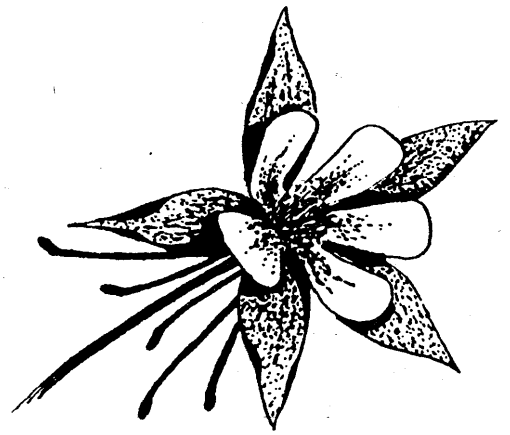


# Aquilegia



Newsletter of the Colorado Native Plant Society

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

Volume 19 Number 4

October—December 1995

## Botanical Notes from the Arkansas Valley I The Resurrection of *Penstemon versicolor*

Tass Kelso and John Lawton

Dept. of Biology, Colorado College, Colorado Spgs.

Here in Colorado we have a plethora of Penstemons. From the tundra to the dry plains, this decorative genus colors the landscape with a multitude of species. Although recent enthusiasm for native plants has elevated the standing of *Penstemon* to be fashionable among horticulturalists, the taxonomy of the genus is not nearly so modern. One of the last attempts at a comprehensive treatment of this genus in the West was done by Francis W. Pennell in 1920. In his treatment, Pennell delineated sections of the genus; in sect. *Coerulei*, which includes among others our familiar *Penstemon angustifolius* and *P. secundiflorus*, he also described a new species from Pueblo called *Penstemon versicolor*.

Pennell distinguished *Penstemon versicolor* on the basis of its nonsecund inflorescence and broadly ovate basal leaves. Although the specific epithet was not explained, presumably it came from the tendency of the flower color to range from pinkish to blue depending on age or environmental factors, a tendency we now know that is shared by other species. Despite Pennell's careful documentation of specimens from four different locations, the identity of *P. versicolor* disappeared in the Colorado botanical literature. Many possible explanations for this exist, but at least one unifying theme may be competition from another early *Penstemon*

enthusiast, W. T. Penland.

William "Bill" Penland (1899-1982), retired from teaching botany at Colorado College in 1968. Although he published little, Penland was known as "Penstemon Penland" for his enthusiasm about the genus, a passion that included not only collecting, but also growing a large number of native species. In the Colorado College archives, we have Penland's copy of Pennell's treatment; among its many annotations are disparaging comments about *Penstemon versicolor* and its distinction from *P. secundiflorus*. In spite of his proximity to the type locality in the Arkansas Valley, Penland did not spend much time there; his notes appear to be based on seeing relatively little herbarium material or firsthand experience with the species.

As resident authority on the Scrophulariaceae, Penland was called upon by Harrington to contribute the *Penstemon* treatment in the latter's Colorado flora, first published in 1954. Here he subsumed *Pen-*

*stemon versicolor* under *P. secundiflorus*, without discussion. Later, Weber (1976, 1990) followed Penland's treatment in the Harrington flora. Thus, *Penstemon versicolor* disappeared from the obvious record. Last year taxonomic questions surfaced during parallel investigations of problematic specimens from the Arkansas Valley by T. Kelso and W.A. Weber. While researching the problem, T. Kelso found the original nomenclature as described by Pennell; this seemed to fit the specimens available at the Colorado College (COCO) and University of Colorado (COLO) Herbaria.

Our investigations, funded in part by the Colorado Native Plant Society John Marr Fund, sought to study the ecology and distribution of *P. versicolor* in the Middle Arkansas Valley, to make additional collections, and to assess its distinction from *P. secundiflorus*. Considerable material is now available at COCO and COLO, and we are fully convinced that the species is valid. *Penstemon versicolor* is relatively common

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## Society News

Approximately 140 people attended the 1995 Annual Meeting to learn about the status of threatened plants and habitats across Colorado. \$2500 was raised at the auction for the John Marr Fund to help sponsor research on Colorado's native flora!

Election results leave the Board of Directors looking similar to last year with the exception that Paula Lehr will replace Tamara Naumann. Tamara has served on the Board for thirteen years and her presence will be sorely missed. Fortunately, Tamara can not

completely sever her ties to the Society, as she remains co-editor of *Aquilegia*.

Paula Lehr has been a botanical enthusiast since her youth and a member of the Society since its inception. She received her Masters of Basic Science from the University of Colorado. Her special botanical interests include tundra ecology, and substrate/plant distribution relationships. She has participated as a member of the Colorado Rare Plant Technical Committee and is a member of the Board of the Rocky Mountain Bio-

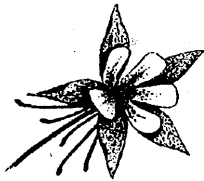
logical Laboratory. Welcome Paula!

Mary Edwards has resigned as chair of the Field Studies committee. She is succeeded by Lorraine Yeatts. Thank you Mary and welcome Lorraine!

Tom Ranker remains President, Mark Gershman will continue to transcribe meetings as Secretary, and Carol Scheid will continue to keep the Society's books in order as Treasurer. Chris Pague steps down as

- continued on following page

### 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 .....	\$ 30
Family or Dual .....	\$ 15
Individual .....	\$ 12
Student or Senior .....	\$ 8

#### Membership Renewal/Information

Please direct all membership applications, renewals and address changes to the Membership Chairperson, 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 to six 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. Contact the Society for subscription information.

Articles from *Aquilegia* may be used by other native plant societies or non-profit groups if fully cited to author and attributed to *Aquilegia*.

#### Newsletter Contributions

Please direct all contributions to the newsletter to:

**Nina Williams**  
**976 Cherryvale Road**  
**Boulder, CO 80303**  
**E-Mail: NCybele@aol.com**

Short items such as unusual information about a plant, a little known botanical term, etc. are especially welcome. Camera-ready line art or other illustrations are also solicited.

Please include author's name and address, although items will be printed anonymously if requested. Articles submitted on disks (IBM or Mac) are appreciated. Please indicate word processing software and version.



#### Officers

President .....	Tom Ranker .....	492-5074
Vice-President .....	VACANT .....	
Secretary .....	Mark Gershman .....	443-9365
Treasurer .....	Carol Scheid .....	493-1367

#### Board of Directors

Ann Armstrong (97) .....	Boulder .....	494-0545
David Buckner (97) .....	Boulder .....	494-3231
Kathy Carsey (96) .....	Boulder .....	449-3041
Janet Coles (97) .....	Boulder .....	440-0595
Mark Gershman (96) .....	Boulder .....	443-9365
Andrew Kratz (97) .....	Lakewood .....	238-6317
Paula Lehr (97) .....	Gunnison .....	641-3236
Chris Pague (96) .....	Lyons .....	492-4719
Tom Ranker (96) .....	Boulder .....	492-5074
Carol Spurrier (96) .....	Lakewood .....	274-6905

#### Chapter Presidents

Boulder .....	Lynn Riedel .....	666-6687
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Fort Collins .....	Mike Scott .....	490-1788
Yamparika .....	Reed Kelley .....	878-4666
San Juan .....	Gretchen	
	Van Reyper .....	835-3268
Southwest .....	Leslie Stewart .....	882-7241

#### Committees

Conservation .....	Janet Coles .....	440-0595	
	and .....	Kathy Carsey .....	449-3041
Editorial .....	Nina Williams .....	499-9858	
	and .....	Tamara Naumann .....	374-2504
	and .....	William A. Weber .....	492-6171
Education .....	Andrew Kratz .....	238-6317	
Field Trips .....	Rick Brune .....	238-5078	
	and .....	Jeff Dawson .....	722-6758
Field Studies .....	Lorraine Yeatts .....	279-3427	
Hort/Restoration .....	Tina Jones .....	794-2647	
	and .....	Ann Armstrong .....	494-0545
Legislative Affairs .....	VACANT .....		
Membership .....	Myrna Steinkamp .....	226-3371	
	and .....	Sue Martin .....	226-3371
Publicity .....	VACANT .....		
Workshops .....	Bill Jennings .....	666-8348	

*Society, continued from page 2*

Vice-President after organizing an excellent meeting. He will be very busy this year keeping track of the "lost" category 2 species (see article, page 5). The Vice-President position remains vacant and the Board will take nominations at the January meeting. The VP fills in for the president when unavailable and has the important task of organizing the Annual Meeting. If you know of a member interested in this position, let Mark Gershman know.

The Board has set its winter spring meeting schedule beginning with 1:00 PM January 20, 1996 at 66 South Cherryvale Road in Boulder. March 2 and May 11 are the following dates; check with a board member for location.

A heartfelt THANK YOU is extended to all members, past and present, elected and unelected, for your work on behalf of the Society this past year. With the political tide as it is, our work is cut out for us. Please do not forget about our indigenous rooted friends when communicating with your local and national representatives.



*Sedum lanceolatum*  
Artist: Janet Wingate

### Lost Lamp Seeks Owner

A black clamp-on desk lamp was left at the May 13, 1995 grasses workshop at the Foothills Nature Center in Boulder. Please call Lynn Riedel at 666-6687 if this lamp belongs to you.

# Aquilegia

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## ANNOUNCEMENTS

### DUES AND QUESTIONNAIRES!

Once again, it's renewal time—have you paid your CONPS dues? Dues notices were sent out recently. Please remember that dues cover a calendar year, except that new members who join in the second half of the year are credited for the following years dues, as well. Your mailing label on this newsletter shows the year THROUGH which you are paid,—i.e., PAID THRU 95 means you should remit your dues for 1996. If you have sent your payment in within the past few weeks, the label could be incorrect due to lead time for the newsletter.

#### Zip Codes and Area Codes

Whether or not your dues are due, we would appreciate the return of the membership questionnaire. Not only is your 9-digit zip code necessary, but also your AREA CODE. Now that Colorado has three area codes, it is not always clear to us which city is in which area code. And please remember that bulk mail is not forwarded if the address is incorrect.

#### John W. Marr Fund

As you complete your questionnaire, you will find a space to indicate if you wish to make a donation to the John Marr Fund. Honoring the late John W. Marr, the Society's first president and a former professor at the University of Colorado, the fund provides small grants for research on the biology and natural history of Colorado's native flora.

In 1995, the following research was funded: Tass Kelso: Studies on the ecology of *Mirabilis rotundifolia*.; Jim Locklear: An assessment of the conservation needs of *Asclepias uncialis*.; Peter Root: A study of a developing population of the leathery grapefern in Rocky Mountain National Park; Leo Bruederle: Population genetic variation in *Eutrema penlandii*.; and Carol Scheid: The role of soil salinity in population dynamics of the seed and adult stages of *Cleome multicaulis*. Grantees report their findings to members in *Aquilegia* (see cover article). CONPS is one of a very few organizations which sponsor small grants research on native plants, and small contributions from members add up!

Please consider making a contribution to the fund this year, or applying for research funds for the upcoming field season. If you would like information on the John Marr Fund, see *Aquilegia* Volume 14 No.3, or contact a Board member.

### 12th Biennial High Altitude Revegetation Workshop

The 12th Biennial High Altitude Revegetation Workshop will be held on February 21st and 22nd, 1996 in Ft. Collins.

Commemorating 22 years since the first workshop, the 1996 High Altitude Revegetation Workshop promises to be a significant event, with a program of national and international invited speakers. Technical sessions will be devoted to acid rock drainage, the roles of soil microbial interactions and organic matter in reclamation, reclamation research, and ecological restoration. As always, there will be a poster session and commercial exhibits, and proceedings of the workshop will be published.

The workshop is organized by the High Altitude Revegetation Committee, and *ad hoc* group of scientists and professionals representing a broad range of disciplines, industries, and geographic regions—from Alaska to Switzerland. In addition to the biennial workshop, the committee also sponsors a yearly summer field tour.

For more information contact Gary Thor, CSU, Department of Soil and Crop Sciences, Ft. Collins, CO 80523, phone (970) 491-7296.

# The Year of the Mustard

Donald L. Hazlett  
Box 345, Pierce, CO 80650

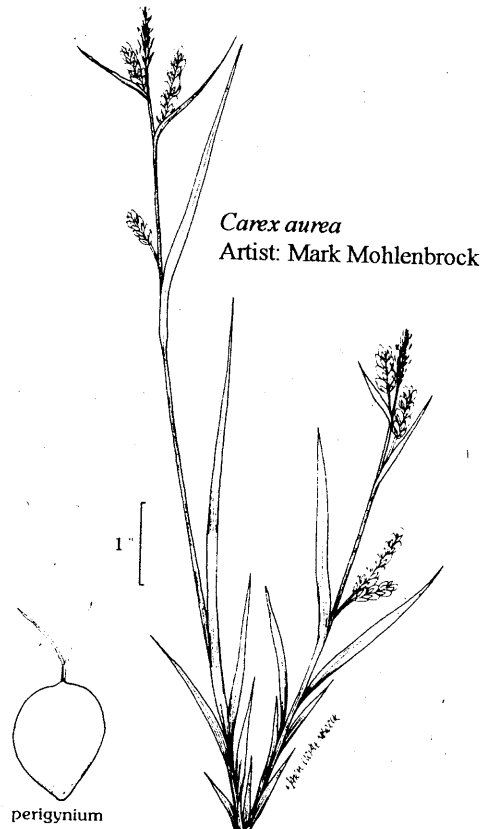
Visitors to the Pawnee National Grasslands (PNG) last spring will readily agree that 1995 deserves to be known as "the year of the mustard." The abundant rainfall induced many prolific flower displays, but the dominant color was mustard yellow. The adventive mustards *Descurainia sophia* and *Sisymbrium altissimum* were especially in evidence. The *Descurainia* mustard was not only common throughout disturbed and mesic locations, its usual domain, but was actively colonizing the open, undisturbed steppe areas. There is no doubt that *D. sophia* has become even better established in the soil seed bank. In several areas this mustard was mixed with the native *Descurainia pinnata*, the latter dominating only in the most xeric conditions. New roadside populations of the adventive *Conringia orientalis* were also noted, especially around Keota. Besides *Rorippa sinuata*, a common riparian mustard in Weld county, the infrequent *Thelypodium integrifolium* was also identified from a riparian area of Little Crow Creek.

Adventive mustards were not the only invaders in evidence. Several ranchers remarked at the abundance of native *Vulpia octoflora* (six-weeks fescue); a few had thought it was yet another noxious weed that they were going to have to control. *Anisantha tectorum*, like *D. sophia*, was also extending its range in the open, undisturbed steppe areas.

The above normal rainfall also dramatically increased the number of ephemeral ponds on the PNG. Thanks to funding from the USDA/PNG office in Greeley, I was able to search many of these PNG riparian areas for rare plant species. Although none of the rare species were discovered, I was able to collect several noteworthy plant species. For example, on the margins of ephemeral ponds along Little Crow Creek were *Spartina pectinata*, *Spartina gracilis*, *Potamogeton diversifolius*, *Erigeron lonchophyllus* and the seldom collected *Elatine triandra*. because *E. lonchophyllus* occurs mainly in the mountains, it was especially interesting to find it here—perhaps another result of the

wet year?

A tributary of Little Crow Creek yielded another discovery, this time a large population of *Heteranthera limosa* (Pontederiaceae). Commonly known as mud plantain, this species is reported from only a few locations in Colorado: Las Animas County and from an early century collection near Denver. The *Flora of the Great Plains* indicates that *H. limosa* is "erratically abun-



dant from year to year," suggesting that this species could be a botanical equivalent of the spade-foot toad. As such, its seeds may lie dormant in the mud until a high rainfall year occurs.

Another PNG plant species that emerges only in favorable years, this time surviving as a perennial root below ground during the interim, is *Pedimelum hypogaeum*, or the little breadroot scurf-pea/Indian potato. Despite attentively searching for this species on the PNG over several years, I had been unable to locate it in the past. However, 1995 yielded five widely separated populations, with numbers of individuals ranging from 5 to 60.

Two-Mile Creek is the longest, and the only undammed stream on the PNG. Along this aesthetically pleasant creek I was able to collect *Sisyrinchium idahoense* var. *occidentale* (blue-eyed grass), *Schoenoplectus (Scirpus) pungens*, the rare *Schoenoplectus saximontanus*, *Carex aurea*, *Psilochenia runcinata*, and *Spartina gracilis*. It was also in this area that the first gentian from the PNG was collected. No, it was not *Eustoma grandiflorum*—we're still looking for that one! Instead, it was the exotic *Centaurium pulchellum*, the first report of this adventive taxon (native to Europe) in Colorado. This non-intrusive annual grows to 2 dm tall and has bright pink flowers. Populations of this gentian were also located along Lone Tree Creek, west of the PNG, suggesting that it may occur in many other riparian areas in eastern Colorado.

Another infrequent adventive, *Ammannia robusta* (Lythraceae), was collected from the margins of an ephemeral pond near Pawnee Creek. The adventive *Artemisia absinthium* (absinthe) continues to proliferate and to expand its population along Willow Creek.

Although riparian areas constitute less than 3% of the PNG land area, from 25-30% of the 450+ plant species reported from the PNG occur only in riparian or ephemeral pond habitats. Continual searching of these areas will no doubt turn up other plant species new to the PNG plant checklist.

Next year on the Pawnee National Grasslands may prove to be the "year of the groundsel" (*Packera tridenticulata*), the "year of the greenthread" (*Thelesperma filifolium*), or the "year of the giant puffball" (*Calvatia gigantea*). These are a few more of the native PNG plants or fungi that are "erratically abundant from year to year." Many questions remain unanswered regarding the environmental cues that mediate the temporal cycles and spatial patterns of these and other steppe species. Although the exotic mustards will flower to some extent in every year, we may need to wait until the next "El Niño" cycle to again experience another spectacular "year of the mustard."



## Fish and Wildlife Service Abandons Category 2 Species

In a memorandum dated July 19, 1995, U.S. Fish and Wildlife Service Director Mollie Beatty informed her staff of policy changes that could have a dramatic impact on Endangered Species Act (ESA) implementation. The memorandum redefines "candidate species" to include "only those species for which we have sufficient information indicating that listing may be appropriate (that is, the present Category 1 candidates)." Prior to issuance of the memo, the U.S. Fish and Wildlife Service maintained a list of Category 2 candidate species (those species which may warrant protection by the Endangered Species Act, but for which conclusive information supporting such a decision is lacking).

Director Beatty described the rationale for the policy change:

"The efforts associated with maintaining the Category 2 species list are diverting listing efforts from high priority Category 1 candidates. The nearly 4,000 plant and animal species on the Category 2 list vary greatly in the quality of information supporting concern for the species. In addition, the Category 2 list is viewed by many as species yet to be listed by the Service. This perception, although wrong, continues to detract from the Service's efforts to conserve endangered and threatened species."

On the surface, this looks like an attempt merely to make the candidate list look smaller (and presumably more palatable to ESA critics). However, the change has broader and perhaps unanticipated implications for rare plant conservation. As a matter of policy, both the National Park Service and the Bureau of Land Management have treated candidate species as if they were listed. Neither agency has an alternative list in place. How many of our rare native plants will fall through this newest breach in the fabric of environmental legislation now under siege in Washington? The Category 2 list has served to focus attention on those species which may be at risk and for which additional information is needed to accurately assess status. By what alternative

mechanism will information needs be identified and filled? How will funding be allocated to increase our information base? How will we assure that conservation resources are expended where the need is greatest, in the absence of ongoing efforts to generate new information? This action appears to facilitate the avoidance of decisions on listing rather than to provide for informed decisions on listing.

The memo goes on to suggest that partnerships with other agencies and organizations will serve to fill any gaps resulting from the policy change:

"The Service is actively discussing how best to identify future candidates from the large pool of species at risk (formerly Category 2 candidates). The National Biological Service, other Federal agencies, the States, and private organizations all maintain lists of species at risk and we will be working with these groups to identify species that may warrant listing under the Act. Sorting out the status of species that truly need protection must be a combined effort of Federal, State, and private interests."

More recent information obtained from the U. S. Fish and Wildlife Service indicates that lists maintained by Natural Heritage Programs in each state will be substituted for the Category 2 list. Such an action raises another set of disturbing implications. Historically, Natural Heritage Programs have operated in an environment of relative political neutrality. The job of the Heritage Programs has been to gather and disseminate information. Direct entanglement with ESA implementation could seriously compromise many of the values long associated with Natural Heritage Programs.

It is time to be concerned.

### What You Can Do

Write to the U.S. Fish and Wildlife Service. Ask for a copy of the Federal Register Notice (a copy was not yet available when *Aquilegia* went to press) regarding policy changes in ESA implementation, specifi-

cally changes in treatment of candidate species. Express your concerns about the changes to the Director (or to the address listed in the Federal Register Notice).

Mollie Beatty, Director  
U. S. Department of Interior  
Fish and Wildlife Service  
Washington, D.C. 20240



*Trifolium nanum*  
Artist: Janet Wingate

### **Trifolium = Three Leaves**

**Charlie King**  
Southwest Chapter

On one of the field trips conducted this past summer by the Southwest Chapter of CONPS, some of us were commenting about the English translations of the scientific names for several of the species we encountered. Someone asked where such information could be obtained short of taking a course in Latin or Greek. I mentioned my favorite reference for such stuff was a little book authored by D.J. Borror, a former professor of mine. For anyone interested, here's the citation and information regarding availability.

Borror, Donald J. 1960. *Dictionary of Work Roots and Combining Forms*. 134 pages, paper, ISBN 0-87484-053-8, \$9.95. Mayfield Publishing Company, 1280 Mill Street, Mountain View, CA 94091.

To order, call 1-800-433-1279 for current shipping and handling charges.

**(Editor's Note:** Origins and translations of botanical latin names can also be found in W. A. Weber's *Colorado Flora: Western Slope* and *Colorado Flora: Eastern Slope.*)

# WINTER & SPRING WORKSHOPS - 1995-1996

The Colorado Native Plant Society workshop series was established in 1985 to provide members with wintertime activities when field trips are impractical. Workshops bring native plant lovers together with a well-informed instructor who may have herbarium specimens, live plants, photographs, identification keys, and other materials available for hands-on study. The opportunity to receive one-on-one instruction and informative lectures has made the workshop series one of the most popular Native Plant Society programs. Attendees need no special skills or background; a love of plants and a desire to learn are the only prerequisites. There are no exams, grades, or homework, and working together is encouraged. The goal is to demystify plant identification and to enhance in all of us our enjoyment and understanding of Colorado's native flora.

Bill Jennings has reassumed his position as workshop coordinator. A dedicated telephone line has been installed at Bill's home to take workshop registrations. Please call 665-6903 (a local call in metro Denver-Boulder; area code 303 for long distance) and leave a message on the answering machine. You may also register by mail, P.O. Box 952, Louisville, CO 80027. Be sure to provide your name, address, telephone number (including area code!), and which workshops you wish to attend. If multiple sessions are scheduled, be sure to indicate preference. Receipt of your registration request will be acknowledged within a few days.

About 10 days prior to the workshop, registrants will receive notice by mail regarding location, time, lunch, references, and supplies, with a list of other registrants to encourage carpooling. The fee for each workshop is \$10 for CoNPS members and \$22 for non-members (\$10 workshop; \$12 to join the society). Payment is made on the day of the workshop.

Workshops have been very popular in the

past, with multiple sessions frequently scheduled to meet demand, or with long waiting lists for the



Artist: Gary Bentrup

seats available. However, no-shows have been a problem. There are only so many seats available in the classrooms and labs where these workshops are held, and we are holding a seat for you. If you find that you CAN NOT attend a workshop for which you are registered, please call and cancel your registration as soon as possible!

Long-time members of CoNPS may recall that Bill did much the work of organizing, taking registrations, sending notices, taking payments, providing refreshments, as well as teaching occasional workshops. This year, we encourage CoNPS members to join the workshop committee and help ensure the continuation of the program. To spread the responsibility around, committee members will be asked to help with one workshop and then be off the hook until next season.

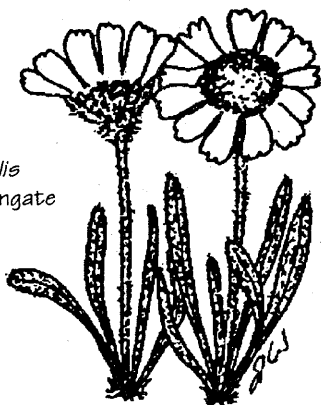
Volunteers are needed to lead workshops, particularly for plant families with few representatives in Colorado. If you have a favorite plant family or genus, or there is a family or genus about which you wish to know more, then consider leading a workshop on the topic. Refer to the books of Dr. William A. Weber (*Colorado Flora: East Slope*; *Colorado Flora: West Slope*; or *Rocky Mountain Flora*) to determine the number of species in a given family or genus. Full-day workshops dedicated to a single family or genus usually cover 15 to 30 species; a half-day workshop is practical for 7 to 15 species. Call Bill Jennings and he will tell you what is involved in preparing a workshop. If you volunteer NOW, you will have all winter to work in the herbarium, all next summer to look at plants in the field, and the fall of 1996 to organize your program before presentation in the winter of 1996-1997. Remember, on the day of the workshop, no one will know more about the topic than you!

It takes considerable time and effort for the instructors to plan and develop workshops or field trips. Please let us know how you like the activities offered by CoNPS. We need your suggestions for future workshops and field trips. We appreciate feedback or whether you find them informative and exciting or dull and uninteresting.



# WINTER & SPRING WORKSHOPS - 1995-1996

*Tetraneuris acaulis*  
Artist: Janet Wingate



## KEYING TO TRIBE IN THE ASTERACEAE

**Leader: Dr. David L. Buckner**  
**Location: Foothills Nature Center**  
**First session: Saturday, December 9, 1995**  
**Second session: Saturday, January 20, 1996**

The Aster or Composite family is so huge, that when confronted with a new or unusual member of the daisy family, most persons throw up their hands in horror at the thought of plowing through the endless pages of the key to the Asteraceae. However, the Asteraceae is organized into tribes, with fewer than a dozen represented in Colorado. The largest tribes are broken into subtribes. Recognition of the tribes/subtribes and the organization of the family will aid greatly in reducing the time required to key specimens. Dr. Buckner will demonstrate the relationships of the daisy family by providing specimens and keys.



*Rydbergia grandiflora*  
Artist: Janet Wingate

## TRICHOMES, OR PLANT HAIRS

**Leader: Dr. Miriam Denham**  
**Location: University of Colorado - Boulder**  
**First session: Saturday, January 13, 1996**  
**Second session: Sunday, January 14, 1996**

Plant hairs are a special fascination for Dr. Denham. Technically known as trichomes, hairs can take on a myriad of shapes, from simple straight hairs, to incredibly complex, multiple-branched shapes. They can be long or short, stand erect or lie flat, be soft and silky, or stiff and bristly. Why all the interest in a feature that can barely be seen? Plant hairs are an invaluable aid to plant identification, and all keys eventually mention hair characteristics. In some families, notably the Brassicaceae, hairs clearly separate species. Dr. Denham will present the terminology of plant hairs, provide examples of the different hairs, and explain their uses in plant identification. This is a most unusual topic, applicable to all plant families, and is not to be missed.

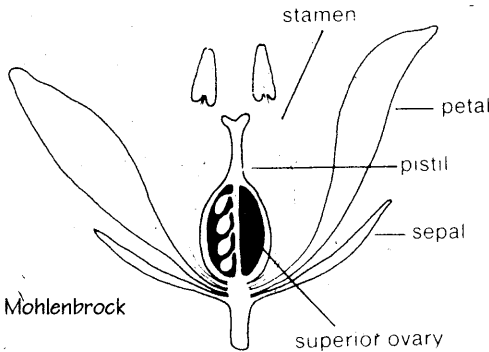
**MORE TO COME...**Other workshops are being organized for the Winter/Spring 1996-1997 season. Look for formal announcements in future issues of *Aquilegia*. Tentative topics include: the Solanaceae; the Primulaceae; the Chenopodiaceae; the Apocynaceae; Colorado's Missing Plants - Extinct or Extirpated Species; the Chihuahuan Element in the Colorado Flora; and Computerized Plant Identification.

## SHOWY MONOCOTS 4

**Leader: Bill Jennings**  
**Location: Kathryn Kalmbach Herbarium, Denver Botanic Gardens**  
**First session: Saturday, February 3, 1996**  
**Second session: Sunday, February 4, 1996**

Long-time members of the Native Plant Society may remember Bill's earlier workshops on the Orchidaceae, Liliaceae, and Alliaceae. This workshop will explore some more of the showy monocots: the Iridaceae, Commelinaceae, Agavaceae, and Nolinaceae. Some genera in these families are problematic, especially *Sisyrinchium* and *Yucca*. The excellent work of Cholewa and Henderson on *Sisyrinchium* will be presented and discussed. Major problems in *Yucca* trace to the widely divergent views of Susan Delano McKelvey and J. M. Webber presented in the 1940's. Commelinaceae is easy to deal with in Colorado, with only three species in two genera. The Nolinaceae has one very easily identifiable species, *Nolina texana*, present only along the New Mexico state line in Las Animas County.

# WINTER & SPRING WORKSHOPS - 1995-1996



flower parts  
Artist: Mark Mohlenbrock

## THE ASTERACEAE: GENUS *HAPLOPAPPUS* AND ITS RELATIVES

**Leader Dr. Gregory K. Brown**

**Location: University of Colorado - Boulder**

**First session: Saturday, March 16, 1996**

**Second session: Sunday, March 17, 1996**

This year's first out-of-state workshop leader is Dr. Gregory K. Brown of the University of Wyoming. He has been working in the *Haplopappus* group of genera for many years, in collaboration with Drs. Ronald Hartman, Meredith Lane, and John Semple. Among other things, Dr. Brown's research has uncovered an undescribed species of *Oonopsis* in the Arkansas Valley.

He and his co-workers propose division of *Haplopappus* and recognition of numerous segregate genera, such as *Stenotus*, *Tonestus*, *Oonopsis*, *Isocoma*, *Pyrrocoma* and others. Dr. William A. Weber already recognizes many such genera. However, for a differing opinion, read Arthur Cronquist's introduction to genus *Haplopappus* on page 197 of volume 5 of *Intermountain Flora*. This is a rare chance to learn about plant research on a complex group of species.



*Tonestus (Haplopappus) lyalii*  
Artist: Janet Wingate

## BASIC PLANT IDENTIFICATION

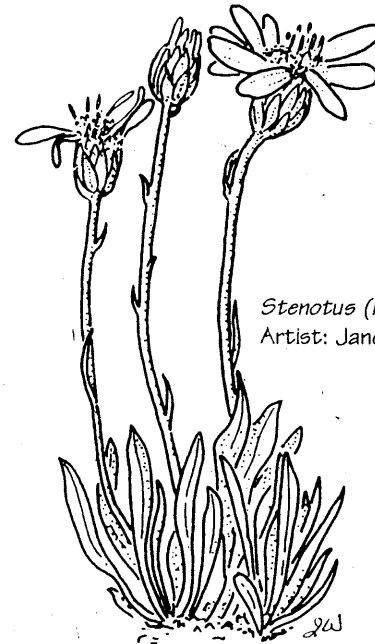
**Leader: Dr. Thomas Ranker**

**Location: University of Colorado - Boulder**

**First Session: Saturday, February 24, 1996**

**Second Session: Sunday, February 25, 1996**

By popular demand, we are scheduling a workshop on basic plant identification. Learn how to recognize the parts of the flower, fruit, leaves, and roots. Identify the most numerous plant families in Colorado (Asteraceae, Brassicaceae, Boraginaceae, Scrophulariaceae, Poaceae, Cyperaceae, etc.). Learn how to tell a monocot from a dicot. Find out how to use a botanical key. Dr. Ranker's research specialty is the ferns, so he is sure to mention them, too. Even if you have been everywhere and seen everything, a good refresher is always in order.



*Stenotus (Haplopappus) acaulis*  
Artist: Janet Wingate

## SAXIFRAGES

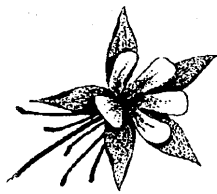
**Leader: Dr. Douglas E. Soltis**

**Location: University of Colorado - Boulder**

**Date: Saturday, April 6, 1996**

Our second out-of-state workshop leader is Dr. Douglas E. Soltis of Washington State University, who will lead a workshop on the Saxifrages. Dr. Soltis did his doctoral research on genus *Sullivantia*, which has one representative on the western slope in Colorado (*S. hapemani*). A tight schedule prevents Dr. Soltis from presenting two sessions, so attendance at the one session will be limited to only 22 persons! Dr. Soltis will present a lecture on the saxifrages on Friday evening, April 5, at Morrison Center, Denver Botanic Gardens, where he will discuss the latest research on the Saxifrages. Seating is limited, so be sure to register for the lecture, too.





*In Memoriam*  
*Klaus Heinrich Lackschewitz*  
 1911-1995

The Rocky Mountains lost a tremendous botanist with the passing of Klaus Heinrich Lackschewitz on August 11, 1995. Born on May 4, 1911 in Latvia. Klaus collected over 12,000 specimens in Montana's mountains; approximately 100 species were new records for the state and three were undescribed. Please see *Aquilegia* Vol. 19 No. 3 for his autobiography. The Colorado Native Plant Society extends its sympathy to Klaus' family. They suggest memorials to the Montana Native Plant Society c/o Dorothy Faucett, PO Box 8783, Missoula, MT 59807.

*Penstemon*, continued from page 1

in the Arkansas Valley, often sympatric with *Oxybaphus rotundifolius*, but considerably more abundant in terms of both numbers of populations and numbers of individuals in the populations. Blooming and seed set was prolific this past year, and we find no reason for any specific conservation concerns at this time. Our findings are summarized here, with additional information and maps available in a more extensive report to the Colorado Natural Areas Program (Kelso et al. 1995).

**Key to the Species**

Flowers in inflorescence tightly surrounding the axis at each fascicle; pedicels short to nonexistent, usually 1-10(-25) mm long. Cauline leaves cordate-clasping, ovate, acute; basal leaves obovate, only slightly acute to subrounded at apex. 1400-1700 m, on calcareous shales in the Arkansas Valley, blooming in early summer

.....*Penstemon versicolor*

Flowers secund; fascicles relatively lax with pedicels 10-30 mm. Cauline leaves narrowly lanceolate to lanceolate-ovate, acuminate; basal leaves lanceolate or slightly oblanceolate, acuminate. 1500-2700 m in clay or granitic soil, E slope foothills of the Front Range, blooming early summer

.....*Penstemon secundiflorus*

While these species are superficially similar with respect to flower color and size, and the glaucous appearance of fleshy leaves, they can be distinguished by differences in the inflorescence structure and in the leaf morphologies. *Penstemon secundiflorus* is generally secund (though this is not always apparent on herbarium specimens!) with longer, more lax pedicels; *Penstemon*

*versicolor* has a more symmetrical inflorescence, with flowers on short pedicels. Although some variation can be seen in both species with respect to the cauline leaves, their basal leaves are distinctive. *Penstemon versicolor* has very broad basal leaves, *P. secundiflorus* has more lanceolate ones

with an acute to acuminate tip. Although we have not undertaken a comprehensive mapping program, herbarium records indicate that *P. secundiflorus* is found throughout the lower slopes of the Front Range; *P. versicolor* joins the group of Arkansas Valley endemics restricted to the calcareous shales of the upper layers of the Niobrara Formation. It is particularly common in Fremont and Pueblo Counties, but should be looked for in the southeastern counties of Colorado, the drainage of the Purgatory River, and perhaps as far south as New Mexico. COLO does have one specimen from Eastern Las Animas County.

**Literature Cited**

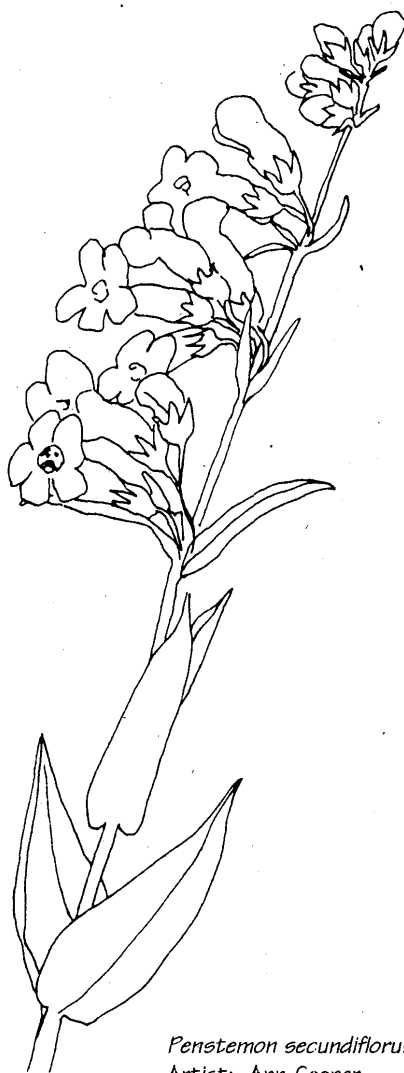
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*Penstemon secundiflorus*  
 Artist: Ann Cooper



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## CHAPTER NEWS

**Boulder Chapter**

**December 14: Panama and Costa Rica**  
Join Barbara Hyde for an evening on the botany of Panama and Costa Rica.

**NEW MEETING SCHEDULE!** Monthly meetings will be held this year on the **2nd THURSDAY** (not Tuesday) of the month at **7:30 p.m.** at the **Foothills Nature Center, 4201 North Broadway**, unless otherwise noted. Look for a mailing describing upcoming meetings. For more information call Lynn Riedel (666-6687) or Elaine Hill (494-7873). Check the *Daily Camera* or the *Colorado Daily* for changes. Bring a friend!

## FOR YOUR ← LIBRARY

CONPS is pleased to provide a selection of books to members at discount prices. If you are interested in any of the publications listed on the preceding page contact:

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Makes checks payable to CONPS. Postage costs are additional for books received by mail. If you want to save the postage charges, you can pick the books up yourself in Denver from Velma Richards, in Boulder from Lynn Riedel, and in Fort Collins from Myrna Steinkamp.

Season's  
Greetings

**Southwest Chapter**

The field trip committee has confirmed one date and is planning several other outings for the upcoming year.

**January 18: Family Matters**

Dick Mosely will present a slide show describing the most common flowering plant families from this area. If you want to learn the key characteristics that help split out the families, this talk will help you out.

6:30 pm in Rm. 125 of Noble Hall, Ft. Lewis College, Durango.

The following dates are tentative, so check the next issue of *Aquilegia* or contact Leslie Stewart for details:

**May 11:** *Pediocactus knowltonii*, *Astragalus proximus*, and other early flowers in the pinon-juniper vegetation type with Sandy Friedley

**June 8:** Goodman Point

**July 13:** White Fir Research Natural Area with Dick and Charlie

**August 10:** Subalpine flowers in the Sharktooth area of the La Plata Mountains with Linda Honeycutt

**September 14:** Mushrooms in the Durango area

**Metro-Denver Chapter**

**December 6: Hummingbird Gardening**  
Tina Jones will present ideas and advice for creating hummingbird gardens in the Denver metro area.

Monthly meetings are held from September through May on the **4th Wednesday** of the month at **7:30 p.m.** at the **Denver Botanic Garden (DBG) Morrison Center or Classroom A, 909 York Street**, unless otherwise noted. For more information, call Jeff Dawson (303) 722-6758.

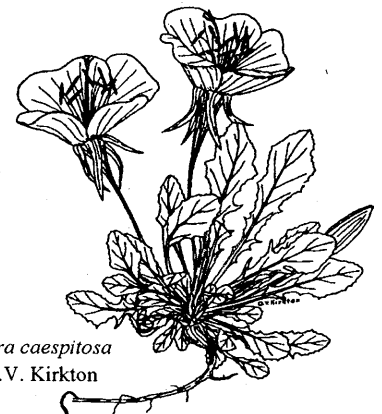
**San Juan Chapter**

Greetings to all our far-flung members! I hope you all had a good field season, short as it was. Many many thanks to the good people who volunteered to lead hikes for our chapter this season: **Jeanne Wenger, Evy Horn, Bill Ebener, Stacey Stecher, and Betty Hall**. Without you we wouldn't have gone anywhere! It was really fun to get together and meet new people as well as friends, along with adding a few more pages of exciting new plants.

Our next item concerns a possible winter meeting here on the Western Slope. There are several questions to be resolved, such as Where? When? What? Who? (Any journalists out there?) I think such a meeting could be fun, informative, and even productive. We could have a program, such as CONPS's own *Rocky Horror Horticultural Show*. We could discuss what you as members would like our chapter to do, get ideas for '96 field trips/workshops, and vote on a chapter name change and possible new leadership.

But, I need your help! A winter meeting will not happen unless someone can assist with putting it together. Your input would be greatly appreciated, and I need to hear from you before January, to try for a February meeting. Thank you!

Gretchen Van Reyper  
San Juan Chapter President  
970-835-3268



*Oenothera caespitosa*  
Artist: O.V. Kirkton

# CALENDAR OVERVIEW

## 1995-1996 WORKSHOPS

- Dec 9** Keying to Tribe in Asteraceae (1st Session)  
with Dr. David Buckner
- Jan 14** Trichomes, or Plant Hairs (2nd Session)  
with Dr. Miriam Denham
- Jan 13** Trichomes, or Plant Hairs (1st Session)  
with Dr. Miriam Denham
- Jan 20** Keying to Tribe in Asteraceae (2nd Session)  
with Dr. David Buckner  
(Mistakenly Dec.10 last *Aquilegia*)
- Feb 3** Showy Monocots 4 (1st Session)  
with Bill Jennings
- Feb 4** Showy Monocots 4 (2nd Session)  
with Bill Jennings
- Feb 24** Basic Plant Identification (1st Session)  
with Dr. Thomas Ranker
- Feb 25** Basic Plant Identification (2nd Session)  
with Dr. Thomas Ranker

- Mar 16** The Asteraceae: Genus *Haplopappus* and its Relatives (1st Session)  
with Dr. Gregory K. Brown
- Mar 17** The Asteraceae: Genus *Haplopappus* and its Relatives (1st Session)  
with Dr. Gregory K. Brown
- April 5** Saxifrages (lecture)  
with Dr. Douglas E. Soltis
- April 6** Saxifrages (workshop)  
with Dr. Douglas E. Soltis

## CHAPTER MEETINGS

**Metro-Denver**  
**Dec 6** Hummingbird Gardening

**Boulder**  
**Dec14** Panama

**Southwest**  
**Jan 18** Family Matters  
(see Chapter News for other tentative dates)



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