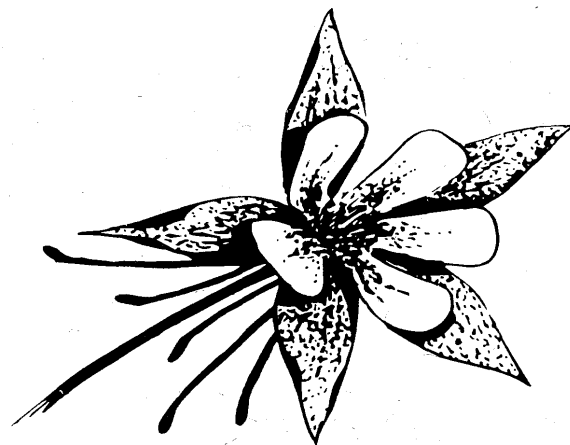


Aquilegia



Newsletter of the Colorado Native Plant Society

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

Volume 24 Number 1

January—February 2000

The Year in Review CoNPS Board of Directors

1999 was yet another banner year for the Colorado Native Plant Society. From the fascinating Annual Meeting through the extremely well-attended workshops and field trips to the diverse activities of our chapters and committees, the Society continues to thrive and grow. Our members, chapter officers, committee chairs, and elected board members have lofty goals and much of the past year has been spent determining how best to gather, direct, and expend the Society's resources in order to implement those goals, and further the mission of the Society.

The theme of the **1999 Annual Meeting** held 25-26 September at the Raintree Plaza Hotel Conference Center in Longmont was "Ancient, Historical and Modern Uses of Plants for Health and Medicine." Carolyn Crawford (Boulder Chapter) amassed a diverse and very interesting group of speakers who covered their topics with enthusiasm and, in some cases, humor and human interest. Attendees also had an opportunity to peruse books and newsletters on the topics addressed by our speakers, which ranged from the pharmaceutical uses of herbs, through their collection, to the problems associated with over-collecting.

Trish Flasker, an ethnobotanist, led off the discussions with a talk on preserving native culture in today's herb market, emphasizing how modern pharmaceutical companies can help preserve native cultures. Tammi Hartung (United Plant Savers) discussed the natural products industry and the dangers of wildcrafting medicinal plants. She also talked about the cultivation of various herbs and the search for analog herbs, an herb that can be used and substituted for another. The keynote speaker at the luncheon on Saturday was Dr. Susan Paulsen (CU Health Sciences Center), who is both a medical doctor and a pharmacist. She discussed herbal medicines and described some of the interactions possible between these and traditional medicines.

In the afternoon, Dr. Jane Bock (CU-Boulder) discussed the effects of various herbs, including soy (which produces a precursor of estrogen), ephedra (a bronchial dilator), and red vincum (used to treat tumors and leukemia). Lynn Riedel (City of Boulder Open

Space) and Maria Mayer (City of Boulder Mountain Parks) discussed the impacts of wildcrafting on local plant populations, while Dr. Jun Wen (CSU) discussed American ginseng, its uses, products, and some myths associated with it. The final speaker of the day was Dr. John Brett (CU-Denver), who discussed the complex relationship between the National Park Service and tribes who want access to native plants in national parks. He noted that some species are used for food and medicine, as well as religious purposes, and form a part of the cultural legacy of Native American tribes.

On Sunday, the program included a mini-workshop on "Medicinal, Herbal and Useful Native Plant Identification," presented by Carolyn Crawford, with assistance from Caryl Shields. Approximately 100 plant specimens were made available for identification. Afternoon field trips to Celestial Seasonings in Boulder and Rabbit Shadow Farms in Loveland were interesting, as well.

Many thanks to all of the speakers and to Carolyn Crawford for organizing an interesting and thought-provoking annual meeting. Carolyn was ably assisted by Caryl Shields, Bill Jennings, Jill Handwerk, and Bob Powell. Thanks also go to Sue Martin and Myrna Steinkamp, who handled the registration desk, and Velma Richards and Rick Brune, who covered book sales — over \$6000 of books were sold on Saturday!

As attested to by the above, the level of activity and enthusiasm maintained by our Chapters is overwhelming and has been truly inspirational to members of the Board. The following select

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reports submitted by our Chapters exemplify this.

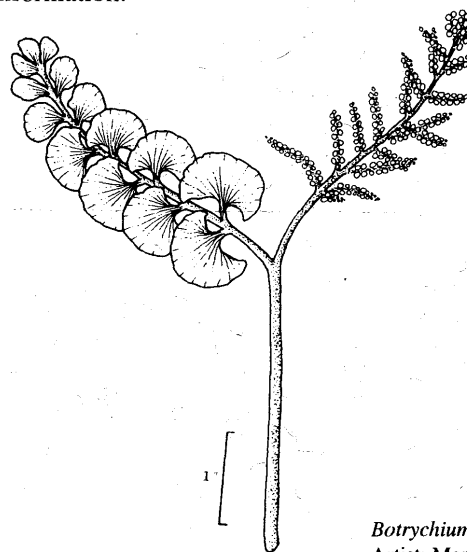
The primary accomplishment of the **Boulder Chapter** in 1999 was to host the aforementioned CoNPS Annual Meeting. About 140 persons attended, some coming from as far away as California (Dieter Wilken and Beth Painter), Oregon (Bruce Barnes), Texas (Joe Cepeda and Pam Allison). Saturday evening, Dr. Miriam Denham hosted a barbecue at her home. Between October, 1998 and April, 1999, the Boulder Chapter also held seven monthly meetings, with attendance typically numbering 20 to 30 people. Speakers included Bob Powell, Dr. Ronald L. Hartman, Chris Pague, Dr. Hugh Wilson, David Anderson, Jim Knopf, and Eric Lane. In May, a picnic was held at the Foothills Nature Center, with a hike afterwards at the limestone and black shale outcrops near Neva Road and US 36. The wildflower bloom was good, with about 50 species identified. The 1999-2000 season started with a Saturday garden party at the home of new Boulder Chapter President Caryl Shields — the long, warm fall allowed Colorado gardens to look great well into October. In November, Panayoti Kelaidis of the Denver Botanic Gardens spoke on the Plant Select Program and in December, Jim Knopf discussed waterwise gardening. The Boulder Chapter encourages CoNPS members and all interested persons in the western (Golden, Wheat Ridge, Arvada) and northern (Westminster, Northglenn, Thornton) portions of the metro area to attend our meetings.

During 1999, the **Fort Collins Chapter** held seven meetings, five with invited speakers and two as field trips. In Spring, Donald Hazlett presented a talk entitled "Molecular Plant Systematics 101;" Dr. Darren Touchell discussed "Rare Plants of Australia" and Jerry Saunders talked about the Poudre Valley Nature Center and the Poudre Valley Trail. In May and June, the Chapter conducted field trips to Fort Collins Foothills Ridge. Hazel Tuttle, long-time CoNPS member, helped to arrange this much appreciated trip. In June, there was a field trip to a tributary of St. Vrain Creek in Weld County, thanks to Cynthia Parker. In Fall, Dr. Neil Snow (UNC) presented a talk entitled "Taxonomic Stories and the Australian Flora" and Dr. Richard G. Walter (CSU) discussed "Poisonous Plants of Colorado and the Southwest." The Fort Collins Chapter extends another thank-you to each of these speakers and to those who helped arrange the field trips.

In 1999, the **Plateau Chapter** also presented both workshops and field trips that were attended by many members, as well as non-members. Of particular interest were the fen workshops and field trip presented by Dr. David Cooper, the pollination seminar by Dr. Vince Tepidino, and the soil crust/lichen field trip with Dr. Larry St. Clair. Cindy Carlson reported that her favorite field trip was to Molas Pass, during which Leslie Stewart taught participants "how to focus" on the low-growing grape ferns. All five species of *Botrychium* were observed. Jeanne Wenger particularly enjoyed the trip to Fairview Natural Area near Montrose led by Amanda Clements. Participants learned about the geology of the adobes and how landscape subtleties affect vegetation. Many beautiful native plants were seen, including the rare *Eriogonum pelinophilum* and *Lomatium concinnum*. Members also accompanied Peggy Lyon to Sewmup Mesa and McKenna Peak in search of rare plants in San Miguel County. The Plateau Chapter wishes

to thank everyone who organized the workshops and field trips — even those adversely impacted by the weather! There would be no Plateau Chapter happenings without your efforts!

In addition to field trips and workshops, Plateau Chapter members were busy with other plant related projects. Evelyn Horn led plant walks on Grand Mesa, and at Ridgway and Vega State Parks. Over the past two years, the Herbarium Committee has mounted over 1500 plant specimens, which are housed in the Montrose BLM herbarium. This includes collections made by Peggy Lyon and Lynn Marie Moore. Lori Brummer coordinated efforts to do plant inventories for Ridgway State Park and at Chipeta Wildlife Area for Black Canyon Audubon Society; Peggy Lyon, Larry Sanders, and Joe Brummer assisted on these projects. After an uneasy year as co-president, Evelyn Horn initiated a nominating, or "plead and beg," committee to find a new Chapter president. As a result, Jeanne Wenger agreed to serve as President and Virginia Taylor as Vice President. Lori Brummer will serve as Secretary and publicist, and Evelyn Horn will serve as Treasurer. Plateau officials formed a board to address Chapter business including the organization and planning of the 2000 CoNPS Annual Meeting. All members are welcome to serve on this board. Contact an officer for more information.



Botrychium lunaria
Artist: Mark Mohlenbrock

The **Metro-Denver Chapter** had many excellent speakers in 1999. In January, Bob Powell discussed the ecology of those alpine areas west of Pueblo. In February, Gayle Weinstein talked about the City of Denver's new Natural Areas Program. Kathy Carsey discussed the Colorado Natural Areas Program in March. During our April meeting we discussed conservation activities in which the Chapter could participate. Eric Lane (CoNPS Conservation Committee), Dan Johnson (DBG), and others participated in this discussion. Over the summer, several conservation activities were started. These included assisting Denver Natural Areas in the restoration of Hensel Park, volunteering at the Denver Botanic Gardens Prairie Garden, and participating in an orange hawkweed weed pull with the Audubon Society. This fall we have had two lecturers, Dr. Leo P. Brueckerle summarize his ongoing cranberry research and Jan McKee discussed protection of the Ute ladies' tresses orchids.

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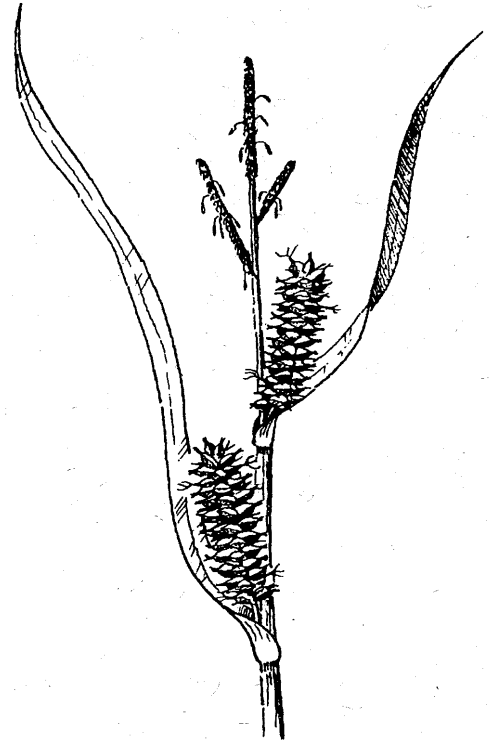
CoNPS committees have also been very active, advancing the mission of the Society. The following select committee reports reflect their activity.

The **Workshop Committee** completed its 15th season in May, conducting 17 workshop classroom sessions over the winter and spring. Six separate topics were covered, with a total of over 260 attending. Most attendees were from the Fort Collins - Denver - Colorado Springs urban corridor, but a growing number are coming from a considerable distance: La Junta, Grand Junction, Gunnison, Snowmass, Basalt, and Eagle, Colorado; Laramie, Wyoming; Amarillo and Canyon, Texas. "Botanical Illustration" and "Keying to Tribe in the Grass Family" were our big hits of the year, each going into four sessions. Our workshop leaders did a great job and we thank them for their hard work in the preparation and instruction of their respective workshops: Bill Jennings (Helleboraceae), Dr. Hugh Wilson from Texas A&M University (Chenopodiaceae), Dr. David Buckner (Keying to Tribe in the Grass Family), Susan Spackman and staff at CNHP (Colorado's Missing Flora), Dr. J. Mark Porter from Rancho Santa Ana Botanic Garden (Polemoniaceae), and Carolyn Crawford (Botanical Illustration). Handouts for many workshops are available at a small charge (copying and mailing) by calling Workshop Committee Chair Bill Jennings at (303) 666-8348.

The 1999-2000 season is off to a big start. Eight topics have been scheduled. "Introduction to the genus *Carex*" and "Keying to Tribe in the Asteraceae" have been scheduled for four sessions each; while "Colorado Gooseberries," "Willows of the Rocky Mountains," and "Colorado Ferns" have been scheduled for three sessions each. As such, it looks as though this season will be a record year with 23 workshop sessions projected, besting 1996-97 (22 sessions). In addition, workshops will be held not only at Foothills Nature Center in Boulder, but also at CSU in Fort Collins and at UCD in Denver. Thanks to the enthusiastic support of our membership, the educational programs presented by our Workshop Committee continue to be one of the Society's most popular activities.

The **Conservation Committee** has been active in several areas that have included providing comments to address land management/conservation issues developing from the Forest Service or BLM public process. As an organization, CoNPS has participated by submitting comments regarding the BLM wilderness proposals affecting Bang's Canyon and South Shale Ridge on the Western Slope. CoNPS is also participating in the Mt. Emmon's Iron Bog review, and will receive and comment on the Environmental Assessment when it is presented; additionally, we will, because of our earlier involvement, be able to appeal, if appropriate, any decision regarding the mineral withdrawal. In March of 1999, comments were submitted on the USFS Strategic Plan. The White River Plan will also be studied. The Forest Service considers this plan to be precedent setting and to be the model for forest plans in the future. The comment period runs through May 2000. The National Forest Management Act (NFMA) will be modified by the Forest Service; Society input on this plan will be submitted by January 4, 2000. The Society was also invited to join and has begun to participate with the Steering Committee for the Colorado Wilderness Network. This group consists of representative mem-

bers from the Colorado Environmental Coalition, Western Colorado Congress, Sierra Club, Colorado Mountain Club, and The Wilderness Society. Finally, CoNPS members participated on a Colorado Natural Areas Program sponsored weed listing and pull in the Bonny Prairie Natural Area.



Carex rostrata
Artist: Gary Bentrup

Thanks to the support of the many CoNPS members attending the 1999 Annual Meeting, the **Publications Committee** reports that book sales were again a resounding success. The secure setting provided for the sales in a room separate from the presentations was greatly appreciated. Book sales at the meeting exceeded those at all previous annual meetings. Co-Chairs Velma Richards and Rick Brune wish to express their appreciation to all of the people who helped with book sales.

In 1999, the **Communications Committee** witnessed the return to regular publication of *Aquilegia* with six issues, an ambitious goal that was set by the Board... and met. In addition to the contributions of numerous individuals, regular contributors to *Aquilegia* included: Alice Guthrie (Secretary); Bill Jennings (Workshops); chapter presidents Carolyn Crawford, Denise Larson, Don Hazlett, Lori Brummer, Evelyn Horn, and Sandy Friedley (Chapter News, miscellaneous contributions); Rick Brune (Field Trip Committee, miscellaneous contributions); Gay Austin (miscellaneous contributions); Velma Richards (Publications Committee); and Robert Epley (Notes from the Light Table). Despite a move to Missoula Montana, Sara Hill continued to manage our WWW site. Thanks, complements, and suggestions should be submitted to webmanager Sara.

Clearly, 1999 was another exciting year for the Colorado Native Plant Society!

From the CoNPS Board of Directors

Minutes of the CoNPS Board Meetings

Alice Guthrie, CoNPS Secretary

December 4, 1999. Treasurer's report: Denise Culver reported that \$30,000 had been invested in a 15 month Certificate of Deposit at 6.3% interest. There is about \$20,000 available for operating funds, of which \$10-12,000 could be invested in mutual funds. The Board is interested in reviewing options for mutual fund investment. The Board reviewed 1999 expenses to date, based on the October 27 Profit and Loss sheet, but deferred discussing expenditures until the January meeting. At that time, the Board will work on the 2000 Operating Budget; committee chairs were asked to come prepared to discuss 1999 expenses, with their proposed budgets for 2000.

Committee reports: Eric Lane distributed copies of the **Marr Fund** guidelines and Request for Proposals. The Board discussed some priorities for funding that included: 1) monitoring rare thistles for the presence of *Rhinocyllus conicus* and 2) *Cirsium* taxonomy. Eric suggested that the Board develop a list of research priorities for future consideration. Jill Handwerk reported on **Education Committee** activities. CoNPS will have a booth at the Pro Green show in Denver from January 12-14, 2000, which provides an opportunity to have a presence at a landscape industry show. A subcommittee of the **Horticulture and Restoration Committee** is revising the native planting list to be distributed at that show. Tina Jones has committed to another show, Eagle Days at Rocky Mountain Arsenal. Bill Jennings from the **Workshop Committee** reported that this may be a record season for workshop attendance. Fourteen sessions have been scheduled, thus far, with the spring sessions being advertised in the November-December newsletter. The Board discussed holding Eastern and Western Slope workshop groups; Bill and Gay Austin will discuss this possibility and make recommendations for the 2000 budget.

Society and Chapter business: The Board continued the discussion of *Rhinocyllus conicus*, and APHIS and Colorado State Department of Agriculture policies. Eric Lane reported that no releases were conducted by the Colorado Department of Agriculture; Jill Handwerk will call APHIS for clarification of their release/monitoring policy. Jeff Dawson suggested that after reviewing relevant APHIS policy, the Board decide whether or not to write a letter to APHIS. Information from APHIS could also be included in a future newsletter. Jeanne Wenger was reported to be the new **Plateau Chapter President**. The Board authorized the purchase of a display board for the Western Slope chapters, with Gay Austin coordinating funding with the **Education Committee**. The Board meeting and field trip to the Western Slope was scheduled for the weekend of May 20-21, 2000. A hike to Rabbit Valley and McDonald Wash will be held on Saturday, May 20.

Meeting: April 1, 2000 Public Library, Longmont
May 20-21, 2000 USFS Office, Grand Junction



2000 Dues Reminder

Please check your mailing label. If it does not say "Paid Thru 2000" (or later), your dues are now due. Remember, CoNPS dues cover a calendar year. If you are not paid through 2001, please send your renewal to: Colorado Native Plant Society, P.O. Box 200, Fort Collins, CO 80522. This could be your last newsletter, renew today!

From the Editor

Please submit contributions for Vol. 24 No. 2 of *Aquilegia* on or before March 15, 2000 for a March 30, 2000 (or thereabouts) mailing. Include author's name and address. Previously published articles submitted for reprinting require permission from the editor of original publication. Articles submitted via e-mail or on disks — MAC preferably, or IBM — are much appreciated. Please indicate word processing software and version.

CoNPS Annual Meeting Announced

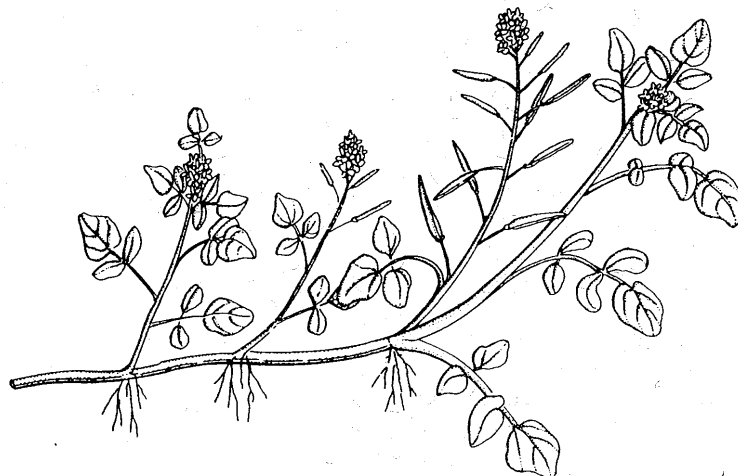
September 23-24, 2000

Save These Dates!

YOU Are Invited!

The Plateau Chapter encourages you to join us next fall for the Annual Meeting of the Colorado Native Plant Society! **Plateau Evolution and Natural History of the Colorado Plateau** will be the title of this year's meeting, which will take place in Grand Junction. We hope that you'll mark these dates on your calendar and "come on over!"

Look for the detailed description, agenda, directions, and reservation form in the July-August Annual Meeting Edition of *Aquilegia* (Vol. 24 No. 3). For additional information, please contact Plateau Chapter President Jeanne Wenger at (970) 256-9227.



Nasturtium officinale
Artist: Kris Miering

More from the Board

Is it Time to Renew your Membership?

If, for one reason or another, you have not yet renewed your membership in the Colorado Native Plant Society (CoNPS), please do so today — this could be your last newsletter. Renewal notices were mailed in December, but feel free to use the application on page 13 of this *Aquilegia*. And consider giving a gift of membership to a friend, family member, student, or colleague. The benefits of CoNPS membership are numerous.

CoNPS Donors

Myrna Steinkamp and Sue Martin, Membership

In 1999, many members made donations, either to the John Marr Fund (\$2,046.50) or to the Society's General Fund (\$611.00) to be used where most needed in support of our many other activities. These contributions are very important to the success of our special projects. Thanks to the following donors, as well as to 25 others who wished to remain anonymous: Ann Armstrong, Gay Austin, Beverly Baker, Caroline M. Ball, Larry R. Ballard, Tedd N. Beegle, Linda and Richard Beidleman, Rochelle Blumenstein, Bruce and Cathy Bosley, Linda Bourgeois, Megan C. Bowes, Charlotte Briber, Lois A. Brink, John Brink family, Cheryl and Joseph Brooks, Leo P. Bruederle, Joe and Lori Brummer, Vivian Burrows, Mrs. George Cannon, Cindy Carlson, Pat Clark, Kathy Clinebell, Mark Dalpiaz, Jeffrey and Carol Dawson, Bonnie L. Dehart, Claire Deleo, Robert Dellapina, Stanley Dempsey, Jean Dietemann, Hobart N. Dixon, Barbara F. Dolder, Adele Douglas, Anne Ophelia Dowden, Mary and Page Edwards, Margaret Ely, Marian M. Fick, Dich Fisher, Vickie and John Flower, Sandra Starr Friedley, Mark and Nancy Gershman, Cornelia Gibson, Susie Gordon, Debra Guenther, Betty Hall, Susan K. Harris, Emily L. Hartman, Dr. Dexter Hess, Elaine Hill, Tim Hogan, Tina Jones, Reed and Kathleen Kelley, Anita and Charles King, Naomi Kuhlman, Paula J. Lehr, Deanne and Alan Lembitz, Dr. Ivo. E. Lindauer, Paul Martin, Edwin H. McConkey, David McKay, Mark E. Meremonte, Michael and Joyce Michelson, Annette and Paul Miller, Bruce Moorman, Pat Murphy, Will Murray, Anna M. Naeser, Tina Naugle, Tamara S. Naumann, Betsy Neely, Katharine Noll, Larry A. Nygaard, Cheryl O'Brien, Maureen O'Shea-Stone, Neal Osborn, Elizabeth Otto, Donald G. Parker, Pat Ploegsma, Cheryl Plumb, Laurel Potts, Karen L. Prentice, Mike Ransom, Nancy and Ira Redner, Angela Lynn Riedel, Sandy Righter, Andrea Robinson, Peter Root, Mary Lou Rottman, Joan L. Sapp, Carla Scheck, Patrick B. Shafroth, Moras and Erne Shubert, Todd Sliker. Southwest Seed Inc., J. Michael Spoon, Dale and Grace Sutherland, Lydia Toll, Dian Torphy, James R. Trammell Jr., Jeffrey Uhlich, Effie Vranka, Clinton H. Wasser, Olin L. Webb, David A. Weber, Gayle Weinstein, Jeanne and Steve Wenger, Mindy Wheeler, Starla L. White, Dr. Beatrice E. Willard, Joy Wolf, Lynn A. Yehle, Ann H. Young, and Marylou Zimmerman.

THANK YOU!

Conservation Speaker Series 2000: Inspiration for Sustainability

Vera Smith, Public Lands Policy Director,
Colorado Mountain Club

The Colorado Mountain Club and the Denver Botanic Gardens are pleased to announce The Conservation Speaker Series 2000 entitled "Inspiration for Sustainability." The series consists of presentations by three nationally renowned authors, who all approach the concept of sustainability through different media and disciplines. Events are scheduled on March 17, April 14, and May 5, 2000. All events will be held at 7:30 PM at the American Mountaineering Center (710 10th St., Golden, CO) and will be followed by a book signing and reception. Tickets are \$10 per event or \$25 for the series, and can be purchased by calling (303) 279-3080 ext. 2.

On March 17, Mathis Wackernagel, author of *Our Ecological Footprint: Reducing Human Impact on the Earth*, will show us how to calculate our individual ecological footprints — our impact measured in acres on the Earth — and describe his vision of world health measured in ecological footprint units instead of trade balances and GNP's. On April 14, Peter Menzel and Faith D'Aluisio, famed international photo-journalist/film producers and authors of *Material World: A Global Family Portrait* and *Women in the Material World*, will share their perspective on sustainability after having explored how average families around the world live and regard material possessions. Menzel is a contributing photographer to many national and international publications including *National Geographic*, *Life*, *New York Times Magazine*, *Geo*, and *Smithsonian*. On May 5, Paul Gruchow, whose *Boundary Waters: the Grace of the Wild* has been called "a modern day Walden," will mesmerize with his poetic prose about the "Necessity of Open Places" and his experiences in the remote boundary waters.

Attention parents and teachers! Have your students earn extra credit by attending the special sessions for students held on Saturday, March 1; Friday, April 14; and Saturday, May 5. For more information, call (303) 370-8020.



Artist: Gary Bentrup

The UNC Herbarium: Mission and Activities

Dr. Neil Snow, Biological Sciences, University of Northern Colorado

Since my arrival in Greeley in July of 1998 as the new curator, the Herbarium at the University of Northern Colorado (GREE) has established an institutional mission and initiated a number of activities of interest to CoNPS members.

The new mission of GREE is the High Plains flora of North America, with a secondary focus on the Colorado flora. Operationally, the High Plains are lands above 1000 meters (3000 ft.) that lie east of the Rocky Mountain front. This vast area includes portions of Alberta and Saskatchewan; the western portions of the Dakotas, Nebraska, Kansas, Oklahoma, and the Texas panhandle; and the eastern portions of Montana, Wyoming, Colorado, and New Mexico. Of these areas, only Wyoming is relatively well collected. The High Plains emphasis of GREE fills an unoccupied geographical focus, given that collectors in the Rockies have preferentially collected in the mountains, and that important herbaria of the Great Plains states generally reside in the far eastern portions of those states, and thereby under-represent regions farther west. One of our priorities is to secure permission from large landowners to collect on private properties, which often harbor infrequently collected taxa.

GREE recently has initiated two projects relating specifically to the flora of Colorado. First, we hope to have a Colorado Reference Collection (CRC) completed by year's end. The CRC will have one specimen (or at most two) of each native and non-native taxon, and will enable users to confirm identifications more quickly than by searching the entire herbarium. The assistance of taxonomic specialists will be sought to annotate GREE specimens. For example, Dr. Rob Soreng of the Smithsonian Institution has graciously annotated GREE holdings of *Poa*.



Poa

Second, the Interactive Colorado Flora (ICF) project recently has been initiated. The ICF will be a web-based interactive identification key to all native and non-native vascular plants in Colorado and will be built with LucID™ software (Snow and Sharp 1999). This software is fully compatible with DELTA™, which is a worldwide standard for the computerization of raw taxonomic data. This should not be confused with herbarium data, which can be managed with a large number of available programs. The miracle of interactive keys is that they enable the user to query the identity of an unknown specimen (sterile or fertile) by entering all visible characters and character states in any order, thereby bypassing the step-wise dichotomous choices of standard keys. Provided it is well written, an interactive key generally expedites and increases the number of correct identifications. Large genera such as *Poa*, *Carex*, *Salix*, and *Astragalus* will no longer be so intimidating. Since LucID has multimedia capabilities, we will

eventually include photographs, distribution maps by county, and relatively short (<100 words) written summaries of each taxon. Our admittedly ambitious goal is to have an initial version of the ICF on-line by the end of 2001. Bonnie Koblit, a new graduate student in Biological Sciences at UNC, will contribute to the ICF by producing an interactive key to the flora of the Laramie Foothills region and neighboring Weld County, a priority area of the Colorado Nature Conservancy.

Sadly, Dr. William Harmon, the previous curator of GREE, passed away shortly after retirement. He left behind several thousand unprocessed specimens, mostly from Mexico and Mesoamerica. Given the importance of these collections, and with assistance from Dr. Gerrit Davidse of the Missouri Botanical Garden (MO), who edits the multi-volume *Flora Mesoamericana* project, Harmon's collections will be organized and sent on exchange to MO or other larger herbaria, where they can be used by specialists working on tropical genera. Rebecca Livingston, Dr. Harmon's widow, kindly sent his old collection notebooks to assist with this process; these notebooks will be permanently archived at MO after their use at GREE. Bob Williams, a volunteer at GREE, is processing Harmon's collections for exchange.

Bob has also prepared a Desiderata list of specimens GREE desires on exchange. The list will accompany exchanges with sister institutions and help GREE maintain its High Plains focus.

A new and larger herbarium at UNC will be built in about two years as part of the renovation of the Ross Hall Sciences building. The herbarium will be able to expand from its current 11,500 specimens to a target of 50,000. GREE greatly welcomes duplicate specimens collected by CoNPS members from Colorado and the High Plains. Please remember to include longitudinal and latitudinal coordinates, which are increasingly important in conservation studies and geographical information systems (GIS) (Snow and Keating 1999).

We thank those who have sent reprints to help build our reprint collection, such as W.A. Weber, R.L. Hartman, J. Wen, R. Dorn, T. Hogan, B.L. Turner, P. Fryxell, and S. Kelso.

In summary, the UNC herbarium is a revitalized institution that will become a plant information resource center for the floras of the High Plains and Colorado. Visitors are always welcome, including educators, who would like an herbarium tour and short presentation on plant diversity. Please contact Neil Snow in advance of an intended visit at nsnow@bentley.unco.edu.

Literature Cited

- Snow, N., P.L. Keating. 1999. The relevance of specimen citations to conservation. *Conservation Biology* 13: 943-944.
- Snow, N., D. Sharp. 1999. LucID™ Professional for Windows: Contemporary Identification Tools, CPITT (Centre for Pest Information Technology and Transfer, The University of Queensland). 1999. CD-ROM plus Instruction Manual. 121 pp., illustr. ISBN 0-643-06415-X. Collingwood, Victoria: CSIRO Publishing. *Systematic Biology* 48: 828-830.

Workshops

SMALL PLANT FAMILIES WORKSHOP

Bill Jennings, CoNPS Workshop Committee

For the 2000-2001 workshop season beginning next November, the CoNPS Workshop Committee would like to hold another workshop on families of plants with few representatives in Colorado. Generally, families with fewer than ten representatives in Colorado are too small to justify an independent workshop. However, by grouping unrelated small families, an interesting and diverse number of families can be treated in a single workshop. Volunteers are wanted to prepare a brief presentation on one of these families with few representatives in Colorado. If you volunteer now, you will have all winter to work in the herbarium and all summer to look for the species in the field. Call Bill Jennings at (303) 666-8348 or (303) 665-6903, and learn what is involved in developing a workshop. Some of the families that could be treated are listed below, although others could be considered. Check Weber and Wittmann's *Colorado Flora: Eastern Slope* and *Colorado Flora: Western Slope*, or Weber and Wittmann's *Catalog of the the Flora of Colorado* for description, habitat, name, and number of species (noted parenthetically following each family).

GYNOSPERMS

Ephedraceae: Ephedra or Jointfir family 2 or 3 species

ANGIOSPERMS

Aceraceae: Maple family 3 species

Acoraceae: Sweetflag family 1 species

Aizoaceae: Fig-Marigold family 1 species, introduced

Anacardiaceae: Sumac or Cashew family 3 species

Apocynaceae: Dogbane family 4 species

Asparagaceae: Asparagus family 1 species, introduced

Betulaceae: Birch family 5 species

Caesalpinaceae: Senna family 3 species

NOTE: *Caesalpinia* and *Hoffmannseggia* are included in the

Fabaceae in *Colorado Flora: Eastern Slope* and *Western Slope*

Callitrichaceae: Water Starwort family 3 species

Ceratophyllaceae: Hornwort family 1 species

Convolvulaceae: Morningglory family 5 species, plus 1 introduced

Crassulaceae: Sedum family 4 species, plus 2 introduced

Fumariaceae: Fumitory family 4 species, plus 1 introduced

Geraniaceae: Geranium family 4 species, plus 3 introduced

Hydrangeaceae: Hydrangea family 4 species

Hydrocharitaceae: Frogbit family 3 species

Hypericaceae: St. Johnswort family 2 species, plus 1 introduced

Juncaginaceae: Arrowgrass family 3 species

Lentibulariaceae: Bladderwort family 3 species

Limnathaceae: Meadowfoam family 1 species

Lythraceae: Loosestrife family 3 species, plus 1 introduced

Mimosaceae: Mimosa family 6 species

NOTE: *Desmanthus*, *Mimosa*, *Prosopis*, and

Shrankia are included in the Fabaceae in *Colorado*

Flora: Eastern Slope and *Western Slope*

Molluginaceae: Carpetweed family 1 species, introduced

Najadaceae: Waternymph family 1 species, introduced

Nymphaeaceae: Waterlily family 1 species, plus 1 sparingly introduced

Oleaceae: Olive family 3 species, plus 2 introduced

Orobanchaceae: Broomrape family 5 species

Oxalidaceae: Woodsorrel family 2 species, plus 1 introduced

Parnassiaceae: Grass-of-Parnassus family 3 species

Plantaginaceae: Plantain family 4 species, plus 2 introduced

Pontederiaceae: Pickerelweed family 2 species

Rhamnaceae: Buckthorn Family 5 species, plus 2 introduced

Ruppiaceae: Ditchgrass family 1 species

Simaroubaceae: Quassia Family 1 species, introduced

Smilacaceae: Smilax family 1 species

Sparganiaceae: Burreed family 4 species

Thalictraceae: Meadowrue family 5 - 7 species

Urticaceae: Nettle Family 2 species

Valerianaceae: Valerian family 4 species

Vitaceae: Grape family 3 species, plus 1 introduced

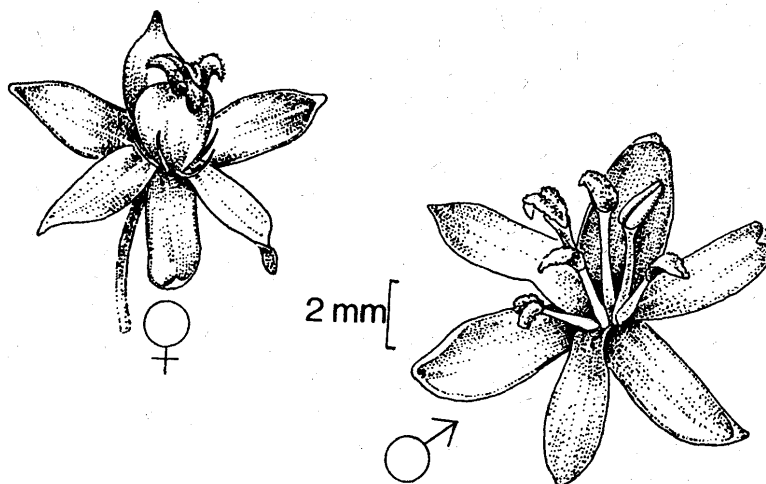
Zannichelliaceae: Horned Pondweed family 1 species

1999-2000 WORKSHOPS

Bill Jennings, CoNPS Workshop Committee

The Workshop program is headed for a record-setting season, with 23 workshop sessions planned for Boulder, Denver, and Fort Collins. There may be a few spaces left in the March and April workshops, specifically "Colorado Ferns" on March 5, "The Caryophyllaceae" on April 9, and "Wildflower Photography" on April 30. For more information, including workshop location, and to register, contact Bill Jennings at (303) 665-6903.

The latest CoNPS development is the establishment of a Workshop Committee for the West Slope. Dave Buckner has agreed to repeat his popular "Keying in the Asteraceae" and Ron Hartman will repeat "The Caryophyllaceae." For more information and to register, contact Gay Austin at (970) 641-6264 (h) or gaustin7@juno.com.



Smilax
Artist: Carolyn Crawford

Fear of Keying?

Caryl Shields, Boulder Chapter

Yes, it's fun to stroll and identify plants by matching their flowers to the pictures that you see in your field guides. But are you ready to go further? You can do it! I found myself in this situation some years ago while on a CoNPS hike to North Table Mountain, Golden, where I was in awe of all the plant identification that was going on around me. Finally, at lunch, Loraine Yeatts forced me to read sections of Jan Wingate's little *Rocky Mountain Flower Finder* and follow the steps in the key to reach the Mustard family. And then to distinguish between *Lesquerella* and

Physaria. Well, I found that I could do it!

Then when I got my copy of the Rocky Mountain Nature Association's (RMNA) Field Seminar catalog, I plunged in. I took a week of vacation so that I could take a long course on using a botanical key. It was great fun touring and studying with a nice group of people and a good instructor in Rocky Mountain National Park. Although I can't always do it accurately, I can now work my way through a key — RMNA, who may be contacted at (800) 816-7662 or seminars@webaccess.net, filled the bill for me. This year, both day-long and week-long

classes are offered that provide an introduction to the use of botanical keys. Chase Davies, and Linda and Dick Beidleman will guide you through the tough stuff.

Another source of introductory classes is the Boulder County Nature Association (BCNA). Joyce Gellhorn, who may be contacted at (303) 442-8123 or jgellhorn@sprynet.com, will teach classes for BCNA this spring. Watch also for classes offered through CoNPS and the Denver Botanic Gardens. You don't have to go back to college to further develop your appreciation of native plants.

Classes

Weekend Lichen Class

This summer, Ann DeBolt and Roger Rosentreter are teaching a two day weekend Lichen Class this summer at Rocky Mountain National Park in Colorado. This class, officially referred to as "Exploring the Colorful World of Lichens," will be a field oriented class taught within the National Park and sponsored by Rocky Mountain Nature Association (RMNA), Rocky Mountain National Park, Estes Park, Colorado, 80517. RMNA may be contacted at (800) 816-7662 or seminars@webaccess.net; visit them also at www.rmna.org/bookstore. The class may be taken for university credit through Colorado State University.

Boulder County Nature Association Announces Spring Classes

Identification of Spring Wildflowers.

This course focuses upon identification of flowering plants on the East Slope of the Front Range in Boulder County. General principles of taxonomy will be taught along with identifying features of major plant families. Emphasis will be placed on learning to use taxonomic keys to identify native plant species. Taxonomic and ecological features of flowering plants will be examined during the all day Saturday field trips. Part I is for the beginner, while Part II expands on concepts learned in Part I.

Part I: Wednesday evening Sessions (6:30 - 9:30 PM) April 26 and May 3, 2000; Saturday Field Trip (9:00 AM - 3:00 PM) May 6

Part II: Wednesday evening Sessions (6:30 - 9:30 PM) May 10 and May 17; Saturday Field Trip (9:00 AM - 3:00 PM) May 20

Cost: \$65 for Session I or II; \$120 for both Sessions I and II. BCNA members: \$55 for Session I or II; \$105 for Sessions I and II.

For more information and to register, contact Joyce Gellhorn at (303) 442-8123 or jgellhorn@sprynet.com

Birds of Foothills Forests and Canyons.

More than 90 bird species nest in the canyons and conifer forests west of Boulder. Learn to identify these birds using song, behavior, habitat keys, and field marks. We'll search for peregrine falcons, flammulated owls, western bluebirds, gray catbirds, yellow-breasted chats, lazuli bunting, black-headed grosbeaks, and western tanagers. Small group activities will focus on recognizing bird songs — including those difficult flycatchers and warblers — and using bird populations to evaluate ecosystem quality.

Dates: Thursday evening, June 1, 2000 (7:00 - 9:00 PM); Saturday morning, June 3 (7:00 - 11:00 AM); Saturday morning, June 17 (7:00 - 11:00 AM); Saturday evening, June 24 (6:00 - 10:00 PM). Cost: \$65 for nonmembers, \$55 for BCNA members.

For more information and to register, contact Steve Jones at 303-494-2468 or stvjones@peakpeak.com

Fire Ecology

This CU Mountain Research Station course explores the role of wildfires in the development of forest ecosystems. We will examine flora and ecosystem dynamics following several fires within the Colorado Front Range. Primary focus will be the, Ouzel Fire of 1978 in Rocky Mountain National Park. This fire demonstrates ways in which fire management policies, forest composition, altitude, and weather conditions impact the dynamics of forest ecosystems. An extended overnight trip into the Park will be a component of the course.

Fire Ecology is being offered as either a two or three credit class. The first two weeks of the course, from June 12-22, 2000, include course work and field work for all students. Students taking the course for three credits will complete a student-selected independent project during the third week of the class, June 23-29, to fulfill the requirements for the third credit.

Location: Mountain Research Station, Rocky Mountain National Park, and surrounding areas. **Dates:** June 12 - 22 (2 crs.); June 12 - 29, (3 crs.): Monday - Thursday; 8 AM - 5 PM. **Credit:** 2 or 3 undergraduate credit hours in biology (EPOB 4110). **Tuition:** \$620 (2 crs.); \$720 (3 crs.); room and board not included. **Prerequisite:** One semester of introductory biology.

For more information, contact Dr. Joyce G. Gellhorn at 112 Deer Trail Road, Boulder, CO 80302 or jgellhorn@sprynet.com

CHAPTER NEWS

Boulder Chapter

MORE VOLUNTEERS SOUGHT! In order to continue functioning well, the Boulder Chapter needs additional participation from members in planning programs, outings, and conservation projects; attending Board meetings; opening and closing up the Nature Center etc, etc. Until now, these tasks have been ably handled by a handful of people including, but not restricted to Ron Abbott, Carolyn Crawford, Bill Jennings, Pat Murphy, Bob Powell, Lynn Riedel, Caryl Shields, Maureen O'Shea-Stone, and Effie Vranka. The work that it takes to make the Chapter function is substantial! Can we count on you, too? **NEEDED NOW:** Chapter Co-President (or President-in-Training), Conservation Manager, Program Assistant, and other reliable volunteers. Please volunteer — contact Caryl Shields at (303) 665-6312.

Monthly meetings are held October through May on the second Thursday of each month at the Foothills Nature Center, located in Boulder at 4201 North Broadway opposite its intersection with Sumac Ave. For more information, contact Chapter President Caryl Shields at (303) 665-6312.

March 9, 7:30 PM

Floods and Forests on the Colorado Plains

Cloudburst floods like those that have devastated Boulder (1894), Denver (1965), and Fort Collins (1997) are also responsible for the broad cottonwood forests along many of our Plains streams. **Dr. Jonathan Friedman** (U.S. Geological Survey, Riparian Ecology Group) will share with us his multidisciplinary work in riparian vegetation and hydrology. He will show how he has used information from tree rings and aerial photographs to relate extreme floods, channel change, and cottonwood reproduction along Bijou, Kiowa, and Coal creeks in eastern Colorado.

April 13, 7:30 PM

Astragalus osterhoutii

Dr. Carol Dawson (Director of Research, Denver Botanic Gardens) will present the results of her dissertation research addressing the ecology and reproduction of this federally endangered milkvetch

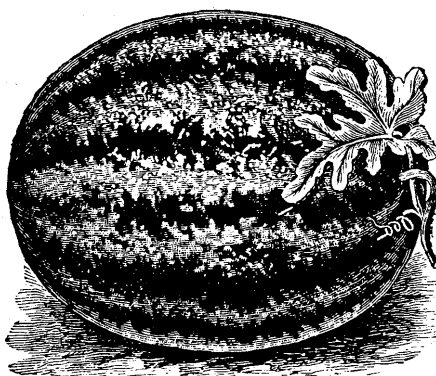
(*Astragalus osterhoutii* M.E. Jones), which is endemic to the Kremmling area. Learn what has been done to protect this geographically restricted species, for which some populations were lost when the Wolford Mountain Reservoir was built north of Kremmling.

May 11, 5:30 PM

Annual Picnic and Hike

Location: To be announced

Set aside May 11 for the annual picnic and hike. Plan to bring your own main dish, but snacks and beverages will be provided. After dinner, we will hike until approximately 8:00 PM — suggestions for an area in which to hike are being welcomed.



CHAPTER ANNOUNCEMENTS

Weed pull. The Chapter is also planning a weed pull, most likely in June, to remove Mediterranean Sage (*Salvia aethiopis* L.), from property north of Boulder. So far, Boulder County is the only county in Colorado where this problem weed has been identified. Can you lead or help lead this event? If so, please contact Caryl Shields at (303) 665-6312.

Rare Plant Documentation. The Colorado Natural Heritage Program (CNHP) asks that Chapter members revisit documented sites of rare plants and report on their present condition. Element Occurrence Records for rare plants in Boulder County that have not been documented for over ten years have been provided to the Chapter. Examples include *Muscaria monticola* Small (Saxifragaceae)

on Niwot Ridge, *Lycopodium dubium* Zöega (Lycopodiaceae) at Diamond Lake, and *Aquilegia saximontana* Rydberg (Helleboraceae) at Chasm Lake. Records contain detailed (or not) directions to sites, as well as references and lists of relevant herbarium accessions. Rich Scully has agreed to share his experience on procedures, and to send records to CNHP. Can you adopt a species or a site, and lead a Chapter outing to re-locate any of these rare plants? For more information or to volunteer, please contact Rich Scully at (303) 447-1213 or Caryl Shields at (303) 665-6312. Many other plants and sites distributed around the state are also available for adoption.

Fort Collins Chapter

Indoor monthly meetings are scheduled through April in the Main Conference Room of the National Seed Storage Laboratory (NSSL) on the campus of CSU. For more information, please contact Chapter President Don Hazlett at (970) 834-1493.

March 7, 7:00 PM

Global Climate Change and the Short-grass steppe

Dan LeCain (Plant Physiologist, USDA/ARS Crops Research Laboratory) will discuss the causes, theories, and possible effects of increasing atmospheric carbon dioxide and global climate change, in general, on the shortgrass steppe.

April 4, 7:00 PM

An overview of Eritrean Culture

Adam Dreyfuss, (Range Science, CSU) a graduate student of range ecology and former Peace Corps volunteer, will provide an overview of Eritrean culture, a former province of Ethiopia.

Metro-Denver Chapter

Indoor monthly meetings are held October through April in the Morrison Center at the Denver Botanic Garden. For more information, please contact Chapter President Denise Larson at (303) 733-4338.

March 28, 7:30 PM

To be announced

CHAPTER NEWS

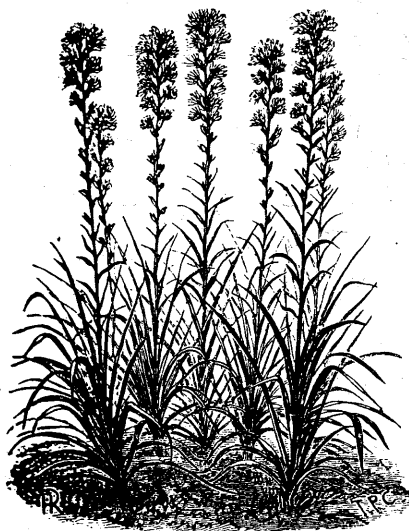
Plateau Chapter

Herbarium Work Sessions. If you are interested in working at the BLM Herbarium, sorting and organizing mounted plant specimens, contact Evelyn Horn at (970) 835-8391 to arrange a time.

March 11, 9:00 AM - 3:00 PM

Keying in the Asteraceae

Location: Forest Service Building, Delta
Dr. David Buckner and Bob Powell will present the CoNPS workshop previously given in Boulder in November. By demonstrating relationships within the daisy family, and providing keys and specimens for study, they will help participants learn to recognize the tribes and subtribes within the Asteraceae. There will be a cost of \$10 for CoNPS members and \$22 for non-members, which includes CoNPS membership. Space is limited. For more information and to register, contact Gay Austin at (970) 641-6264 (h) or gaustin7@juno.com.



March 25, 9:00 AM

Double feature! Botanical Exploration in the Rockies, plus the Caryophyllaceae

Location: To be announced

Dr. Ron Hartman (University of Wyoming Rocky Mountain Herbarium) will present a program about new botanical exploration of the Rockies. Later, he will discuss those regional genera representing the Caryophyllaceae. A donation of \$10 will be requested to help defray the cost of travel for Dr. Hartman. For more informa-

tion and registration, contact Lois Dworshak at (970) 878-3683.

April 29-30

Burro Point - McElmo Canyon Field Trip

Weather permitting, **Andrea Robinson** will once again lead this field trip exploring the desert environs around Cortez, including McElmo Canyon. Meet at City Market in downtown Cortez on Saturday at 11:00 AM. Camping will be in a primitive area, with no facilities at all. Contact Andrea at (970) 872-3952 for more information.

May 20-21

Saturday, 8:30 AM: Statewide Field Trip

Sunday, 9:00 AM CoNPS Board Meeting

Location: Grand Junction

Like last year, the Plateau Chapter will host a state Board meeting in Grand Junction. All members are invited to attend the Saturday field trip and Sunday meeting. Saturday, meet at the Grand Junction BLM office, 2815 H Road (by the airport) at 8:30 AM for an all day field trip to Rabbit Valley and McDonald Wash. The Board meeting will take place at 9 AM Sunday morning at the Forest Service office in Grand Junction. It is located at 2777 Cross Road Blvd. Traveling north on Horizon Drive, turn left (west) at the first stop light past I-70. For more information, contact Bob Clarke at (970) 242-6067.

June 3-4.

Black Canyon of the Gunnison National Park Field Trip.

We will explore canyon and mesa flora keeping an eye out for *Thelypodopsis juniperorum*, a plant species that should be there, but wasn't known about when the county survey was done. The birding should be great, too; don't forget those binocs! Meet at the North Rim Ranger Station at 10 AM on Saturday. For more information, contact Jeanne Wenger at (970) 256-9227.

June 7, 6:30-9:00 PM or June 8, 1:00-3:00 PM and June 10 10:00 AM - 3:00 PM

Plant Identification Workshops and associated field trip

Two separate workshops, each limited to 12 participants, will be conducted in early June. There will be a \$19 fee that includes

the cost of Wingate's *Rocky Mountain Flower Finder* (\$12), as well as a donation (\$7) to the Plateau Chapter. On Wednesday, June 7, an indoor session will be held at Evelyn Horn's home from 6:30-9:00 PM. The second indoor session will be held on Thursday, June 8 from 1:00-3:00 PM. A joint field trip will be held on Saturday, June 10 from 10:00 AM-3:00 PM. For more information and to register, contact Evelyn Horn at (970) 835-8391.

June 10, 9:00 AM

Weed Pull at Ridgway State Park.

Come help us pull weeds, particularly annuals, in the vicinity of the visitor center nature trail. Meet at the center at 9:00 AM. And bring your gloves! For more information, contact Lori Brummer at (970) 641-3561 or lbrummer@gunnison.com.

July 22, 10:00 AM.

San Miguel Nature Conservancy Preserves Field Trip.

Mallory Dimmitt (The Nature Conservancy) will introduce us to two of the San Miguel County preserves and the mission of The Conservancy. Meet at County Park in Placerville. It is on the left, shortly after turning off the highway toward Telluride. For more information, contact Lori Brummer at (970) 641-3561 or lbrummer@gunnison.com.

August 12-13, 10:00 AM

Sphagnum Moss Identification Workshop

Location: Ouray
Dr. Richard Andrus, Botanist at Binghamton University (NY), will lead a two-day technical workshop in Ouray on identification of local sphagnum moss species. On Saturday we will be inside using microscopes, while on Sunday we will visit the Chattanooga fen. A donation of \$25 will be requested to help cover the cost of Dr. Andrus' travel. Space is limited. For registration, please contact Gay Austin at 970-641-6264 (h) or gaustin7@juno.com

Southwest Chapter

For Chapter news and activities, please contact Chapter President Sandy Friedley at (970) 884-9245.

FloraMap: A Computer Tool for Predicting the Distribution of Plants and Other Organisms

Scientists working to understand, protect, and use the earth's biodiversity now have a powerful electronic ally — *FloraMap* on CD-ROM. The program makes precise and detailed maps that eliminate much of the guesswork from the slow, expensive process of finding and recovering wild species.

The Need. Under the pressure of rapidly growing human populations and expanding economies, the earth's biodiversity is being eroded at an alarming rate. Among the threatened species are plants and beneficial insects that could hold the keys to food security, a safer environment, better medicines, and other necessities of life.

Recent international agreements provide at least a framework for safeguarding biodiversity. But to actually get the job done, researchers need reliable tools for key tasks, such as determining where wild species of interest can be found. And once found, can be conserved.

A Solution. *FloraMap*, the product of more than 20 years of research at CIAT, is one such tool. With its user-friendly software linked to agroclimatic and other databases, biodiversity specialists can create maps showing the most likely distribution of wild species in nature. Such maps are extremely valuable for tasks such as planning collection expeditions and deciding where to locate programs for *in situ* conservation.

Early versions of the program have been used successfully to guide plant collecting, to study the taxonomic and genetic variation of particular species, and to map the distribution of crop pests and their natural enemies. The pre-release version has been thoroughly evaluated by a select panel of genetic resources experts.

FloraMap can be used for virtually any species, almost anywhere in the tropics.

Users manual: *FloraMap* comes with a manual that explains how to get started, shows you how to use the program's various windows and icons, provides a tutorial on dealing with special problems, and presents the theory underlying the program.

Hardware and software requirements: CPU--486 DX, 66 Mhz or better (Pentium® recommended); 32 Mb RAM; at least 200 Mb of free space on the hard-disk drive; 15-inch monitor capable of displaying at least 256 colors and 1,024 by 768 pixels; Windows 95® or Windows NT®; and Color printer or plotter for maps and graphics (Postscript preferred)

To order: Contact the FloraMap Group

CIAT

Publications Distribution Office

Apartado Aéreo 6713

Cali, Colombia

Phone: (57-2) 445-0000 (direct) or (1-650) 833-6625 (via USA)

Fax: (57-2) 445-0073 (direct) or (1-650) 833-6626 (via USA)

E-mail: L.GARCIA-CIAT@cgiar.org

Price: US\$100. For discounts, training, and extensions to the software contact Peter Jones at p.jones@cgiar.org

Colorado Botanists: Thomas C. Porter Hilary Davis

Thomas Porter (1822-1901) was born in Pennsylvania. He attended Lafayette College and graduated at the age of eighteen. It was at this time that he began his botanical explorations in the Alleghenies near his home.

Porter continued his education at the Princeton Theological Seminary, graduating in 1844. Soon thereafter, he took a position as minister at a Presbyterian church in Monticello, Georgia. While in northern Georgia, he collected and explored Stone Mountain and Toccoa Falls, the notes and descriptions from which were sent to Asa Gray at Harvard.

In 1848, Porter became ordained and took a position at the Second German Church in Reading, Pennsylvania. One year later, he left his ministerial duties to teach chemistry, botany, and zoology at Marshall College in Mercersburg. While at Marshall College, Porter published his first botanical paper in 1850. The subject was a collection of plants made by T.A. Culbertson in Missouri. He continued his teaching at Marshall College (later Franklin and Marshall College) for the next seventeen years. In 1866, he left to teach botany and zoology at Lafayette College in Pennsylvania, where he remained until 1897. In addition to teaching, he served as pastor of the Third Street Reformed Church in Easton.

Porter made his first trip to Colorado in 1869. For five years he explored and collected in the central Rocky Mountains. During these trips, he and his field crew accompanied F.V. Hayden of the U.S. Geological and Geographical Survey of the Territories. As a result of these collections and valuable help from J.M. Coulter, Parry, and others, Porter and Coulter published *Synopsis of the Flora of Colorado*, the first flora of Colorado, in 1874. This book firmly established the range of many plant species throughout the Rocky Mountains. Newly discovered species described by Porter included: *Erigeron coulteri* and *E. glandulosum* (Asteraceae); *Astragalus brandegei* and *A. scopulorum* (Fabaceae); and *Penstemon brandegei* (Scrophulariaceae)

Many of Porter's personal collections were from the vicinity of Greeley, Colorado City, the canyons of the Front Range, and Denver, including Gilbert Meadows in the Unita Mountains. He also made excursions to South Park via Ute Pass, Twin Lakes, Monument Park, and Pikes Peak. Porter's collections included the type specimen for *Melica porteri* at Glen Eyrie. Other species first described by Porter now bear his name: *Aster porteri* (Asteraceae), re-named in honor of Porter by Asa Gray; *Calamagrostis porteri* (Poaceae), and *Muhlenbergia porteri* (Poaceae). Most of Porter's collections are housed in the Porter Herbarium of the Academy of Natural Sciences in Philadelphia.

Although he published his last written work at the age of seventy-eight, his lifelong wish to publish a flora of Pennsylvania was made possible by a provision in his will. In 1903, J.K. Small of the New York Botanical Garden produced the flora of Porter's home state.

Porter is said to have been a cautious and generous man, possessing wit, impatience, and a thorough knowledge of plant ecology. Among his favorite pastimes were German literature and poetry.

***Vicia americana*. Or is it?**

**William A. Weber, Professor and Curator Emeritus
University of Colorado at Boulder**

Some of us have noticed that, in April, a plant that has always been called *Vicia americana* Muhl. Ex Willd. (Fabaceae), blossoms abundantly on the plains and grasslands. A few individuals have brought specimens of this plant to me thinking that it is a species of *Lathyrus*. However, examination of the stigma reveals that it indeed belongs to the genus *Vicia*, but is it *V. americana*?

In contrast to *V. americana*, this plant has erect flowers — they look up at you. They are bi-colored, white and magenta; the magenta banner is broad, the sides not folded back upon themselves, as is typical of *V. americana*; the wings are almost white and spread widely horizontally, not appressed to the keel, as in *V. americana*; the stem is low and erect, not twining, with only poorly developed tendrils. *Vicia americana* rarely grows in the grasslands, certainly not in April; and when it begins to bloom in early May, it is usually as a weed, its main habitat in midsummer being aspen groves. I am convinced that the aforementioned is not *V. americana* — it is morphologically distinct, it is isolated both spatially and seasonally, and it does not intergrade. But what is it?

Nuttall collected this plant on the Great Plains and provided a clear description of it, calling it *Lathyrus linearis*. However, publication was left to Torrey and Gray in their *Flora of North America*, wherein they used Nuttall's description, but evidently ignored his characterization of the stigma, which made it clearly a *Vicia*. They also recognized *V. americana*.

Hooker saw this plant, as well, and was impressed by its low stature, calling it *V. americana* var. *minor* Hook. Although Greene corrected the generic position and called the plant *V. linearis*, subsequent authors have ignored the species and lumped it into what they have considered the "variable" *V. americana*. I suggest that we call this *Vicia linearis* (Nuttall ex Torrey & Gray) Greene.

***Trifolium dasyphyllum*: Alpine Clover East of Grover**

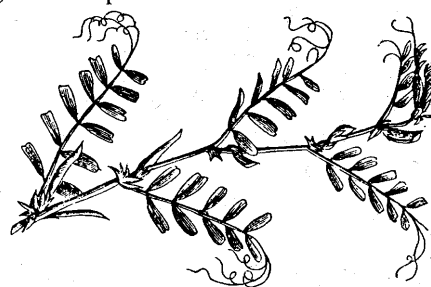
Donald L. Hazlett, Fort Collins Chapter

Duane Isley's recent book on the Fabaceae of the United States (1999) lists three varieties for *Trifolium dasyphyllum* Torrey & Gray (Fabaceae). The most distinct of these is *T. dasyphyllum* var. *anemophilum* (Greene) J. M. Gillett, the variety that was collected on June 4, 1999 in Weld County about seven miles east of Grover, Colorado (Hazlett, #10,924 CU). This plant was found near a large boulder on a north-facing cliff at 5,400 ft (1,650 m) elevation. This collection is the first report for this taxon in Colorado, prior to which it was known only from a 20 mile ellipse area of the Laramie Hills, Albany County, Wyoming at 7,050-7,550 ft (2,150-2,300 m) elevation. As such, the Colorado collection is 700 meters lower than in Wyoming and is the lowest elevation yet known for this variety and for this species.

Trifolium dasyphyllum var. *anemophilum* is distinguished from the typical variety by monochrome purple flowers and leaflets with a silvery pubescence of densely appressed hairs on the upper surfaces. In regard to the other two varieties of this species, the

best known is *T. dasyphyllum* var. *dasyphyllum*, the typical alpine clover with striking bicolored flowers; it occurs at 9,500-13,000 ft. (2,900-4,260 m) in the Rocky Mountains (MT, WY, CO, UT, AZ). The third (probably inconsequential variety) is *T. dasyphyllum* var. *unitense* (Rydb.) J.M. Gillett, a taxon that occurs in New Mexico, Utah, Montana, Colorado, and Wyoming. This third variety is separated by Isley, in part due to its monochrome colored, purple flower, but primarily due to its geographic isolation from the typical variety.

The occurrence of a disjunct population of alpine clover on the high plains of Colorado provides a clue to the kinds of plant species that may have been common in this region thousands of years ago. *Erigeron compositus* Pursh (Fern-leaf daisy, Asteraceae), a variable apomictic species, was also collected for the first time in Weld County on the same date and at the same general location (Hazlett 10907, CU) where alpine clover was discovered.



Oligosporous dracunculus

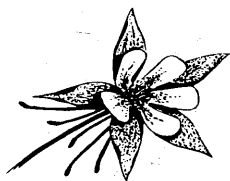
**William A. Weber, Professor and Curator Emeritus
University of Colorado at Boulder**

Oligosporous dracunculus (L.) Poljakov (Asteraceae), tarragon, is a common plant in Central Asia. It resembles very much our common Colorado species, but it is with a leap of faith, rather than reliance on any clear morphological distinctions, that I am treating the North American representatives as separate subspecies. Most local plants do not produce the true tarragon flavor.

In Colorado, *O. dracunculus* is apparently represented by two subspecific taxa. The more common one has stiffly ascending branches, and heads that are crowded in ascending spikes; this, I am calling *O. dracunculus* subsp. *glaucus* (Pallas) Löve & Löve. The other subspecies is *O. dracunculus* subsp. *dracunculinus* (Watson) Weber, a plant with very many spreading, slender branches with the heads not crowded, at least when mature. This subspecies was described by Watson from specimens in Chihuahua, as *Artemesia dracunculina*, of which we have an isotype in the COLO herbarium. It is abundant in northern Mexico, New Mexico, and Arizona, occurring abundantly in the San Luis Valley of Colorado and along the southern tier of counties from east to west. Scattered collections occur along the western tier of counties up into Moffat County.

This is a group that could stand more intensive field work; especially needed are specimens far enough along in their growth and development as to reveal their ultimate branching patterns at maturity. So-called "intergrades" frequently are immature specimens that, when mature, might not present problems in recognition. Evidently, *O. dracunculus* subsp. *dracunculinus* is also very widespread in the arid Great Basin and southern California, being replaced at high altitudes by *O. dracunculus* subsp. *glaucus*.

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

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

Please direct all contributions to the newsletter to:

Leo P. Bruederle
Biology, Campus Box 171
University of Colorado at Denver
P.O. Box 173364
Denver, CO 80217-3364

E-Mail: lbrueder@carbon.cudenver.edu

Short items such as unusual information about a plant, a little known botanical term, etc., are especially welcome. Previously published articles submitted for reprinting require permission. Camera-ready line art or other illustrations are also solicited.

Please include author's name and address, although anonymity may be requested. Articles submitted via e-mail or on disks (MAC preferably, or IBM) are appreciated. Please indicate word processing software and version.

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Gay Austin (00)	Gunnison	970-641-6264
Leo Bruederle (00)	Denver	303-556-3419
Jeff Dawson (00)	Denver	303-722-6758
Tina Jones (00)	Littleton	303-794-2647
Peggy Lyon (00)	Ridgway	970-626-3195
Susan Spackman (00)	Loveland	970-667-2865
Jill Handwerk (01)	Fort Collins	970-491-5857
Bill Jennings (01)	Louisville	303-666-8348
Andy Kratz (01)	Lakewood	303-914-8291
Eric Lane (01)	Lakewood	303-239-4182
Jun Wen (01)	Fort Collins	970-491-3528

Chapter Presidents

Boulder	Caryl Shields	303-665-6312
Fort Collins	Don Hazlett	970-834-1493
Metro-Denver	Denise Larson	303-733-4338
Plateau	Jeanne Wenger	970-256-9227
Southwest	Sandy Friedley	970-884-9245

Committees

Communications	Leo P. Bruederle	303-556-3419
and	Jeff Dawson	303-722-6758
Conservation	Bob Clarke	970-242-6067
Education	Rob Reinsvold	970-351-2716
and	Tina Jones	303-794-2647
Field Trips	Rick Brune	303-238-5078
Field Studies	Loraine Yeatts	303-279-3427
Horticulture and		
Restoration	Lisa Tasker	303-447-9431
Legislative Affairs	VACANT	
Membership	Myrna Steinkamp	
and	Sue Martin	970-226-3371
Publications	Rick Brune	303-238-5078
and	Velma Richards	303-794-5432
Publicity	VACANT	
Rare Plant	Eleanor	
Monograph	Von Bargaen	303-756-1400
Workshops	Bill Jennings	303-666-8348

MEMBERSHIP APPLICATION FORM

Name(s) _____

Address _____

(Address) _____

City _____ State _____ Zip _____

Phone () _____ E-mail _____

Chapter: _____ Boulder _____ Fort Collins _____ Metro Denver _____ Plateau _____ Southwest _____

MEMBERSHIP CLASS (Select one)

- ☐ Individual, \$12.00
- ☐ Family/dual, \$15.00
- ☐ Senior/retired, \$8.00
- ☐ Student, \$8.00
- ☐ Corporate, \$30.00
- ☐ Supporting, \$50.00

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

Enclosing an additional \$2.00 will help to defray the cost to the Society of First Class Mailing.

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

CALENDAR

CHAPTER MEETINGS AND EVENTS

Boulder Chapter	
March 9	Floods and Forests on the Colorado Plains
April 13	<i>Astragalus osterhoutii</i>
May 11	Annual Picnic and Hike
Fort Collins Chapter	
March 7	Global Climate Change and the Shortgrass Steppe
April 4	An Overview of Eritrean Culture
Metro-Denver Chapter	
March 28	To be announced
Plateau Chapter	
March 11	Keying in the Asteraceae
March 25	Botanical Exploration in the Rockies, plus the Caryophyllaceae
April 29-30	Burro Point - McElmo Canyon Field Trip

June 3-4	Black Canyon of the Gunnison National Park Field Trip
June 7 or 8, 10	Plant Identification Workshops and Field Trip
June 10	Wed Pull at Ridgeway State Park
July 22	San Miguel Nature Conservancy Preserves Field Trip
August 12-13	Sphagnum Moss Identification Workshop

SOCIETY EVENTS

March 3, 18, 19	Workshop: Colorado Ferns
April 1	CoNPS Board Meeting
April 8, 9	Workshop: The Caryophyllaceae
April 29, 30	Workshop: Wildflower Photography
May 20-21	Statewide Field Trip and CoNPS Board Meeting
Meetings	
April 1	CoNPS Board Meeting
May 20-21	CoNPS Board Meeting and Field Trip



Colorado Native Plant Society
P.O. Box 200
Fort Collins, Colorado 80522
<http://carbon.cudenver.edu/~shill/conps.html>

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