

Kelseya

Newsletter of the Montana Native Plant Society

www.umt.edu/mnps/

A Little Mustard that Looks for Land Mines

by Peter Lesica

Land mines are a persistent residue of wars that seem to plague our world. It is believed that there are more than 100 million land mines in at least 45 countries and that land mines kill or injure 26,000 people each year. Recently a Danish biotech company announced they believe they have modified a little weed in such a way that it can detect land mines and help save lives.

Early this year Aresa Biodetection announced that they have developed a genetically modified form of Thale cress (*Arabidopsis thaliana*) that turns red when its roots are exposed to nitrogen dioxide, a gas given off by unexploded ordnance. Thale cress is a small annual weed in the Mustard Family native to Europe and Asia but widely introduced throughout the world. It is predominantly

self-pollinating. In Montana Thale cress is uncommon in the western portion of the state. The Aresa form of Thale cress is male-sterile so that it cannot interbreed with wild populations. It is not "transgenic" in the usual sense of the word because only genes found in the species were used to develop the mine-detecting variety. This means that the same mine-detecting form could have been developed using traditional plant breeding techniques, but would have been much slower.

It is hoped that the modified Thale cress can be sowed into fields to locate the land mines which are then removed, making the field safe for agriculture. Aresa plans to perform restricted tests this year with field-tests in Denmark and abroad soon after. It is hoped that mine-detecting Thale cress will be available for use in a couple of years.



Arabidopsis thaliana

There is a great deal of concern over genetically modified organisms (GMO) among many biologists as well as the general public. It has been shown that GMOs can transmit their modified genetic makeup to wild relatives, possibly resulting in an ecological imbalance in native communities. It is also feared that genes from other species can make transgenic crops different in undetected ways, resulting in human health problems.

Aresa scientists appear to have sidestepped these potential problems by developing a male-sterile variety and using only genes native to Thale cress. If their mine-detecting weed does what it is designed to do, we may have an example of universally acceptable genetic engineering.

Height of Fashion

After several seasons of offering smashing flora-inspired casual wear, it was decided that we needed a runway show to view these delightful garments. This year's Annual Meeting was the place to be. A talented lineup of models paraded before the attendees adorned in colorful selections of cotton, thread and ink. The MC, our ever-entertaining secretary Pat Plantenberg, provided the narration, offering insight into the T-shirt designers and the past annual meetings the shirts were created for. Highly trained fashion models displayed shirts ranging from the *Kelseya* style, the first we have record of, to this year's delightful Beartooth mud-colored number with the smashing pocket appliqué and everything in-between, except for the 1995 design (see page 9 for

more information about this lapse). Thanks to everyone



Madeline, Linda, Maria and Beth model the fashionable Paradise Valley T-shirt

for purchasing these attractive, collectable and never out of style shirts over the years (eleven in all) as fundraisers for our society. Don't be caught in public without one.

Linda Iverson



President's Platform

Betty Kuropat



Above the Trees Report

July seems like a long time ago. Another summer past. I hope you had as much fun *Above the Trees* in Red Lodge as I did. If you missed the Annual Meeting, you missed a great time. The field trips were diverse, interesting, and visited beautiful alpine habitats. I heard many trip leaders complemented for their knowledge, enthusiasm, and organization. Most of the trips were "native plant workshops". The Plant ID Contest was lots of fun, as well as challenging. Wayne Phillips came up with some new rules this year to encourage our participation and teamwork (see page 6). The camp and meals were great. The chance to visit with old friends and meet new ones is always special. We had well over 100 people in attendance. Thank you so much to the Artemisia Chapter for hosting a fantastic weekend.

For the Board of Directors, the weekend started with a meeting. We only had an hour, so it wasn't really a bored meeting. The major topics were somewhat mundane and not particularly plant-related, but we managed to keep it lively. 1) Insurance: Timbercrest Girl Scout Camp required liability insurance. We do not have insurance and have gotten by with an indemnity statement on your registration form. We could buy insurance annually that would cover paid members on all MNPS sponsored activities. We bought insurance for the Annual Meeting and will decide on the option of annual insurance at

the fall board meeting. 2) Some of you saw the board taking pictures of themselves on Saturday morning. At the spring meeting we decided to get an annual photo during the Annual Meetings for our records. 3) Secretary Patrick has been working on compiling a notebook with a list of officers' duties, policies, by-laws, minutes, and other business. He presented the latest updates and told us how to organize our records so all that important stuff is in one place. 4) We scheduled the fall meeting for October 16 and listed some topics including: liability insurance, splitting dues between state and chapters for "living lightly" memberships, compensation rate for mileage, if and how MNPS should function as an "activist" group, and (the big one) evaluating/budgeting for project funding proposals.

At the general meeting on Friday night we heard the election results. Along with the notable electoral demographics, we welcomed Dave Hanna as the new Vice-president, Connie Jacobs as Eastern Montana At-large Representative, and Patrick Plantenberg (incumbent) as Secretary. Thank you all for your willingness to share your energy, ideas, and time.

An Outstanding Service Award went to Marilyn Marler (see page 5). She is our webmaster and president of the Clark Fork Chapter. She has great ideas and is ready to tackle any job that needs to be done. Peter Lesica presented the award certificate along with a beautiful drawing of arrowleaf balsamroot by Missoula

artist Nancy Anderson. Congratulations Marilyn!

The committees and chapters reviewed their accomplishments and goals for the next year. The Conservation Committee hopes to facilitate chapters responding to local issues. Many issues affecting native plants are more local or regional rather than statewide, such as national forest management plan revisions and county weed management plans. The Landscape/Revegetation Committee wants to get photos of native gardens onto our website, especially those we have sponsored or worked on (see page 3). The Small Grants Committee plans to move into the electronic age by accepting electronic proposals and doing their business primarily by e-mail. Most of the chapters shared what they had reported in the summer *Kelseyia*. Over the next year, several chapters plan to work on landscape information handouts tailored to their locale.

Fall Board Meeting

The fall Board of Directors' meeting is scheduled for October 16, at 10:00 a.m. in Helena. The meeting is open to all our members. As always, if you have any concerns, ideas, or input on the topics in front of the Board of Directors, please contact your representative or any board member and let us hear your views. Also, if you have ideas for projects that might require funding, the fall meeting is when we try to review proposals. Talk to your representative to turn your great ideas into accomplishments. I'll see you there.

Betty can be reached at 2688 Witty Ln. Columbia Falls, MT 59912 406-892-0129 e-mail: kuropat@bigsky.net

WELCOME new members!

The Montana Native Plant Society extends a warm welcome to the following new members:

Tony & Marlene Beltramo, Susan Bolgiano, Diane Cunningham, Charles French, Mary Frieze, Christine Steeb Gauss, Hedi & David Gray, James Hatley, Patricia Hogan, Jan Krueger, Judy & Gary Matson, Sarah Mayer, Marta

Meengs, Wendy Ninteman, Jim Oates, Shawne Penwell, Marieke Rack, Marlene & Julian Renwyck, Wayne Sand, Dan & Delight Sullivan, Sally Tibbs, David Tonkyn, Susan Wall-MacLane and Annette Zimmerman.

Your participation and support are important to us! Please contact your chapter representative with any ideas or suggestions you may have. You will find them listed on the last page of this newsletter.

SW Montana Plant Surveys Yield New Finds

Southwest Montana has a large number of globally rare plant species, many of which inhabit foothills and mid-elevation grassland habitats on public lands administered by the Bureau of Land Management. In 2002 and 2003, Peter Lesica and the Natural Heritage Program (MTNHP) conducted surveys with BLM support to better understand the status of these plant species. Surveys focused on BLM lands in Beaverhead and Madison counties.

These surveys were extremely productive, documenting 48 new occurrences for Vascular Plant Species of Concern.

Four globally rare species—*Cymopterus hendersonii*, *Draba ventosa*, *Eriogonum soliceps* and *Primula alcalina*—were discovered on BLM lands in Montana for the first time. *Primula alcalina* was thought to be extirpated in Montana, and the meta-population discovered in the Cabin Creek drainage is now the only known occurrence in the state. Herbarium research confirmed that *Erigeron parryi*, first described over 100 years ago, is a distinct species found only in southwest Montana. Five populations of this Montana endemic are known to occur on BLM lands administered by the Dillon Field Office. In addition, five Montana Species of Concern that are not globally significant were documented on BLM lands here for the first time: *Allium parvum*, *Braya humilis*, *Erigeron asperugineus*, *Kobresia simpliciuscula* and *Pedicularis crenulata* (the first record for Montana).

This newly acquired data, along with information summarized from previous studies, was used to expand and improve ecological and management information for globally rare plants on BLM lands administered by the Dillon Office. In addition, seven landscapes of particular significance for conservation of globally rare plant resources were identified based on the presence of high-quality populations of multiple species. Site descriptions summarize landscape-level ecological processes and their effects on plant species of concern at these

sites, as well as management recommendations for each site. Survey and research priorities for both globally rare species and significant conservation sites are also identified.

As BLM reviews and revises its Sensitive Plant list, this info should provide valuable guidance.

Sue Crispin, MTNHP

Landscape Committee Plans Coming Year

The Landscape Committee meeting was well attended at the Annual Meeting. We discussed goals for the coming year. We plan to continue updating the source guide this winter with updates posted on the web. When all our current source guides are gone, we will create a detailed list of native plant sources on the website with key species they offer and will probably omit the large plant list. We tossed around ideas for a message board on the website enabling an interchange of information on growing natives and a photo page of native landscapes. The Clark Fork and Valley of Flowers chapters plan to complete their "gardening with natives" packets this winter. Gardeners are always encouraged to contribute articles to the *Kelseya*, as well.

If you are interested in helping out on the committee, my number is on the back page. Just call!

Linda Iverson

Survey of Consumer Preferences for Native Plants

Landscaping with native plants is a popular idea, but few people truly know what native plants look like. To gauge whether people "like what they say they want", Yousef Zadegan, an MSU assistant professor in landscape design, and Robert Gough, a horticulture specialist with the Montana State University Extension Service are conducting an on-line survey to better understand your preferences for native plants in urban landscapes. The survey includes photos of native Montana plants and landscaping scenes with both native and non-native plants. Viewers are asked to gauge their familiarity with the various plants, trees and shrubs, and are asked to choose personal preferences among the various landscaping styles—some using traditional plants; others using native plants.

Please take 15-20 minutes to answer some questions about your interest in gardening, native plants, and home landscaping. Your participation will help improve the production, marketing, availability, and use of native plants in both residential and commercial landscapes here in Montana and will aid in preserving our unique regional identity.

The native plant survey is accessible on-line on the MNPS website at: www.umn.edu/mnps.

Yousef Zadegan

MEET THE MONTANA NATIVE PLANT SOCIETY BOARD OF DIRECTORS

Left to right, back row: Dave Hanna, Madeline Mazurski, Joanne Jennings, Drake Barton, Kathy Lloyd, Pat Plantenberg, Linda Iverson, Wayne Phillips, and Shannon Kimball.

Left to right front row: Marilyn Marler, Beth Madden, Leslie Marty, Betty Kuropat and Peter Lesica. Not shown: Connie Jacobs, Catherine Cain, Dennis Nicholls, Rebecca Kallevig, Cathie Jean, Monica Pokorny and Marijka Wessner.



PUBLICATIONS

Available from MNPS

The third edition of the *Source Guide for Native Plants of Montana* is now available. The cost is \$6.00. Send a check made out to MNPS to: MNPS Publications, 1270 Lower Sweet Grass Road, Big Timber, Montana 59011. The cost will cover postage. The guide lists 55 sources for over 500 species of trees, shrubs, forbs and grasses. This edition has e-mail and website addresses for many sources and a handy common name index. The guide is a must for home landscapers, native plant gardeners and those involved in restoration projects. The *Source Guide* will include an insert with recent updates for each source. Contact information for several new sources is included but their plants are not listed. If you already purchased a *Guide*, you can find the update on the website or send a SASE to MNPS Publications (see address above).

Available free from MNPS Publications: MNPS membership brochures, *Plant Collection Guidelines for Teachers* brochures, and *Echinacea Cultivation Information*. Also available are additional copies of *Plants Collected in Montana During the Lewis & Clark Expedition*.

Please send a SASE to the address above to receive any of these publications.

Available from the Flathead Chapter: a packet of information about gardening with Flathead Valley native plants. The packet can be mailed to you for \$3.50. Contact Tara Carolin at P.O. Box 382, West Glacier, MT 59936, call 406-888-7919 or e-mail: vance.tara@centurytel.net

Available from the Kelsey Chapter: a packet of information on landscaping with natives in the Helena area. The packet will be mailed to you for \$3.50. Contact Kathy at 449-6586 or e-mail: drakekath64@msn.com to order.

Visit the MNPS website at www.umd.edu/mnps to download in pdf format *Weeds Listed as Noxious by Montana Counties*, a list of weeds that are targeted by each county; *Guidelines for Selecting Horticultural Plant Material for Montana*, voluntary guidelines by MNPS and the Montana Nursery and Landscape Association; and *Lewis & Clark Plants Collected Elsewhere That Occur in Montana*, an inclusive list of Lewis & Clark plants found in the state.



The Story of the Bitterroot a cross cultural odyssey of discovery

Looking Glass Films
Directed by Steve Slocomb
\$23.95 + \$2.00 shipping

The *Story of the Bitterroot* is 68 minute DVD that examines the history, culture, native uses and future of Montana's state flower. The DVD is divided into 8 parts that can be viewed individually, making it ideal

for classroom use and educational programs. The eight segments are: The Legend of the Bitterroot, The Corps of Discovery, The Botany, The State Flower, When We Were Children, Mr. Bitterroot, The Gathering and The Future. The DVD weaves traditional and historical uses and perceptions about bitterroot with more modern understandings of plant biology. The Corps of Discovery segment details Jefferson's mandate to the Lewis and Clark Expedition, collection of the plant near Traveler's Rest and the story of how an old, dried root that was planted came to life, hence the name *rediviva*. The Legend, When We Were Children and The Gathering portions delve into the role bitterroot plays in the culture and traditions of Salish tribal members and firmly roots our state flower in a more ancient time.

In 1995, the film's director, Steve Slocomb, began the project that evolved into the current film. The Montana Committee for the Humanities presented a grant for the project in 2001 that spurred its integration and completion. Slocomb has done other films including U.S. Forest Service educational videos, promotional videos, educational videos and theatrical videos.

The DVD is artistically produced and

the filming is artfully done. It incorporates music and interesting visual techniques. No matter how much you may know about bitterroot, its history and culture, you will learn something new from this film. Educators will find it especially useful and MNPS chapters may want to show the DVD as a program for their membership and the public. To order a copy of the DVD visit: www.bitterroot.tv.

Kathy Lloyd & Drake Barton

**NATIVE PLANT CONSERVATION
CAMPAIGN NEWS** is now posted on the NPCC web page. Recent items have been posted, and we are gradually posting past items.

To access NPCC News go to the NPCC website Make A Difference Page: <http://www.cnps.org/NPCC/MakeADifference.htm> and click NPCC News.

Emily B. Roberson, Ph.D.

**"Ultralight Wildflower Guide
to the Central Montana
Rocky Mountains" 665 photos**
333 species, Only 1.5 oz, Waterproof, 3" x 5"
\$21.95 Postpaid Diamond Springs Press
8085 Diamond Springs Dr.
Helena, MT 59602-9312

2004 MNPS ELECTIONS HUGE SUCCESS U.S. POSTAL SERVICE MAY SUFFER IN 2005 ELECTIONS!

New officers were installed at the 2004 Montana Native Plant Society (MNPS) Annual Meeting in Red Lodge on July 9 (see page 2 for officer information). Although the 118 total ballots lagged behind the 2003 record number of 139, MNPS members showed that they care about the election process and their officers even in uncontested elections. Fifteen percent of the 813 eligible voters turned out at the polls. The Maka Flora Chapter won the \$100 prize for the chapter with the largest percentage of voters for the second year in a row with 46% of their members voting!

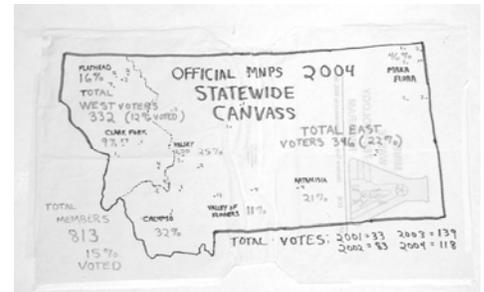
The small chapters (Calypso, Maka Flora, and Artemisia) dominated the elections in 2004 and had voter turnout that exceeded 2003 levels. All of the large chapters (Kelsey, Clark Fork, Flathead, and Valley of Flowers) had lower voter turnout than in 2003. Voters from east of the Divide decisively beat the western voters 22% to 12%. Jen Asebrook of Whitefish and Jean Pfeiffer of Missoula cast the first ballots in 2004.

MNPS Secretary Patrick Plantenberg from Townsend

reported various election statistics gleaned from the mail-in ballots at the Annual Meeting. The Election Committee, which is dominated by Luddites, was saddened when President Betty Kuropat asked the MNPS Board of Directors to consider electronic election ballot options in 2005. Patrick was heard saying "How can I report election statistics without postage stamps and address labels?!" The Townsend Electoral College is scrambling to research electronic balloting procedures for 2005. Rumor has it that the U.S. Postal Service plans to picket MNPS offices in Missoula. Look for an exciting new way to vote in 2005—no more hanging chad!

Patrick Plantenberg

The Official
MNPS 2004
Statewide
Canvass



Marilyn Marler Receives Outstanding Service Award

To a standing ovation, Marilyn Marler received the Outstanding Service Award presented by the Montana Native Plant Society at the Annual Meeting in July. Peter Lesica, who presented the award, noted Marilyn's many accomplishments and her dedication to the goals of the society. Marilyn holds a BS in Biology from the University of California at Davis and a MS in Ecology from the University of Montana. In her day job Marilyn is the Open Space Weed Specialist for the University of Montana and the City of Missoula, but after work Marilyn dons many other hats. In fact, it is hard to believe she has time to go to work. Marilyn is president of the Clark Fork Chapter and is always ready with ideas and inspiration. She started a group called Prairie Keepers that rescues native plants from grasslands scheduled for development. Marilyn has been educating high school students about weeds and native grasslands, cultivating an appreciation for Montana's native flora among the next generation charged with preserving it. Her own front yard is a wonderful native prairie, established by Marilyn and her husband David. But most visibly,

Marilyn is our webmaster and is responsible for the MNPS website. Our presence on the web has increased interest in Montana's native plants and membership in the society and serves as an educational tool available for the public at large. Marilyn was presented with a certificate and a beautiful drawing of arrowleaf balsamroot, produced and presented by Missoula artist Nancy Anderson. Thank you Marilyn!

Kathy Lloyd & Peter Lesica

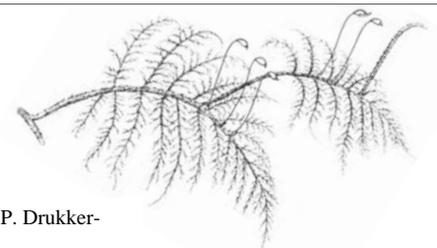


Marilyn Marler receives the Outstanding Service Award for 2004

Lyn Baldwin Honored

Lyn Baldwin, member of the Kelsey Chapter, was recently honored with the Sharp Award Honorable Mention for her paper, co-authored with Gary Bradfield, *Remnant patch size influences bryophyte richness and abundance in British Columbia temperate rainforests: implications for management*. The award was presented at the annual meeting of the American Bryological and Lichenological Society in Snowbird, Utah. Lyn was also awarded the Trevor Goward Prize for best student presentation (her topic was on the effects of forest fragmentation on bryophytes on Vancouver Island) at the 77th annual meeting of the Northwest Scientific Association held in Ellensburg this past March.

It is always a pleasure to report on the accomplishments of MNPS members. Send your news items to the *Kelsey* editors.



P. Drukker-

Hylocomium splendens or stair-step moss, a common forest species

Annual Plant ID Contest

The 10th annual Wayne Phillips Plant ID Contest was a huge success at the 2004 Montana Native Plant Society's Annual Meeting—*Above the Trees*, held at Camp Timbercrest near Red Lodge.

The plant species in the contest were: Harebell (*Campanula rotundifolia*), Palish Indian Paintbrush (*Castilleja pallescens*), Blanketflower (*Gaillardia aristata*), Ballhead Sandwort or Mountain Sandwort (*Arenaria congesta* or *A. capillaris*—the experts couldn't agree), Silvery or Wyeth's Lupine (*Lupinus argenteus* or *L. wyethii*—the experts still couldn't agree), Sulphur Buckwheat (*Eriogonum umbellatum*), Horned Dandelion (*Taraxacum ceratophorum*—an alpine native brought from the Beartooth Mountains to trick us), Western Needlegrass (*Stipa occidentalis*), Woolly Cinquefoil (*Potentilla hippiana*), and lastly, Clustered Broomrape (*Orobanche fasciculata*).

I think the team categories were more fun and generated better participation than previous contests, and should be continued. In the Student and Novice categories field books and notes were used and encouraged. In the other categories, no field books or notes were allowed, to encourage study of the plants in the Plant Demonstration. Most of the plants in the contest should be drawn from the Plant Demonstration, but "ringers" will be required to challenge the participants and spread the contest results. Limiting the teams to three people encourages more teams to enter, but should be flexible to allow a fourth person who might otherwise be left out.

Wayne Phillips

Education Outreach Internships Available!

Interns through the Student Conservation Association (SCA) will assist with an educational outreach program to local schools and community groups on habitat restoration, values of native plants, and conservation ethics. The program will work with local elementary schools and communities in southern Utah and along the Arizona Strip to highlight values of native habitats and threats to them. The interns will work alongside a National Park Service Park Ranger, providing classroom lessons and hands-on field trips in Cedar Breaks National Monument, Pipe Spring National Monument and Zion National Park. The interns will also help organize events for a weeklong Earth Day celebration in spring 2005, and assist Zion Vegetation Staff gaining skills in native plant restoration and native plant propagation.

See www.thesca.org or call SCA at 603-543-1700 for more details.

And the winners are!

Student First Place—Jason Smith

Novice Team First Place—Judy Hamilton, Ray Zimmey, Nancy Anderson

Mixed Team First Place—Helen Atthowe, Kirsten Boyle, Matt Lavin

Women's Team First Place—Jo Lace, Kathy Lloyd, Beth Madden

Men's Team First Place—Brian Shovers, Shannon Swanson, Doug Smith

Chapter Team First Place—Mojave (California)

Overall Winner Mixed Team—Helen Atthowe, Kirsten Boyle, Matt Lavin



Jason Smith, winner of the Plant ID Contest, student category. Jason says he uses common names, and given the state of flux in plant nomenclature, he may be onto something.

2005 Small Grants Program

The Montana Native Plant Society (MNPS) announces the tenth annual Small Grants Program. Grants up to \$1000 will be awarded in 2005 to fund projects that stimulate research, conservation, or educational activities and foster an appreciation for Montana's native plants and plant communities. Project or study proposals must pertain to native plants of Montana.

The small grants competition is open to residents of Montana or members of MNPS. The deadline for proposals is January 31, 2005. The winter issue of *Kelseya* and the MNPS website will include a grant application and complete proposal details. This year announcements will be circulated by e-mail and proposals will be accepted by e-mail. But don't fear, we'll continue to accept stamped envelopes as well.

In 2004, MNPS gave two awards: one to Lisa Beckiewicz, Porter Flagship Program in Missoula for her K-12 Conservation Education Curriculum at the Fort Missoula Conservation Nursery and a second award to Marijka Wessner, Weed Education Specialist, for a second printing of the poster *The 10 Most Desired Native Plants*. Both these small grants will play a positive role in promoting awareness and appreciation of Montana's native plants.

For more information contact committee chair Cathie Jean at: cjean@imt.net.

Cathie Jean

Grouse Springs Nursery Thanked for Plant Donation

The Clark Fork Chapter of the Montana Native Plant Society would like to thank Caroline Clemens of Grouse Springs Nursery in Polson (a great nursery and source for native plants) for her generous plant donation. Caroline contributed *Thuja plicata* and *Paxistima myrsinites* to the Lowland Moist Forest Garden, which is part of the Native Plant Garden on the University of Montana campus. Thanks again Caroline for all of your support and help with the garden.

Kelly Chadwick

Big Sky ketches

Western Redcedar (*Thuja plicata*)

by Jim Habeck



Western redcedar is a very well known tree species throughout much of northwestern Montana. Cultivated varieties of cedar are frequently used in landscaping our homes. It has accumulated an assortment of other common names: giant redcedar, giant arborvitae, shinglewood and canoe cedar. Although called "cedar", this tree, *Thuja plicata* (THEW-ya) is not really a "true cedar." The latter are different kinds of evergreens occurring elsewhere in the world. To avoid botanical confusion some plant biologists recommend we call redcedar, "arborvitae", but it's too late to try switching common names.

The natural distribution of western redcedar in Montana includes all of the counties north and west of Missoula, and some of the best displays of old growth giant arborvitae occur in moist ravines on the west side of Glacier Park. In the Bull River country, south of Libby and Troy, the Ross Creek Cedar Grove is a major visitor attraction. The Forest Service has designated it a protected Natural Area. In wet habitats that experience wildfires infrequently, individual redcedar trees may achieve diameters of 8 to 10 feet, and may live to a 1000 years or more. Some approaching this size and age occur in Idaho's DeVoto Memorial Cedar Grove, located on Highway 12 a few miles west of Lolo Pass.

The best displays of western redcedar occur in the Cascade and Pacific Coastal Mountains near Seattle. Ce-

dar's occurrence in northwestern Montana is often as a companion of western hemlock, *Tsuga heterophylla*, western yew, *Taxus brevifolia*, and grand fir, *Abies grandis*. These four species are dependent upon the presence of the Pacific coastal climate characterized by abundant moisture and relatively mild winters. In the geologic past, when a Pacific coastal climate penetrated even deeper into western Montana than today, redcedar and associated species occupied a much larger part of Missoula County. Today, small and isolated redcedar forests still persist in the upper reaches of Miller Creek, Deer Creek, Gold Creek and elsewhere, spatially stranded in moist ravines. Such disjunct cedar stands are geographically cut off from the main cedar populations by the low elevation, arid, grassland valleys existing today.

Physically, older redcedar trees exhibit expanded buttressed bases and canopy crowns that are mostly conical in shape; but sometimes ancient cedars are seen with multiple tops, a collection of living and dead spike tops. Cedar cones are woody and relatively small, usually no more than 1/2" long. Redcedar, although commonly associated with shady habitats, generally requires open, sunlit sites for successful seedling survival. In ancient shaded cedar forests, the lower cedar limbs may sag and touch the moist organic soil and take root, producing new cedar saplings without

the need of seed. Reproducing this way, a process called "layering", can create large clumps of cedars that are genetically identical.

Redcedar bark is often reddish-brown in color and is conspicuously fibrous; it can be easily peeled off in long strips. The limbs and branches typically arch downward, and the stems are covered with over-lapping, scale-like leaves, which collectively form flattened sprays. Each year a portion of the leafy sprays turn golden-brown and fall off as a single unit, not one leaf at a time. The exact appearance of limbs and leaves varies depending upon the direction or degree of exposure they have to either full sunlight or heavy shade.

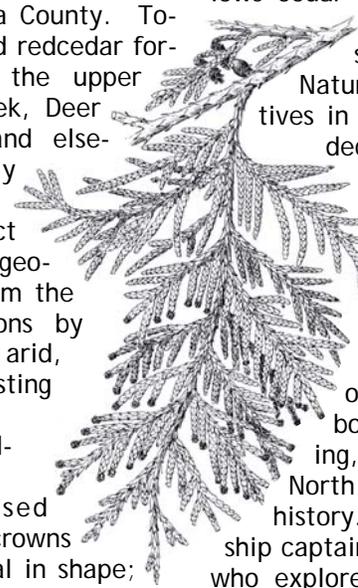
Cedar wood is reddish in color, straight-grained and very fragrant, almost pungent. The grain of cedar wood allows for easy splitting along nearly straight lines. In nature, strong winds can twist the cedar stems, causing the tree's annual rings to pull apart, causing "wind shake." This fracturing feature allows cedar wood to be evenly split

for roof shingles, home siding, and picket fences.

Natural chemical preservatives in redcedar wood slow the decay rate, lengthening its useful life for outdoor construction. The aromatic wood is used in cedar chests for its moth repellent properties.

How cedar acquired its other common name, arborvitae, literally meaning, "tree of life", is part of North American exploratory history. Early North American ship captains (including John Cabot, who explored the Gulf of St. Lawrence in the 1490's) noticed that a potent, Vitamin C-enriched tea could be brewed from cedar's bark and foliage. This was a lifesaver, quickly curing scurvy, a common and often lethal illness among mariners on extended sea voyages without a sufficient supply of fruit. A member of the Lewis and Clark party, Joseph Whitehouse, recorded in his notes the presence of western redcedar

(Continued on page 9)



CALENDAR

ARTEMISIA CHAPTER

Leslie Marty 445-9178

CALYPSO CHAPTER

Catherine Cain 267-3362

CLARK FORK CHAPTER

Thursday, October 14, 7:30 p.m.

Mary Louise Polzin, UM graduate student in the College of Forestry & Conservation, has been studying the Yellowstone River above Livingston for several years. She will tell us about her recent genetic studies and "Restoration of Cottonwood along the Yellowstone River: Can Vegetative Reproduction Help?" Rm L09 Gallagher Business Bldg. UM Campus.

Thursday, November 11, 7:30 p.m.

Mountain floras have similarities throughout the Northern Hemisphere. Norm Weeden is a professor in MSU's Department of Plant, Soil and Environmental Science, but he studies plant geography in his spare time and will show us slides giving us "A Comparison of the Sierra Nevada and Montana Floras: How Similar Are They?" Rm L09 Gallagher Business Bldg, UM Campus.

Thursday, December 9, 6:30 p.m.

Our annual Christmas potluck will be held at the home of Dana and Frank D'Andrea, 7200 Devonshire. One mile south of Blue Mountain Road turn off Hwy 93 onto Hayse Creek Road; go 0.4 miles to Devonshire and turn left to the third house on the right. Bring a dish to share. Don't forget to bring a few of your favorite slides from the summer. Call Dana (251-2943) if you need further directions.

Thursday, January 13, 7:30 p.m.

Bitterroot is certainly Montana's most famous plant. Come and see "The Story of the Bitterroot", a 68-minute documentary on bitterroot including interviews with tribal elders, historians, and botanists. The film's maker, Steve Slocomb will be on hand to answer questions and lead a discussion afterward. Rm L09 Gallagher Business Bldg, UM Campus.

EASTERN MONTANA

For more information about Eastern Montana events call Connie Jacobs at 622-5266.

Saturday, October 9

"Hike to Devil's Glen" led by Fay Schaller. This is a moderate to strenuous all-day hike co-sponsored by Montana Wilderness Association. For more information or to make a reservation call Fay at 264-5465.

FLATHEAD CHAPTER

The Flathead Chapter is meeting this fall at the Mennonite Church in Creston. From the junction of Hwy. 35 and 206 (Woody's Corner), take Hwy. 35 approximately 1.1 miles south to Mennonite Church Rd. Turn left. The church is on your left in two miles. From Bigfork on Hwy. 35, turn right by the Creston School, drive 1 1/2 miles to Mennonite Church Rd., turn right, church is on your left after 1 mile. A general meeting is at 5:30 (everyone invited). Programs start at 7:00 p.m.

Wednesday, October 20, 5:30 p.m.

Potluck, social, and planning meeting for the upcoming year.

Wednesday, November 17

Program TBA. Call Rachel Potter (892-2446) or Shannon Kimball (837-0553) for title.

Wednesday, December 15

"Annual Christmas Party" at Edd and Betty Kuropat's in Columbia Falls. Come at 5:30, potluck at 6:00. Bring a recycled or under \$5 gift. Call Betty (892-0129) or Rachel (892-2446) for directions.

Wednesday, January 19

"Sensitive Plants of the Flathead National Forest" by Lihn Davis, Flathead National Forest Botanist.

KELSEY CHAPTER

For more information about Kelsey Chapter programs and events, call Kathy at 449-6586.

Tuesday, November 9, 7:00 p.m.

"Story of the Bitterroot", a 68 minute DVD with interviews, music and great cinematography will be shown

and popcorn will be provided. Lewis & Clark Library, large meeting room.

Saturday, December 11, 6:00 p.m.

"Holiday Potluck and Slide Show", our annual festive gathering will be held at Jo Lace and Brian Shovers' home at 210 S. California St. in Helena. Bring a dish to share, your own table service and some of your favorite slides from the summer (or whenever).

MAKA FLORA CHAPTER

For information about the Maka Flora Chapter or events call Rebecca Kallevig at 488-5455.

VALLEY OF FLOWERS

During the fall and winter, the Valley of Flowers Chapter meets on the second Tuesday of each month, except December, in Room 108 of the Agbio-Science Building at MSU. The building is on South 11th, and parking is free in the evening in the lot to the north of the building. Meetings begin at 7:00 pm. For more information contact Monica Pokorny at 763-4109.

Tuesday, October 12, 7:00 p.m.

Matt Lavin and Tim Seipel will present "Vegetation of Burke Park; Status of Native and Non-native Plants." Matt is a professor at Montana State University and Tim is a MSU graduate student in the Dept. of Plant Sciences and Plant Pathology.

Tuesday, November 9, 7:00 p.m.

Denine Schmitz, ecologist at the Big Sky Institute, will present "Riparian Areas Plants of Southwestern Montana - a picture tour and discussion of seeps, springs, headwater streams, and small and large rivers."

WESTERN MONTANA

Call Dennis Nicholls at 295-4768 for details on Western Montana activities.

Remember the *Kelsey*!

Material for the *Kelsey* can be submitted anytime, but the deadline for inclusion in the winter issue is December 10. Please send field trip reports, book reviews, committee reports, plant articles, research results, news items, member achievement information, images, program subject material and anything else of interest to the editors at: drakekath64@msn.com.

And thanks for remembering the *Kelsey*!

(referred to as a "tall Strait Sippass") on September 14, 1805. The Corps of Discovery encountered redcedar as they passed through the mountains between Montana and Idaho. Considering the journal entry date, and approximate location, the redcedar Whitehouse observed could easily have been within the DeVoto Cedar Grove, or nearby.

The undaunted, courageous explorers eventually discovered that redcedar was very abundant in the Pacific coastal region where they made their winter encampment. They witnessed and described the important role redcedar played in the daily lives of Coastal Indians. Although not a food source, West Coast tribes depended upon redcedar nearly as the Plains Indians depended upon bison for basic survival. Lewis and Clark describe the Indian's construction of canoes from cedar wood, the use of cedar bark in making rain-shedding clothing and head gear, and the use of bark strips in home construction and basket-weaving. Lewis and Clark were especially impressed with the durability and maneuverability of the cedar canoes through heavy ocean waves. Anthropologists subsequently learned that Native Americans in western Montana and northern Idaho made many of the same uses of cedar wood and bark in their daily routines.

The next time you travel in Glacier Park, stop and hike the Trail of the Cedars near Avalanche Campground and you'll experience the grandeur of an ancient redcedar grove. You can't help but be impressed with this tree.

MNPS Wants You!

If you would like to become more involved with the Montana Native Plant Society, consider joining one of our statewide committees. We have committees that deal with conservation, landscaping and small grants issues. Your suggestions and input would be greatly appreciated. The committee chairs are listed on the back of this newsletter. Give one of them a call today!

Peatlands Need Bigger Buffers to Protect Species

In 2002, Heritage Program ecologists surveyed peatlands on the Kootenai National Forest in northwestern Montana through a cooperative project with the U.S. Forest Service. Peatlands are an uncommon type of wetland in Montana and support 40 plant species of concern or about 9% of the state's rare flora. These species-rich wetlands are characterized by wet, organic, and nutrient-poor soils. Widespread timber harvesting and related road building have raised concerns that increased sedimentation and nutrient inputs may alter vegetation diversity and nutrient balance. Although existing regulations require small buffers to be left around peatlands, the effectiveness of those buffers had not been evaluated.

In order to test the effectiveness of these buffers, Heritage ecologists sampled eight ecologically similar rich fens, comparing the extent of roading and logging within 50- to 200-meter buffers to vegetation and soil nutrient concentrations within the fens. The results showed that soil nutrients increased as the buffer area—the average distance from the peatland boundary to the nearest road or clearcut—decreased. This relationship was observed at distances of up to 100 meters from peatlands. Increased nutrient concentrations were in turn associated with decreased richness and diversity of vascular plants. We also found that the occurrence of rare species was associated with high vascular plant diversity. These results are significant because the conservation value of peatlands is due in part to the high diversity of species and the large number of rare taxa that they support.

This study suggests that buffer widths required under existing regulations (8-30 meters) do not effectively protect peatlands from adjacent land uses. Increasing buffer distances to 50 or 100 meters may help reduce nutrient inputs from adjacent land uses and thereby maintain the quality of these distinctive wetlands.

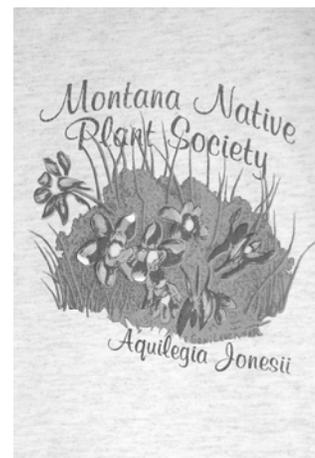
The 1995 T-shirt... a real fashion statement

Patrick Plantenberg, MNPS Secretary, who narrated the fashion show at the Annual Meeting in Red Lodge, would like to apologize to Sheila (pronounced Shila) Bjornlie from Monarch and the Eastern-at-large members for forgetting to recognize their efforts to organize the 1995 Annual Meeting. Sheila was wearing the 1995 MNPS Annual Meeting T-shirt at the first annual fashion show and in the flurry of the moment was overlooked.

The 1995 Annual Meeting was held near Monarch in the Little Belt Mountains. The T-shirt featured Jones's columbine (*Aquilegia jonesii*). Jones's columbine is a small, upper montane plant found in the Little Belts and elsewhere, often on limestone soils. The flower on this little species is as big as any columbine flower. The T-shirt artist was Agonia Lauckner.

Harvey and Sheila were among a small group that organized the very successful non-chapter meeting in 1995, and Harvey has worked very diligently on the several editions of *The Source Guide for Native Plants of Montana*. Harvey and Sheila are best known for winning 4 raffle prizes at one MNPS meeting. Sheila and her husband Harvey are MNPS and California Native Plant Society members and are interpreters for the state park system in the Santa Monica Mountains in the wintertime. They joined the CNPS to attend classes and learn about California native plants.

Patrick Plantenberg



Rep Rap with Western Rep. Dennis Nicholls

Green. Have you ever stood high on a mountain and looked out across the landscape and tried to count the number of different shades of green you see? I've done that all summer long and came up with 122. At least. This has been a green summer in the lower Clark Fork Valley. After a pretty warm and dry July, we had the second wettest August on record (5.2 inches of rain is what I heard for the Noxon area). And the rains keep coming here in September.

All the moisture has resulted in the greenest summer I can remember. Of course, that has meant lush vegetation, especially grasses and sedges and the like. But wildflowers were plentiful throughout the summer as well.

We enjoyed the surrounding mountains in a variety of ways here through the Bull River Outdoors Programs, which MNPS co-sponsors. As always, a highlight of the season was having Pete Lesica come for our annual Exploding Car Battery Hike. This year there were no vehicle problems on the day of the hike, but two days afterward my truck broke down, so I think the jinx still has the power to reach out and disrupt someone's mode of transportation—even 48 hours after Pete leaves. We hiked to Rock Creek Meadows a little northeast of Noxon with Pete. The day was cloudy and cool with sprinkles, but the group was in good spirits and we saw plenty of native species. The thing is, we also saw lots of exotic weeds, too. It was discouraging to see orange hawkweed and other non-natives invading the meadows near the boundary of the Cabinet Mountains Wilderness.

How were the hucks in your area this year? Some reports came in of good patches in small isolated pockets, but overall it looks like a poor crop. I did enjoy numerous handfuls during a recent hike up around 5000 feet. Other berry bushes seemed to do quite well this year—serviceberries were pretty abundant and lots of mountain ash berries have graced open forests with splashes of red.

By the time you read this the sea-

son finale of the Bull River programs will have taken place at the Historic Bull River Ranger Station. It is being restored by the USFS and will be available as a rental next year. Thanks to MNPS for help with these nature education efforts. Each year many of these programs prove to be popular with folks and help to spread the word about native plants and ecosystems.



Debbie

Vaccinium membranaceum, a native huckleberry

FLATHEAD CHAPTER REPORT

With a successful summer season of field trips drawing to a close, Flathead Chapter members are gearing up for winter projects and programs. Don't miss our annual October potluck, which serves as the kick-off to our winter program series. It's the time we reserve to discuss potential projects and programs for the coming year, catch up with old friends, and welcome new friends! Bring a dish to share and program/project ideas. We'll meet at our new meeting location: the Mennonite Church near Creston. See the Calendar on page 8 for directions, and for specific programs and activities in the coming months.

Fall is the perfect time to plan for next year's landscaping changes. We encourage our members to "go native" with the help of the Flathead Chapter's native plant landscaping packet. The packet is full of useful information on gardening with native plants that are suited to our climate. Contact Tara Carolin (vance.tara@centurytel.net) if you are interested in receiving the packet, or check the MNPS website at www.umt.edu/mnps for ordering information.

Shannon Kimball

Rogers Pass to Lewis & Clark Pass—Field Trip Report

A rainy, gray morning turned into a beautiful day for a fieldtrip. Wayne Phillips led members of the Clark Fork and Kelsey chapters on a hike from Rogers Pass to Lewis & Clark Pass, along the Continental Divide on July 13th. One group of hikers went as far as the beautiful floral display of cushion plants above Rogers Pass and another group of adventurous hikers continued on to Lewis & Clark Pass and down Alice Creek. This group was able to observe the route Captain Lewis and his party followed in 1806 when they crossed Lewis & Clark Pass on their way back to the Great Falls of the Missouri, and from there went on to explore the headwaters of the Marias River drainage.

Because of the change in elevation and the varied habitats, we saw an abundant variety of plant species. Three valerian species were observed at the trailhead. *Fritillaria atropurpurea*, *Clematis hirsutissima*, *Hydrophyllum capitatum* and *Phacelia hastata* were seen midway, and *Oenothera caespitosa*, *Eritrichium nanum*, *Saxifraga occidentalis*, and *Oxytropis sericea* were admired on the summit.

We also saw where a grizzly bear had traversed the ridge, digging and eating *Lomatium cous* roots. It was quite a wake-up call to realize the bear had not been gone long as the soil was still damp and plant parts barely wilted.

Native plant enthusiasts were entertained by Wayne's poems and songs, rewarded with at least 69 species in flower, and enjoyed a beautiful day in the fresh mountain air.

Kelly Chadwick



Rogers Pass cushion plant communities

Photo: Kelly Chadwick

MNPS Chapters & the Areas They Serve:

- ARTEMISIA CHAPTER - Yellowstone and Carbon counties; southeastern/south-central Montana
- CALYPSO CHAPTER - Beaverhead, Madison, Deer Lodge and Silver Bow counties; southwestern Montana
- CLARK FORK CHAPTER - Lake, Mineral, Missoula, Powell and Ravalli counties
- FLATHEAD CHAPTER - Flathead and Lake counties plus Glacier National Park
- KELSEY CHAPTER - Lewis & Clark, Jefferson and Broadwater counties
- MAKA FLORA CHAPTER - Richland, Roosevelt, McCone, Sheridan and Daniels counties
- VALLEY OF FLOWERS CHAPTER - Gallatin, Park and Sweet Grass counties plus Yellowstone National Park

All MNPS chapters welcome members from areas other than those indicated. We've listed counties just to give you some idea of what part of the state is served by each chapter. Watch for meeting announcements in your local newspaper. Ten paid members are required for a chapter to be eligible for acceptance in MNPS.

Your mailing label tells you the following:

CLASS OF MEMBERSHIP: See I, II, III, IV below

CHAPTER AFFILIATION: ART= Artemisia; CAL=Calypso; CF=Clark Fork; F=Flathead; K=Kelsey; MF= Maka Flora; VOF=Valley of Flowers

DATE YOUR MEMBERSHIP EXPIRES: If your label reads "2/99" your membership expired February 28, 1999. Use this form to renew your membership TODAY! Please drop us a note if any information on your label is incorrect. Please notify us promptly of address changes.

Membership in Montana Native Plant Society is on a calendar-year basis, March 1 through the end of February of the following year. New-member applications processed before the end of October each year will expire the following February; those processed after November 1 will expire in February of the year after. Membership renewal notices are mailed to each member in January. Please renew your membership before the summer issue of *Kelseya* so your name is not dropped from our mailing list. Your continued support is crucial to the conservation of native plants in Montana. THANK YOU!

MONTANA NATIVE PLANT SOCIETY MEMBERSHIP

DATE _____

NAME (please print) _____ E-MAIL _____

ADDRESS _____ CITY/STATE/ZIP _____

PHONE _____ NEW MEMBERSHIP _____ RENEWAL _____

STATEWIDE MEMBERSHIP WITH AFFILIATION (check chapter below)

MEMBER-AT-LARGE (check East or West below) or LIVING LIGHTLY (check chapter below)

- | | | | | |
|--------------------------------|--|--|-------------------------------|---------------|
| <input type="checkbox"/> \$18 | I. Individual | <input type="checkbox"/> Artemisia | <input type="checkbox"/> \$12 | I. Individual |
| <input type="checkbox"/> \$22 | II. Family | <input type="checkbox"/> Calypso | <input type="checkbox"/> \$18 | II. Family |
| <input type="checkbox"/> \$35 | III. Business/Organization | <input type="checkbox"/> Clark Fork | <input type="checkbox"/> \$30 | III. Business |
| <input type="checkbox"/> \$300 | IV. Lifetime Membership (one-time payment) | <input type="checkbox"/> Flathead | | |
| | | <input type="checkbox"/> Kelsey | | |
| | | <input type="checkbox"/> Maka Flora | | |
| | | <input type="checkbox"/> Valley of Flowers | | |
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| | | <input type="checkbox"/> Western at-large | | |

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Montana Native Plant Society

The Montana Native Plant Society (MNPS) is a 501(c)(3) not-for-profit corporation chartered for the purpose of preserving, conserving and studying the native plants and plant communities of Montana, and educating the public about the value of our native flora. Contributions to MNPS are tax deductible, and may be designated for a specific project or chapter, for the Small Grants fund, or the general operating fund.

Your yearly membership fee includes a subscription to *Kelseya*, the quarterly newsletter of MNPS. We welcome your articles, field trip reports, meeting notices, book reviews or anything that relates to native plants or the Society. Please include a line or two of "bio" information with each article. Drawings should be in black ink or a good quality photocopy. All submissions should be mailed to *Kelseya* Editors, 314 Travis Creek Rd., Clancy, MT 59634. All items should be typed and put on a 3.5" disk and saved in Microsoft Word or rich text format (rtf.) for a PC. Please include a hard copy with your disk. They can also be sent electronically in the same format as above to: drakekath64@msn.com

Changes of address, inquires about membership and general correspondence should be sent to MNPS Membership, P.O. Box 8783, Missoula, MT 59807-8783.

Advertising space is available in each issue at \$5/column inch. Ads must be camera-ready and must meet the guidelines set by the Board of Directors for suitable subject matter; that is, be related in some way to native plants or the interests of MNPS members.

The deadline for each issue is: Fall— September 10; Winter— December 10; Spring— March 10; Summer— June 10. Please send web items to our webmaster concurrent with these dates.

If you want extra copies of *Kelseya* for friends or family, call the Newsletter Editors, write to the above address or e-mail: drakekath64@msn.com

Visit our website at: www.umt.edu/mnps/ or contact our webmaster Marilyn Marler at: marler@bigsky.net

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