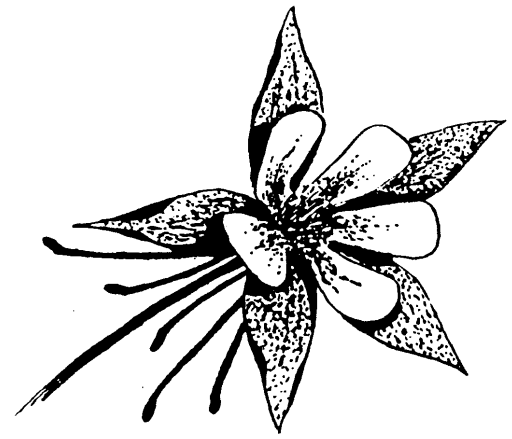


Aquilegia



Newsletter of the Colorado Native Plant Society

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

Volume 17 Number 1

January/February/March 1993

Colorado Natural Areas Program Update

Your cards, letters, and calls to the Joint Budget Committee (JBC) on behalf of the Colorado Natural Areas Program have made an impact! In response to public pressure, the JBC restored the \$91,000 Natural Areas General Fund request in its final budget recommendation to the state legislature.

That's the good news. The bad news is that only .5 of the existing 2.5 Full Time Equivalent (FTE) staff positions was restored. In other words, the Natural Areas Program got its money back, but two staff positions were eliminated. It's unclear just how this illogical move will affect the Program and its activities in the 1993-94 fiscal year.

At press time (March 22), the budget is being reviewed in the majority (Republican) caucus. From there, it goes straight to a floor vote, and then back to the JBC, which serves as a conference committee to reconcile the House and Senate versions. This process does not allow for review by Democratic legislators prior to the floor vote. Calls or letters to your representatives, especially if they are Republican, can still be helpful (House Majority Office→866-2932 and Senate Majority Office→866-4866). Letters can be sent to: State Capitol Building, 200 E. Colfax Ave., Denver, CO 80203.

You can best support the Colorado Natural Areas Program now by:

1. Write a letter to:
Laurie Mathews, Director
Colorado Division of Parks and
Outdoor Recreation
1313 Sherman Street, Room 618
Denver, CO 80203.

Thank her for her commitment to the Natural Areas Program. Laurie has supported the Program strongly throughout this ordeal and is committed to finding a workable solution to the remaining staffing problems.

2. Write a letter to the Joint Budget Committee members:
Sen. Mike Bird, Chair (R--El Paso Co)
Sen. James Rizzuto (D--SE Colorado)
Sen. Claire Traylor (R--Jefferson Co)
Rep. Tony Grampas (R--Jefferson Co)
Rep. David Owen (R--Weld Co)
Rep. Gil Romero (D--Pueblo Co)

c/o State Capitol Building
200 E. Colfax Ave.
Denver, CO 80203

Thank them for restoring the Natural Areas Program General Fund budget. Be sure to ask how the Program will function without the two FTEs that were eliminated.

Additional points you may want to include:

1. The people of Colorado voted overwhelmingly in support of open space and natural areas in the November election.
2. The Natural Areas Program is the only state agency that strives to protect native plants and plant communities in Colorado through voluntary management agreements.
3. The program was unanimously reauthorized by the legislature in 1988.



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IS THIS YOUR LAST ISSUE OF AQUILEGIA?

If you haven't paid your 1993 dues, this is the last newsletter you will receive. Don't miss out on all the exciting field trips and other interesting and informative CONPS activities!

Dues notices were sent out in late November. Please remember that dues cover a calendar year, except that new members who join in the second half of a year are credited for the following year's dues, as well. Your mailing label on this newsletter shows the year THROUGH which you are paid—i.e., PAID THRU 92 means you should remit your dues for 1993!! (However, if you have sent your payment within the past few weeks, please note that the label could be incorrect due to the lead-time required for the newsletter.)

Membership Committee Chair, Myrna Steinkamp, also notes that the post office will not forward bulk mail, so if you move and want to continue to receive Society mailings, it is essential to notify the Society (P.O. Box 200, Ft. Collins, CO 80522-0200).

An important reminder...

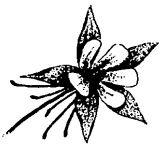
The Post Office now requires us to use 9-digit ZIP codes. Please help us by providing your complete, 9-digit ZIP code on your renewal form. If you do not know your 4-digit ZIP suffix, please contact your local post office (or ask your mail delivery person).



Cirsium scopulorum
Artist: Janet Wingate



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

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.

Newsletter Contributions

Please direct all contributions to the newsletter to:

Tamara Naumann
940 Quinn Street
Boulder, CO 80303

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	Carol Dawson	722-6758
Vice-President	Tamara Naumann	440-8933
Secretary	Mark Gershman	443-9365
Treasurer	Myma Steinkamp	226-3371

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Bill Jennings (93)	Louisville	666-8348
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Beth Painter (93)	Fort Collins	
Tom Ranker (94)	Boulder	492-5074
Velma Richards (94)	Englewood	794-5432
Nina Williams (94)	Gold Hill	443-8079

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Denver-Metro	Ron Abbott	333-6151
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Yamparka	Reed Kelley	878-4666
San Juan	Peggy Lyon	626-5526

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Conservation	Sally White	697-5439
Editorial	Tamara Naumann	440-8933
Education	Gary Finstad	791-3790
Field Trips	Jeff Dawson	722-6758
Field Studies	Mary Edwards	233-8133
Hort/Restoration	Dorothy Udall	482-9826
Membership	Myma Steinkamp	226-3371
Publicity	Julia Carlson	752-2738
Workshops	Bill Jennings	666-8348

ANNOUNCEMENTS

VOLUNTEER OPPORTUNITY NATIVE PLANT LANDSCAPING PROJECT

The City of Boulder's Open Space Department will be landscaping its new Operations Center this spring and summer with locally obtained native plant materials. The Center will showcase various local plant communities, and demonstrate how to obtain and use native plants in gardens and landscapes.

Volunteers are needed to help design, establish and maintain the native gardens. Tasks will include research, planning, seed and propagule collection, propagation, transplanting, weeding, salvaging native plants from construction areas, and developing interpretive materials. If sufficient interest exists, this volunteer group could evolve into a Regional Native Plant Task Force! The Fort Collins Chapter is already very active in this area. How about the Boulder Chapter?

Don't miss this opportunity to help build an educational native plant garden that we hope will encourage others to appreciate native plants and to think seriously about using native plant materials in their own gardens and landscapes! For more information, or to set up an interview, contact Susan Ross at 441-4431.

NATIVE PLANT SEED EXCHANGE

If you are interested in receiving a list of native plant seeds that are available for exchange, or if you are interested in collecting seeds for exchange, contact:

Craig Alseike
3256 Salem Street
Aurora, Colorado 80011
(303) 366-0587.



VOLUNTEERS NEEDED

The Colorado Aquarium Society is planning to build a major regional aquarium near 104th Avenue and U.S. 36 (Denver-Boulder Turnpike) in Westminster. The facility will be one of the largest freshwater aquariums in the country, featuring simulated mountain streams, slow moving rivers, and other regional freshwater habitats, along with their inhabitants. Project proponents expect the aquarium to attract as many as one million visitors per year. Educational, research, and volunteer programs will be offered to complement programs offered by the Denver Museum of Natural History and the Denver Zoo.

Volunteers are needed to help plan, design, install, and care for a native plant landscape on the aquarium grounds. Creek and wetland restoration and enhancement projects are planned for Big Dry Creek, which is adjacent to the proposed facility. Project planners are also soliciting volunteer help in planning live botanical exhibits representing plants of the Rocky Mountain and other north temperate and arctic aquatic and related environments. Ground-breaking may occur as early as next summer, with completion by 1996.

If you are interested in contributing your enthusiasm and/or expertise to this exciting project, contact Carol Dawson (303) 722-6758.

Aquilegia

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100% recycled paper



Oxytropis lambertii
Artist: Ann Cooper



NURSERY INTERN OPPORTUNITY

Small organic nursery seeks Intern beginning spring, 1993, and continuing through fall. All aspects of small native plant nursery operations - sales, plant production, record-keeping. Beautiful farm near Boulder, Colorado. Housing plus small stipend. Write or call: Bob Howard, Hedgerow Farms, 8328 Valmont, Boulder, CO 80301. (303) 666-0253.

Natural Heritage Program Seeks Information For Plant Rarity Ranking

The Colorado Natural Heritage Program is attempting to assemble information concerning the state rarity ranks of the plants listed below. We are hoping that the botanists in the state may be able to supply additional information that we presently don't have. If you have any information or recommendations concerning the species listed below, or if you know of someone who does, please phone or write to me at the address below. Consider the following components: the number of known populations, the number of individuals in the total population, the extent of the range of the species in the state, the population trend (stable, declining, etc.), protected populations and degree of protection, and threats to the populations. We hope this can help us to prioritize our time and resources in order to best protect the rare plants of Colorado.

Steve Kettler - Ecologist/Botanist
Colorado Natural Heritage Program
c/o Univ. of Colorado Museum
Hunter 115, Campus Box 315
Boulder, CO 80309-0315
(303) 492-4637

<i>ACORUS CALAMUS</i>	SWEET FLAG	<i>DRABA GRAYANA</i>	GRAY'S PEAK WHITLOW-GRASS
<i>ADIANTUM CAPILLUS-VENERIS</i>	SOUTHERN MAIDEN-HAIR	<i>DRABA JUNIPERINA</i>	WOODS DRABA
<i>ADIANTUM PEDATUM</i>	NORTHERN MAIDEN-HAIR	<i>DRABA MACOUNII</i>	MACOUN DRABA
<i>AGASTACHE FOENICULUM</i>	LAVENDER HYSSOP	<i>DRABA SMITHII</i>	SMITH WHITLOW-GRASS
<i>ALETES MACDOUGALII</i> ssp. <i>BREVIRADIATUS</i>	MESA VERDE ALETES	<i>DRABA STREPTOBRACHIA</i>	COLORADO DIVIDE WHITLOW-GRASS
<i>ANEMONE RIPARIA</i>	WHITE-FLOWERED ANEMONE	<i>DRABA VENTOSA</i>	TUNDRA DRABA
<i>ARISTIDA BASIRAMEA</i>	FORKTIP THREE-AWN	<i>ERIGERON PHILADELPHICUS</i>	PHILADELPHIA FLEABANE
<i>ASPLENIUM PLATYNEURON</i>	EBONY SPLEENWORT	<i>ERIGERON WILKENII</i>	WILKEN FLEABANE
<i>ASPLENIUM RESILIENS</i>	BLACK-STEMMED SPLEENWORT	<i>ERIOGONUM LEPTOCLADON</i> var. <i>LEPTOCLADON</i>	SAND BUCKWHEAT
<i>ASPLENIUM TRICHOMANES</i> - <i>RAMOSUM</i>	GREEN SPLEENWORT	<i>ERIOGONUM LEPTOCLADON</i> var. <i>RAMOSISSIMUM</i>	EASTWOOD SAND BUCKWHEAT
<i>ASTRAGALUS ANISUS</i>	GUNNISON MILKVETCH	<i>ERIOPHORUM GRACILE</i>	SLENDER COTTON GRASS
<i>ASTRAGALUS BODINII</i>	BODIN MILKVETCH	<i>ERIOPHORUM RUSSEOLUM</i>	RUSSET COTTON GRASS
<i>ASTRAGALUS PISCATOR</i>	FISHER TOWERS MILKVETCH	<i>HABENARIA ZOTHECINA</i>	ALCOVE BOG ORCHID
<i>ASTRAGALUS RAFAELENSIS</i>	SAN RAFAEL MILKVETCH	<i>HACKELLA GRACILENTA</i>	MESA VERDE STICKSEED
<i>BOTRYCHIUM CAMPESTRE</i>	PRAIRIE MOONWORT	<i>HAPLOPAPPUS FREMONTII</i> ssp. <i>MONOCEPHALUS</i>	SINGLE-HEAD GOLDENWEED
<i>BOTRYCHIUM MULTIFIDUM</i> ssp. <i>COULTERI</i>	LEATHERY GRAPE FERN	<i>IPOMOPSIS AGGREGATA</i> ssp. <i>WEBERI</i>	RABBIT EARS GILIA
<i>BOTRYCHIUM PALLIDUM</i>	PALE MOONWORT	<i>ISOETES ECHINOSPORA</i> ssp. <i>MURICATA</i>	SPINY-SPORED QUILLWORT
<i>BOTRYCHIUM PINNATUM</i>	NORTHERN MOONWORT	<i>JUNCUS BRACHYCEPHALUS</i>	SMALL-HEADED RUSH
<i>BOTRYCHIUM SIMPLEX</i>	LEAST MOONWORT	<i>JUNCUS BREVICAUDATUS</i>	NARROW-PANICLED RUSH
<i>BOTRYCHIUM VIRGINIANUM</i>	RATTLESNAKE FERN	<i>JUNCUS BRYOIDES</i>	MINUTE RUSH
<i>BRAYA GLABELLA</i>	ARCTIC BRAYA	<i>JUNCUS TWEEDI</i>	TWEEDY RUSH
<i>BUPLEURUM AMERICANUM</i>	THOROUGHWAX	<i>LESQUERELLA CONDENSATA</i>	GAY-FEATHER
<i>CAREX CONCINNA</i>	LOW NORTHERN SEDGE	<i>LIATRIS LIGULISTYLIS</i>	WASATCH BISCUITROOT
<i>CAREX CRAWEI</i>	CRAWE SEDGE	<i>LOMATIUM BICOLOR</i> var. <i>BICOLOR</i>	OREGON BISCUITROOT
<i>CAREX LEPTALEA</i>	BRISTLE-STALK SEDGE	<i>LOMATIUM BICOLOR</i> var. <i>LEPTOCARPUM</i>	
<i>CAREX LIVIDA</i>	LIVID SEDGE	<i>LYCOPODIUM DUBIUM</i>	STIFF CLUBMOSS
<i>CAREX PECKII</i>	PECK SEDGE	<i>LYSIMACHIA THYRSIFLORA</i>	TUFTED LOOSESTRIFE
<i>CAREX SAXIMONTANA</i>	ROCKY MOUNTAIN SEDGE	<i>MENTZELIA CHRYSANTHA</i>	STICKLEAF
<i>CAREX SCIRPOIDEA</i>	CANADIAN SINGLE-SPIKE SEDGE	<i>OENOTHERA HARRINGTONII</i>	ARKANSAS VALLEY EVENING PRIMROSE
<i>CAREX SYCHNOCEPHALA</i>	MANY-HEADED SEDGE	<i>OXYBAPHUS DECUMBENS</i>	GREAT PLAINS FOUR-O'CLOCK
<i>CAREX TENUIFLORA</i>	SLENDER-FLOWER SEDGE	<i>OXYTROPIS PARRYI</i>	PARRY OXYTROPE
<i>CAREX TORREYI</i>	TORREY SEDGE	<i>PACKERA PAUCIFLORA</i>	FEW-FLOWERED RAGWORT
<i>CAREX VIRIDULA</i>	GREEN SEDGE	<i>PEDIOMELUM AROMATICUM</i>	PARADOX BREADROOT
<i>CEANOETHUS MARTINII</i>	UTAH MOUNTAIN LILAC	<i>PEDIOMELUM MEGALANTHUM</i>	LARGE-FLOWERED BREADROOT
<i>CENTUNCULUS MINIMUS</i>	CHAFFWEED	<i>PELLAEA ATROPURPUREA</i>	PURPLE CLIFF-BRAKE
<i>CHENOPODIUM CYCLOIDES</i>	SANDHILL GOOSEFOOT	<i>PELLAEA BREWERI</i>	BREWER'S CLIFF-BRAKE
<i>CORYDALIS CASEANA</i> ssp. <i>BRANDEGEI</i>	SIERRA CORYDALIS	<i>PELLAEA GLABELLA</i>	SMOOTH CLIFF-BRAKE
<i>CRYPTOGRAMMA STELLERI</i>	SLENDER ROCK-BRAKE	<i>PELLAEA WRIGHTIANA</i>	WRIGHT'S CLIFF-BRAKE
<i>CYMOPTERUS HUMILIS</i>	PIKES PEAK SPRING PARSLEY	<i>PENSTEMON BREVICULUS</i>	LITTLE PENSTEMON
<i>DRABA EXUNGUICULATA</i>	CLAWLESS DRABA	<i>PENSTEMON CYATHOPHORUS</i>	MIDDLE PARK PENSTEMON
<i>DRABA FLADNIZENSIS</i>	ARCTIC DRABA	<i>PENSTEMON LENTUS</i>	ABAJO PENSTEMON
<i>DRABA GRAMINEA</i>	SAN JUAN WHITLOW-GRASS	<i>PENSTEMON SCARIOSUS</i>	PLATEAU PENSTEMON
		<i>PLATANATHERA SPARSIFLORA</i> var. <i>ENSIFOLIA</i>	CANYON BOG-ORCHID
		<i>POLYSTICHUM SCOPULINUM</i>	CRAG HOLLY FERN
		<i>POTENTILLA AMBIGENS</i>	SOUTHERN ROCKY MOUNTAIN CINQUEFOIL
		<i>POTENTILLA PALUSTRIS</i>	MARSH CINQUEFOIL
		<i>POTENTILLA RUPINCOLA</i>	ROCKY MOUNTAIN CINQUEFOIL
		<i>RODALIA RAMOSIOR</i>	TOOTH CUP
		<i>SALIX MYRTILLIFOLIA</i>	LOW BLUEBERRY WILLOW
		<i>SAXIFRAGA FOLIOLOSA</i>	LEAFY SAXIFRAGE
		<i>SELAGINELLA SELAGINOIDES</i>	NORTHERN SPIKE-MOSS
		<i>SOLIDAGO PTARMICOIDES</i>	PRAIRIE GOLDENROD
		<i>STELLARIA IRRIGUA</i>	ALTAI CHICKWEED
		<i>THAMNOSMA TEXANA</i>	DUTCHMAN'S BREECHES
		<i>THELLUNGIELLA SALSUGINEA</i>	SALT-LICK MUSTARD
		<i>TOWNSENDIA STRIGOSA</i>	STRIGOSE EASTER-DAISY
		<i>VIOLA PEDATIFIDA</i>	PRAIRIE VIOLET
		<i>VIOLA SELKIRKII</i>	SELKIRK VIOLET
		<i>WOODSIA PLUMMERAE</i>	PLUMMER'S CLIFF FERN
		<i>ZIGADENUS VAGINATUS</i>	ALCOVE DEATH CAMAS

SOMETIMES, IT'S NOT NICE TO SHARE

Mark Gershman Wetlands & Wildlife Coordinator City of Boulder

What else has mid-winter to offer the plant lover than forced bulbs and indoor plants? Well, there are seed and plant catalogs--none more lavishly illustrated than White Flower Farm's spring garden book. Beautifully composed photographs showing fields of lilies and lupines reveal an appreciation for the beauty of plants. However the following passage, when brought to my attention, made me wonder if native ecosystems were held in as high regard as the garden.

A native species, Lythrum salicaria is widely established.

... some states have embarked on eradication programs and prohibit the sale of Lythrum [purple loosestrife]. We entirely respect these efforts but are persuaded that the vast populations of wild plants already in place will almost certainly overwhelm any local efforts aimed at control. These circumstances are not, in our view, occasion for excluding Lythrum from all gardens.

The description continues to advise deadheading (removing old flowering stalks) because they can and will interbreed with local populations.

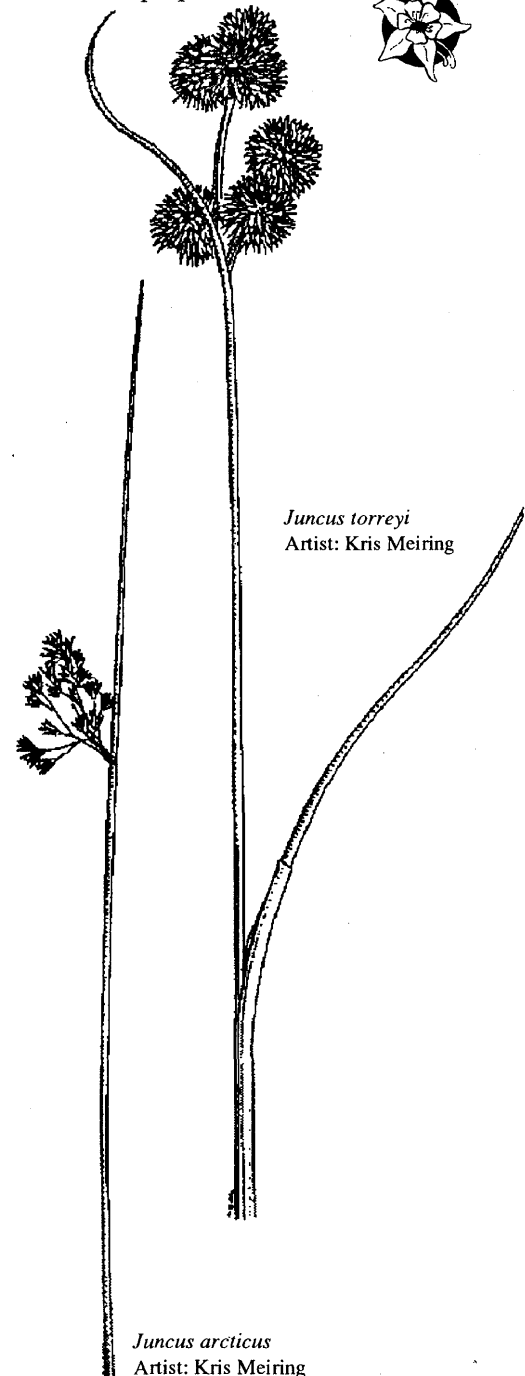
This seems to suggest that White Flower Farm does not see a role for itself in the control of noxious exotics. I called the farm to ask if they were aware 1) that *Lythrum salicaria* is *not* a native species as the description stated, and 2) of the status of purple loosestrife in Colorado. Mr. Frowline, a horticulturist, indicated that the company felt customers should have access to any plants suitable for cultivation in accordance with the law. He was unaware of the situation in Colorado and was interested in hearing more. He suggested that I write a letter to the company so that they could consider new information. I in turn would like to suggest that members of the Society write to Mr. Steve Frowline (White Flower Farm, Litchfield, CT, 06759-0050). The

following points could be made:

- Purple loosestrife is an invasive perennial introduced as an ornamental plant.
- It has taken over vast areas of wetlands throughout the northeast and Great Lakes states, prompting several state governments to declare it a noxious weed (the catalog indicates that it may not be sent to AR, CA, MN, or WI).
- Many efforts to control loosestrife in those areas of the country began after the plant was well established, and cost the taxpayers several *millions* of dollars each year. The costs also include the destruction of thousands of acres of wetlands important as habitat for native plant and animal species. (See *Aquilegia* Vol. 16 no. 1 for more information.)
- In Colorado, loosestrife populations are still relatively restricted and most occur along the Front Range and near Grand Junction. The proximity of these populations to urban areas suggests that they have escaped from cultivation. Effective control is much more likely to occur in Colorado than in the northeast, but the introduction of new plants makes such control all the more difficult.
- In response to the threat posed by purple loosestrife, the state of Colorado has declared purple loosestrife seeds noxious, and Boulder County has declared it a noxious weed. No law, however, prohibits sale of the plants themselves.
- Purple loosestrife plants are capable of producing up to 3 million seeds **per plant**. So-called sterile plants producing even 1% of this potential could result in significant infestations.
- Although "sterile," the plants sold by White Flower Farm (and others) still produce pollen. That pollen helps to fertilize the local established populations, potentially increasing their vigor and seed production.

→ Thus, the sale of purple loosestrife represents a serious threat to wetland habitat and the native flora of Colorado.

Members of the Colorado Native Plant Society can have an impact upon the sale of purple loosestrife by giving retailers information about the adverse effects that this plant can have. I encourage members to contact White Flower Farm and any other retailers of purple loosestrife.



Juncus torreyi
Artist: Kris Meiring

Juncus arcticus
Artist: Kris Meiring

WORKSHOPS - SPRING 1993

The Colorado Native Plant Society workshop series was established in 1985 to provide members with winter-time activities when field trips are impossible. CONPS members have attended more than 100 workshops over the years. Workshops bring native plant lovers together with a well-informed instructor who may have photographs, herbarium specimens, live plants, or other materials 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. The goal is to demystify plant identification and to enhance in all of us our enjoyment and understanding of Colorado's native flora.

Please mail your registration to Bill Jennings, P.O. Box 952, Louisville, CO 80027. Indicate the workshops for which you would like to register, and include your name, address, and telephone number. Phone registrations will also be accepted (666-8348). Register promptly, as workshops tend to fill up quickly. The fee for each full-day workshop is \$10 for CONPS members and \$22 for non-members (\$10 for the workshop and \$12 to join the Society). Payment is made on the day of the workshop. About two weeks prior to the workshop, registrants will receive information by mail about location, time, lunch, and suggested references or materials to bring to the workshop.

It takes considerable time and effort for the instructors to plan and develop workshops and field trips. Please let us know how you like the activities offered by CONPS. We need your suggestions for future workshops and trips. We also appreciate feedback on whether you find them informative and exciting or dull and uninteresting. We'd like your opinion on how well we are serving you, our membership.



ADOPT-A-RARE-PLANT PROGRAM

Leaders: Chris Pague, Bill Jennings, and Betsy Neely
Location: Lookout Mountain Nature Center near Golden
Saturday, April 17, 1993

The Nature Conservancy, Colorado Nature Heritage Program, and the Colorado Native Plant Society are developing a volunteer-based "Adopt-a-Rare-Plant" program to assist in maintaining and updating the Heritage Program's rare plant database, and to provide data for The Nature Conservancy's project selection process. At this training session, participants will see photographs and specimens of some of Colorado's rarest plants. Techniques such as herbarium use, appropriate collection of specimens, photography, mapping, habitat description, and field data collection will be highlighted. After lunch, we will visit a site in Wheatridge where *Spiranthes diluvialis* (a federally protected orchid species) has been found. Even if you do not plan to "adopt" a plant, you will find this workshop interesting and informative. Searching for rare plants is the world's most frustrating occupation. The proverbial search for a needle in a haystack is sometimes simple by comparison. Find out what you need in your information arsenal before venturing into the wilderness.

Bill Jennings to Retire as Workshop Committee Chair!

It's going to be a hard act to follow, but the Colorado Native Plant Society is going to have to find a new workshop committee chair. After planning and coordinating 100 workshops, Bill Jennings, who IS the workshop committee, announced his retirement at the CONPS board meeting on March 13th. We all agree that Bill has done a truly outstanding job building the CONPS workshop program. We have all had many opportunities to enhance our understanding and appreciation of Colorado's native flora thanks to Bill's hard work and dedication. Many thanks, Bill, for a job well done!

Now...all of the work of the Society gets done by volunteer members. If you have some good organizational and planning skills, how about putting them to work as the new workshop committee chair? It's a great program--one we'd all like to see continue. If you think you'd like to take on the challenge, contact CONPS president, Carol Dawson (303-722-6758) or Bill Jennings (303-666-8348). Go for it!



DENDROCHRONOLOGY

Leader: Eric Schwab
Location: Chatfield Arboretum
Saturday, May 8, 1993

Dendrochronology is the science of tree-ring dating. When a tree is old enough, the pattern of growth rings can provide information about pre-settlement environments. Dendrochronologists can determine not only the age of the tree, but can also illuminate some of the stresses a tree has faced (fire, insects, crowding, and drought, for example). Tree ring data are used in studies of forest ecology and paleoclimatology. In the classroom, during the morning, Eric Schwab will present the methods and uses of dendrochronology. After lunch, we will take some tree cores and see what we can deduce. Don't miss this unique workshop.

FIELD TRIPS - 1993

SPLIT MOUNTAIN - DINOSAUR NATIONAL MONUMENT

Leader: Lynn Riedel

Meeting Location: Green River Campground, Dinosaur National Monument, Utah

Saturday & Sunday, May 1 & 2, 1993

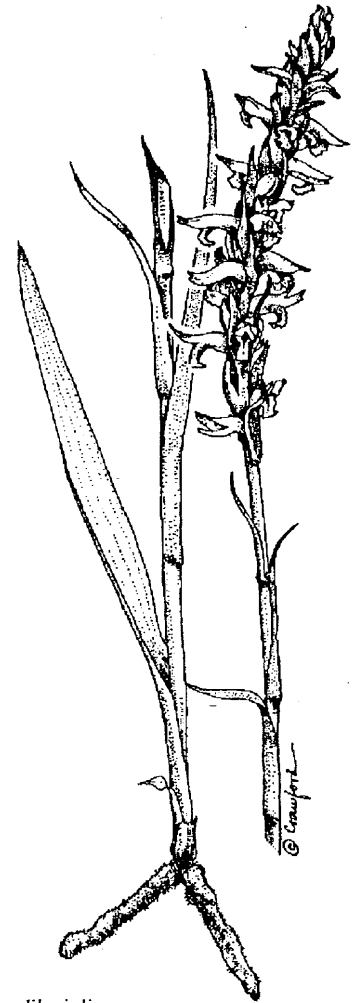
This trip will focus on rare and endemic plants of northeastern Utah and northwestern Colorado. Many of the more common high desert plants will be in flower, as well! Participants will enjoy spectacular scenery along with some exciting botanizing. Lynn Riedel has conducted botanical studies for several seasons at Dinosaur National Monument. Recent tasks include implementation of a long-term monitoring program for rare plants, including *Spiranthes diluvialis*.

Meet at the Green River Campground (northeast of Jensen, UT) on Friday evening (April 30th) to camp with other participants, or join us at the campground by 9:00 a.m. on Saturday. The trip will conclude mid-day on Sunday.

The drive from Denver to the Utah side of Dinosaur National Monument takes about 8 hours. Drive west from Denver on I-70 to Silverthorne. Turn north on Hwy 9 to Kremmling. Turn west on Hwy 40 in Kremmling, and follow Hwy 40 through Steamboat, Craig, and Dinosaur, Colorado, and then to Jensen, Utah. If you get hungry along the way, there is a terrific bakery/pizza place one block north of the intersection of Hwys 9 and 40 in Kremmling. Turn north at Jensen, Utah, onto Route 149 and follow the signs to the monument entrance (approximately 7 miles from Jensen). Continue past the entrance station 4 miles to the Green River campground.

A group campsite will be reserved for Friday and Saturday nights. Individual campsites should also be available. Motel accommodations (Best Western, etc.) are available in Craig, Colorado, and in Vernal, Utah.

Bring camping equipment, food, water containers, sun screen, rain gear, and clothing for warm and cold weather. Water will be available at the campground. We will walk along several short trails. Hiking conditions range from easy to moderately difficult. The longest distance covered on a walk will be a 2-mile loop. All walks will be within about 5 miles of the campground. Roads are paved or have a well-graded surface.



Spiranthes diluvialis
Artist: Carolyn Crawford

To register, call Jeff Dawson [722-6758 (h) or 740-2793 (o)]. Trip limit is 25 persons.

PAWNEE NATIONAL GRASSLANDS

Leaders: Jim Borland and Rick Brune

Meeting Location: To be announced

Saturday & Sunday, June 5 & 6, 1993

We will first visit a clay-barrens plant community to see an unusual landscape dotted with pulvinate (bowling ball shaped) plants. From there, a one-mile walk will take us to an area where we will glimpse alpine feverfew (*Bolophyta alpina*). Mountain plover, a bird species on the candidate list for possible threatened or endangered status, is also found in this area. Later, we will explore

wildflower-laden ridges and arroyos along Willow Creek. Your knowledge from Lorraine Yeatts' *Astragalus* workshop can be put to use here! Willow Creek is also home to one of Colorado's most colorful fish, the plains topminnow, and some snapping turtles.

We will camp Saturday night, possibly at a remote location. On Sunday, we will visit Pawnee Buttes, "lucky ferns," and a buffalo wallow. Further details, including meeting place and time, a map, and instructions will be provided to trip registrants.

To register, call Jim (922-4716) or Rick (238-5078) before May 17. After May 17, call Jeff Dawson (722-6758). Trip limit is 20.

FIELD NOTES

A DIFFERENT KIND OF WINTER BOTANY

Carolyn Crawford

I have been involved with the Adopt-A-Rare-Plant project for the last three years, studying *Smilax lasioneuron* Hooker (carrion flower or greenbrier), a vining species related to the lilies. The species has carried a status of G?S2 with the Colorado Natural Heritage Program for a number of years, meaning that over the entire range (G for global) its status is not clear (?), but in Colorado (S for state) there are fewer than 20 known populations (1 = most rare).

Smilax lasioneuron is a dioecious species (separate male and female plants) which dies back each fall and restarts new vines from ground level each spring. Our species is woody enough that the dead vines persist in the winter, often with the bluish-black fruit still on them. The pale burnt-sienna-colored leaves (after frost) do not fall but remain on the vines, leaving them quite conspicuous in the Gambel oak, hawthorn, and chokecherry thickets, which by late fall are usually defoliated. *Smilax* does put up considerable growth starting in May, but by then the oak and hawthorn thickets are so dense with foliage that the *Smilax* is almost impossible to see, even up close.

Since the 26th of December of last year, I have discovered five undocumented sites, four of which are new state records. The fifth site, in Castlewood Canyon, was discovered by Ron Abbott and Jeff Uhlich, although specimens have not yet been deposited in a herbarium. I found this population independently on December 26.

I found additional populations in Jarre Canyon (Douglas County) and in Deer Creek Canyon (Jefferson County) on December 27. I had expected to find plants at both sites, but was unable to see them during the summer. I have been back to these sites more recently and the Jarre Canyon site is a large vigorous population--several hundred plants quite visible from a vehicle at 20 to 30 MPH!

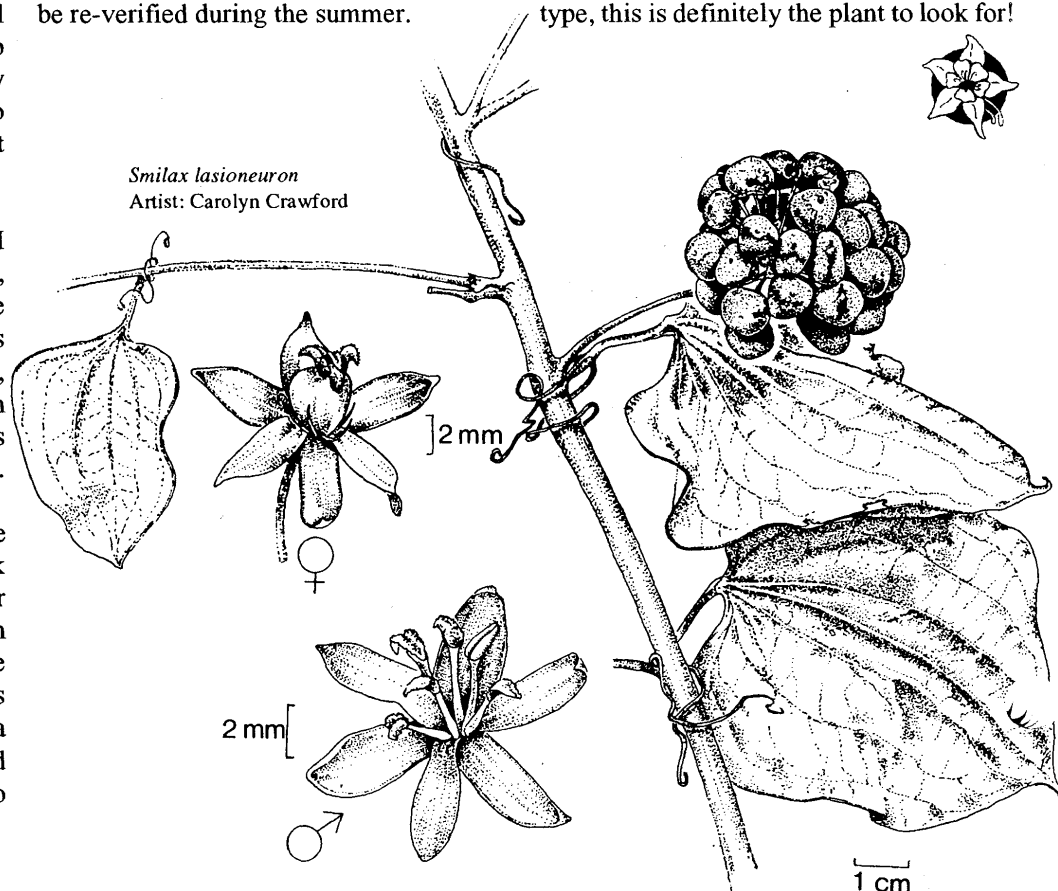
Then, as luck would have it, I found another population on March 8, 1993, on the Daniels Park Road in Douglas County, in another area that had appeared, in a warmer season, to be promising habitat.

Two days later, after leaving the herbarium at Colorado State University in Fort Collins, I was feeling serendipitous. Heading west out of Fort Collins, I thought I'd see if I could find a Larimer County site. *Smilax* hasn't been collected in that county in 65 years. About 2 1/2 miles up Rist Canyon from Bellvue, I easily found my most recent population. Only a few plants were found, but these were obvious from the road.

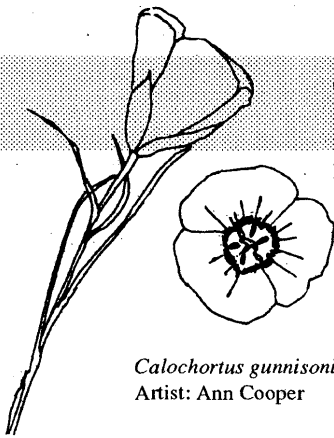
One usually does not think of making voucher specimens in the middle of winter, but I will be doing just that. The dried leaves, stem, and fruits will be pressed in their wintertime condition and the sites will be re-verified during the summer.

For those interested in joining the search, *Smilax* has also been found in the Boulder area, in Coal Creek Canyon, on Lookout Mountain, in Roxborough State Park, near Elbert in the Black Forest, near Palmer Lake, on the U.S. Air Force Academy grounds, and in Cheyenne Canyon near Colorado Springs.

Outside of Colorado, *Smilax lasioneuron* is widespread in the upper Midwest and southern Canada, reaching south on the west side of the plains into Colorado. In Wyoming, it is known from Laramie, Converse, Sheridan, and Crook Counties. The species cannot tolerate the driest parts of the Great Plains. Along the Colorado Front Range, the plant can be found at the mouth of foothills canyons, associating with the aforementioned Gambel oak, hawthorn, and chokecherry thickets. For those who hunger for winter botanizing of a different type, this is definitely the plant to look for!



WORKSHOP REPORT



Calochortus gunnisonii
Artist: Ann Cooper

Showy Monocots I Led by Bill Jennings Report by Karin Sundquist

SHOWY MONOCOTS I lived up to its name. This workshop was led November 14-15 at the Denver Botanic Gardens by Bill Jennings, with a total of 28 participants. The workshop opened with slides of lilies and related families in Colorado. It would be easy to take these lovely and informative pictures for granted. After all, these are the plants we came to study and we expected to see pictures of them. But it is a little staggering to realize that Bill found these plants in their Colorado sites and managed to get to them while they were in bloom (and while the weather permitted photography). Even the yellowbells (*Fritillaria pudica*), which was well past its prime when he photographed it, gave one a real sense of its true color in the pictures we were shown. And the rest of the slides were quite

instructive in the details and habits of the lilies portrayed. We were able to really enjoy the splendors of such plants as the sand lily (*Leucocrinum montanum*), the alp lily (*Lloydia serotina*), the wood lily (*Lilium philadelphicum*), and the glacier lily (*Erythronium grandiflorum*), not to mention the mariposa or sego lily (*Calochortus gunnisonii*). Bill also showed slides of similar lilies in other states.

In addition to the slides, Bill shared with us some guides to the classification of lilies, comparing the systems used by different authors. These guides helped make the various classifications seem less arbitrary to me. They could also be helpful on trips to areas where the local floras employ an unfamiliar system.

Finally, Bill gave the workshop participants a lily list for Colorado and the key he has developed for Liliaceae and related families. We were able to use the key to work on identifying herbarium specimens. At the risk of being banned from the herbarium for total lack of respect and appreciation, I must point out that working with squashed and faded plants is always frustrating. Nonetheless, the key worked quite well and we were able to fine-tune a few details in using it on the plants at hand. The key uses Weber's classification from the *Colorado Flora*, but is less daunting (for the novice) than his key to the Monocots, so it would be quite helpful in the field. All in all, an enjoyable and rewarding workshop.

Note: Copies of all handouts are available from Bill Jennings (666-8348).



FOR YOUR LIBRARY

Roberts Rinehart Publishers recently announced the publication of new editions of two popular books on Rocky Mountain native plants. Ruth Ashton Nelson's *Handbook of Rocky Mountain Plants* has been revised by Roger Williams, author of the recent biography of Aven Nelson, *Aven Nelson of Wyoming*. The ninth edition of another old favorite, M. Walter Pesman's *Meet the Natives*, is now available.

In the first edition of the *Handbook*, Ruth Nelson addressed her book to "outdoor people who are neither botanists nor even natural scientists, but who would like to be able to identify the wild flowers they see on their mountain excursions and be encouraged to acquire some interesting, non-technical information about plants in general and the

places where they live." In his revised edition, Williams maintains the simplicity and clarity of Nelson's keys, but adds a number of species likely to be found within the book's range. Williams has honored Ruth Nelson's wish to provide popular names for native plant species, but encourages the reader to accept the precedence of Latin names in the keys.

Designed to aid the amateur plant lover, *Meet the Natives: The Amateur's Field Guide to Rocky Mountain Wildflowers, Trees, and Shrubs* helps identify over four hundred plant species in the Rocky Mountain region. This easy-to-use field guide is organized by life zones, color of flower, and season of bloom. For quick reference, a detailed chart at the beginning of the guide

lists the elevations and life zones of towns, peaks, passes and parks in the Rocky Mountain region, from alpine to plains. Within each life zone section, the author provides an overview of the plants native to that particular altitude. A brief description of each plant lists size, color, shape, and common locations in which it is found. Detailed line drawings in the margins further help readers to identify plants.

Both books are available at a discount to CONPS members. Contact Velma Richards (303) 794-5432 or your chapter president to purchase a copy.



NATIONAL FORESTS PLAN WEED CONTROL

Janet Coles

Colorado Natural Areas Program

The Grand Mesa, Uncompahgre, and Gunnison National Forests are seeking public comment on the management of noxious weeds and other undesirable plants. They will incorporate the comments into an Environmental Analysis which will address aspects of integrated weed control and infestation prevention. The plan will target a number of aggressive exotic weedy species which degrade ecosystems in good health, but is also aimed toward native species--mules ear, low and tall larkspur and big sagebrush--whose abundance generally indicates a highly disturbed ecosystem.

Integrated weed management is a realistic and progressive ethic which seeks control rather than eradication of weedy plants. Techniques employed in control include fire, mowing or chopping, the use of chemical herbicides, and limiting ground disturbance.

In addition, the National Forests will consider coordinating activities with other agencies and private landowners, establishing "weed-free" areas, promoting public awareness on issues related to weeds and weed control, and limiting the risk of new infestations caused by the import of contaminated materials such as road fill.

One aspect of control left out of the list of options is the role of grazing management in the proliferation of "undesirable" native species such as big sagebrush, the larkspurs and mules ear. The species mentioned above are unpalatable or poisonous to livestock and tend to increase in a system that experiences heavy grazing, as palatable grasses are removed. Controlling sagebrush is treating the symptom rather than addressing the source problem, which is generally that grazing pressure is too great to allow grasses to regrow.

The Forest Service hopes to publish a draft Environmental Assessment by April 1. Questions and comments may be addressed to Robert Storch, Forest Supervisor, Grand Mesa, Uncompahgre and Gunnison National Forests, 2250 Highway 50, Delta, Colorado, 81416, 303/874-7691.



HORTICULTURAL NOTES

Prunus virginiana (chokecherry) cultivars and varieties

Jim Borland

Anyone involved in horticulture in Colorado knows that the industry here relies a great deal on the horticultural products of other states and that, as a result, we are some of the last in the country to test and finally add a new plant to the existing palette of landscape plants. The fact that this situation is made necessary by what is considered to be our rather hostile climate and soils would seem to bode well for the acceptance of our own climate, soil and time-tested native flora for these purposes. But, such has not been the case, or at least this acceptance has been very slow in gaining any significant ground.

Chapter News

Boulder Chapter

April 13: Planting Natives for Birds, Butterflies, and Other Wildlife

David Leatherman, an entomologist with the Colorado State Forest Service, will give us some ideas for using native plants to enhance the value of our landscapes for wildlife. April is a good time to begin thinking about this!

May 11: Spring Picnic and Wildflower Walk

Meet at the Chautauqua Ranger Cottage at 6:30 p.m. Bring dinner and an appetite for signs of spring in the Chautauqua meadow flora!

Monthly meetings are held from September through April on the 2nd Tuesday of the month at 7:15 p.m. in the Boulder Public Library meeting room, 11th and Arapahoe, unless otherwise noted. For information, call Betsy Neely at 443-8094 or Elaine Hill at 494-7873.

Fort Collins Chapter

April 1: Exotic Willows

Patrick Shafroth, a graduate student at Colorado State University, will discuss aspects of the life history of crack willow (*Salix x rubens* Schrank) and the golden osier willow (*Salix alba* var. *vitellina*) in Colorado. These exotic willows have become established in many Front Range riparian areas.

May 5: Riparian Vegetation and Natural Disturbance

Jonathan Friedman, a graduate student at the University of Colorado, will discuss the role of natural disturbance in riparian vegetation change in the high plains of Colorado.

Monthly meetings will be held through May at 7:00 p.m. in the large conference room at the headquarters for the Rocky Mountain Station/Arapahoe-Roosevelt National Forest, 240 West Prospect. The conference room is adjacent to the front patio. Note: the day of the month varies, so mark your calendar! For information, call Mike Scott at 226-9475.

continued on page 11

Cultivars and Varieties, continued from page 10

Metro-Denver Chapter

April 28: Gardening With Natives and Pumpkins

Jim Borland will share his experiences using many western and dryland natives in his previous gardens in Denver. As far as pumpkins...? The meeting will be held in the Morrison Center at DBG.

Monthly meetings are held from September through May on the 4th Wednesday of the month at 7:30 p.m. at the **Denver Botanic Gardens**, 909 York Street, unless otherwise noted. For information, call Ron Abbott at 333-6151.

San Juan Chapter

Peggy Lyon reports that she is working with the Bureau of Land Management in planning a survey of the Uinta Basin hookless cactus (*Sclerocactus glaucus*). The purpose of the survey is to document existing populations in preparation for delisting the cactus from Endangered to Watch List status. The survey will take place in May, and all members of the Society are welcome to participate. For more information and to get on the list of interested volunteers, call Peggy at 303/241-8321.

Yamparika Chapter

Reed Kelley reports that the Yamparika Chapter is reinvigorating! They plan to meet on the fourth Sunday of every month for either a lecture or a field trip. The February 28 meeting featured riparian issues. Gwen Kittel, ecologist with the Nature Conservancy, gave a presentation on her inventory and classification of the riparian plant communities of the White River. Chapter members also got a preview of a new video called "Give the Stream a Life," produced by the Northwest Colorado Riparian Task Force.

The March 28 meeting will convene at the Sundance Institute Museum in Craig. Jan Roth, the museum's curator, will describe the relationship between vegetation and archaeological sites.

While the question remains as to why we have not made much headway in the horticultural development and acceptance of Colorado's native flora, development of native plant materials in other parts of the nation and in other countries has flourished. An example involves one of our state's most prized trees--Colorado blue spruce (*Picea pungens*). In 1965, the authors Den, Ouden, and Boom listed 38 selections or cultivars of this tree in their *Manual of the Cultivated Conifers*. Many of these cultivars grace the nurseries and parks of Europe, but are not to be found within the borders of our own state!

Selections of deciduous native subjects are a bit more difficult to document; in some cases they are discovered only by chance. Here is what I've found for our native chokecherry.

***Prunus virginiana* (chokecherry)**

Our familiarity with this quite common native species is such that most of us simply pass it by when walking the wilds. However, within its rather broad geographic range is a diversity of habit, leaf and fruiting forms of which horticulturists should take note, even if botanical purists would lump such variation under the broad general category of "*Prunus virginiana*."

Without spending much time investigating some of this diversity, I found the following varieties that have been described over time and which may possess significant horticultural qualities:

<u>VARIETY</u>	<u>NOTABLE DISTINGUISHING CHARACTERISTICS</u>
<i>demissa</i>	leaves pubescent beneath, fruit dark red
<i>Duerinckii</i>	leaves broad elliptic
<i>leucocarpa</i>	fruit amber-colored
<i>melanocarpa</i>	leaves glabrous, fruit dark black
<i>pachyrrhachis</i>	stout rachis, pubescent
<i>xanthocarpa</i>	yellow fruit.

Utilizing these characteristics and selecting for others, horticulturists elsewhere have made the following selections:

<u>CULTIVAR</u>	<u>NOTABLE DISTINGUISHING CHARACTERISTICS</u>
'Boughen's Chokeless'	non-astringent fruit
'Boughen's Yellow'	yellow fruit, larger than average for the species
'Canada Red'	same as 'Schubert'
'Copper Schubert'	('Schubert' X 'Mission Red') purple foliage with decided coppery undertone, intensifying to red copper in late summer, fruit large, mildly astringent, bright red, open canopy
'Garrington'	medium sized shrub, fruit large black, sweet with a bit of bitterness
'Goertz'	medium sized shrub, fruit large black, sweeter and smoother than 'Garrington'
'Mini-Schubert'	very compact small tree with upright oval habit, interior branches small and very upright, mature leaves similar to 'Schubert'
'Schubert'	selected in North Dakota, rich purple foliage starts green and turns in July, fruit large black, better flavor than native
'Spearfish'	yellow fruit
'Xanthocarpa'	yellow fruit.



Note: Watch for Jim's horticultural notes on *Prunus pensylvanica* (pin cherry) in the next issue of Aquilegia.

CALENDAR OVERVIEW

Chapter Meetings

Boulder Chapter

- Apr 13** Planting Natives for Birds,
Butterflies, and Other Wildlife
- May 11** Spring Picnic and Wildflower Walk

Metro-Denver Chapter

- Apr 28** Gardening With Natives and
Pumpkins!

Fort Collins Chapter

- Apr 1** Exotic Willows
- May 5** Riparian Vegetation and
Natural Disturbance

1993 Field Trips

(further details and registration information will appear in the next newsletter)

- May 1-2** **Split Mountain - Dinosaur National Monument**
with Lynn Reidel
- Jun 5-6** **Pawnee National Grassland**
with Jim Borland & Rick Brune
- Jun 26-27** **Stirrup Ranch**
with Janet Coles
- Jul 3-4** **Mishak Playa Lakes & Other San Luis Valley Attractions**
with Betsy Neely & others
- Jul 10** **Mount Evans**
with Betty Willard
- Jul 31-
Aug 1** **Yampa River Riparian Areas**
with Holly Richter
- Aug 29** **Mount Evans**
with Betty Willard



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