions of the park, and known locations of possible rare plant habitat. The survey began shortly after 9:00 AM and ended in the rain at approximately 3:00 PM. Due to heavy rains, data sheets, field maps, and comments were submitted by mail.

RESULTS

Two rare species of native plants were documented during the survey. Carrionflower, *Smilax lasioneuron*, had been observed at the site previously, but surveyors were able to document several previously unknown populations throughout the park. A small population of Scribner's needlegrass, *Stipa scribneri*, was documented at the park for the first time during the survey.

A number of other, somewhat unusual and noteworthy, species were also encountered during the survey. With thanks to George Cameron for his input, these species are:

Ipomoea leptophylla (bush morning-glory). Not known from similar, nearby Open Space lands or Aiken Canyon. Unexpected in the foothills.

Penstemon brandegei (Brandegee's Penstemon). Not known from similar, nearby Open Space lands or Aiken Canyon.

Penstemon barbatus (red Penstemon). Frequently encountered in upper portions of drainages.

Swida (=*Cornus*) *sericea* (red-osier dogwood). Upper Limekiln drainage.

Vitis riparia (wild grape). Dominant in some portions of Limekiln.

Monarda fistulosa (pink bergamot). Very abundant in large drifts.

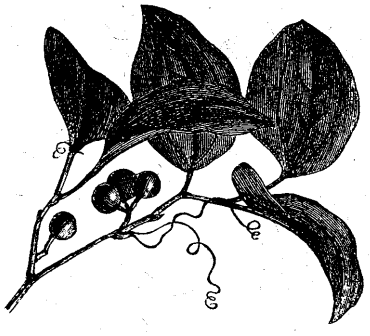
Onosmodium molle (false gromwell). Abundant along drainages.

Ceanothus herbaceus (New Jersey tea).

Asclepias tuberosa (orange milkweed). Fairly abundant in oak and ponderosa.

Hypopitys monotropa and *Pterospora andromedea* (pine sap, pine drops). Interesting and unusual saprophytic plants.

Cheilanthes feei, *Cheilanthes fendleri*, and *Draba streptocarpa*. Sandstone outcrop in Upper Limekiln.



Smilax

MANAGEMENT IMPLICATIONS

Species diversity. Though somewhat lacking in terms of "rare" species, the park has a very good diversity of native plants, especially when compared to nearby sites. Survey volunteers made reference to this in their notes. With increased use, maintaining species diversity will be a difficult, but not impossible, task. Perhaps the greatest challenge will come from wildflower collectors who find themselves unable to resist the park's bounty. Park staff should be aware of this potential impact — placing signs in strategic locations may be warranted. Parks should also delineate specific low, or no-use, areas as a means to protect and preserve highly diverse locations.

Cirsium arvense

Noxious weeds. Perhaps the greatest threat to native plant species in the park, rare or otherwise, is the invasion of noxious weeds. The park currently has only a few species of noxious weeds, and most of these are not yet well established. Control methods for species within the park should be implemented as soon as possible. Adjacent lands are also likely to have populations of noxious weeds that may spread into the park. These populations may require cooperative agreements with adjacent landowners. Park visitors are also likely to introduce weeds into the park accidentally, and should be educated about the process of weed introductions and the damage that weeds cause to native communities.

Adjacent properties. In recent years, foothill areas have become highly prized for residential housing. Cheyenne Mountain preserves one of the few large and unfragmented tracts of foothill habitat remaining along the Front Range. Fortunately, the park is bordered on several sides by contiguous natural lands that will help maintain the quality of plant and animal communities within the park. However, development is still possible, and even likely, on private property at the northeast corner of the park (JL Ranch) and on private parcels near the western boundary. Development of these parcels will increase the possibility of both erosion and noxious weed infestations that could have a direct impact on plant communities within the park.

Fire suppression. Fire suppression is a major issue for the park. In the absence of fire, fire-intolerant Douglas–fir and Gambel oak appear to be expanding into areas of the park where they aren't necessarily expected. Fire is needed to maintain the integrity of many foothill communities, with many plants depending on fire for reproduction and vigor. Forests and shrublands become overcrowded in the absence of fire, and disease and insect predation become more prevalent as forest health declines. A number of rare orchid species are known from the area, but none was encountered. Because they have specific light and substrate requirements, such species may be among the first affected by conditions related to fire suppression.

Surface water. Another important consideration, with regard to vegetation in the park is the relative lack of surface water. Limekiln Creek is dry most of the year, but has every indication of once having been a perennial stream. During the construction of NORAD in the 1950's, nearly all of the surface water flowing into the park off Cheyenne Mountain was "captured" for use at the NORAD facility (Chris Lieber, City of Colorado Springs, pers. comm.). Now Limekiln and its tributaries hold water only during heavy rain or runoff events. Certainly the NORAD diversions have had an impact on vegetation in the park, although the exact effects are unknown. Again, rare plants may have been among the first affected.

PRO BONO COUNSEL ANNOUNCED

The Society is proud to announce that the law firm of Schmehl, Yowell & Mackler, P.C. has agreed to be *pro bono* counsel, representing and advising the Society's Board of Directors in its legal matters. Schmehl, Yowell & Mackler, P.C. is a full service law firm located at 219 West Magnolia, Fort Collins, Colorado 80521 and may be reached by phone at (970) 484-0225, fax at (970) 484-8903, or e-mail at jwslaw@innocent.com. The Society is grateful for their representation — special thanks goes to James. W. Schmehl for his cooperation in this effort.

AQUILEGIA SEEKS VOLUNTEERS

Regular publication of *Aquilegia* has been made possible by the efforts of numerous volunteers over the years. However, to ensure timely production into the future, the Newsletter Committee would like to solicit volunteers to help:

- prepare a directory to back issues
- scan and compile botanical images
- solicit, word process, and compile copy
- oversee mailing (2-4 hours every other month)

To volunteer, please contact Leo P. Bruederle via e-mail at lbruederle@earthlink.net or by phone at (303) 861-4119.

FOURTH ANNUAL WEED SURVEY

Pat Butler

Once again, four representatives of the Society and the Colorado Mountain Club backpacked into the Indian Peaks Wilderness Area along Middle St. Vrain Creek on 25 August 2001 to survey and pull five infestations of Canada Thistle (*Brea arvensis*) being tracked over the previous three years. We hiked five miles and set up camp west of the junction with the Red Deer Lake trail. Disregarding the threat of rain and thunder, we succeeded in hiking to Gibraltar Lake, beneath the receding St. Vrain glaciers, where the clouds parted to reveal a sparkling, warm summer afternoon. Probably because of the fairly wet summer, the meadow below the lake was still blooming with some beautiful rose crown (*Clementsia rhodantha*), *Senecio triangularis*, and very pink paintbrush *Castilleja rhexifolia*. We also saw more typical late season flowers: both bottle and star gentians (*Pneumonanthe parryi* and *Swertia perennis*), pearly everlasting (*Anaphalis margaritacea*), and yarrow (*Achillea lanulosa*).

As we returned to camp, our bucolic afternoon was jolted by the discovery of another large stand of thistle higher up (over 10,000 feet elevation), which we had not seen in previous years, as well as a small population of yellow toadflax (*Linaria vulgaris*). The naturalist at the U.S. Forest Service office who oversees this project indicated that this might be the highest elevation population of toadflax in our area and hopes we can eradicate it over time.

Sunday morning we hiked out, pulling thistle near our campsite and at other locations down the trail; on the way, we met up with another CoNPS member, CMC member, and two USFS employees. A couple of the infestations seem to be reduced by our efforts over the years, but others appear as vigorous as ever, providing 'job' security for all volunteers who are willing to keep after them for the indefinite future. Consequently, we will be doing this trip again in August 2002 and would **love** to have more CoNPS members along!

EXPLORING THE NATURAL WORLD IN THE DIGITAL AGE

Joe Honton, *Crescent Bloom*

When Joseph Hooker joined Asa Gray in 1877 to explore the Sangre de Cristo range, they did so with a notebook and specimen press sheets. With these simple tools, some camping equipment, and a vast personal store of botanical knowledge, they proceeded to create a comparative survey of the Southwestern Colorado flora. Their progress in identifying new species depended upon their ability to recognize key features of the plants they examined. In this ability, Asa Gray was unmatched. Today's task is less the work of plant identification and more the work of conservation and preservation. Today, our goals include mapping species distribution, developing plant community profiles, and finding fragile ecosystems in need of protection. And a hike in the mountains is just as likely to include a computer and a camera, as it was long ago to include a notebook and specimen sheets. Both our goals and our tools have changed.

But a common problem existed both then and now — organizing data and disseminating results. Fortunately, the power and ubiquity of the digital world makes today's task much easier to accomplish. Consider, for example, that an electronic notebook in the field allows us to identify plants by their key attributes and to record data such as altitude and location, all without the need to transcribe data when we get back home. Consider, too, that the task of distributing this information has become the simple and immediate act of placing our words and pictures on a Web server.

And what about that wonderful medium of photography? Being an accomplished illustrator is no longer a prerequisite to being a naturalist. Capturing a pictorial record is straightforward. Organizing digitized photographs means no longer having to shuffle through envelopes of snapshots. Software for storing and retrieving photographs can put all of our data at our fingertips. No, specimen sheets have not gone the way of carbon paper. Pictures and words are an inadequate replacement for herbaria filled with accessions. But the admonition to leave it the way we found it and the prohibition against taking samples back to our personal gardens is sound policy. Yet, with a small investment in some of today's technological wizardry we can bring back and share a view of nature, inspiring others and ourselves to action. **The Compleat Botanica** software for gardeners, nurseries, landscapers, botanists, herbalists, and researchers, provides the essential tools for organizing specimens.

The Compleat Botanica software uses custom categories to organize specimens into groups that make sense to you. Each category, whether it's life cycle, stature, or best uses can be defined to accept your groupings. And each of these categories allows for exceptions when specimens just don't fit. Automatic family name lookup makes it easy for you to learn more about your specimen. With 26,334 genus names assigned to 1652 families, the botanical name checklist is impressive. Filtering your database to zoom in on the specimen of interest is a one-step process — everything is in one intuitive window. Easily share data with your favorite applications. Use the clipboard to copy to your favorite word processor, spreadsheet, or charting tool. Navigate and manipulate your collections easily. For more information about The Compleat Botanica software, contact Joe Honton at JoeHonton@CrescentBloom.com.

NATURAL AREA STEWARDS STILL NEEDED

Ron West, Colorado Natural Areas Program

The Volunteer Steward Program for Colorado Natural Areas has been very successful to date. We now enjoy the efforts of 41 volunteer stewards, many of whom have come from the ranks of CoNPS! We are still, however, looking for a few more folks, particularly for out-of-the-way sites, such as the rare plant areas of Rio Blanco County. All that we request is one visit per year, over at least three years, and completion of a simple field form. If you'd like to help, please contact Ron West at 1313 Sherman St., Rm. 618, Denver, CO 80203; (303) 866-3203 X326; or ron.west@state.co.us. For more information, visit www.parks.state.co.us/cnap/.

Site Name	County	Manager	Acres	Hiking	Species
Bonny Prairie	Yuma	PARKS	80	easy	*Botrychium campestre*
Comanche Less. Pr. Chick.	Baca	USFS	9000	easy	prairie chicken leks
Copeland Willow Carr	Boulder	NPS	100	easy	breeding neotropical birds
Deer Gulch	RioBlanco	BLM	1809	moderate	*Festuca dasyclada*
Dudley Bluffs	RioBlanco	BLM	1620	moderate	*Physaria obcordata* and *Lesquerella congesta*
East Sand Dunes	Jackson	SLB	620	easy	geology site
Elephant Rocks	RioGrande	BLM	575	easy	*Neoparrya lithophila*
Lookout Mountain	Moffat	BLM	6500	moderate (4X4)	*Astragalus detritalis*, *Cryptantha caespitosa*, *Sphaeromeria capitata*, and *Townsendia strigosa*
Lower Greasewood Creek	RioBlanco	BLM	200	moderate	*Gilia stenothyrsa*
Narraguinnep RNA	Dolores	USFS	1928	strenuous	old growth ponderosa pine
North Park	Jackson	BLM	310	easy	*Phacelia formosula*, *Allium schoenoprasum* var. *sibiricum*, and possibly *Lewisia rediviva*
N. Poudre Reservoir	Larimer	SLB	279	easy	*Physaria bellii*
Paradise Park RNA	Grand	NPS	5760	strenuous	*Mimulus gemmiparus*, possibly
Sand Creek	Larimer	SLB	640	moderate	*Penstemon larcifolius* ssp. *exilifolius*, possibly
Treasurevault Mountain	Park	SLB	320	mod. (4X4)	*Eutrema penlandii* and *Draba borealis*, possibly
Yanks/Up. Grease. Creek	RioBlanco	BLM	2687	mod. (4X4)	*Physaria obcordata* and *Astragalus lutosus*
Zapata Falls	Alamosa	SLB	619	easy	black swift

SPRING COURSE OFFERINGS AT UCD

The University of Colorado at Denver is offering two courses that may be of interest to CoNPS members with a rudimentary academic background in biology.

Field Studies: Desert Biology (BIOL 4910/5910)

Desert Biology provides an introduction to the species and communities comprising the Sonoran Desert Ecosystem — the most diverse of the North American hot deserts. Topics include the physical environment, biotic and abiotic interactions, life history, ecological adaptations, and biogeography. In addition to some Saturday lectures, we will van-pool to Tucson, Arizona from 23 to 30 March to study the natural history and ecology of this desert. You will need to provide some camping equipment, a desire to learn, and a sense of humour... but that's it. For more information about this three credit course, please contact the Office of Extended Studies at (303) 556-2735 or Leo P. Bruederle at (303) 556-3419.

Systematic Botany (BIOL 4315/5315)

The objective of this course is to provide professionals with an introduction to the principles of plant systematics, a knowledge of the flora of North America emphasizing Colorado, the technical skills to identify vascular plants, an appreciation for plant diversity, and an insight into the economic importance of plants. This upper-division course will also provide students with an appreciation for botanical diversity, as well as the real and often neglected importance of plants to society. For more information about this four credit course, please contact Leo P. Bruederle at (303) 556-3419.

25th ANNIVERSARY POSTER CONTEST A SUCCESS!

Pat Ploegsma, CoNPS Director

Nothing less than rave reviews were heard, with regard to the 25th Anniversary Poster. And these were backed up by the number of posters sold at the 2001 Annual Meeting of the Colorado Native Plant Society. The poster is comprised of not one, but three winning drawings. Bonnie K. Anthony's winning submission was a sand cherry (*Prunus besseyi*); Jan Baucum submitted a white evening primrose (*Oenothera caespitosa*), while Connie Sayas rendered Wright's verbena (*Verbena Wrightii*). Together the drawings nicely represent the flora of the eastern plains. The artists are all students of Susan T. Fisher's Botanical Illustration class at the Denver Botanic Gardens. It just so happened that the class was participating in the Colorado Flora Project, with class members expected to submit drawings of native plants. CoNPS members Pat Ploegsma, Gwen Kittell, and Denise Larson acted as judges and, with difficulty, chose three illustrations for the poster. Many thanks go to Kathy Hadsall of *fms digital* for her enthusiastic support of this project and volunteer help on poster design.

Posters are being distributed to CoNPS chapters for sales. They will also be available through the Sales Committee at a cost of $15.00 plus tax, which will vary with destination; shipping and handling will be an additional $6.00. For more information, please contact Pat Ploegsma at (303) 229-3007 or 1620 Donoven Street, Strasburg, CO 80136.

CHAPTER NEWS

Boulder Chapter

The Boulder Chapter invites you to join us for a guest speaker, refreshments, book sales, and socializing, on the second Thursday of the month through April at 7:00 PM. We now meet at the City of Boulder Open Space and Mountain Parks offices, 66 South Cherryvale Road. From South Boulder Road, go south on Cherryvale one-tenth of a mile and turn west onto a lane that leads back to the offices. We'll meet in the north building conference room. For more information, please contact Chapter President Kathy Damas at (303) 543-1492.

December 13, 2001 Thursday at 7:00 PM
Nebraska Sandhills, Sea of Grass
The Sandhills cover 25% of Nebraska and is the largest remaining expanse of mixed-grass and tallgrass prairie in North America. **Stephen Jones** — Boulder teacher, naturalist, environmental consultant and writer — will talk about why this largely privately owned area is becoming more natural as time goes by. Mixing in images and sounds recorded over the years, Steve will focus on unique plant communities, wildlife, and land use issues.

January 10, 2002 Thursday at 7:00 PM
Vegetation of Mongolia: Similarities to the Colorado Flora
While hiking near Bonner Peak, **Gwen Kittel** was struck by the similarities between the Colorado and Mongolian floras. Gwen, a terrestrial ecologist with The Nature Conservancy, will be showing slides of her travels that will compare the Asiatic climate, landscape, and flora to our own.

February 14, 2002 Thursday at 7:00 PM
Rocky Flats Environmental Technology Site: Flora, ecology, and management
Rocky Flats is a U.S. Dept. of Energy facility that formerly produced nuclear weapons components during the Cold War. Now in the process of being decommissioned and torn down, most people are unaware of the incredible biodiversity that has been protected at the Site over the past half century. **Jody Nelson** (Botanist/Plant Ecologist for Exponent, Rocky Flats Environmental Technology Site) will discuss the flora, ecology, and challenges of resource management at Rocky Flats.

March 14, 2002 Thursday at 7:00 PM
Growing Natives in the Landscape
Mikl Brawner has been growing native shrubs and perennials for 15 years in his own Boulder landscape and specializes in natives at his nursery Harlequin's Gardens. Mikl's talk will focus on the plants themselves, with a few tips for successfully growing them in the home landscape.

April 11, 2002 Thursday at 7:00 PM
Gardening and More to invite Wildlife into your Backyard
Join us for a slideshow by the National Wildlife Federation on techniques for inviting wildlife into your backyard. **Ali Steimke** (NWF Field Education Coordinator) will focus on the Federation's Backyard Wildlife Habitat program and how you can create wildlife friendly backyards. Ali will discuss ways to successfully incorporate the four basic wildlife needs — food, water, cover and a place to raise young — into your landscape.

May 9, 2002 Thursday at 5:30 PM
Annual Picnic and Hike
Location and destination to be announced - watch *Aquilegia* for details.

Fort Collins Chapter

Meetings are held at 7:00 PM in the Main Conference Room of the National Seed Storage Laboratory (NSSL) at CSU. The NSSL is located just west of the railroad tracks, about one block north of Pitkin Street (enter on west side of building). Members are invited to join the speaker for dinner at Coopersmiths in Old Town, Fort Collins at 5:30 PM prior to the meeting. For more information, please contact Chapter President Annette Miller at (970) 495-3240.

December 4, 2001 Tuesday at 7:00 PM
Purple Loosestrife in Colorado
David Weber (Noxious Weed Coordinator, Colorado Division of Wildlife) will deliver a presentation discussing purple loosestrife in Colorado, with some specific information about this weed in Larimer County.

February 5, 2002 Tuesday at 7:00 PM
A Photographic Journey of Big Bend through Time and Space
Join local botanists/photographers **Bill Jennings** and **Carolyn Crawford** on a photographic tour of Big Bend National Park, Texas. Over the last 20 years, Bill and Carolyn have visited the park around the seasons, from the Rio Grande to the top of the Chisos Mountains at 7500 feet. This promises to be a floristic feast for the eyes!

March 5, 2002 Tuesday at 7:00 PM
The Gardens at Spring Creek
Jim Clark will present information about the Gardens at Spring Creek, previously the Community Horticulture Center. A brief history of the project, a description of the mission and intended programming, visual graphics of the master plan and building design, and some information on the schedule and financing will be explained. Visit www.fcgov.com/horticulture for more information.

April 5, 2002 Tuesday at 7:00 PM
Restoration Efforts at Rocky Mountain National Park
Jeff Connors (Resource Specialist, RMNP) will discuss restoration efforts that have been undertaken at Rocky Mountain National Park using both native and local genotypes. Jeff will also talk about natural versus manipulative restoration.

Blizzard Botany (Icy *Isoetes*)

Annette Miller, Chapter President

Nine intrepid CoNPS "field trippers" gathered Saturday, 13 October 2001 at the snowy Bierstadt Lake trailhead in Rocky Mountain National Park. Our goal was to investigate populations of *Isoetes* (quillwort). This aquatic plant washes ashore at the east end of the lake at this time of year, making wading unnecessary. Two species have been reported from Bierstadt Lake: *Isoetes lacustris* L. and *I. setacea* Lam. subsp. *muricata* (Dar.) Holub. High winds and blowing snow were encountered during the steep, short hike to the lake. Fortunately, quillworts were found immediately under the ice along the shore! The undaunted group chipped through the ice to retrieve samples for examination, using a dissecting

scope that was brought along to examine megaspore ornamentation. However, there was some difficulty keeping the dry megaspores from blowing away into the snow. Janet Wingate (Botanist, Denver Botanic Gardens) had a collecting permit and was able to obtain specimens. RMNP employees Terry Terrell and Judy Disty also accompanied the group, which tentatively identified the sample as *I. setacea* Lam. subsp. *muricata* (Dar.) Holub. A more thorough examination of the materials is in progress.

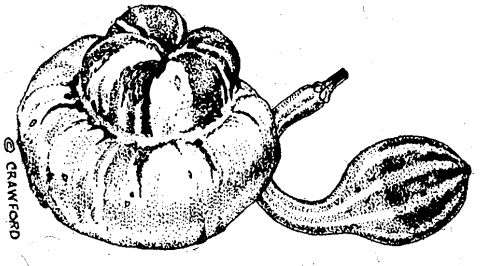
Metro-Denver Chapter

Monthly meetings are held at 7:00 PM from September through December in the Morrison Center at the Denver Botanic Garden. For more information, please contact Chapter President Denise Larson at (303) 733-4338 or Leo P. Bruederle at lbruederle@earthlink.net. **Beginning in January**, we will be meeting in the main room of the **Waring house** at the Denver Botanic Garden, which is located on the northwest corner of 9th Ave. and York.

December 4, 2001 Tuesday at 7:00 PM
Hybridization? Are You Loco?
Dr. Shanna Carney (Biology, Colorado State University) will recount the early stages of her research on the Colorado locoweeds, *Oxytropis sericea* and *O. lambertii*. Shanna will focus on reproductive isolation, the conditions that favor hybridization, and how aspects of pollination ecology influence the likelihood and direction of hybridization. Expect some great photographs of locoweed, as well as a few pollinators!

January 29, 2002 Tuesday at 7:00 PM
Flora of the Sonoran Desert
The Sonoran Desert is one of our most diverse ecosystems. Of the four major North American desert systems, the Sonoran rarely experiences freezing temperatures. As such, many plants of more southern latitudes make their northernmost appearance in this desert. **James Riser** (Biology, University of Colorado at Denver) will present a slideshow depicting several of the six subdivisions of the Sonoran Desert, and will discuss adaptations to aridity and periodic rainfall. Comparisons with other North American deserts will also be made. This talk should provide a colorful respite from winter, and may even tempt you to visit warmer climes in the spring.

February 26, 2002 Tuesday at 7:00 PM
A Photographic Journey of Big Bend through Time and Space
Join local botanists/photographers **Bill Jennings** and **Carolyn Crawford** on a photographic tour of Big Bend National Park, Texas. Over the last 20 years, Bill and Carolyn have visited the park around the seasons, from the Rio Grande to the top of the Chisos Mountains at 7500 feet. This promises to be a floristic feast for the eyes!



Artist: Carolyn Crawford

March 26, 2002 Tuesday at 7:00 PM
Penland Alpine Fen Mustard: To be or not to be
Penland alpine fen mustard (*Eutrema penlandii*) is a globally rare species restricted to Colorado's Mosquito Range. Its closest relative is the circumboreal *E. edwardsii*. In 1987, W.A. Weber subsumed *E. penlandii* into its North American congener, publishing the name *E. edwardsii* ssp. *penlandii*. Since then, there has been considerable interest and debate among taxonomists and conservation biologists regarding the systematic relationship between the two taxa. Marr Fund recipient **Kim Fayette Regier** (Biology, University of Colorado at Denver) will present the results of her research — including some surprises — that reveal the two to be distinct.

April 30, 2002 Tuesday at 7:00 PM
Floristic Survey of the Upper Arkansas Valley and Lower Gore Range
Intense floristic inventories have been the focal point of the Rocky Mountain Herbarium (RMH) at the University of Wyoming since the 1970's. Marr Fund recipient **Emily Holt** (Botany, University of Wyoming) will discuss her Master's research, which comprised a floristic survey of the Sawatch Range (including the Collegiate Peaks and the highest Peak in Colorado, Mount Elbert), the eastern Mosquito Range, the southern Gore Range, and a portion of the Eagle Valley between Vail and Dotsero. The total area covers approximately 3,000 square miles and includes seventeen of Colorado's 54 peaks over 14,000 feet. Her research uncovered new and previously documented populations of over 30 of Colorado's rare plants!

Plateau Chapter

Chapter activities are scheduled throughout the year. For more information, contact Chapter President Jeanne Wenger at (970) 256-9227 and Bluecrow2u@aol.com or Program Chair Lori Brummer at (970) 641-3561 and lbrummer@gunnison.com.

Southeast Chapter

For more information about the newly formed Southeast Chapter, as well as news and activities, please contact Chapter President Dan Fosha at (719) 572-6972 or danfosha@aol.com.

Southwest Chapter

For more information about the Southwest Chapter, as well as news and activities, please contact Chapter President Sandy Friedley at (970) 884-9245 or by e-mail at friedley@frontier.net.

PROGREEN EXPO VOLUNTEERS NEEDED!

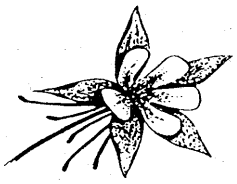
The Colorado Native Plant Society needs volunteers to staff our booth at the Progreen Expo in Denver from 29 January – 1 February 2002. Please contact Jill Handwerk at (970) 221-3460 or Alice Guthrie at (303) 651-3127 for more information.

DEADLINE APPROACHES

Submit *Aquilegia* Contributions on or before December 15, 2001

Submit contributions for Vol. 26 No. 1 of *Aquilegia* on or before December 15, 2001. Articles not exceeding 1000 words are especially welcome. Previously published articles submitted for reprinting require permission. Include author's name, address, and affiliation; anonymity may be requested. Follow the format from previous issues closely. Spell check. Submit via e-mail or on disks — MAC, preferably — as an MS Word or rtf (rich text format) document.

Colorado Native Plant Society



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

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 not exceeding 2000 words in length and shorter items fewer than 500 words in length, such as unusual information about a plant, are especially welcome. Previously published articles submitted for reprinting require permission. Camera-ready line art or other illustrations are also solicited. Please include author's name and address, although anonymity may be requested. Articles submitted via e-mail or on disks (MAC preferably, or IBM) are appreciated. Please indicate word processing software and version; if possible, submit as an RTF (rich text format) file.

Please direct all contributions to the newsletter to:

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University of Colorado at Denver
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Denver, CO 80217-3364
E-Mail: lbruederle@earthlink.net

MEMBERSHIP APPLICATION AND RENEWAL FORM

Name(s) _____

Address _____

(Address) _____

City _____ State _____ Zip _____

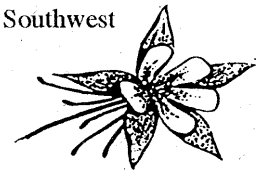
Phone (___) _____ E-mail _____

MEMBERSHIP CLASS:
Dues cover one calendar year.

___ Individual, $15.00
___ Family/dual, $20.00
___ Senior, $8.00
___ Student, $8.00
___ Corporate, $30.00
___ Supporting, $50.00
___ Lifetime, $250.00

Chapter: ___ 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

CHAPTER EVENTS

Boulder Chapter

December 13	Nebraska Sandhills, Sea of Grass
January 10	Vegetation of Mongolia
February 14	Rocky Flats Environmental Technology Site: Flora, ecology, and management
March 14	Growing Natives in the Landscape

Fort Collins Chapter

December 4	Purple Loosestrife in Colorado
February 5	A Photographic Journey of Big Bend through Time and Space
March 5	The Gardens at Spring Creek

Metro Denver Chapter

December 4	Hybridization? Are You Loco?
January 29	Flora of the Sonoran Desert
February 26	A Photographic Journey of Big Bend through Time and Space
March 26	Penland Alpine Fen Mustard: To be or not to be

SOCIETY EVENTS

Board Meeting

December 8	Public Library, Longmont, CO
January 12	Longmont, CO
February 23	Longmont, CO

WORKSHOPS

December 8, 9	Problem Weeds of the Front Range Urban Corridor First session: Saturday Second session: Sunday
January 12, 13	Grasses: Tribe Festucae First session: Saturday Second session: Sunday
February 9, 10	Ecology and Identification of Willows First session: Saturday Second session: Sunday
February 23, 24	*Senecio*, Focus of the plains First session: Saturday Second session: Sunday

Colorado Native Plant Society
P.O. Box 200
Fort Collins, Colorado 80522
http://www.conps.org

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