

# Aquilegia

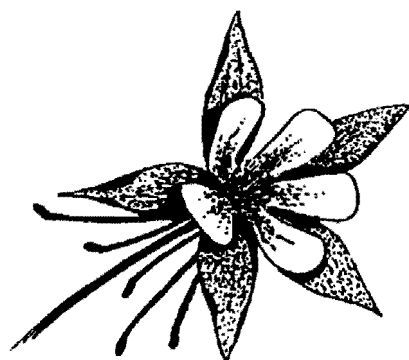
Newsletter of the Colorado Native Plant Society

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

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Volume 13, Number 5

September/October 1989



## Rare Plant Publication Now Available

Elizabeth Otto

Colorado can now boast of its own publication displaying many of the rare plants found throughout the state. The Colorado Native Plant Society has completed a three-year project, producing **Rare Plants of Colorado**, a volume both attractive and informative.

Eleanor von Bargen, president, observes in the introduction, "In recent years we have come to understand the importance of biological diversity — now we must realize that loss of diversity is not just a process occurring as the Amazon rainforest is cleared, but that a similar process is occurring right here at home."

**Rare Plants of Colorado** should open the eyes of land managers, policy makers, and the general public. It displays many treasures of nature often overlooked, occasionally even neglected, by botanists. The preservation of such beautiful rare plants is a particular concern of Society members.

The volume describes 92 rare and endangered species. Only a paltry few of these are listed for protection under the federal Endangered Species Act. Many are identified by the Colorado Natural Areas Program as "Plant Species of Special Concern".

The species are presented by natural habitats, including the alpine tundra, barrens, cliffs and canyons, forests, grasslands, shrublands, wetlands, and woodlands. Each of these eight chapters includes a general description of the habitat, with information on geology, hydrology, plant communities, and history.

Each species description is accompanied by either a color photograph or line drawing and a county location map. The descriptions are clear, interesting and informative, giving habitat information, historical data on the discovery and naming of the species, and, too often, the specific threat(s) under which it now exists. In fact, in several cases, the species described can no longer be found. All we have are historical records and herbarium specimens as evidence the plant was once found growing in Colorado.

## Calendar Overview

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

**October 28 CONPS Annual Meeting**  
at Colorado School of Mines Page 3

## Fall Workshops

**November 4th Genus Juncus**  
Leader: Dr. David Cooper

**December 9th Herbarium Specimens**  
Leader: Dr. William Weber

## Other Events

**Chapter Activities Page 2**  
**October 14th Bioregional Conference**  
in Boulder, CU Campus

## Chapter News

### New Chapters Organize

At their September meeting, Board members accepted petitions for two new chapters. Per by-laws, each chapter held a meeting and at least six members signed the petition for formation of a local chapter. Membership in a local chapter provides interesting activities for Society members in that area.

The **Yamparika Chapter** in northwest Colorado will be under the direction of chapter president Reed Kelley. If you are interested in more information on this new chapter, and weren't able to make the organizational meeting in August, contact Hartley Bloomfield (878-5424 or 878-3508) or Reed Kelley (878-4666 or 878-5929).

The **San Juan Chapter** has elected Peggy Lyon as its first president. It will serve as a coordinating point for members in southwestern Colorado. Contact Peggy at 303/626-5526 for further information.

Please join us in welcoming our newest chapters! We wish you the best in your local efforts to preserve and enjoy Colorado's native flora.

### Fort Collins Chapter

**October 3:** Robert Woodmansee, systems ecologist at the Natural Resources Ecology Lab and director of CADRE (a new research group studying the effects of global change on the environment), will speak on "Global Change".

**November 2:** David Steingraeber, CSU professor of botany, will speak on "Carnivorous Plants".

**December 5:** Kathy Warren, CSU biology graduate student, will discuss "Germination studies on the seeds of rare plants and a progress report on research on the North Park *Phacelia*." Her research is partially supported by CONPS.

Meetings begin at 7:30 PM in Room E112 (note new location!) of the Anatomy/Zoology building on the CSU Campus. Refreshments will be served. Contact Jennifer Crane (493-2142 or 484-0402) or Brian Gells (482-8607) if you have questions.

Other chapter activities include work on the revegetation phase of our project at the Gustav Swanson Nature Area. Volunteers are always welcome for work days on the afternoons of Tuesdays October 3rd and October 17th from 4:30 to 6:30. Contact Jennifer Crane for more information on getting involved in this community project.

### Boulder Chapter Meetings

**Tuesday October 10th:** "Growing Colorado's Rare Flora" Carol Dawson is coordinator of the Center for Plant Conservation at the Denver Botanic Gardens. As part of a national program, her mission is to attempt to establish a living collection of Colorado rare species for research and display. Her talk and slides will cover her efforts on seed collection, propagation and first generation results. Time 7:30 PM Place: Foothills Nature Center, 4201 No. Broadway, Boulder.

**Tuesday, November 14th:** Warren Keammerer, environmental consultant, will be the speaker. His topic will be announced in a separate mailing.

Call Nan Lederer (447-1899) or Margie Wortzman (494-1640) for additional information on chapter activities.

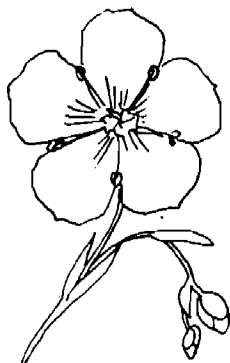


### Denver Chapter Activities

**October 25th:** Fred Athearn, cultural resources program manager with the Bureau of Land Management, will speak on "Vegetation changes in the White River Valley."

**November 15th:** Jane Bock, University of Colorado, will present a program on her research in the alpine tundra: "Comparison of the tundra in Colorado (USA) and Georgia (USSR). Please note this meeting will be held on the 3rd instead of the 4th Wednesday (for this month only).

The Denver Chapter usually meets on the **fourth Wednesday** of the each month at the Denver Botanic Gardens (Classroom A or C) at 7:30 PM. Lists of speakers for future meetings will be available at each meeting beginning with the September meeting. Contact Carol Dawson (722-6758) for information on chapter activities.



## Saving Colorado's Native Flora on Public Lands

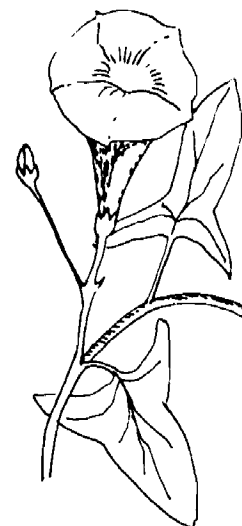
1989 Annual Meeting  
Saturday October 28th  
Petroleum Hall

Green Center at Colorado School of Mines Campus

### Schedule:

8:15 AM: Registration begins

9:00 AM: Keynote speaker.



**Faith Campbell of the Natural Resources Defense Council**

**"Public lands agencies:  
Efforts to persuade them to protect plants."**

### Morning session presentations by:

Craig Whittekind, Acting Director of Range, Wildlife, Fisheries and Ecology, U. S. Forest Service Region 2  
Michelle Gerard, Ecologist, U.S. Forest Service, Bighorn National Forest  
Joe Cappodice, Wildlife Biologist, BLM Gunnison Resource Area  
Denny Huffman, Superintendent, Dinosaur National Monument

### 12 to 1:30 PM: LUNCH

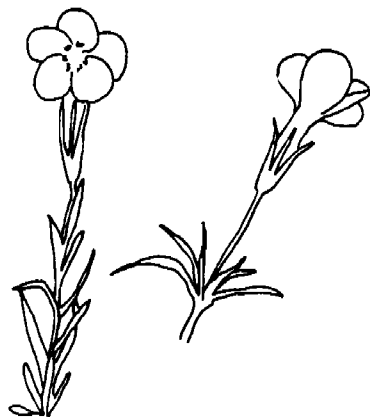
On your own or bring bag lunch to view slides of CONPS Yampa River field trip on June 20-23.

### Afternoon session: Panel discussion — Preservation in Action

Moderator: Tamara Naumann, Botanist, Colorado Natural Areas Program  
Panel includes individuals active in conservation throughout Colorado.

Final notice with map and schedule will be mailed to you.

**Please plan to attend!**



*Phlox multiflora*



*Dryas octopetala*

## CONPS Workshops for Fall

### Bill Jennings

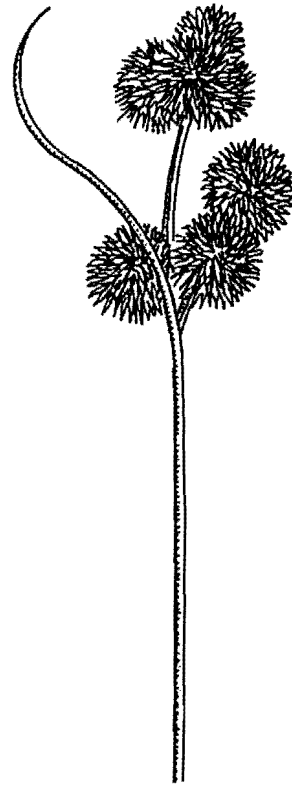
The Colorado Native Plant Society workshop series was established with the objective of having something to do during the winter when field trips are impossible. Since the first workshop in January 1985, thirty-five have been held.

Our concept of a workshop means bringing together plant lovers and a well-informed instructor who has photographs, herbarium specimens and live plants for the attendees to study hands-on, with opportunities for one-on-one interaction with the instructor as well as lectures to the group as a whole. No special skills or requirements, other than a love of plants and a desire to learn, are necessary for attending a workshop. Even though the descriptions may make these workshops sound highly technical, the case is exactly the opposite. The objective is to demystify plant identification and to allow the confused but sincere plant lover to better enjoy and understand our native plants.

### Rediscovering Home: Colorado's Bioregions

Workshops, circle groups, and speeches are only part of the format for this Colorado-area bioregional conference to be held October 14th on the CU Campus in Boulder. The conference also offers opportunities to explore and develop constructive approaches to healthy human communities while maintaining ecological integrity of the bioregion. Topics to be addressed in workshops include Permaculture, Carrying Capacity, Urban Ecology, Prairie Ecology and Mythology, Sustainable Energy, Harmless Economies, Herbal Medicines and Bioregional Spirituality, among many others. Sunday event offerings include hikes, tours and other field sessions.

If you don't know what the growing bioregional movement is about, this is a great opportunity to spend one day, and only \$10 (meals not included), finding out. Or contact the CU Environmental Center at 492-8308 (11 AM to 3 PM) for more information.



### Rushes: genus *Juncus* Saturday, November 4, 1989

**Leader: Dr. David Cooper**

The grasslike monocots (grasses, sedges and rushes) are usually avoided by wildflower lovers because identification is thought to be difficult or because the floral parts are not photogenic. In this workshop, you will have the opportunity to get over your fear of this important genus. We will learn the characteristic features of genus *Juncus*, key a number of specimens, and become familiar with the major regional species. An important follow-up to Dr. Cooper's 1988 workshop on *Carex*. To be held at the Colorado School of Mines, Golden.

## Preparation and Care of Herbarium Specimens

### Saturday, Dec. 9, 1989

**Leader: Dr. William A. Weber**

Have you ever pressed a specimen in the field, only to find it ugly and brown when you got home? Have you wondered just what is the best method for making and caring for good specimens that you and later generations can use for meaningful botanical research? In this **half-day** (9 AM to 12) workshop, Dr. Weber, long-time curator of the University of Colorado herbarium, will explain the techniques used by professional botanists for preservation of good plant specimens. To be held in the herbarium of the University of Colorado, Boulder.



### Field Trip Report Devil's Head

**Judy von Ahlefeldt**

Six species of ferns were found on Devil's Head and in the vicinity of the Indian Creek Work Center during this field trip August 5th. The ferns are: *Asplenium septentrionale*, *Athyrium filix-femina*, *Cystopteris fragilis*, *Dryopteris filix-mas*, *Pteridium aquilinum* and *Woodsia oregana*. A highlight of the field trip was hiking the trail to the fire lookout on Devil's Head, which provided an exciting view of an approaching thunderstorm. Although no rare ferns were located, other interesting plants were seen including red and white forms of baneberry *Actaea rubra*, growing together, and *Chimaphila umbellata*. Peter Root has been commissioned by the Forest Service to do an expert search for rare ferns and several sensitive species of flowering plants in the same area during August and September.

### Registration for Workshops

Enrollment in workshops is always limited, usually due to room constraints, so you must register in advance. Contact CONPS workshop coordinator for registration and workshop information: **Bill Jennings, P.O. Box 952, Louisville, 80027, phone 303/666-8348**. Be sure to include your mailing address and phone number if you mail in your registration. Registrants will be notified by mail about two weeks prior to the workshop regarding final location, time, lunch, suggested references, etc. Please register promptly, as workshops tend to fill up fast. However, cancellations sometimes create openings, so you might want to check with Bill up to the night before the workshop if you want to try to register at the last minute.

Unless otherwise noted, the fee for **each** full-day workshop is \$8 for members and \$16 for non-members. Half-day workshops are \$5 and \$10, respectively. Unless the workshop notice specifies, workshops are full-day and lunch is on your own. If you plan to attend more than one workshop per year as a non-member, it is cheaper to join CONPS as an individual member (\$8 per year) and come to workshops as a member. Please hold payments until the day of the workshop.

It takes considerable time and effort for the instructors to plan and develop workshops and field trips. Please let us know how you like the workshops and field trips offered by CONPS. We need your suggestions for other workshops and trips, as well as your feedback on whether you found them informative and exciting or dull and uninteresting. We need to know whether we are serving you, our members, the way you wish.

## Eustoma grandiflorum News

### Jim Borland

The new county plant record made by participants on the July 8th Arkansas Valley field trip was even more significant because it involved one of Colorado's special, and arguably most beautiful, plants.

During our visit to the Portland cement plant site, ostensibly to view *Oxybaphus rotundifolius* and *Bolophyta tetraeuris*, tour members were guided to Bear Creek where at least one member immersed herself to the waist and others satisfied themselves with merely wading in the stream. In fact, if it had not been for the time spent by the gathered group enjoying the aquatic antics of the youngest member, no one would have spotted the solitary plant of *Eustoma grandiflorum* (Tulip or Prairie Gentian) amongst the grasses lining the creek.

This discovery led to a search of the immediate creek banks for more specimens, but only a handful were located. Aside from its proximity to two other special and rare plants and the addition of another county to the less than half-dozen currently represented, this location is more than 100 air miles south of any other known Colorado population of Prairie Gentian, according to the Colorado Natural Areas Program. Other Colorado populations are known from low meadow-like sites and not from the sides of streams meandering through selenium-bearing shale formations, which abound in the Portland area.

As of this writing, it is unknown what the flower color of the small population at Portland is, but likely the petals are the usual blue-purple with a darker center. This color combination and orientation has been designated forma *grandiflorum* by some botanist, although this and other designations of flower color are probably more important to the horticulturist. The other color variations noted in the literature include forma *fisheri* (white), forma *bicolor* (white with purple-tinged lobes), and forma *roseum* (pink). These were first described in Texas, but have since been seen in other populations as well. The forma *flaviflorum* is an unusual yellow variation first described in 1914 from "somewhere near Denver".

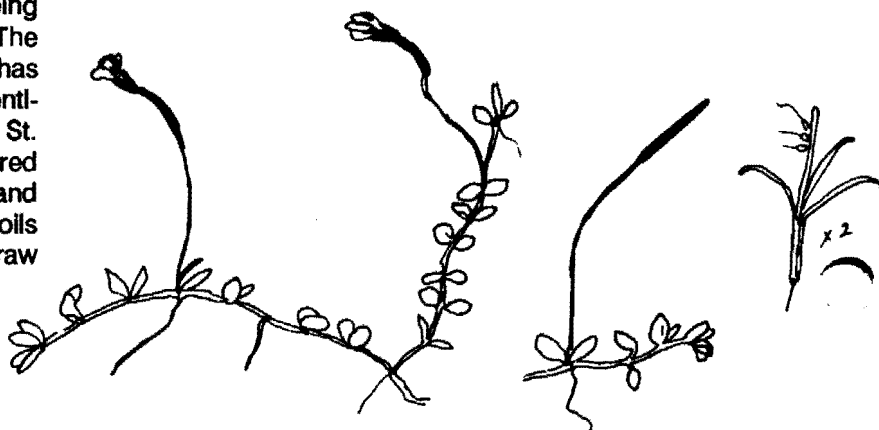
Of these color variations only yellow is not currently being grown or bred by horticulturists throughout the world. The "somewhere near Denver" population of yellow flowers has probably been destroyed much like the population recently known from near the intersection of I-70 and Kipling St. in the Denver metropolitan area. This newly discovered population at Portland may face the same fate, as it and the other two rare plants in the area are growing in soils derived from Niobrara Shale — an important source of raw materials for cement production.

Another recent *Eustoma grandiflorum* find pushes the elevation limits of the species almost as much as it stretches the credibility of everything ever written about it. On a slight west-facing incline at the edge of an aspen and Engelmann spruce forest, a single plant of the Prairie Gentian was found blooming at 8880 feet in Boulder Co. Other populations are normally found in the 4000 to 5000-foot elevation range, growing near streams in often alkaline and somewhat salty soils. This lone plant was not found along a stream, or in especially moist soil, but in a humusy soil typical of forest edges in the mountains. Although a quick search was made throughout portions of the grazed meadow, no other plants were found. A more thorough search will be complicated by the similarity of *Eustoma*'s foliage to that of Golden Banner in color and texture, unless the plants are in bloom. There exists some possibility that this lone plant is an introduction to this meadow as a result of a grass reseeding program carried out some years ago, or that this occurrence is not all that unusual, and additional searches in similar locations will reveal other populations.

Those interested in viewing *Eustoma grandiflorum* in its natural habitat on public ground can easily visit the nature trail along the Poudre River north of Prospect St. between Fort Collins and I-25. During a recent visit, we found thousands of plants, some actually in the parking lot.

A curious thing about this population is that during the early part of August, plants were found in all stages of growth. The existence of all stages from very small seedlings through those already finished blooming complicates the assignment of *Eustoma* to an annual, biennial or perennial life form.

Although a terrific amount of effort has been expended investigating the rare or special plants of Colorado, much remains to be accomplished. Why not adopt a special plant for your own investigations and assist in this effort by reporting your findings to a local herbarium, the Colorado Natural Areas Program, The Nature Conservancy, or this newsletter?



ONAGRACEAE. *Epilobium* sp. Very slender

## TO SQUASH OR NOT TO SQUASH...

Inn C Cooper

The only sure way to identify a plant is to have a specimen of the plant in hand as you toil through the key. This specimen should be complete. That means digging up (that's destroying) the plant in question to get roots, and probably going back later in the season to get samples of the plant in fruit. This is all very well for professional botanists who have the justification (and permission) to collect. But for many interested amateurs collecting is not an option except on the occasions they can link up with a project like the Colorado Native Plant Society Florissant collection.

Suppose you do collect, there are many places that are off limits to plant vandalism of this type. Even if your goal is to try and remember the most common of the wild flowers, and you have vowed not to dig and squash anything rare, you are limited to collecting on private land (with permission) or the occasional roadside. Keep your acquisitive hands firmly in your pockets as you walk through national, state, county, and city parks and wildlife areas!

This dilemma is compounded when you try to learn someone else's natives. Outside of the United States collecting is extremely difficult for an amateur, from the point of view of customs and immigration if nothing else.

So, what can you do to first identify and then remember the plants you learn?

I resort to carting a library of books with me. I often sit and identify the plants where they grow. If the key wants to know about roots, I rely on inspired guesswork! Once I've managed to put a name to a plant, I use a combination of photography and sketching to impress the detail on my forgetful botany-brain.

Photography has its pitfalls. You can put that cent, or pen, or ruler in as a scale. But if you do, that slide or print will be worthless if you fancy entering any contests for pretty-pics. Various techniques can enhance the pictorial quality of your work, but they may not improve your chances of seeing the features that differentiate that plant from other similar species. For me, the best combination of slides by which to remember a flower includes a full-plant picture to show growth form and one or two close-ups to show the features used in keying. I swear by my 35 mm wide angle and 50 mm macro lens.

It is hard to avoid clutter in flower pictures. Even with a little judicious "gardening" of litter and grass stems around your subject, green will merge with green. Creative lighting will often help. Try back-light, or two fill-in flashes, or a cardboard or foil backing to bounce light. Creative angles

will improve the balance of flower to background. Belly-photography can produce shots of flowers against a vivid, Kodacolor sky, though this may make a two-foot *Phacelia* tower like a tree! If you have a choice, choose the clump of flowers that is backed by a rock angle, or different colored substrate. Select flowers that grow next to contrasting color—early fall reds or bronzes, or silvery sage.

Sketching also has its pitfalls, not least a total lack of art training in my case! But never mind, it's worth a try, and can convey different information about the plant under study. The single, most valuable thing about sketching a plant, however simple the results may be, is that you are forced to look at it very carefully. My self-imposed rule is *no fudging!* You cannot draw what you cannot see! This becomes an excellent aide-memoir. By the time you have painfully and laboriously inked a plant portrait, you know that plant intimately.

I would be interested and grateful to hear how other people overcome the dilemma of learning and remembering a lot of new plants in a short time, especially in a totally new environment, without resorting to squashing.

Sketches here are of New Zealand plants. Of some 1800 indigenous flowering plants in New Zealand, 84% are endemic. It's a challenge for a botanizing tourist!



MALVACEAE  
*Hoheria glabrata*

### Officers

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Secretary	Meg Van Ness	279-2569
Treasurer	Myrna P. Steinkamp	226-3371

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### Chapter Presidents (Members of Board)

Boulder	Margie Wortzman	494-1640
Denver Metro	Carol Dawson	722-6758
Ft. Collins	Jennifer Crane	493-2142

### Committees

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Field Trips	Jeff Dawson	722-6758
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Horticulture/Rehabilitation	Dorothy Udall	482-9826
Membership	Myrna Steinkamp	226-3371
Publicity	Tina Jones	759-9701
Workshops	Bill Jennings	666-8348

### 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.

### RETURN AND MAILING ADDRESS

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

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Denver, Colorado

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