

Kelseya

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Newsletter of the Montana Native Plant Society

penstemon puzzle in northwest montana

- Dee Strickler

In northwestern Montana, we have two very closely related penstemons: *Penstemon albertinus*, and *P wilcoxii*, Alberta and Wilcox's penstemons, respectively. When it comes to identifying these two species by means of a key, the main difference is plant size. *P albertinus* normally grows four to twelve inches high, but some specimens of record reach 16 inches. *P wilcoxii* usually grows 16 to 40 inches tall, but some depauperate plants may only reach 12 inches. In the range of stem heights of 12 to 16 inches, therefore - which includes many of our plants - the identification could go either way.

Leaf size is another indicator. Cauline (stem) leaves of *albertinus* typically reach a maximum width of 1.5 cm (5/8") and basal leaves 2.5 cm (1"). Leaves of *wilcoxii* exceed these dimensions. The leaves of both species are more or less toothed: *wilcoxii* sharply dentate, and *albertinus* more finely serrate.

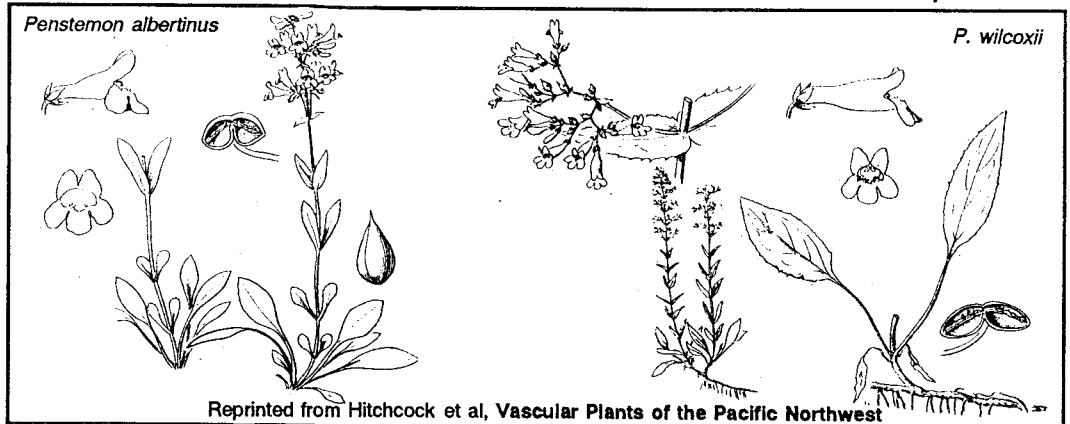
The inflorescence of *wilcoxii* typically spreads widely as many as 20 blossoms per cymule (on each peduncle per lower node of the inflorescence), whereas *albertinus* has a much more compact inflorescence, usually with four to six flowers per cymule, held close to the stem. Both species produce a glandular inflorescence, but *wilcoxii* is typically more heavily so.

These guides to identification often lead to confusion here in northwestern Montana, because the two species hybridize quite readily. The hybrids are self-fertile, so they do not need typical plants of both parents nearby. Many of our natives grow stems 16 to 20 inches tall, with tight, few-flowered sprays. The leaves may or may not exceed the generally-accepted limits for *albertinus*. Are these specimens then *albertinus* or *wilcoxii*?

I started cuttings of two plants in my garden, and the first blooms of both were *albertinus* according to the

botanical keys. As the plants grew more robust, however, the inflorescence of one of them definitely expanded into *wilcoxii*. The jury is still out on the other one until next year. Nearby grows a typical *albertinus* that volunteered in some limestone rock-gravel-soil that I hauled in for some limestone loving alpinists. I am waiting to see if it stays small or erupts into *wilcoxii* next year.

The *albertinus/wilcoxii* puzzle here in NW Montana is further complicated by *P attenuatus*, which is known to hybridize with both of these species as well. *Attenuatus* normally has entire leaves, but some of our pents have



Reprinted from Hitchcock et al, Vascular Plants of the Pacific Northwest

little thickened bumps on the leaf margins that could lead one to opt for *albertinus*, or go unnoticed and cause one to decide on *attenuatus*.

I also have a *wilcoxii* in my garden that I acquired from the American Penstemon Society seed exchange. It grew more than 30 inches high, and does not resemble anything that I have seen in Montana. Growing near the natives from Montana, the two *wilcoxii*s appear to be entirely different species. I believe that all the *wilcoxii* in this area has been dwarfed by hybridization with the *albertinus* and perhaps *attenuatus* over the millennia.

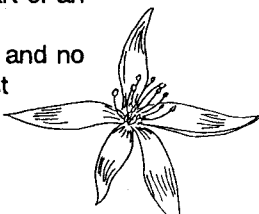
Puzzles such as these are what make penstemon lore so interesting as well as frustrating at times.

My own opinion is that *albertinus* and *wilcoxii* should be two varieties of one species - but the experts apparently disagree.

From the President

The hot, dry weather of this summer seemed endless. Like many of you I took refuge in the high country, where it stayed cool and green. Sally Orr, our conservation chairman, and I (plus husbands) took a pack trip in the foothills of the Absaroka Mountains. Riding horseback frees up your eyes for watching the ever-changing landscape, identifying plants and observing the communities, health and beauty of the natives we passed. Our abundant and diverse native flora is truly a treasure and I find it gratifying to be part of an organization dedicated to it.

With most of us busy at outdoor jobs and no Board of Directors' meeting since the last newsletter, I don't have much to report, for a change! The poster project with the Forest Service and other agencies is progressing. "Rare Montana Wild-flowers" features several beautiful photos and descriptions. We hope to have it available to our members sometime in November. Contact your chapter rep for more information.



BLAZING STAR
Mentzelia laevicaulis



ENGELMANN ASTER
Aster engelmannii



SUNFLOWER
Helianthus petiolaris

ALPINE WILLOWHERB
Epilobium alpinum



Our indoor programs are beginning in most chapters. Take advantage of the many opportunities to learn about plants. We appreciate the efforts of chapter organizers who line up these lectures, slide shows and workshops. They're always on the lookout for new topics. Please contact them if you have particular interests or expertise, or suggestions for programs.

Ellen Galligan has drawn some late-blooming wildflowers for us to remember as the last leaves fall. Check out the field trip reports for more flower reminiscing.

Many thanks to all who contribute to our newsletter.

- Linda Iverson

<<<<<CONSERVATION BULLETS>>>>>

COTTONWOOD LOGGING WOULD DEVASTATE MONTANA RIVERS

- reprinted from *Montana Audubon News*, Vol 4, No. 2

Several sawmills are considering cutting the cottonwood trees along the Yellowstone, Big Horn, Musselshell, and Clark Fork Rivers. At least two of the mills interested in cutting these trees are from out of state: a mill in Cody, Wyoming, and one from Gresham, Oregon.

This is particularly disturbing because cottonwoods are considered to be "low grade" wood, bringing a lower price than pine. They are used for pulp (for paper), and to build crates, pallets, furniture, and caskets. No one knows the amount of land that might be cut. What is certain, however, is that the volume must be large to make harvesting cottonwoods economical for sawmills.

Cottonwoods are Important for Wildlife

The cottonwoods along our rivers provide critical wildlife habitat for wildlife species, including many of our songbirds, great blue herons, bald eagles, cormorants, and game animals. They also provide shade and shelter for deep pools important to fish. The mature trees act to stabilize river banks, helping to prevent erosion and minimize the effects of spring's high water. And last but not least, our riverbottom cottonwoods are important aesthetically to you and me.

Once gone, it will be difficult - if not impossible - to replace our river cottonwoods. Grazing by cattle and wildlife will prevent new trees from maturing. Many of the bigger trees have developed extensive root systems that must travel a long way to get water, water that is too deep to permit new sprouts to get started.

Timber Industry Defends the Cutting

Cary Hegreberg of the Montana Wood Products Association called Audubon a "preservationist" organization for protesting the cut. The sawmills say that they are forced to

look at logging cottonwoods because of the lack of trees available from National Forests.

Interestingly, despite the clamor for more federal timber, according to a *Great Falls Tribune* article last May, a recent timber sale for 2.2 million board feet in the Swan Lake District of the Flathead National Forest only attracted **one** bidder.

Although several companies have said that they do not intend to destroy Montana's rivers if they harvest cottonwoods, there are few laws to prevent them from doing so. The Endangered Species Act will protect the area surrounding identified bald eagle nests. And Montana's Streamside Management Zone (SMZ) law prohibits clearcutting with 50 feet - a **very** narrow band - along streams and rivers. Protection under the SMZ law is limited, however; the act allows the cutting of up to 50% of the trees larger than eight inches diameter.

How Can We Protect Our Cottonwoods?

Audubon feels that our cottonwood bottomlands should have more legal protection than they currently do. The fact remains that if companies decide to cut these trees, they are going to have to cut a lot of them to make the proposition economical.

How can we protect our cottonwood bottomlands? Montana Audubon would like to seek protection through legislation at the 1995 Montana Legislature. If you have any ideas about how we could do this, please call or write the Audubon office! We want to pass legislation that allows for a reasonable, sustainable amount of harvest, but protects wildlife, water quality and the aesthetics of our rivers and streams. [Write Janet Ellis at Montana Audubon Council, P O Box 595, Helena MT 59624; or call 406-443-3949.]

Heritage Corner:

CONDUCTING BOTANICAL SURVEYS...AT YOUR LOCAL LIBRARY

- Bonnie Heidel

Even the best botanical field studies can be strengthened by a literature review. Montana public libraries have new and developing resources for all native plant enthusiasts, briefly highlighted in this article. They augment the information available through in-state herbaria (e.g., see "What List?" in the summer '94 KELSEYA) and the Montana Natural Heritage Program.

Library shelf: If your library does not carry books on native Montana plants, you may want to supply the Librarian with the Montana Native Plant Society list of major technical and nontechnical native plant publications. It is available from Linda Iverson, HC 88, Box 3733, Big Timber MT 59011.

Interlibrary loan: Books, reports, government publications and journal articles are available through interlibrary loan at no charge, for a limited number of requests. To identify pertinent references, there is a Montana vegetation bibliography that has been compiled by Bourgeron et al. (1988). It is available from the Montana Natural Heritage Program, 1515 E. 6th Ave., Helena, MT 59620. The single most complete source of published information on state plant species of special concern is Lesica and Shelly (1991), available for \$5.00 from the Montana Natural Heritage Program.

Literature search resources: Volumes of "Biological Abstracts", "Current Advances in Plant Science", and "Current Advances in Ecological and Environmental Sciences" as well as "Science Citations" and "Current Contents" have been the mainstay for botanical literature searches for many years. "Biological Abstracts" is available at: Montana State University, the University of Montana, Eastern Montana College, Carroll College and the Rocky Mountain Labs. "Current Advances in Plant Science" is available at: the Montana State Library and the University of Montana. "Current Advances in Ecological and Environmental Sciences" is available at: the Montana State Library. Some of these are also available on microfiche and on disk.

Literature search services: Searches can be conducted through public libraries, based on author, title, and/or keywords. Many hundreds of computerized databases are available, and most libraries are supplied by most vendors with biological databases that include "Agricola" and "Biosis", frequently used in botanical literature searches. For placing a literature search request, contact your local librarian. In addition, the Montana Natural Heritage Program can conduct limited botanical reference searches addressing specific Montana botanical research and management needs.

Lasercat work stations: The library network offers a computerized CD ROM system for conducting literature searches, set up in major public libraries in almost every Montana county, tapping over four million bibliographic references that incorporate U.S. western library (WLN) holdings, State of Montana documents, and others. Some of the resources are "Reference Only" holdings, so that they can be used on-site but are not available for interlibrary loan. This includes the wide array of taxonomic references on the shelves at the herbaria in the University of Montana and Montana State University. For information on the Lasercat work station nearest you, contact your local librarian.

ARCVIEW work stations: There are nine public libraries in Montana with ARCVIEW work stations for locating read-only geographic information entered into Geographic Information Systems (GIS). The Montana State Library currently has the only ARCVIEW station loaded with botanical data representing point data identified as rare plant or plant community, from the Montana Natural Heritage Program. For further information, contact: Kris Larson at 406-444-5691.

INTERNET: The advent of INTERNET offers a breadth of bibliographic resources which are being explored among librarians. They potentially include electronic bulletin boards, and references like newsletters and directories that are unpublished and which can be made accessible through existing computer work stations. For further information, contact your local librarian.



YELLOW MONKEYFLOWER
Mimulus tilingii

MONTANA BOTANISTS HONORED

In the 1960s a native plant garden was established around the Botany annex on the University of Montana campus, Missoula. It was envisioned by and developed under the leadership of Klaus Lackshewitz and Sherman Preece.

During the past few years, the Clark Fork Chapter has undertaken the refurbishment and improvement of the garden, which had suffered from lack of consistent maintenance and care. Where possible, the original plantings have been rejuvenated, and several new native plant species have been established.

The Society recently acquired a lovely sitting rock to honor Klaus and Sherm for their contributions to our understanding of botany in Montana. The rock is placed at the west end of the native plant garden.

A dedication ceremony and informal reception was held at the garden on Sunday, October 9. Thanks to all in the Clark Fork Chapter who have contributed to this acknowledgement of Klaus' and Sherm's contributions, and to the hard (and ongoing) work of bringing the garden back to its current status as a beautiful and educational location.

MNPS PUBLICATIONS AVAILABLE

We have several special handouts available to our membership. If you missed getting any of these or need more, please write: Linda Iverson, HC 88, Box 3733, Big Timber MT 59011. A SASE (#10 envelope or larger, depending on what you're requesting) is appreciated for any of the following:

- List of Native Plant Related Books
- A Guide to Montana Native Plant Gardens and Gardeners
- Guidelines for Collecting Native Plants
- MNPS introductory brochures

The *Montana Native Plant Source Guide* is also available by sending \$3.00 to the above address. Postage is included in this cost. Please make checks for the *Guides* payable to MNPS.

MEETINGS

Wednesday, November 9, Valley of Flowers Chapter: 7 pm, Loft of the Plant Growth Center, S 11th Ave @ Garfield, MSU campus, Bozeman. Jennifer Whipple, Yellowstone National Park botanist, will discuss "Interesting Plants of Yellowstone Then and Now - the Rare, the Showy, and the Ancient."

Thursday, November 10, Clark Fork Chapter: 7:30 pm, Rm 307, Botany Bldg, U of M campus, Missoula. Paul Alaback, ecologist with the UM School of Forestry, will share his experiences among the big trees and banana slugs of the Pacific coast. His slide presentation is "The Natural History of Temperate Rain Forests of Southeast Alaska."

Monday, November 14, Artemisia Chapter: 7 pm, call Don Heinze for meeting place. Chapter members will show some of the slides they took last summer - bring some of yours to share.

Wednesday, December 6, Valley of Flowers Chapter: 7 pm, Loft of the Plant Growth Center, S 11th Ave @ Garfield, MSU campus. What do the San Juan Islands have in common with Bozeman? Marine biologist Ron Shimek's avocation is researching the orchid flora of the various areas where he has been based. In his short time in the Gallatin Valley (he's currently teaching at MSU), Ron has located many orchid species, from the familiar to the rare, and documented them with gorgeous slides. For answers to the "San Juan" question and others, don't miss this meeting.

Thursday, December 8, Clark Fork Chapter: 6:30 pm. Annie Garde will host our annual winter potluck at her home at 201 S 4th West. Bring a dish to share and slides of your recent floral adventures or other outdoor trips. Annie promises to acquire furniture and hang her artwork between now and December.

Thursday, January 12, Clark Fork Chapter: 7:30 pm, Rm 307, Botany Bldg, U of M campus, Missoula. Cathy Stewart of the Bitterroot National Forest will present a talk and slides on "The Ecology of Patagonia." We are, in this case, talking about forest ecosystems of a region in South America, not the microfauna that live in your unwashed polypro pile jacket.

Sunday, January 15, Maka Flora Chapter: Tentative date; time and site to be announced later. See "Announcements" for further Maka Flora Chapter activities.

Wednesday, February 1, Valley of Flowers Chapter: 7 pm, Loft of the Plant Growth Center, S 11th Ave, MSU campus, Bozeman. Steve Shelly, Forest Service Regional Botanist in cooperation with the Montana Natural Heritage Program, will present "Sensitive Plant Conservation in Montana." Things have changed a lot in the last ten or fifteen years; Steve will review our gains - and losses.

FIELD TRIP REPORTS/CHAPTER ACTIVITIES...

COMMERTOWN PRAIRIE POTHOLE PRESERVE

MNPS's newest chapter, Maka Flora, sponsored two day-trips over the summer months.

The first, on June 25, began at the Nature Conservancy's Commertown Prairie Pothole Preserve, in the furthest reaches of northeastern Montana. The Sheridan County site lies within the largest remaining tract of unplowed pothole prairie in the state. The topography makes up a feature known as the "Missouri Coteau" which is a terminal moraine that extends in a narrow band from Canada through Dakotas, and on to the east.

The tour covered about four miles and began in the

abandoned homestead-era community of Commertown. It is notable that all of the prairie we walked is part of a commercial ranching operation. The high condition of the range and the array of native species demonstrated that a healthy grassland ecosystem and grazing are indeed compatible, when done properly. Unfortunately, bad weather conditions made for tough going, but we were rewarded by a lush prairie rich with wildflowers and other forbs. Among many discoveries was a marked increase in the population of several species, including breadroot (*Psoralea esculenta*), blue-eyed grass (*Sisyrinchium* spp), and groundplum milkvetch (*Astragalus crassicaupus*). The tour stopped at an abandoned farmstead, moved past the shoreline of Lone Tree Lake, known to be used by piping plovers, and viewed tipi rings and buffalo wallows.

-Al Joyes

KANE'S GROVE

The Maka Flora Chapter held its fall meeting and a walk at a site known as Kane's Grove, located about twenty miles south of Culbertson in Roosevelt County. The area is very different from the Missouri Coteau visited in June, in that it is a much older grassland topography with steep ravines cut through the overburden exposing sandstone bedrock.

Kane's Grove has naturally occurring springs and is occupied by an ash/aspen plant community, grading into upland grasses. It is also known to be a site heavily used by Native Americans in the past.

Although Fall was nearly upon us, there were still a good amount of greenery along the draw. The unique site and a sunny day made for a very enjoyable outing. A plant list for the site was initiated as part of the day, which closed with a meal prepared over a fire and a chapter meeting.

-Al Joyes

LITTLE BELT WILDFLOWER RAMBLES

Native plant enthusiasts in the Little Belt mountains of central Montana enjoyed some unorganized outings: a field trip to see *Aquilegia jonesii* (Jones' columbine) and early spring flowers on Blankenship ridge on May 14; two trips to a bitterroot bloom in June, and a jaunt to enjoy woodland shrubs in August.

The bitterroot trips, west of Newlon Creek guard station, were initiated by a group concerned about routing of a timber road, and the second trip involved a meeting with Forest Service personnel, who will use the information to avoid disturbance of a sensitive area. In addition to *Lewisia rediviva*, its miniature relative *Lewisia pygmaea* was observed in a wet, shaly area in early June.

A Forest Service talk on sensitive plants of the Little Belts, at the Belt Creek station in early August, resulted in the possible addition of several new members for MNPS.

On August 30 an ad hoc steering committee met at Wayne Phillips' home in Great Falls to make plans for hosting the MNPS Annual Meeting and field trips in the Little Belts on June 23-24-25, 1995. An agenda, field trips and workshops were discussed. Harvey Bjornlie agreed to chair the committee and has already done much work.

Because the Little Belts were not glaciated, they lack rugged, spectacular peaks, but the soils directly reflect a diverse geology. As a result, botanists enjoy limestone screes, high elevation bogs, interesting changes in flora on crossing intrusive contacts from high to low pH soils as well as the usual wildflower beauty of mountain meadow and stream.

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FIELD TRIPS/CHAPTER ACTIVITIES, continued:

Close examination will probably uncover even more "raries" than are presently known.

- Gwen McBride

ELK HORN PEAK...AND TUBER ANXIETY?!

The August 6 NPS walk to Elk Horn Peak, south of Helena, focused on edible, medicinal, and poisonous plants encountered on the outing. Pat Plantenberg provided interesting personal anecdotes about his experiences with grazing and browsing on local flora, occasionally embellishing his real-life experiences with accounts he has read concerning use of roots, shrubs and flowers by Native Americans and mountain men.

There were several interesting side discussions relating to tuber anxiety, favorite members of the Saxifrage family, and the proposed convention of changing from Latin-based binomials to Swahili or Arabic. High points of the trek were a group-roll in a field of pussytoes, and crushing and rubbing angelica and grouse whortleberry on exposed skin.

- Joe Elliott

STANDARD PEAK HIKE

On a beautiful Saturday in late June, a group of eager hikers and wildflower lovers met to climb Standard Peak in the Whitefish Mountain range just north of the Flathead Valley.

We hiked over three miles on a well maintained trail that rose 1500' to the summit where a lookout was once located in days of old. The trail climbed an easy grade through subalpine fir forests with dozens of wildflowers in full bloom, including twisted stalk (*Streptopus amplexifolius*), Dawson's angelica (*Angelica dawsonii*), cow parsnip (*Heraclium lanatum*), and bracted lousewort (*Pedicularis bracteosa*).

As we rose toward the summit, we reached the open subalpine where even more flowers were blooming, such as Indian paintbrush (*Castilleja miniata*), Alberta penstemon (*Penstemon albertinus*), larkspur (*Delphinium bicolor*), yellow buckwheat (*Eriogonum flavum*), pointed mariposa (*Calochortus apiculatus*) - and too many more to mention!

Hikers young and not so young all made it to the summit, where we took in views of Glacier Natl Park, and snoozed in the sunshine for a couple of hours before coming down. It was a truly glorious day. I'm already looking forward to another hike in the Whitefish Range next year, hope I'll see you there!

- Maria Mantas

BASKING OR BAKING?

What a summer in western Montana! Plenty of sunshine, hot dry - good swimming weather, hiking and camping weather. People everywhere were basking in the brilliance of a two-month heat wave that made us sweat, tanned our skin, and allowed us to kick off our shoes and walk barefoot through the grass.

But while people flourished in the golden rays of the sun, refreshing themselves down by the lake, a curious thing was happening to other residents of the western mountains and valleys. Little green leaves expanded their blades to welcome the warmth, then wilted under the punishing stare of a relentless fireball. While we basked, plants at all elevations baked in the heat, shriveled, turned brown and dissipated into the dust all about them.

The northwest corner is far and away the wettest part of the state, typically. It is also one of the mildest areas. Though summers usually bring a period of drought, the extent of this summer's dry spell was grossly exaggerated by an intense heat wave through all of July and much of August. The effects on native plants, as well as cultivated crops, has been dramatic.

Amazingly, from observations, even some weeds seemed to be struggling in this prolonged period of little rain and warm weather.

Just to put it all in perspective, especially for those of you who live in areas that are usually drier than we are (why do the Pryors come to mind as I say that?) - it has been hot. The town of Thompson Falls experienced ten days through July and August at 100 degrees or higher. Most every other day was in the 90s. Some nights the temperature never fell below 60 degrees. Coupled with this, it was dry. Trout Creek has suffered the greatest shortfall of moisture in the lower Clark Fork Valley throughout all of 1994. Keep in mind we get a lot of rain here - about 35 inches annually is the average. In July the Cabinet Ranger Station of the Kootenai National Forest recorded 0.34 of an inch, and August followed with 0.05". It was the driest these two months have been in Trout Creek in over 80 years, according to records. Total these two with the previous six months, and the precipitation in Trout Creek has been 42% of normal, or 7.77" January to August.

The story is much the same throughout the west and north-west portions of the state, where at least nine counties have had emergency drought declarations issued by the Governor's Office.

Native plants have adapted through the eons to deal with drought of this sort, and have managed to survive those years of little moisture, probably much worse than this. But we see the immediate effects of the present situation - early flowering and fruiting, short flowering season, and rapid desiccation. And I for one am bummed out that there wasn't enough time to do all the botanizing I wanted to do!

At the annual meeting in the Pryors back in the spring, Robert Dorn identified the two major factors that dictate the plant life that will develop in any given area: availability of moisture, and the substrate. We have a plant regime here that has evolved with rain as a staple: ferns, thick carpets of mosses, Devil's club, dense thickets of dozens of species of brush, and my favorite, the queencup beadlelily (*Clintonia uniflora*). And there has been scarce precious rain this year. What long term effects could there be on native species? Maybe none. It'll be interesting to watch through the coming seasons.

- Dennis Nicholls

BIOLOGICAL WEED CONTROL AGENTS RELEASED AT TWO MOON PARK

Two Moon Park is a beautiful riparian area along the Yellowstone River that is a ten-minute drive from downtown Billings. It consists of a series of thickly wooded areas interspersed with open meadows. The Audubon Society considers it one of the best birding areas in eastern Montana. It is also home to a large herd of whitetail deer.

Unfortunately, it is being overrun with noxious weeds. A noxious weed is a plant that has been declared noxious by the state legislature, and efforts to control - if not eliminate - it are being undertaken. On field trips to Two Moon, we have noted no fewer than 11 species of these undesirable alien plants. These weeds are crowding out the native species. If not checked, they will exclude most natives and will result in a series of exotic monocultures.

Due to the efforts of the Artemisia Chapter, biological control agents for leafy spurge, one of the worst weeds, were released on

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FIELD TRIP REPORTS/CHAPTER ACTIVITIES, continued:

Due to the efforts of the Artemisia Chapter, biological control agents for leafy spurge, one of the worst weeds, were released on August 27, 1994. Hank McNeel, Weed Control Specialist for the Bureau of Land Management, let go 300 black dot flea beetles, *Apthona nigriscutis*, one of 24 biological control agents that have been approved so far for use against leafy spurge.

Adult beetles feed on the leaves and flowers of the spurge, while larvae feed on root hairs and yearling root. The adults reduce the photosynthetic tissue of the plant, thus weakening it. They also reduce the amount of seed reproduced. The damage to the roots reduces the plants' ability to take up moisture and mineral nutrients.

Biological control agents never completely eliminate their host plants. If they did, they would destroy their own food supply, because many of them are host specific.

Leafy spurge, like most noxious weeds, was introduced to North America from Eurasia. There it is not a pest because it has many natural predators and cannot get out of hand. It becomes a problem here because it has no enemies. The entire theory of biological control agents is to introduce enemies to the target species.

Black dot flea beetles were selected for Two Moon Park because of their availability and because they do well in wooded riparian areas that are mixed with meadows.

The Artemisia Chapter will continue its efforts to have biological agents introduced to Two Moon Park. We hope to see more flea beetles introduced, as well as agents for Canada thistle, spotted knapweed, and Russian knapweed. Potential agents against Canada thistle are a stem weevil, *Ceutorhynchus litura*, and stem gall fly, *Urophora cardui*. A nematode named *Subanguina picridis* can be used against Russian knapweed. Possible enemies for spotted are two species of seedhead gall fly, *Urophora affinis* and *U. quadrifasciata*. - D Heinze

MAKA FLORA CHAPTER ACTIVITIES

The next officially scheduled meeting of northeastern Montana's Maka Flora Chapter is tentatively set for the third week of January, on a Sunday afternoon. Location will probably be in Culbertson, but exact date, time and site will be announced later in the season.

Maka Flora has a newly appointed Program Committee which will arrange the non-business portions of our meetings and take the lead in planning our plant walks. One likely topic for our next meeting will be a demonstration of the construction of plant presses. Future programs may include such items as a brief lesson in Latin (we have a former Latin instructor as a chapter member) or a talk by a native elder on plants used by the Indians.

The Executive Committee will meet on an informal basis a few times before January. For information on meetings or any other Chapter business contact Al Joyes at 385-2579, Doug Smith (765-2310) or Mike Rabenberg (789-2305). - Al Joyes

ANNOUNCEMENTS

FURTHER ON PURPLE LOOSESTRIFE

Following the publication of our "Loosestrife Roundup" in the Summer edition of *KELSEYA*, we received a letter from Kitty Knaphus, Chair of the Purple Lythrum Task Force for Cascade County's Weed and Mosquito Management District.

She notes that the Montana Weed Control Association Purple Lythrum Task Force has published *A Purple Lythrum Management*

Plan for Montana. This booklet covers basic ecology, management goals for Montana, control measures, mapping, surveying and record-keeping methods, requirements for horticultural plantings, and 1993 survey status for the state. Interested agencies and individuals may obtain copies from the Montana Weed Control Assn, P O Box 306, Clancy MT 59634.

Anyone who locates purple loosestrife (*Lythrum salicaria*) in the wild should immediately inform their local weed district supervisor and/or the state weed coordinator with the Montana Department of Agriculture (444-2944) so that survey and control work can be initiated at the site.

HIGH, DRY AND HANDSOME - SECOND EDITION

Mark Taylor and Don Heinze have been working on the second edition of *Pryor Mountain Desert - A Montana Native Plant Society Naturalist's Guide*, which has been nicknamed *High, Dry and Handsome*. It is an awesome task.

While the first edition was 64 pages, the second will have 300 or more. It will be based on plant community types, and will be developed from work done by Rob DeVelice and Peter Lesica for the Montana Natural Heritage Program (contracted by the BLM), and Dennis Knight working for the Big Horn Canyon National Recreation Area.

Each plant community will be addressed as the separate entity that it is. Just the plants found in that specific community will be discussed. Mark and Don feel that this technique will be not only scientifically sound, but it will be more interesting and readable for the layperson. Meanwhile, there continues to be interest in the first edition. If this interest is great enough, they will have another printing done. The cost of the book will be \$6.00 again. Please contact Don if you'd like a copy. His work phone is 255-2925, or 256-1624 home; or write him at 1176 Minuteman, Billings MT 59105.



BLANKET FLOWER
Gaillardia aristata

PUBLICATIONS OF INTEREST:

Rocky Mountain Gardener

Published quarterly by Westwind Publishing Co
P O Box 1230, Gunnison CO 81230

\$12.00/year; single copy \$3.00; sample copy \$4.00

Edited and published by Susan Martineau, the *Rocky Mountain Gardener* is an attractive and useful publication for anyone interested in gardening in the demanding conditions presented by mountain environments.

Just starting its fourth year of existence, it presents feature articles and such columns as *Desert Gardening*, *Newcomer's Gardening*, *Gardening in the North*, and *Over the Fence*.

A recent issue, replete with excellent color photos, had several interesting articles: "Rocky Mountain Seeds for Rocky Mountain Needs," "A Visit to Wind River Seed Company," "Pruning Pines - Japanese Style," and a survey of new books that would make good winter reading.

RMG caters to the interests of all kinds of gardeners - native plant enthusiasts, cultivated flowers and vegetables, "heirloom" open-pollinated varieties, and more. Even, in this issue, an article on "Orchids: Rx for Cabin Fever" that makes a convincing case for these long-lived plants as "indoor pets" if you have adequate warmth and humidity.

CALENDAR SUPPLEMENT

[Ed. note: the Flathead Chapter's meetings and field trip/chapter activities were inadvertently left out of the final version of this issue of the newsletter when it was printed...my apologies! JN]

MEETINGS

Wednesday, November 16, Flathead Chapter: Fish, Wildlife & Parks Bldg, Meridian Rd, Kalispell. 5:30 pm: Board of Directors' meeting (everyone's invited to all board meetings before the general meeting). 7 pm: Jed Fisher, Flathead County Weed Supervisor, will talk about weed control issues in the area.

Wednesday, December 14, Flathead Chapter: 6 pm, Annual Christmas Potluck at Pattie and Neal Brown's in Bigfork. Don't miss **THE** event of the year. Call 837-5018 for details and directions. Note that this is a week earlier than our regular monthly meeting.

Wednesday, January 18, Flathead Chapter: Fish, Wildlife and Parks Bldg, Meridian Rd, Kalispell. 5:30 pm: board meeting (everyone welcome); 7 pm: Jerry DeSanto will show slides and talk about **Bitterroot - Montana's State Flower** and other *Lewisiads*.

Wednesday, February 15, Flathead Chapter: Fish, Wildlife and Parks Bldg, Meridian Rd, Kalispell. 5:30 pm, board meeting; 7 pm: Annie Garde will give a slide show on "Desert Wildflowers."



FAIRYSLIPPER ORCHID
Calypso bulbosa
-Robyn Klein

FIELD TRIP REPORTS/CHAPTER ACTIVITIES...

MATCHMAKER, MATCHMAKER...

Not only is the Flathead Chapter good at bringing together people who have a common interest in native plants, but the Chapter has also helped bring two people together for life.

In 1992, to help celebrate spring and the coming summer, our chapter held an outdoor potluck at Dee and Claire Strickler's beautiful flower-filled yard. Rachel Potter brought along a new face, Tara Luna. Tara had started a new job in Glacier National Park, and the MNPS potluck seemed the perfect place to introduce her to our group.

At the potluck Tara met Sam Culotta, a familiar and dedicated face in our chapter's workings. Unbeknownst to the chapter members, two years later this chance meeting would turn into a wedding.

On behalf of the Flathead Chapter, help us in wishing Sam and Tara our heartiest congratulations on the marriage. Their wedding was July 11, 1994, at Lunch Creek in Glacier National Park. Jerry Berner, another MNPS member, performed the ceremony.

-Terry Divoky

THE FAIR: FLATHEAD COUNTY FAIR, THAT IS

The ever-busy Pattie Brown thought up yet another way our chapter could help spread the word and become involved in our local community. We joined hands with local chapters of the Montana Wilderness Association, National Audubon Society, Montana Environmental Information Center, the Flathead Lakers, and the Citizens for a Better Flathead, to organize a booth at the Flathead County Fair.

The night before the opening day of the fair, Pattie and Neal Brown were busily arranging pictures, brochures, KELSEYAs, and whatever other interesting items and information they could round up, to put together our joint information booth. Each organization was responsible for running the booth one entire day of the fair.

As usual, Pattie and Neal did much more than their fair share, taking charge of the booth for almost the entire day. Many interested fair-goers stopped by to pick up literature from the various organizations, sign petitions, or ask for additional information. It was a good opportunity to eat corn dogs, see the horses, rabbits, goats and pigs - AND to become better informed about how local organizations work to keep Montana "the last best place."

Thanks to Terry Divoky, P & N Brown, Malcolm Thompson, Dee and Clair Strickler, and Mary Sloan for staffing the booth.

FLATHEAD AUDUBON+FLATHEAD CHAPTER MNPS FIFTH ANNUAL PURPLE LOOSESTRIPE PULL

Things are looking up at Flathead Audubon/MNPS's adopted potholes at Nine Pipe National Wildlife Refuge. This year we pulled and dug purple loosestrife (*Lythrum salicaria*) in one entire pothole, and got a good start on the second one.

It was encouraging to find the plants much reduced in numbers and stature. The only large mature plants were those allowed to remain last year as a control for a beetle release. With great gusto and satisfaction, we pulled those plants, and all other blooming purple loosestrife. We removed and bagged the flower stalks for disposal. In less than four hours the project was complete.

More beetles have been introduced in the area this year. We hope to see further degradation of the "purple invader" when the beetles find their way to our adopted wetlands. Last year was the first year the beetle *Galerucellia californiensis* saw release in the Nine Pipe area. Purple loosestrife is the preferred food source of this *Galerucellia* for its entire life cycle, acting as a biological control on the worst invasive plant in our wetland habitat.

Our potholes have seen one species reintroduce itself this year: *Ursus horribilis*. A sow grizzly with this year's triplets and last year's cub - now a two year old - plus one other immature male have spent most of the summer in the area. These six bears appear to be feeding on the abundant vole population and avoiding the mature males found at higher elevations. We did not observe these bears while we were in the area, but we *did* see numerous piles of vole fluff as proof positive that our largest carnivore can choose to sustain itself on small rodents.

A special THANK YOU and a giant gold star go out to the 1994 volunteers: Rod Ash, Bill West of the National Bison Range, Shirley MacLachlan, Dan and Hannah Casey, and Dee, Claire and Susannah Strickler!

- Neal Brown

MONTANA NATIVE PLANT SOCIETY *** MEMBERSHIP APPLICATION/RENEWAL

Date _____ New _____ Renewal _____
 NAME _____ ADDRESS _____

CITY/STATE/ZIP _____ PHONE _____

STATEWIDE MEMBERSHIP WITH CHAPTER AFFILIATION*

- ___ \$12 I. Individual
 ___ 16 II. Family
 ___ 28 III. Business/Organization
 ___ 4 IV. Yearly chapter dues for Lifetime Members

MEMBER-AT-LARGE (Statewide membership only)

- ___ \$ 8 I. Individual
 ___ 12 II. Family
 ___ 25 III. Business/Organization
 ___ 150 IV. Lifetime member (one-time payment)

Additional Donation \$ _____

*AREAS COVERED BY CHAPTERS:

ARTEMISIA CHAPTER - Yellowstone and Carbon Counties; south-eastern/south-central 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 and Jefferson Counties

MAKA FLORA CHAPTER - Richland, Roosevelt, McCone, Sheridan and Daniels counties

VALLEY OF THE FLOWERS CHAPTER - Gallatin, Park, Madison and Sweet Grass Counties plus Yellowstone National Park

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

Membership in the 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 September each year will expire the following February; those processed after the first of October will expire in February of the year after. Membership renewal notices are included in the Winter issue of KELSEYA. Anyone who has not renewed by the time the Summer KELSEYA is ready to mail will be dropped from the mailing list/MNPS membership roster.

Your mailing label tells you

CLASS OF MEMBERSHIP (I, II, III, IV - see above)

CHAPTER AFFILIATION, if any (ART = Artemisia; CF = Clark Fork; F = Flathead; K = Kelsey; MAK = Maka Flora; VoF = Valley of the Flowers)

DATE YOUR MEMBERSHIP EXPIRES: If your label reads "x2/94" your membership expired February 28, 1994...use this coupon to renew your membership now! New memberships received after November 1, 1994, are good through 2/28/96, and the top line of your label should read "2/96." Please drop us a note if any information on your label is incorrect.

MAKE CHECKS PAYABLE TO:

MONTANA NATIVE PLANT SOCIETY

MAIL TO: Montana Native Plant Society

P O Box 8783

Missoula MT 59807-8783

Other publications of interest:

The Flowerlover

30 Highway 200, Heron MT 59844; 406-847-2482

published six times a year, \$26

Managing editor Janis Monaco Clark has just forwarded to me a copy of the third issue of this new publication.

This issue features an interesting array of information ranging from practical gardening tips, to poetry, short fiction, to philosophy and a section on healing with flowers, flower fragrances and essences.

The Book Review section, this month titled "Three in the Day Pack," contains Sara Lou Springer's thoughtful reviews of three field guides: **Sagebrush Country: a Wildflower Sanctuary**, by Ronald J Taylor; **Coastal Wildflowers of the Pacific Northwest**, by Elizabeth L Horn; and - familiar to many MNPSers - **Alpine Wildflowers of the Rocky Mountains**, by Joe Duft and Bob Moseley (who was keynote speaker at our Summer 1993 Annual Meeting).

Helpful tips on flower photography techniques are offered by professional photographer Tom Kumpf; Brenda Evans presents a fascinating article on hand-tinting methods for flower photography that is sure to enhance any photographer's skills.

Outstanding photographs in full color abound throughout this publication. The magazine's masthead notes that it is "Everything about flowers...in their world and ours." Submissions are encouraged of very short stories, poetry and photography. For more information, contact Janis Monaco Clark at the address given above.

PLEASE WELCOME THESE NEW MEMBERS

MONTANA

LIVINGSTON

Eugenie Drayton

MEDICINE LAKE

Marcia Michels

POLSON

Gary & Vicki Gallagher

PLENTYWOOD

Kathy Krangler Nelson

VALIER

Clay Stephens

WESTBY

Lawrence & Mary Lou Heppner

WILSALL

Ronald Shimek

CALIFORNIA

MENLO PARK - Nancy P Snideman

MASSACHUSETTS

WAYLAND - Dorothy Long

OREGON

CORVALLIS - Marian Lea Roberts

WASHINGTON

SEATTLE - Jacqueline Hightower

WYOMING

CODY - Lynn Andrews

BIG FORK

Patrick Jones

BILLINGS

Tami Haaland

BOZEMAN

Cynthia Borth

CAMERON

E D Stroops

CLANCY

Kathy Lloyd-Barton

CULBERTSON

Ray & Suzanne Mule'

Georgia Petersen

GREAT FALLS

Goni Lauckner

HELENA

Eliza Frazer

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Brian Shovers &

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KALISPELL

Rich Pettersen

LAUREL

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MONTANA NATIVE PLANT SOCIETY

The Montana Native Plant Society is a 501-C-3 (non-profit) corporation chartered for the purpose of learning more about plants native to our state and their habitats, and of sharing that knowledge. Contributions to MNPS are tax deductible, and may be designated for a specific project or chapter, or may be made to the general fund.

Your yearly membership fee includes a subscription to KELSEYA, the newsletter of MNPS, published quarterly. We welcome your articles, clippings, field trip reports, meeting notices, book reviews - almost anything, in fact, that relates to our native plants or the Society. **Please include a one- or two-line "bio" sketch with each article.** Drawings should be in black ink or good-quality photocopy. If you send clippings, please note the source, volume/issue and date.

Changes of address and inquiries about membership in MNPS should be sent to MNPS, Attn: Membership, P O Box 8783, Missoula MT 59807-8783.

All newsletter material should be mailed to Jan Nixon at P O Box 992, Bozeman MT 59771, and may be typed or on disk (prefer 3.5") in WordPerfect 4.2 or better.

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 plants or the interests of MNPS members.

Deadline for the Winter issue is DECEMBER 10; please include meeting/field trip notices through mid-April '95. The Winter issue of KELSEYA will be mailed the second week of January.

**IF YOU MOVE, PLEASE SEND US YOUR
CHANGE OF ADDRESS!**

BOARD OF DIRECTORS

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Newsletter/Publications - Jan Nixon	Bozeman	585-9959

MONTANA'S FIRST RARE WILDFLOWERS POSTER

A stunning poster featuring photos of twelve rare Montana native plants is going to press at the same time as this newsletter. One free poster will be available for each member to pick up through Chapter meetings as posters get distributed to Chapters this fall.

Montana Native Plant Society masterminded this project and carried it through with the support of nine other federal, state and private sponsors. Watch for more information about it in future newsletters and Chapter mailings.

VOLUNTEER(S) NEEDED

Yellowstone National Park needs volunteer(s) familiar with vascular plant identification/taxonomy to help with the survey of two rare vascular plant species, *Agrostis rossiae* (Ross' bentgrass), and *Abronia ammophila* (Yellowstone sand verbena).

Agrostis rossiae is a C2 species currently known from the Upper, Lower and Midway geyser basins along the Firehole River. In mid-June the volunteer would help survey the Shoshone and Heart Lake geyser basins in the Yellowstone backcountry for this

species, which is very similar to *Agrostis scabra*. The survey will involve backpacking, camping, and canoeing in the backcountry with Yellowstone Park personnel, and will take approximately ten days.

Abronia ammophila is a C2 species, only known from the shores of Yellowstone Lake. Shoshone Lake has never been investigated for possible populations, therefore a survey is planned in late July or early August (exact time negotiable) of the lakeshore, hiking and using canoes. This survey will take about fir to seven days.

Funding for these projects hinges on finding one or more suitable volunteers. If interested, please contact Jennifer Whipple, Yellowstone Center for Resources, P O Box 168, Yellowstone National Park, WY 82190, or phone 307-337-2226.

Jennifer will need to make a decision on who's to be involved by mid-November, so if you are interested or would like more information, please drop her a card, including any pertinent information, with a daytime phone number, and an evening number if different.

