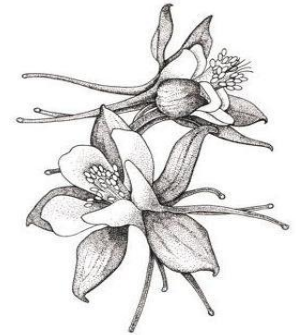


Aquilegia

Newsletter of the Colorado Native Plant Society

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

Volume 34 Number 4 – Fall 2010



2010 / 2011 WORKSHOPS

Colorado Native Plant Society workshops are designed for plant enthusiasts at all levels, from novices to experts. Workshops are designed to provide you with an enjoyable learning experience. We hope you will join us.

Workshops usually begin at 9:00 AM and end between 2:00 and 3:00 PM. Where applicable, choose between identical Sessions I and II. Driving directions are sent to each participant a few weeks before each workshop.

Individual chapters may also offer workshops. See the chapter web pages for information.

Workshop Hosts Needed

A free workshop is available for a friendly person who volunteers to host a weekend workshop. This wonderful person opens the building, greets members, has brought the scopes, made sure a name tag is available, plugged in the tea pot, and brought some treats. There is a budget for snacks. Our host will make sure materials are secure for the night and will repeat this service for the second session. Would you like to be a host? Contact Steve Yarborough (below) to volunteer.

Registration is by mail only and requires payment at the time of registration. The fee for attending a workshop is \$25/ session for members. Non-members must join CoNPS to register for a workshop. We hope you will join us and enjoy these workshops with us.

Contact Steve Yarborough, CoNPS Workshop Coordinator for updated schedules, meeting times and places, and fees. Steve can be reached at 303-250-5542 or steveandkenna@msn.com.

SEARCHING FOR OFFICERS

The Board of Directors is seeking volunteers for the offices of President and Vice-President. The Society is moving forward with several exciting opportunities for members in conservation service and in public outreach. Would *you* like to continue supporting and enhancing these efforts? You may also nominate any member for these offices.

As *President*, you would be responsible to make sure the Society works actively to encourage the appreciation and conservation of native plants and ecosystems of Colorado. Our President chairs Board meetings, provides supervision to the affairs of the Society, and leads efforts and duties directed by the Board.

As *Vice-President*, you would assist the President and the Board. One exciting event, our Annual Meeting, gets creation help from you in this position. Getting to know our members is a rewarding process that helps you find nominees for various Society positions. Your interest in any aspect of the Society functions can be easily rewarded.

Each office has a three-year term that begins in November 2010.

Aquilegia 34:4

	Page
2010 / 2011 workshops	1
Scheduled workshops	2
Workshop registration form	3
Book review	4
Article: "Native Plants in Gardens (Panayoti Kelaidis)	5-7
Chapter announcements and activities	7-12
Membership Application and Renewal Form	14
Welcome, New Members!	14
Colorado Native Plant Society	15
Calendar	16

SCHEDULED WORKSHOPS

Vegetative Characters Workshop

Date: Oct. 2 and 3, 2010

Presenter: Lynn Riedel, Plant ecologist, City of Boulder Open Space and Mountain Parks and Miriam Denham

How do you identify a plant when you don't have flowers?

This workshop will present an overview of distinctive characters that can aid in the identification of many plants when flowers and/or fruits are not available. The remarkably intricate and beautiful realm of plant hairs (trichomes) will be featured.

During the first part of the workshop, we will review vegetative (non-floral) plant structure and various types of diagnostic characters in native and cultivated plants.

The second part of the workshop will focus on learning about trichomes, which can be particularly useful in plant identification. An overview of how plant surfaces are described, and illustrative photos and drawings of trichomes will be presented. Handouts will be provided.

To practice recognizing different types of trichomes and other characters, fresh and pressed plant samples will be examined using hand lenses and microscopes.

Malvaceae of Colorado

Date: November 13 and 14, 2010

Presenter: Rich Scully

Rich will discuss the ten genera of the mallow family that grow wild in Colorado. The workshop will include dissection of plant materials and a review of photos to learn distinguishing characteristics between the genera.

NEWSLETTER AVAILABLE BY E-MAIL

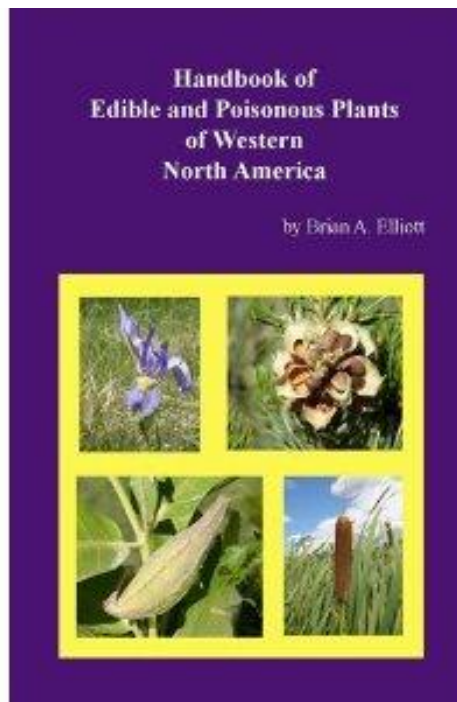
Do you know that *Aquilegia* is available electronically? You could receive your issue of *Aquilegia* by e-mail. This saves the Society postage costs as well as paper and printing costs. Please request your change from paper with Eric Lane via e-mail at ericlane@yahoo.com or call him at 303-239-4182. Be sure to include your e-mail address.

Edible and Poisonous Plants of Colorado

Tentative Date: Jan / Feb 2011

Presenter: Brian Elliott, Botanist, Elliott Environmental Consulting

Brian is the author of *Handbook of the Edible and Poisonous Plants of Western North America*, published July, 2009.



Cacti of Colorado/Orchids of Colorado

Date: Feb. 5 - 6, 2011

Presenter: Scott Smith, Botanist

This workshop will be split with the Saturday session covering the family Cactaceae in Colorado. Sunday's workshop will change gears and focus on the family Orchidaceae of Colorado.

Ferns of Colorado

Tentative Date: Spring 2011

Presenter: Scott Smith, Botanist

Rushes of Colorado

Tentative Date: Spring 2011

Presenter: Dr. Leo Bruederle and/or Guest Lecturer

*One day of field work/One day of lab

COLORADO NATIVE PLANT SOCIETY
WORKSHOP REGISTRATION FORM

2009 – 2010

NAME _____

STREET _____

CITY _____ STATE _____ ZIP _____

PHONE: () Home () Work () Cell _____ - _____ - _____

E-MAIL: _____

I am a member of CoNPS ____ Yes ____ No (If not, you must add the annual membership fee to your payment.)

Please register me for the following workshops at \$25 per session.

Workshop title _____	Session date _____	Fee \$ _____
Workshop title _____	Session date _____	Fee \$ _____
Workshop title _____	Session date _____	Fee \$ _____
Workshop title _____	Session date _____	Fee \$ _____
Workshop title _____	Session date _____	Fee \$ _____

Total registration fee \$ _____

Membership fee* (if applicable) \$ _____

Total registration fee \$ _____

*** MEMBERSHIP CLASS**
Dues cover a 12-month period.

Individual (\$20.00)
 Family / dual (\$30.00)
 Senior (65+) (\$12.00)
 Student (\$12.00)
 Organization (\$30.00)
 Supporting (\$50.00)
 Lifetime (\$300.00)

CHAPTER *You are free to affiliate with any chapter you choose and to attend the meetings of any chapter. Chapters do not have drawn map boundaries; the locations below indicate the usual meeting place of chapter meetings.*

Boulder Metro-Denver Northern
 Plateau Southeast

To encourage carpooling, are you willing to share your contact information with others in the same workshop?
 _____ Yes _____ No

Mail registration form to: CoNPS, Linda Smith, 4057 Cottonwood Dr., Loveland CO, 80538

BOOK REVIEW

by Jan Loechell Turner

Busco, Janice and Nancy R. Morin. *Native Plants for High-Elevation Western Gardens*. 2nd edition. Golden, CO: Fulcrum Publishing, 2010.

If you missed this book the first time around, now is your opportunity to purchase a copy of the second edition of *Native Plants for High-Elevation Western Gardens*. Since 2003, I have relied on the first edition of this excellent book for information on the soil, sun, and water requirements and the characteristics of native plants of the region. Every time I refer to it, I find something new and interesting.

The scientific names of the plants have been updated and the layout and design have been modified, with a slightly smaller font size and reorganization of the text. Most of the color photographs and text are the same as in those in the first edition, but additional photos have been added and the zones have been corrected to include the entire range.

Introductory material educates the reader about methods for successful gardening with native plants that grow well at elevations of 5,000 feet and above. Over the past twenty years, the staff and volunteers at the Arboretum at Flagstaff in northern Arizona created a database that included their observations and experiences with native plants. This database served as an important source of information for the large "Species descriptions" section of the book, which is basically a rich encyclopedia, arranged alphabetically by the scientific name of the species. The plants have been tested and proven to do well at the Arboretum at Flagstaff.

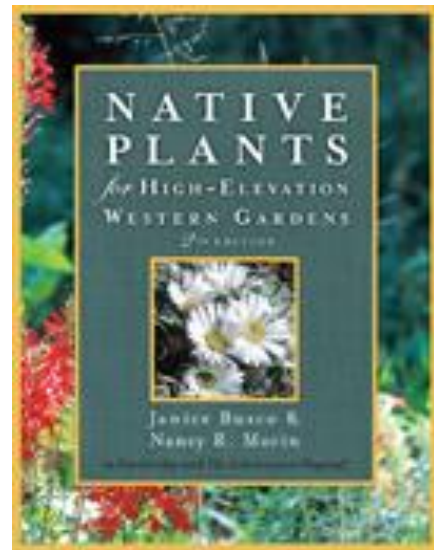
Perennial non-woody plants are the focus of Busco and Morin's book, although sub-shrubs, such as rabbitbrush and apache plume, and vines, such as clematis and Western Virginia creeper, are also included. Many plants featured in the book are native to Colorado and the surrounding states.

Two pages are devoted to each of the 150 plants with nice-sized color photos of the plants on each of the pages. Plant entries include the following categories: scientific name (and synonyms), common name, type of perennial (for example, herbaceous, bunchgrass, succulent, bulb, subshrub, fern, vine), height, width, zone, characteristics (a physical description of the plant), native range, season of bloom, outstanding features, culture (soil, exposure, water use, propagation, care and

maintenance), landscape uses, wildlife attracted (hummingbirds, butterflies, bees), and Native American uses.

References, native plant sources (nurseries and seed companies), lists of botanical gardens and arboretums at high elevation, a zone map, and an index are contained. The cover inset photo is by former CoNPS webmaster, Al Schneider.

Even if you are not a gardener, *Native Plants for High Elevations Garden* supplies useful information and photographs of native plants of the area.



Jan Busco of Flagstaff, Arizona, is a native plant horticulturist and author. Nancy Morin has served as an editor for *Flora of North America*, executive director of the American Association of Botanical Gardens and Arboreta, assistant director of the Missouri Botanical Garden, and director of the Arboretum at Flagstaff.

Other books that may be of interest to Colorado native plant gardeners are Robert and Jane Dorn's *Growing Native Plants of the Rocky Mountain Area* and Bob Nold's *High and Dry: Gardening with Cold-Hardy Dryland Plants*.

Jan Loechell Turner is on the CONPS Board of Directors and chairs the research grants committee. Jan and her husband, Charlie, are the authors of *Wildflowers of Red Rocks Park*, *Wildflowers of Mesa Verde*, and *Wildflowers of Canyon de Chelly*. Their next book, *Wildflowers of Bandelier National Monument*, is due to be published in 2011 by Rabbitbrush Publishing (www.rabbitbrushpublishing.com).

NATIVE PLANTS IN GARDENS

(A meditation on a lifetime growing Colorado native plants)

Part 1

By Panayoti Kelaidis

I am a tad annoyed (albeit flattered in a way) that my professional career has been branded by my African explorations and introductions. I have sometimes joked that “Mr. *Delosperma*” may well be carved on my tombstone. The devil in me hastens to point out that *delospermas* are in fact native plants. Indeed, every card carrying member of CoNPS would agree with my outrageous statement (under duress no doubt), provided I modified *native* with “South African”. Native, obviously, is a highly relative (and essentially political) term. And politics really have nothing to do (or shouldn’t anyway) with nature or plants. The first item of evidence I present in my defense is that I am nearly a charter member of CoNPS: I joined in 1977—a year after the Society was founded. And I was voted Secretary a year later (a job I did not perform very well, I confess Lo! these many years later). I’m afraid I will have more embarrassing confessions to make in the course of this piece...

As a matter of fact, I have grown dozens of taxa of Colorado native plants for every African (or Asian plant, for that matter) I have ever attempted. I cut my horticultural teeth in the Colorado Rockies. I have climbed dozens of mountains in Western America for every foray I have subsequently made on foreign shores. My first garden I built with my brother-in-law, Allan Taylor (who now edits the International Oak Society newsletter) over fifty years ago. Embarrassing confession number two is coming up. We collected the stones to build this garden in Sunshine canyon above Boulder, and filled the garden with plants we dug up here and there in the mountains. I can hear you gasping at this outrageous statement: I apologize profusely. I beg you to remember that back then, neither collecting rocks by the roadside, nor collecting plants was considered a bad thing by practically anybody. There were still more rocks and plants than people. Nowadays I restrict my collecting to tiny pinches of seed, or rarely a few cuttings of a some special form. I have on occasion collected whole plants: usually where there is some sort of rescue in the face of a construction project: I find collected plants rarely reestablish satisfactorily in the garden. Gardens establish best and fastest with juvenile nursery grown plants that have maximum vigor.

My real adventures with native plants accelerated when I became friends with T. Paul Maslin, a professor of Biology at the University of Colorado. He retired from a glorious career as Zoologist and curator at the CU Museum primarily so he could concentrate on his remarkable garden. Paul’s specialty was herpetology, and he was the first (in this hemisphere at least) to suspect that vertebrates were potentially parthenogenetic (which is to say, the female of a species can reproduce asexually). His research culminated in a ground

breaking article in *Science* documenting six species of all-female *Cnemidophorus*. It’s hard to believe today, but in the 1950’s, neither parthenogenesis nor continental drift were accepted theories by most scientists around the world. Little did I know as a teenager, but my distinguished gardening neighbor was a world renowned biologist who had just shaken his discipline to the core.



Natives growing in my home garden (*Castilleja linariifolia*, fringed sage and sulphur buckwheat)

Photo by Panayoti Kelaidis

Paul had spent decades researching “herps” as he called them throughout Colorado and the West. In the process he would notice plants of garden merit that he would occasionally collect to grow in his wonderfully artistic garden. Among the hundreds of native plants he collected were several species of *Arctostaphylos* from the Western slope. I am sure Paul was the first to grow our native manzanitas from the top of the Uncompahgre plateau. In the course of his zoological studies he would often go in the field with various botanists, including Bill Weber. Paul told me he was with Bill when they first found *Phippsia algida* and *Koenigia islandica* on Mt. Evans. Paul implied that he was actually the one who first stumbled on both these unique and remarkable plants—pointing them out to Bill—but Bill might have a different recollection.

Paul wasn’t literally a neighbor: he lived perhaps a dozen houses away from my parents, two streets to the east and half a block southward. Although the Hill in Boulder where we both lived had imposing trees, flower gardens were rare back then, and his was the best in town. Although I had many potential routes, I made a point of walking by Paul’s garden every day for three years on my way to Junior High School. His house was also midway between my mother’s home and my older sister’s where I frequently visited as well (likewise making a point to cut down 14th Street to go by Paul’s). Paul finally noticed my interest when I was in my early twenties when he asked to visit my garden. He retired in 1971 when he was 62 years old so he could concentrate on gardening. Between then and the early 1980’s I accompanied Paul on

dozens of horticultural forays throughout Colorado, Wyoming, Utah, New Mexico and finally northern Mexico where he collected hundreds of kinds of plants (and I collected seed: Paul couldn't believe I wouldn't dig plants up). These field trips were my real introduction to our native flora.

Paul was good friends with Bill Gambill, who was director of Denver Botanic Gardens in the 1970's. Bill established a subcommittee including Paul and myself to help Herb Schaal (master planner of the Gardens at the time) design the Rock Alpine Garden. That subcommittee was my introduction to DBG: Herb convinced Bill and Merle Moore (Assistant Director) to hire me as curator of the new garden. Although there were a few native plants growing at Denver Botanic Gardens prior to 1980 when I began to work there, they were few and far between: lots of blue spruce, to be sure. A few *Cercocarpus ledifolius* and the grove of native conifers and aspen in Gates Garden. I proceeded to plant hundreds of kinds of natives (along with plenty of exotics to be sure) in the Rock Alpine Garden.

Gayle Weinstein had been hired shortly before I arrived as Director of Horticulture. She had worked at Western Evergreens Nursery (the cutting edge nursery that featured dozens of native plants), and would soon begin planting lots of native trees and shrubs in various gardens. It was not until the Plains Garden and Dryland Mesa were created in the mid 1980's that the native plant presence at DBG became truly evident. A series of upheavals in staffing and a change of focus saw these garden decline over the period of the next decade until the late 1990's when I was promoted to oversee the "Naturalistic gardens" including Gates, Dryland Mesa and the Plains Gardens. Of course, there was no way I could maintain these three gardens *and* the Rock Alpine Garden all by myself: I persuaded Jim Henrich to create a new position and we had the enormous good luck to have Dan Johnson interview for that job and take it.

The rest is history, as they say. The story of how Dan resurrected the native gardens at DBG and brought them to their astonishing state of perfection and polish they now enjoy is a good one. It's a story that Dan should really tell. Since that time, the native plant collections at DBG have expanded to include Sacred Earth (our ethnobotanical garden), the Western Panoramas around the amphitheatre and Wildflower Treasures, a garden which I co-designed with Rob Proctor, containing dozens of containers featuring special plant communities in our mountains. As we speak, several acres are also being planted in the Children's garden, mostly to natives. And native Colorado plants are featured in practically each of the dozens of other gardens at the York Street site. Denver Botanic Gardens at Chatfield also has an artistic garden featuring native plants that was planted in 2008 and has gone from strength to strength. And Denver Botanic Gardens' Mt. Goliath alpine garden consists entirely of plants grown from seed collected on Mt. Evans.

There are numerous botanic gardens in North America that are designed entirely to feature native plants of the regions surrounding them. Rancho Santa Ana, Santa Barbara Botanic Gardens and Tilden Regional Park in Berkeley are three outstanding California gardens which spring to mind, although Garden in the Woods in Massachusetts provides another model. Dozens, if not hundreds, of public gardens in North America feature a section or area comprising mostly native plants. As much as I enjoy visiting and looking through these gardens, I am usually disappointed a bit by what I can only describe as scruffy design: most native gardens are beautiful in the spring but often look neglected and homely for the rest of the gardening year. They contain valuable collections, but their artistic execution is often a second thought (if there is much emphasis placed on this at all)



"Westridge" garden and revegetated prairie at my home featuring Colorado natives

Photo by Panayoti Kelaidis

I can't think of another botanic garden in America—or even Europe—that has native gardens as artistically conceived and executed as those at Denver Botanic Gardens. Great effort was expended by Gayle Weinstein, Rick Brune, Karen Trout and other designers who initially designed many of the early native gardens at Denver Botanic Gardens. These gardens were lucky to have Dan Johnson to drastically renovate them, and he has gone on to create an almost equal area of native plantings from scratch on his own. Now there are several other staff at the Gardens including Dominique Bayne, Mike Kintgen, Jackie Raehl, and Amy Schroeder who oversee and maintain these various native plantings along with numerous interns, seasonal workers and dozens of volunteers. Native plants at Denver Botanic Gardens have come a long way, baby!

Half my home garden is dedicated to growing Western American native plants, mostly those from Colorado. This includes a long shrub border and a long, high mound of soil I call West Ridge planted to hundreds of xeric natives of the Great Plains and Colorado Plateau. My favorite garden at home might indeed be my patch of revegetated prairie filled with mariposa lilies. Although many California Calochorti

grow alongside the dozens of *C. gunnisonii* I grew from seed scattered in situ..

I would like to have it as a matter of record that I would like to see roadsides and disturbed areas in nature meticulously revegetated to native plants. I sincerely wish that median strips and large industrial parks were planted entirely to natives as well, those that would have grown there naturally. I think there is a place in all home gardens for natives: I would like to see more shortgrass prairie replace as much turf and bluegrass in our cities as possible. Much of the impetus and rationale why I have pursued botanic gardening as a profession has been my concern about how to rethink and redesign our home gardens in order that we might grow native plants more successfully. In the course of doing this I have come to realize new

challenges and opportunities that I would love to share with you.

In upcoming issues of *Aquilegia* I would like to explore some of the specific ways you can go about incorporating natives into a home landscape artistically and effectively.

Panayoti Kelaidis is Senior Curator and Director of Denver Botanic Gardens Outreach. He is a past president of the Rocky Mountain Chapter of the American Rock Garden Society as well as the American Penstemon Society, and serves on many professional horticulture society boards. He has published over 100 gardening works. (Biographical information condensed from Denver Botanic Gardens website.)

CHAPTER ANNOUNCEMENTS

BOULDER CHAPTER

Boulder Chapter programs are held on the second Thursday of each month (September through April) from 7:00 p.m. to 9:00 p.m. All meetings, except as noted, are held at the Community Room at the Boulder REI Store at 1789 28th Street (between Canyon and Pearl). For more information, please email Chapter President Elizabeth Drozda-Freeman at elizabeth.wildflower@gmail.com or call her at 303-586-1810. Please support zero waste: bring your own cup and plate.

October 14, 2010

Leanne Benton:

Alpine Wildflowers: High Altitude Superheroes

Leanne Benton will focus on the wildflowers in Rocky Mountain National Park and their survival stories, including some folklore, pollination strategies, and their human uses. Leanne Benton is a Park Ranger in Rocky Mountain National Park.

November 11, 2010

Wetland and riparian ecosystems of Rocky Mt. National Park, natural and unnatural range of variation in hydrological and ecological processes.

Dr. David Cooper

dcooper@rm.imcc.net

Dr. Cooper has done research in Rocky Mt National Park for 24 years and will review the range of wetland types that occur in the park, and the set of impacts from development and management that have and continue to influence these ecosystems, as well as options for long-term restoration.

December 9, 2010

Darwin's "abominable mystery" and the search for the first flowering plants

Dr. Ned Friedman

303-492-3082 (office), ned@colorado.edu

The talk will cover recent advances in the fossil record of the oldest flowering plants, what the first flowering plants may have looked like, where they "lived," and how they reproduced (yes, there is sex in this story). Also, the latest on the new taxonomy (phylogeny) of flowering plants, and why, especially, Darwin was mystified and baffled by the evolutionary origin of flowering plants.

Dr. Friedman is Professor of Ecology and Evolutionary Biology at the University of Colorado. He was elected a Fellow of the Linnean Society of London in 1995 and has given more than 100 invited lectures around the world, including a series of public lectures at Oxford University (England) on the evolutionary history of life (1999). Received the Pelton Award from the Botanical Society of America for sustained and imaginative contributions to the field of plant morphology (2004) – the highest international honor in the discipline of plant morphology. His research is focused on the evolution of plants – and has been featured in Natural History Magazine, Smithsonian Magazine, the New York Times, the Christian Science Monitor, the London Daily Telegraph, and other major public venues

January 13, 2011

How CoNPS members can engage with the Native Plant Master Program

Joel A. Reich, Boulder County Horticulture Extension Agent, Colorado

Barbara Fahey, Boulder County Natural Resources Extension Agent, Colorado

Colorado State University Extension

(303) 678-6386, jreich@bouldercounty.org

We will give an overview of what NPM is, where its roots lie, how the program has expanded rapidly over the last several years and, most importantly, the opportunities for CoNPS members to share their expertise with a new, enthusiastic audience.

Barbara Fahey is a Natural Resources Extension Agent for Colorado State University Extension. She is the founder and State coordinator of the Colorado Native Plant Master™ Program. She is the former administrator of the Lookout Mountain Nature Center and has a passion for teaching others about Colorado's flora.

Joel Reich is the C.S.U. Extension Horticulture Agent for Boulder County. He manages the Boulder County Native Plant Master program, as well as providing a variety of educational and consulting services to members of the Green Industry and gardeners throughout the Front Range.

Please note: Because the above speakers will only be speaking for 30 minutes total, this evening will also feature two other speakers, one from CSU Extension and one from USDA. Details will be forthcoming.

February 10, 2011

White Pine Blister Rust in High Mountain Ecosystems

Anna W. Schoettle, Ph.D.

(970) 498-1333, aschoettle@fs.fed.us

Dr. Anna Schoettle will provide an overview of the ecology of these remarkable tree species and the factors that threaten them. Both species are currently threatened by a non-native pathogen (that causes the lethal disease white pine blister rust), mountain pine beetle and climate change. Anna will describe how these factors interact in high mountain ecosystems and the program currently underway to proactively increase the resiliency and sustainability of limber pine and Rocky Mountain bristlecone pine populations and ecosystems of the Southern Rockies. Dr. Schoettle is a Research Plant Ecophysiologicalist at the Rocky Mountain Research Station.

March 10, 2011

Sex and the single flower

Patrice Morrow, Ph.D., Professor Emeritus of Ecology, Evolution and Behavior at the University of Minnesota, Twin Cities.

Dr. Morrow will discuss the evolution of interactions among sedentary plants which need to have pollen moved to another plant and the bribes they offer to mobile animals to move pollen to the right places.

Dr. Morrow has a doctorate from Stanford University, was a Fulbright Fellow in Australia, a Guggenheim Fellow at the University of Colorado at Boulder and is a Fellow of the American Association for the Advancement of Science. Her research examined the effects of herbivorous insects on Eucalyptus forest composition in Australia and the effects of plant community diversity on insect movement in Minnesota prairies. She taught Ecology, Plant/Animal Interactions and Environmental Biology for many years at the University of Minnesota. Mutually beneficial interactions such as pollination are among her favorite topics and the subject of this talk.

April 14, 2011

Lichens: Diversity, Utility, and Their Inner World

Scott Bates, Ph.D., CIRES Visiting Fellow, Fierer Laboratory, University of Colorado at Boulder
303-492-2099 scott.thomas.bates@gmail.com

Lichens (lichenized fungi) are fascinating symbiotic "organisms", which have traditionally been thought of as a mutualistic relationship between a mycobiont (the fungus) and a photobiont (green or "blue-green" algae). Recent DNA research is showing, however, that the symbiosis may also include bacteria. This "lifestyle" has been very successful – so successful that lichens are known to survive in some of the most extreme environments on Earth (but they also do quite well in outer space). Locally, they may be familiar to you – living on trees or rock surfaces.



Photo by Bob Henry

With a wonderful variety in form and color, lichens are quite beautiful to behold, but they have also been used for many practical purposes – from ingredients of perfumes to “biomonitors” of air pollution and forest “health”. In this talk we will explore the exquisite beauty of lichen diversity as well as many interesting stories from the lichenological world. The talk will be presented by Dr. Scott Thomas Bates, who is currently a visiting fellow at the University of Colorado at Boulder, where he has been investigating lichen-associated bacteria. In his spare time, Scott continues to document the diversity of Southwestern fungi on the *Checklist of Arizona Fungi, Lichens, and Slime Molds website* (www.azfungi.org/checklist).

METRO-DENVER CHAPTER

Monthly meetings of the Metro-Denver Chapter are typically held on the fourth Tuesday of the month (September through May, except November). The chapter is changing its meeting location to the Denver Botanic Gardens for the 2010-2011 year. For more information, visit www.conps.org or contact Jannette Wesley (303) 969-2131 (daytime) or (303) 985-5299 (evenings).

Metro Denver Chapter Meetings 2010 - 2011

September 28, 2010, 7 PM

"Tales from the Uttermost Ends of the Earth: Ushuaia to Barrow"

Presenter: Leo P. Bruederle, Ph.D., Integrative Biology, University of Colorado Denver

Location: Denver Botanic Gardens, Gates Hall

The genus *Carex* (Sedge Family) includes at least six species that exhibit a “bipolar distribution” — a discontinuous range in the extreme northern and extreme southern hemispheres. Since the 1800s, Scientists have puzzled over this biogeographic pattern, which has been observed in at least 20 other genera. In 2010, I traveled from Tierra del Fuego to the North Slope of Alaska to collect plant tissue for molecular genetic research addressing this phenomenon. *Carex magellanica*, *C. capitata*, and *C. microglochin*, all of which occur in Northern North America, extending south in the Rockies to Colorado, and southern South America, are the focus of this collaborative research with colleagues at the Canadian Museum of Nature.

Leo received a Master's in Botany from the University of Wisconsin Milwaukee and a Ph.D. from Rutgers. He recently stepped down as Chair of the Department of Integrative Biology at UC Denver to spend more time on his research, which emphasizes the systematics of species rich genera, including cryptic species.

October 26, 21010, 7 PM Mount Evans Bryophytes

Presenter: William Weber, Ph.D.,

Location: Denver Botanic Gardens, Gates Hall

Mount Evans is widely appreciated as a safe haven for special vascular plants. Bryophytes, however, account for nearly half the species in the flora and are equally exciting. Among Mount Evans mosses and liverworts, there are many disjuncts from polar regions and a several extreme rarities. He will comment on the history of bryology in the region, the importance of mosses in alpine ecosystems, and will introduce a few of the “cast of characters.”

William Weber is Professor Emeritus at the University of Colorado at Boulder, and former curator of the University of Colorado Museum Herbarium. He is the author of numerous highly acclaimed books on the flora of the West. William Weber and Ronald Wittmann are the authors of Bryophytes of Colorado: Mosses, Liverworts, and Hornworts. 2007. Pilgrims Process Inc. and the forthcoming 4th edition of Colorado Flora.

November 30, 2010, 7 PM

"History and Future of the USDA NRCS Plant Materials Program"

Presenter: Christine Taliga, Plant Materials Specialist

Location: Denver Botanic Gardens, Plant Society Building

Christine Taliga's talk is about the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Plant Materials Program, formerly known as the Soil Conservation Service. The talk will include an overview of some of current research efforts and review the history and the future outlook for the agency.

Christine Taliga, received her B.S. in environmental science with a minor in botany from the University of Iowa. She began her career with NRCS and Conservation Districts in Iowa in 1991, where she has held various technical positions and was elected as Soil and Water Conservation Commissioner (1996-2001).

Her professional experience also includes consulting as restoration plant ecologist through which she conducted plant inventories, planned and implemented wetland mitigation plans, native restoration plans and monitoring protocols, as well as, prescribed burns for hire (the first such program in Iowa). She has also held appointments at the University of Iowa as research botanist, greenhouse manager and teaching assistant for several botany courses. She also served as treasurer and secretary for the Iowa Native Plant Society from 2005 to 2010.

January 25, 2011, 7:00 PM

"The Historic Role of Fire in Forest and Grassland Ecosystems"

Presenter: Tom L. Thompson, Forester

Location: Denver Botanic Gardens, Plant Society Building

Tom L. Thompson is a forester and the past president of the Society of American Foresters. He will speak about the historic role of fire in ecosystems and particularly focus on the historic understanding and use of fire in managing forests and grasslands. He will discuss the challenges of using fire today, especially those caused by excessive fuel buildup, insect and disease mortality, shifts in climate, and interface with human development.

Mr. Thompson recently retired as Deputy Chief of the U.S. Forest Service in Washington, D.C.; he also served Deputy Regional Forester in the Rocky Mtn. Region from 1989-2001. A native of Colorado, he was with the Forest Service for 37 years and is a graduate of Colorado State University.

February 22, 2011, 7 PM

"Clear Cutting at Roxborough State Park: Monitoring Re-growth"

Presenter: Vickey Trammel, Biologist

Location: Denver Botanic Gardens, Plant Society Building
Vickey Trammel will present the results of her 2 year field study at Roxborough State Park. She organized 20 volunteers to monitor 50 meter square plots on a two acre clear cut site. The park clear cut the site as part of a fuels mitigation effort. The citizen scientists watched each site to record their observations on the presence of plant species, percentage cover to soil temp, and to gather data on the soil moisture and soil temperature. Vickey will report on the research conducted on the site as well as her efforts to involve volunteers in this ongoing research project.

Vickey Trammel is past president of the Metro Denver Chapter of the Colorado Native Plant Society. She recently retired from teaching biology at Arapahoe Community College.

March 22, 2011, 7 PM

"Propagating Penstemons"

Presenter: Bob McFarline, President of the American Penstemon Society

Location: Denver Botanic Gardens, Plant Society Building

There are over 275 recognized species of penstemon, and all of them are native to North American from Alaska down to Guatemala. A large majority of these plants are quite garden worthy and the list seems to grow annually. Most species are propagated from seed because it is so easy. However, most do quite well from cuttings. In fact, most of the hybrids must be propagated vegetatively in order for the plant characteristics to be accurately reproduced.

There are a large number of variables to consider when propagating different species of penstemon. The talk will cover the author's experience in treating the various items

such as gathering seed in the wild, gathering seed in the garden, seed life, stratification, soaking seed, planting soil mixture, germination times, sunlight effect of seedlings, watering, relative ease of propagating by species, etc.

Bob is retired from a long career in engineering and software management. He attended Stanford University and worked in California, Saudi Arabia and Colorado. He became interested in plants in general and Penstemon in particular after his retirement in 1992. He is a longtime member of the American Penstemon Society and is currently serving as President. He, along with Hugh MacMillan, is a founder of the Eriogonum Society which was established in 2009.

April 26, 2011, 7 PM

Gardening with Native Plants

Presenter: Susan Smith

Location: Denver Botanic Gardens, Plant Society Building

Details forthcoming.

NORTHERN COLORADO CHAPTER

Except as noted, Chapter meetings are held on the first Wednesday of the month (October through April) at 7:00 PM, at the Gardens on Spring Creek, 2145 Centre Ave., Fort Collins. Prior to meetings, members are invited to meet at 5:30 PM for dinner with the speaker at Café Vino, 1200 S. College Avenue. If you would like to join us for dinner, please contact Chapter President Pam Smith at 970-223-3453 or pamelas4824@earthlink.net. For more information, visit www.conps.org.

NORTHERN CHAPTER PROGRAMS FALL/WINTER 2010-2011

Wednesday, October 6, 2010, 7 PM

"Henry David Thoreau: Amateur Botanist"

Presenter: Bob Henry, *Aquilegia* Editor

Location: The Gardens on Spring Creek, Fort Collins

Naturalist, philosopher, surveyor, pencil-maker, schoolteacher, day-laborer, expert canoeist and ice-skater, flutist and singer, lecturer, writer, journal-keeper, social activist, conductor on the Underground Railroad, gardener, carpenter – and amateur botanist. Henry Thoreau was by turns idealistic, cynical, humorous, sarcastic, spiritual, mystical, and humorous, but he was consistently and endlessly curious about nature.

There is much that Thoreau might have learned from a trained botanist, and much that a trained botanist might learn from Thoreau.



In this program, we will meet Thoreau, learn about his botanist's tool kit, go "a-botanizing" as he collects specimens for Louis Agassiz, learn the surprising reason why a plant growing in the middle of the road flourished while another in the open prairie did not, and perhaps find a "philosophy of botany" along the way.

Bob Henry is a Pennsylvania native and is retired from the Federal civil service after 25 years with the Interior Department (Bureau of Mines and BLM) and 7 years with the Executive Office of the President (Office of Management and Budget). He is a Volunteer Master Naturalist with the City of Fort Collins, editor of Aquilegia, and a long-time student of Henry David Thoreau.

Wednesday, November 3, 2010, 7 PM
"Topic to Be Announced"

Presenter: Dr. Mitchell McGlaughlin, Assistant Professor, School of Biological Sciences, University of Northern Colorado
Location: The Gardens on Spring Creek, Fort Collins

Wednesday, December 1, 2010, 7 PM
"Effect of Climate Change on Grasshoppers of the Southern Rocky Mountains"

Presenter: Dr. Cesar Nufio, Professional Research Associate, University of Colorado Museum of Natural History
Location: The Gardens on Spring Creek, Fort Collins

Wednesday, January 5, 2010, 7 PM
"Colorado Wildflowers"

Presenters: Tim and Ann Henson
Location: The Gardens on Spring Creek, Fort Collins

In the depth of winter, we need to remember how beautiful plants flower every year. This photography

show covers most of the ecosystems across Colorado. We might say it's just a bunch of pretty pictures for your enjoyment!

Tim and Ann Henson have been observing and caring for native plants of Colorado for more than 40 years. Ann worked in agriculture conducting weed control research. Tim taught biology and geology in the Longmont area. Now retired, Tim has taken his photography to new levels and watches birds. Ann spends time teaching in the Native Plant Master™ program and learning about lichens. They volunteer for CoNPS, Colorado Natural Areas Program, Wildlands Restoration Volunteers, and Rare Plant Monitoring.

Thursday, February TBD – Joint meeting with the Audubon Society - topic and date to be Announced

Wednesday, March 02 2011, 7 PM
"Re-Discovery of *Haptanthus hazlettii*
Alkaloid Study at Denver Botanic Gardens

Presenter: Dr. Donald L. Hazlett, Ethnobotanist, New World Plants, Pierce CO
Location: The Gardens on Spring Creek, Fort Collins

Wednesday, April 6, 2011, 7 PM
"Dirt for Dummies"

Presenter: Dr. Kari Sever, Soil Scientist,
Location: The Gardens on Spring Creek, Fort Collins

May 4, 2011, 7 PM
To Be Announced

PLATEAU CHAPTER

Chapter activities are scheduled throughout the year. For more information, visit www.conps.org or contact Chapter President Gay Austin at austinaceae@frontier.net or 970-641-6244

SOUTHEAST CHAPTER

Activities of the Southeast Chapter are scheduled throughout the year and include field trips and meetings. Regular chapter meetings (always with an educational focus) will begin in October in both Pueblo and Colorado Springs. Those wishing more information can e-mail us as SEtrips@gmail.com and we will add you to our distribution list.

Following is a report from the Southeast Chapter on their activities in support of the Society's dual mission of education and conservation.

Educational mission. -- The Southeast Chapter offered 18 successful field trips and classes during the 2010 growing season.

Field trips included ecosystems ranging from the “Birds and Botany” along Trout Creek, Teller County to the shortgrass prairie and canyons encountered in a “Descent to the Purgatory” in Otero County, and many habitats and species in between.

Classes included subjects such as “Essential Botany,” our annual “Grass I.D. Workshop” (in cooperation with CSU Extension – Pueblo, and the NRCS), botanical photography, and “How to Use a Botanical Key.”

The Southeast Chapter also helped support and promote the opening of the “Rare Imperiled Plants of Colorado” art exhibit presented by the Rocky Mountain Society of Botanical Artists. The exhibit is designed to educate the public and to encourage conservation of Colorado’s rare botanic species and their habitats.

For information on future SE Chapter educational opportunities and field trips, please contact Ed Roland, edwardroland@gmail.com.

Conservation mission. -- The Arkansas River valley is one of the top five hotspots for plant biodiversity in Colorado. In particular, the areas around Lake Pueblo Reservoir have four plant species that are endemic to Colorado: the Arkansas Valley Evening Primrose, *Oenothera harringtonia*, the Golden Blazing Star, *Nuttallia (Mentzelia) chrysantha*, the Pueblo Goldenweed, *Oenopsis puebloensis*, and the Round-leaf Four-o’clock, *Oxybaphus (Mirabilis) rotundifolia*. Other rare species include the dwarf milkweed, *Asclepias uncialis* and the Alpine Feverfew, *Parthenium (Bolophyta) tetraeuris*.

In collaboration with the state’s Colorado Natural Areas Program – Resource Stewardship section, the southeast Chapter has embarked on two new conservation initiatives to monitor these rare plant species in their native habitats. We will be collecting information throughout the year from designated sites around Lake Pueblo State Park and its adjacent State Wildlife Areas.

In addition, along with the Wildlands Restoration Volunteers organization, we are also participating in restoration efforts in the Garden Park area near Canon City by collecting and processing native plant seeds. For more information on these SE Chapter conservation volunteer opportunities, please contact Michele Bobyn at mbobyn@hotmail.com.

LIFETIME ACHIEVEMENT / MEMBERSHIP

Ronald L. Hartman
Rocky Mountain Herbarium, University of Wyoming

“For his lifelong commitment to botany in the Southern Rockies and to teaching future botanists”, Ronald L. Hartman was granted a Lifetime Achievement Award and Lifetime Membership at the CoNPS Annual Meeting.

Ron completed his Master’s at Wyoming, and his PhD at the University of Texas. He came back to the West as Curator of the Rocky Mountain Herbarium in 1977. His leadership in this position has directly benefited Colorado botany. His contributions to the Flora of North America also benefit our botany by his service on the Board of Directors, Rocky Mountain Regional Coordinator, Co-editor (with Richard Rabeler) for Caryophyllaceae, Primulaceae, and Violaceae. His western experience includes the plants of Colorado in his treatment in Systematics of Western North American Apiaceae, Asteraceae, and Caryophyllaceae. Our state benefits to his contribution to the Rare Plant Technical Committee: Colorado, New Mexico, and Wyoming.

Under Ron’s tenure as curator of the Herbarium, it has actively grown to be seventeenth in size in the nation with 825,000 specimens and is now the largest facility of its kind between St. Louis and Berkeley.

During his academic career Ron has won honors for outstanding teaching, and continues to actively teach courses that emphasize solid botany core knowledge -- taxonomy, plant evolution, phylogeny, and plant molecular systematic. Since 1977, Ron’s program has educated 53 students who keep the flame of good botany aglow.



Photo by Bob Henry

AQUILEGIA

Newsletter of the Colorado Native Plant Society

Aquilegia is the newsletter of the Colorado Native Plant Society, and is available to members of the Society and to others with an interest in native plants. Four regular issues are published each year, plus a special issue focused on the annual Society meeting held in September of each year.

Past issues from 2003 to the present are available on the Society's website at <http://www.conps.org/newsletter.html>.

Deadlines

Submissions to *Aquilegia* are accepted throughout the year, although deadlines for publication are:

- January 15 (Spring issue, published February 15)
- April 15 (Summer issue, published May 15)
- June 15 (Annual Meeting issue, published July 15)
- July 15 (Fall issue, published Aug. 15)
- October 15 (Winter issue, published November 15)

Announcements, news, articles, book reviews, poems, botanical illustrations, and other contributions are requested for publication. Articles in a range from 500 to 2000 words in length are welcome, but content is more important than word count. Proposals for periodic columns or content are also welcome.

Please refer to a previous edition of *Aquilegia* for guidelines (these can be readily obtained online – see above). However, you need not be overly precise about format as text will be formatted during editing and layout for consistency of style. Dr. William A. Weber's nomenclature for the scientific names of plants should be followed, italicized and capitalized properly. Please proofread all material carefully and use "spell check".

Other guidance:

- Previously published articles submitted for reprinting require permission.
- Digital photographs or line drawings are also solicited. Be sure to include credit for images.
- Please include author's name, address, and affiliation in all contributions.
- Please submit all contributions as Word® attachments to bh.prairieink@gmail.com.

All contributions are subject to editing for brevity and consistency, with final approval of material changes by the author.

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

Please direct questions or comments regarding the newsletter to the Editor, Bob Henry, at bh.prairieink@gmail.com.

SPECIAL MERIT AWARDS

Leo Bruederle, *Aquilegia* editor
Kim Regier, *Aquilegia* layout editor

At the 2010 CoNPS Annual Meeting, the previous *Aquilegia* editor, Leo Bruederle, and layout editor, Kim Regier were each given the Society's Special Merit Award. They have greatly benefited our members by improving *Aquilegia* over the last five years. The newsletter expanded in both quantity and quality. Their learning about and mastery of new software gave our newsletter a polished appearance that members appreciate.

Our Society survey of 2008 said 94% of the members read *Aquilegia* and 81% had favorable impressions. This team also worked diligently to lower costs and ease of production and delivery to our members. The lower cost resulted in an "extra" issue for Annual Meeting information and registration.



Photo by Bob Henry

MEMBERSHIP APPLICATION AND RENEWAL FORM

Name(s)
Address
City State..... Zip
Phone ____ - ____ - ____ E-mail

MEMBERSHIP CLASS

Dues cover a 12-month period.

CHAPTER *You are free to affiliate with any chapter you choose and to attend the meetings of any chapter. Chapters do not have drawn map boundaries; the locations below indicate the usual meeting place of chapter meetings.*

- Boulder Metro-Denver Northern
 Plateau San Luis Valley Southeast

- Individual (\$20.00)
 Family / dual (\$30.00)
 Senior (65+) (\$12.00)
 Student (\$12.00)
 Organization (\$30.00)
 Supporting (\$50.00)
 Lifetime (\$300.00)

OPTIONAL E-MAIL DELIVERY OF *Aquilegia*

Many members prefer to receive the newsletter electronically via e-mail, and this saves the Society considerable printing and postage expense. If you would like to receive the newsletter by e-mail, please check this box and provide your e-mail address above.

- Please deliver *Aquilegia* electronically to the above e-mail address.

DONATION \$ _____ General Fund

Endowments in support of small grants-in-aid of research:

- \$ _____ John Marr Fund: research on the biology and natural history of Colorado native plants.
\$ _____ Myrna P. Steinkamp Memorial Fund: research and other activities to benefit the rare plants of Colorado

Mail to: Eric Lane, P.O. Box 200, Fort Collins, CO 80522

Please make checks payable to "Colorado Native Plant Society"

Dues and contributions are tax-deductible.

WELCOME, NEW MEMBERS!



Chuck Aid & Cyncie Winter, Lawrence Allison, Marie T Bartol, Gabriel Bernier & Melissa Dozier, Wendy Brown, Nathan Cassell, Lee Cassin & Dave Tolen, David & Deborah Clark, Deborah Clem, Doris Duckworth, Donna Duffy, High Plains Environmental Center, Emily Festger, Barbara Fritts, Ann Gerber, Patricia Good, Bonnie Greenwood, Ghislaine Griswold, Dawn K Gwin, Bob Hastings, Danielle Hosler, Bernadette Kuhn, Pamela Langlois, Lynn Lewis, Connie Lorig, Linda & Dave Overlin, Margot Pritzker, Michael K Ramsey, James Ratzloff, Barbara Scott, Robert & Catherine Sounart, James Sperry, Deborah Stanton, Kristine Truesdell, Linda & Tom Vandezande, Claudia Vanwie, Emily Walker, Karen Wells, Ron West, Larry White, Wynne Whyman, Matthew Yurkovich, Yongli Zhou



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.

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Colorado Native Plant Society

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CALENDAR 2010

BOARD MEETINGS

October 2 Board Meeting, Regis University, Denver
November 13 Board Meeting, Regis University, Denver

WORKSHOPS

October 2 and 3 Vegetative Characters Workshop
November 13 and 14 Malvaceae of Colorado

CHAPTER ACTIVITIES

Boulder Chapter

October 14 Alpine Wildflowers: High Altitude Superheroes
November 11 Wetland and Riparian Ecosystems of RMNP
December 9 Darwin's "abominable mystery" and the search for the first flowering plants

Metro-Denver Chapter

September 28 Tales from the Uttermost Ends of the Earth:
Ushuaia to Barrow
October 26 Mount Evans Bryophytes
November 30 History and Future of the USDA NRCS Plant
Materials Program

Northern Chapter

October 6 Henry David Thoreau: Amateur Botanist
November 3 TBA
December 1 Effect of Climate Change on Grasshoppers of the
Southern Rocky Mountains