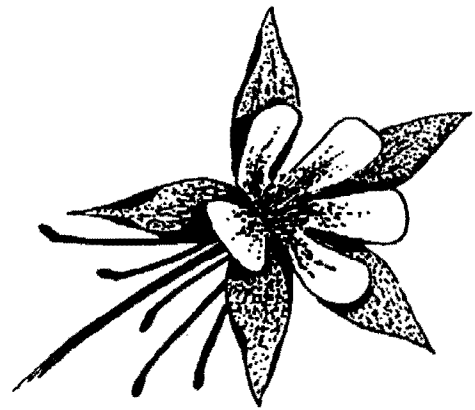


Aquilegia

Newsletter of the Colorado Native Plant Society



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

Volume 13, Number 4

July/August 1989

Search for Species of Concern

Pike and San Isabel National Forests

As part of the continuing development of the Ecology Program for the USDA Forest Service, Rocky Mountain Region 2, an ecologist has been added to the Pike-San Isabel staff in Pueblo, CO. One of the important objectives of this program is to locate populations of Colorado plant species of special concern which may occur on National Forest lands or on National Grasslands as per the Plant Species of Special Concern list published by the Colorado Natural Areas Program. The assistance of the members of the Colorado Native Plant Society is requested to report new locations of the species listed below, for the Pike and San Isabel National Forests or the Comanche National Grasslands. Please send a memo with any information on these species to:

Judy von Ahlefeldt, Ecologist
Pike-San Isabel National Forest
1920 Valley Drive
Pueblo, CO 81008

Species for which new location information is desired for the Pike-San Isabel National Forests and Comanche National Grasslands:

<i>Armeria scabra</i> ssp. <i>siberica</i>	<i>Mentzelia densa</i>
<i>Braya humilis</i> ssp. <i>ventosa</i>	<i>Mimulus gemmiparus</i>
<i>Braya glabella</i>	<i>Pellaea atropurpurea</i>
<i>Crepis nana</i>	<i>Penstemon degeneri</i>
<i>Eriogonum brandegei</i>	<i>Phippsia algida</i>
<i>Eutrema penlandii</i>	<i>Ptilagrostis porteri</i>
<i>Frasera coloradense</i>	<i>Ranunculus gelidus</i>
<i>Goodyeara repens</i>	<i>Salix lanata</i> ssp. <i>calicola</i>
<i>Heuchera richardsonii</i>	<i>Sapindus drummondii</i>
<i>Hypoxis hirsuta</i>	<i>Scirpus pumilus</i>
<i>pomopsis globularis</i>	<i>Solidago ptarmicoides</i>
<i>Liatris ligulistylis</i>	<i>Spiranthes illuvialis</i>
<i>Lilium philadelphicum</i>	<i>Viola pedatifida</i>
	<i>Woodsia mexicana</i>

Calendar Overview

Additional information about calendar items will be found throughout this issue.

Workshops and Meetings

September 16 Board meeting
at Elizabeth Otto's, Idaho Springs

October 28 CONPS Annual Meeting
at Colorado School of Mines

Field Trips

July 22-23 Yankee Boy Basin
Leader: Peggy Lyon

July 30 Mountain Mushrooms
Leader: Linnea Gillman, for Bldr. Chp.

August 5 Devil's Head
Leaders: Denny Bohon, Judy von Ahlefeldt

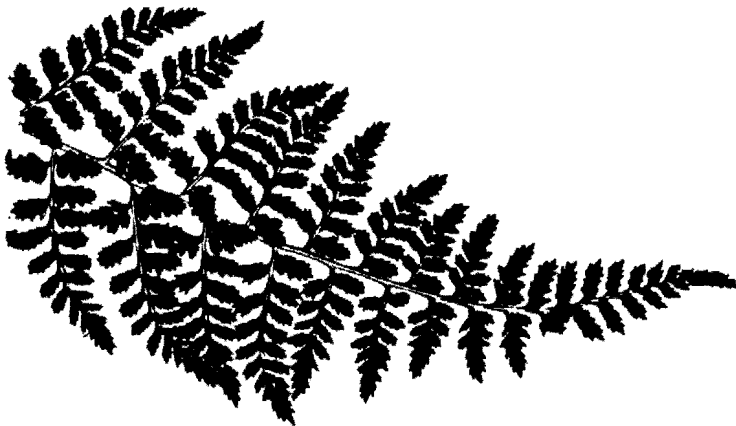
August 12 Rocky Mtn. Natl. Park
Leader: Dorothy Udall

August 19 Diamond Lake Hike
Leaders: Nan Lederer, Mike Figgs, for Bldr. Chp.

ANNOUNCEMENTS

CONPS Annual Meeting October 28th Colorado School of Mines Petroleum Hall

The theme of this year's meeting is **Saving Colorado's Native Flora on Public Lands**. Faith Campbell of the Natural Resources Defense Council is the keynote speaker and one of many featured speakers on this critical topic. Start planning to attend, and watch for complete information to be announced in the next issue of *Aquilegia*.



Denver Chapter Activities First Fall Meeting

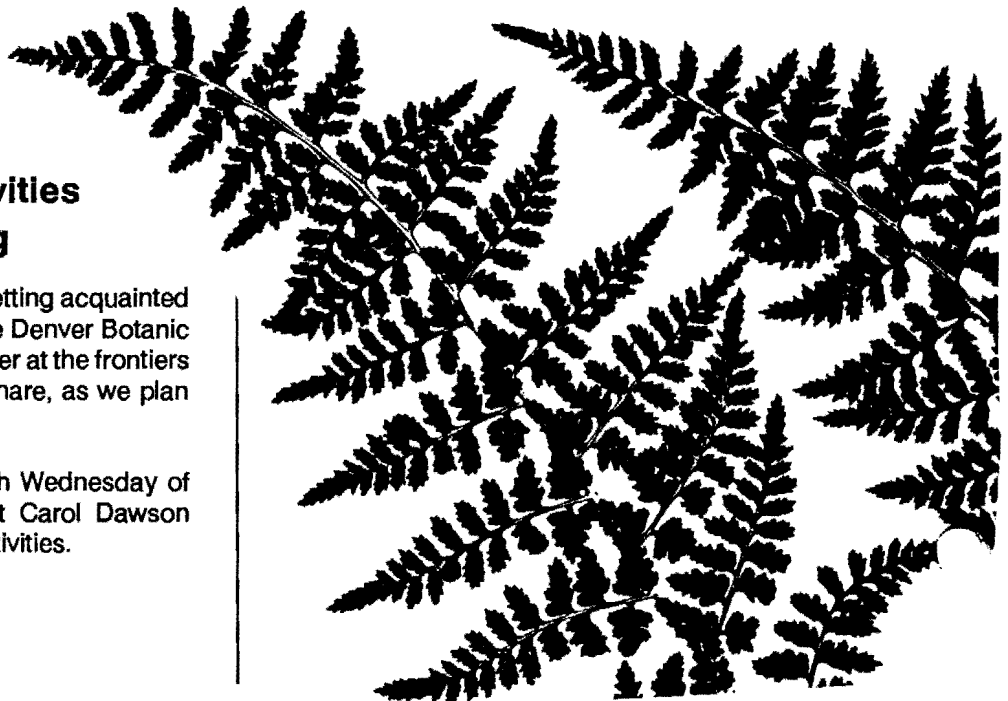
Wednesday, September 27, 7:30 PM Getting acquainted and re-acquainted in Classroom A at the Denver Botanic Gardens. Bring a few slides of your summer at the frontiers of botanic discovery, and a dessert to share, as we plan another year of chapter activities.

The Denver Chapter meets on the fourth Wednesday of each month (except summer). Contact Carol Dawson (722-6758) for information on chapter activities.

Boulder Chapter Summer Field Trips

Sunday July 30th MUSHROOM HIKE A joint field trip with the Colorado Mycological Society. Mycologist Linnea Gillman will lead this half-day mushroom foray into the mountains west of Boulder. Meet at **10 AM** at the RTD Park-n-Ride at the Table Mesa exit off the Boulder Turnpike (Hwy. 36) in Boulder. We plan to return at approximately **1 PM**. Be sure to wear sturdy hiking shoes or boots, and bring drinking water and raingear. You may also want to bring a camera and a picnic lunch. For more information, call 494-1640.

Saturday August 19th DIAMOND LAKE HIKE A joint field trip with the Boulder Co. Nature Association. Nan Lederer and Mike Figgs will lead this all-day hike to the sub-alpine ecosystem and cirque headwalls near Diamond Lake (west of Nederland) to look for such uncommon plants as *Gaultheria humifusa* (creeping wintergreen), *Athyrium distentifolium* (alpine lady fern), *Lycopodium annotinum* (stiff club-moss), *Huperzia selago* (fir club-moss) and many others. Meet for carpooling at **8 AM** at the city employee parking lot off Arapahoe Ave. near the New Britain Building, directly across the street from Alfalfa's Market in Boulder. The hike will cover about five fairly strenuous miles round-trip, with a 1000 ft. elevation gain and some bushwhacking. Wear sturdy hiking shoes or boots, and bring raingear, drinking water and lunch. Also camera, hand lens, floras, if desired. We plan to return to Boulder at approximately **5 PM**. For more information call 447-1899.



Potluck in the Park

Date: Saturday, August 12, 1989

Place: VIP house in Rocky Mountain National Park
715 High Drive, Estes Park (see map;
it's 1.6 miles from Quik Stop grocery to house)

Bring: Potluck dish of your choice
(drinks and utensils will be provided)

Activities:

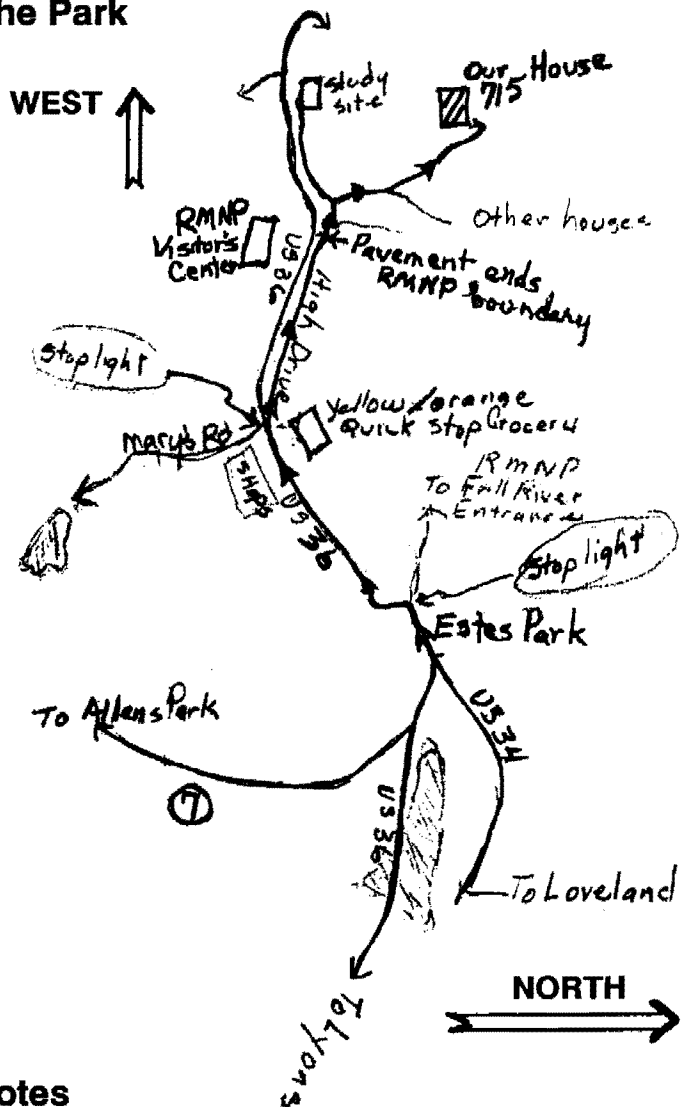
10 AM to 12 Noon Short hike to the study site to see Restoration Research Project that CONPS members are involved in this summer in cooperation with research ecologists at RMNP.

12 to 1 PM Potluck lunch

1 PM to ?? Field trip to Cabin Lake site (near Sprague Lake) to visit a naturally restored area whose interesting history can be "read" in its topography and vegetation.

Call: By August 10th if you plan to attend:
Udalls in Fort Collins at 482-9826 or
Diana Mullineaux at 237-5794 or
Velma Richards in Metro-Drv at 794-5632

If you find you can come at the last minute, please do so even if you haven't called. Car-pooling is recommended as parking space is limited.



Board Notes

Meg Van Ness

The CONPS Board of Directors met on 13 May 1989 at Gayle Weinstein's home in Denver, the same day that CONPS volunteers began research activities in Rocky Mountain National Park. This Partners in Parks project started with collection of voucher specimens and seeds. Among other discussion items:

- Volunteer needed to represent CONPS at board meetings of Colorado Environmental Coalition
- Publication of the rare plant monograph expected in June
- Letters thanking CONPS for \$50 donations received from the Natural Resources Defense Council and The Nature Conservancy
- Request for information on sources of native plants (e.g. nurseries and seed companies) by Velma Richards

- Offering authors reprints of *Aquilegia* articles
- Creation of archive for *Aquilegia* and CONPS records, possibly at Botanic Gardens
- Support needed for new visitor center at Florissant; write congressional representatives
- Review of landscaping plans for new airport

In addition, Beth Painter and Brian Geils were appointed to nominate members for Board openings for the election this fall. The Board agreed to provide \$200 funding for a research proposal by Katharine Warren (CSU student) for a project comparing reproduction of rare and common species of *Phacelia*.

The next board meeting will be held in Idaho Springs at Elizabeth Otto's home September 16th. There will be a potluck supper following the meeting.

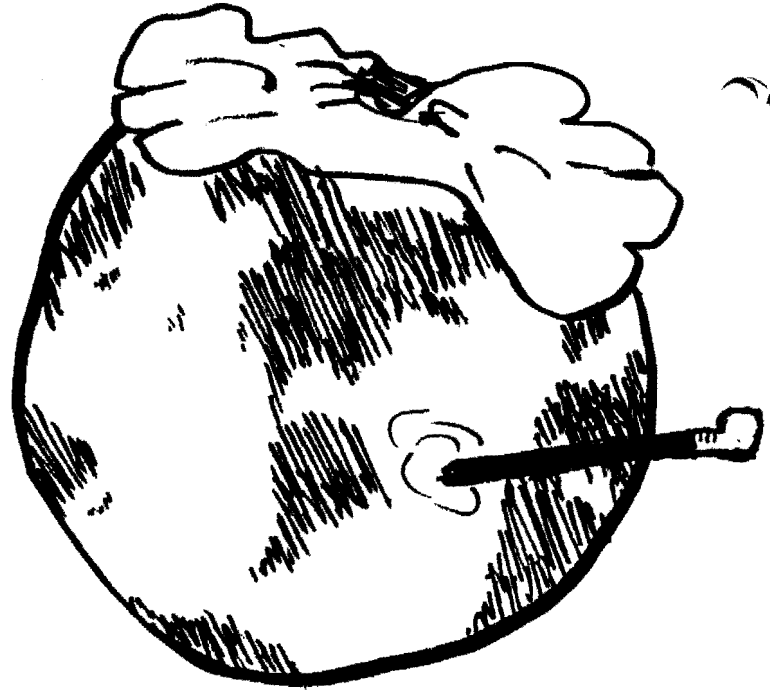
New Field Trip

Devil's Head. Saturday, August 5th

Leaders: Denny Bohon and Judy von Ahlefeldt

A search for relict plants and rare species is the subject of this field trip to Devil's Head on the Pike National Forest, west of Castle Rock. The Pike National Forest is expanding its program for location of rare, unusual, threatened and endangered species. This trip will be conducted in cooperation with the Pike National Forest South Platte Ranger District to search for relict ferns and several other species which may occur in specialized habitats on the Front Range.

Participants will form teams to search in the vicinity of Devil's Head and from access points along Jackson Creek road. Search areas will be on forested slopes with rocky outcrops. Meeting time is 9 AM at the Devil's Head trail-head below the fire lookout off the Rampart Range road. Bring a lunch, water and raingear. An evening cookout will be provided after the search. Rain date is August 12th. Trip reservations are required — please call Denny Bohon at the South Platte Ranger District during business hours at (303)236-5366.



Terra Infirma: Uneasy Listening?

Paul Klite, Adeline McConnell

TERRA INFIRMA, a new radio program designed to help people confront environmental problems, airs the second Tuesday of each month at 10:30 AM on KGNU Community Radio in Boulder (at 88.5 FM). The show, produced by composer Bruce Odland and environmental activist Eric Holle, both of Boulder, artist Paul Klite and writer Adeline McConnell of Denver, will tap the listening audience for information and ideas on ways ordinary people can affect the future of the environment. The best ideas, collected on tape by phone, will be aired the following week.

"People are the cause of environmental problems," Klite said, "and people will have to solve them, since institutional methods are not doing the job and there's not much time left. Most of us feel overwhelmed by the number and complexity of the threats. As a result we retreat into a protective shell while the problems escalate. This show will develop the potential for radio networking and will empower people to take more effective action."

The program emphasizes changes people can make in their personal lives — simple ways of practicing conservation, for example — and describes efforts that have been successful elsewhere. It offers suggestions as to where people can best put their money and energy and informs them of current environmental actions with which they may want to coordinate their efforts. "Even though the subject is ominous, we hope to bring music, creativity and humor to the show," Klite said. "We want it to be positive and optimistic."

Natives in the Garden: Littleleaf Mountain Mahogany

Jim Borland

It is probably something of a stretch to consider that a plant whose leaves are only 0.5 to 0.7 inches long and half that wide could be a substitute for the broadleaf evergreens common to other parts of the country, but Littleleaf Mountain Mahogany (*Cercocarpus intricatus*) exemplifies some of the botanical adaptations necessary for a broadleaved plant to survive in high, cold and dry climates.

Other climatic features which severely limit the number of available and successful broadleaf evergreens one can reliably use in a dryland landscape include arid conditions, bright winter sun, year-round low relative humidity, low winter temperatures and high soil pH. Any one of these conditions can be severe enough to preclude the use of most common broadleaf evergreens.

Because few of our watered landscapes and none of our dryland landscapes will be graced with rhododendrons, azaleas and mountain laurel, it is time we begin looking at broadleaf evergreens that can supply green color in the winter landscape, regardless of the size of their leaves. Little-leaf Mountain Mahogany is one of several western U.S. broadleaved evergreens that can fill the bill.

Growing almost exclusively in cracks and soil pockets of horizontally to vertically inclined sandstones, Little-leaf Mountain Mahogany is afforded little protection from either the harshness of a cold (-20 °F) desert winter or the intense reflected light and heat of the summer sun. To survive in this environment, evolution has endowed this shrub with small thick and leathery leaves made even more durable by an in-rolling of the leaf edges. Like conifers, this member of the Rose family compensates for its diminutive leaf size by leaf numbers which almost completely cover its intricately packed silvery branches. Late spring frosts, typical in its Great Basin home, often damage the small flowers and reduce or prevent the production of its curly-tailed, feathery achenes.

Little success has been found in the rooting of its stems, and all current propagation for market is from seed. Prior to germination, seed must be treated to one to three months of cool (35-41 °F) temperatures and moist conditions. Although few problems are encountered when growing it in containers, growers may find that increased soil aeration produces better growth and less incidence of root disease. Alkaline soils of a pH of 7.4 and above are easily tolerated in the landscape, but lower pH soils typical in containers present no growth problems. Its slow growth may prove a detriment to commercial growers who are used to plants quickly filling a one to five gallon container, but the end user who desires a shrub which will not quickly out-grow its place in the landscape will find this factor a benefit.

Little-leaf Mountain Mahogany is native to the Great Basin and its periphery where it forms a dense, round-shaped shrub with heights and widths varying from one to six feet. The general size and shape will be determined by the parent plants from which seed is taken. A full sun location produces the densest plant habit. Because its cousin, *Cercocarpus ledifolius* (Curlleaf Mountain Mahogany) adapts readily to hedging, it is probable that this species would adapt as well. In my opinion, however, this would be a form of desecration.

Most of the natural habitat of this species receives as little as 8 to 12 inches of annual precipitation. Specimens planted in landscapes naturally receiving this amount or slightly more may never have to be watered once they are established.

Little-leaf Mountain Mahogany is only sporadically carried by nurseries across the state. Both growers and potential customers may find that plants comparable in size and fullness to other common nursery plants cost more. Although slow growth will ultimately be beneficial in the landscape, both parties should be aware that the open structure of young plants is only temporary. Subsequent growth will become more compact.



Cercocarpus montanus

FLORAL TRIBUTES

Ann Cooper

About this time of the year many newspapers print suggestions of reading matter to take along on vacation. The lists vary from who-done-its to classics you never quite had time to read. On the assumption that CONPS-folk might like to delve into more floral literature, while relaxing at the end of a day's botanizing, may I offer the flower-lovers list.

I include no field guides in the list. Whether you favor a complete, dichotomous key with full plant descriptions or prefer something a little more pictorial, the field guides belong with identification. They are not often books for browsing, though it can be very satisfying to finally meet a plant that you had previously known only from skimming through a field guide. Perhaps in the field you instantly recognize a species with an obscure feature that sits at a well-thumbed junction in the key. That was my experience when I found my first *Botrychium* a few years ago.

This is no bibliography, but a book-list of personal favorites. Some will be far too "lay" for the specialist. The information may be simplified enough in some instances to make an expert cringe. But they offer new slants on plants. They are in random order, as holiday reading often seems to be.

A Guide to Enjoying Wildflowers by Donald and Lilian Stokes, (Little, Brown and Company, 1985), is written for the east, but includes many genera that are present in Colorado. The illustrations are charming. The text offers a smattering of folk lore and gossip about garden relatives of each plant. Under the heading "What You Can Observe" come tidbits on special features, on insect interactions, on dispersal mechanisms, and anything else that takes the authors' fancy.

Plants of the Alpine Tundra by Nic and Helen Marinas, (Rocky Mountain Nature Association, 1981), is more than a catalogue. It explains some of the forces at work that make the tundra what it is. It zooms in to look at detail and in very simple terms makes sense of plant adaptations. The calligraphy makes this a very friendly little book...and a perfect gift to send a budding plant-lover friend.

Wild Flower Name Tales by Berta Anderson, (Century One Press, 1976), links wildflower names and the history of their discovery and naming in a delightful blend. The book is full of anecdotes about such stars and eccentrics as Parry, Douglas, Pursh, and Nuttall. The book provides a tantalizing taste of early botanical explorations. Then it entices the reader to delve further with a bibliography that could keep one reading for years.



Pasture and Range Plants, produced by Phillips Petroleum Company in 1963, deserves mention for two reasons. First, it is visually pleasing--in fact almost a "coffee table" book--with its flower portraits on black backgrounds. Second, it is nice to see an energy company sponsor a project like this. It is certainly more positive than Exxon-Valdez!

Flowering Plants of the World (editor V. H. Heywood, Mayflower Press, 1978) was offered at a local bookstore remainder table at a ridiculously low price. I couldn't resist! It gives information on worldwide plant families, with maps of their distribution. At a glance you can find those elusive facts about genera and species in the family and a little about economic values, too. Every plant is a native somewhere. This book helps the layman to find out where. It is also perfect for answering kids questions, such as "what is cinnamon?"

These books will never make the *New York Times List of Vacation Reading*, but I hope they will offer you diversion this summer when you return from the great outdoors.

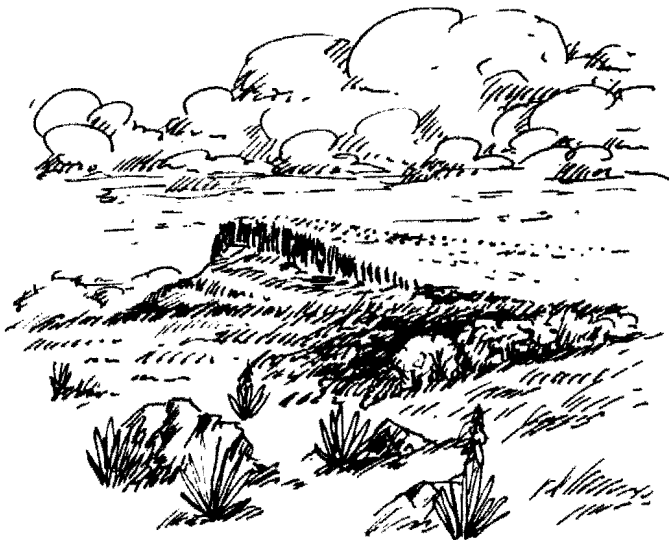
Field Trip Report Southeast Prairies in May

Marian Brandenburg

On May 20th, our group met about 40 miles east of Trinidad to begin a two-day trip through prairie areas in southeast Colorado, led by Rick Brune. Our arrival disturbed a number of killdeer and their alarmed cries continued until we left their pond area. After a 13-mile drive north on a rough dirt road, we walked slowly southeast over hilly terrain covered with juniper and piñon pine, stopping often to examine plants.

Atop a ridge, we could look down into a canyon and saw a large pond at the base of aspen trees. Working our way slowly down a steep boulder-scattered gully and across slopes covered with chokecherry, wild grape and other growth, we arrived at the bottom of Pery Canyon, which is protected on three sides by sandstone cliffs. Water seeped from under a cave-like ledge where red and yellow columbines and lily-of-the-valley bloomed. The scene inspired photographers and artists as well as kneeling botanists. Many scrambled out on rocks in the pool to see the pondweed and water lilies. Others climbed back to the top and circled the canyon to the drainage above, where an arroyo empties over a cliff into the pool. There a stagnant pond was laced with strings of frog eggs.

Reluctantly leaving this relict area, we drove west then northeast past Fisher Peak and Spanish Peaks, through a lush farming area to the cantonment area of the Pinyon Canyon Maneuver Site. After a hasty lunch in the parking lot by the Headquarters Building, we obtained passes for our cars and proceeded to a long hogback along the Van Bremer arroyo. A steep hike to the basaltic ridge brought us past early Indian stone rings. We proceeded slowly along the south slope, examining plants, rocks and animal tracks. We could see the origin of this volcanic dike, the Spanish Peaks, far to the southwest. The Cuenca Verde (Greenhorn) block was faintly visible to the northwest.



Crossing over to the north slope, we descended to the arroyo and watched a variety of tiny fish in the flowing copper-colored water. After being checked by a guard, we left the area and drove east across open land to a piñon-juniper woodland along the western rim of the Purgatoire River, where we made camp for the night. The river was hundreds of feet below us. After hikes to various points overlooking both Taylor Arroyo and the river, we gathered after supper around a warm fire until the full moon rose over an eastern cloud bank. The wind came up and increased in velocity, shaking tents and cars intensely so that no one slept until after it decreased about 12:30 AM.

Early morn was greeted by various bird calls, particularly many mockingbirds. After breakfast, we drove back to the cantonment area, then on to Trinidad and rendezvous at Kim. From there we drove through sandhills and past fields and farmhouses, stopping frequently at previously scouted spots to examine flora on either side. At an outcrop of Greenhorn Sandstone, we found individuals of rare *Frasera coloradense*. We next stopped to investigate an abandoned WPA-built stone schoolhouse (ca. 1938).

Arriving in Cottonwood Canyon after noon, we stopped for a picnic lunch on the grass under large cottonwood trees near the old Dodge ranch and its flowing spring. Many needed to start for home, but five of us continued on to explore a part of Picture Canyon. We saw pictographs and petroglyphs of early man, including the "birthing rock" and "Crack Cave." Driving out of the canyon, we were rewarded with a glimpse of a very large roadrunner quickly crossing our path and stopping on the slopes above us.

During the two days we saw many antelope, a few deer, a coyote, ground squirrels, cock pheasants, curlew, killdeer, a Lewis woodpecker, piñon jays, blackbirds, crows, robins, mockingbirds, Say's phoebe, eastern kingbirds, meadowlarks, horned larks, lark buntings, sparrows, starlings, a mountain bluebird, a roadrunner, red-tailed hawks, turkey vultures, and possibly a golden eagle.

Among our group were archeologists (one a primitive historian), several teachers, a therapist, several artists and physicists, a chemist, an author ("Short Grass Prairie"), a nutritionist and sculptress, an optical engineer, and many knowledgeable botanists. As advertised, the trip offered something for everyone. Rick Brune did an outstanding job in planning and leading this trip and gave us an enjoyable and informative experience in this little-known part of Colorado.

Officers

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Vice-President	Beth Painter	482-2283
Secretary	Meg Van Ness	279-2569
Treasurer	Myrna P. Steinkamp	226-3371

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Colorado Native Plant Society
P.O. Box 200
Fort Collins, Colorado 80522

Schedule of Membership Fees

Life	\$250.00	Family or Dual	\$12.00
Supporting	50.00	Individual	8.00
Organization	25.00	Student or Senior	4.00

Membership Renewals and Information

Please direct all membership applications, renewals and address changes to the MEMBERSHIP chairperson, in care of the Society's mailing address.

Please direct all other inquiries regarding the Society to the SECRETARY in care of the Society's mailing address.

Newsletter Contributions

Please direct all contributions to the newsletter to:

Peter Root
4915 West 31st Avenue
Denver, CO 80212

Deadlines for newsletter materials are February 15, April 15, June 15, August 15, October 15 and December 15.

There is a special need for short items such as unusual information about a plant, a little known botanical term, etc. Please include author's name and address, although items will be printed anonymously if requested.

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Time Value Material - Mailed on or about July 20