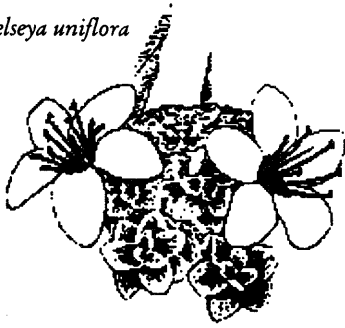


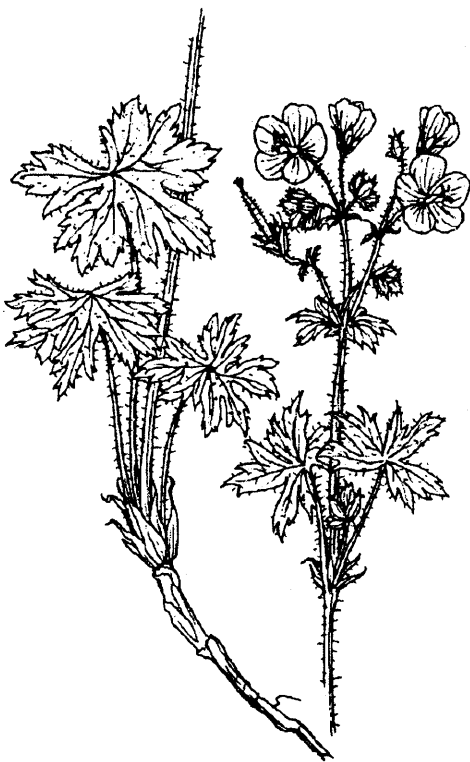


Kelseya

NEWSLETTER of the MONTANA NATIVE PLANT SOCIETY

Are There Carnivorous Plants All Around Us?

By Peter Lesica



Sticky Geranium (*Geranium viscosissimum*). Drawing by Debbie McNeil, Troy, Montana.

Carnivorous plants seem to hold a fascination for many people. After all, it's the Plant Kingdom turning the tables on the Animal Kingdom, and we all like to cheer for the underdog. The fact that most of our carnivorous plants are rare or occur in unusual habitats adds to the mystique (see *Kelseya* Vol.8 No.4). However, recent research suggests that carnivorous plants may be more common than we think. George Spommer at the University of Idaho believes that many of our common grassland forbs may have the rudiments of true carnivory. However, in order to understand Spommer's findings, we have to know a little more about the evolution of "true carnivory."

True carnivorous plants have specialized anatomical structures that allow them to capture and digest animals, ultimately obtaining nutrients such as nitrogen from their prey. Carnivorous plants usually occur in sunny, wet, nutrient-poor habitats. Evolutionary biologists believe this is because there are three essentials that limit plant growth:

water, light and nutrients. Investing effort to capture insects for nutrients will only make sense in habitats where nutrients are severely limiting growth but water and light are not.

In Montana, we have true carnivorous plants in only three genera (*Drosera*, *Pinguicula*, *Utricularia*) in two families (*Droseraceae*, *Lentibulariaceae*), but true carnivory has arisen at least eight times and occurs in 72 families. Carnivorous traps are of two types: sticky traps like sundews and pitcher- or bladder-traps like bladderworts. It was Darwin who first suggested that true carnivorous plants with specialized sticky traps must have evolved from "protocarnivores," plants with sticky hairs and the ability to digest the insects that got entangled on their leaves and stems. True carnivorous plants are famous, but are there protocarnivorous plants as Darwin envisioned?

People frequently ask why some plants are so sticky. Most botanists have assumed that sticky hairs are a defense against herbivorous insects that become entangled and die. Certainly this does happen, but George Spommer thought there might be more to it. He examined a number of our common grassland species including sticky geranium (*Geranium viscosissimum*), tall cinquefoil (*Potentilla arguta*), red monkeyflower (*Mimulus lewisii*) and alumroot (*Heuchera cylindrica*).

Continued on page 2

Research Natural Areas on the Web

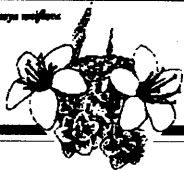
Check out the new web page for Forest Service Research Natural Areas (RNAs). This website was developed as a cooperative project between the Montana Natural Heritage Program and the Rocky Mountain Research Station of the Forest Service. The site provides an excellent overview of the Research Natural Area Program within four regions of the Forest Service (R1, R2, R3 and R4) and twelve western states.

Detailed descriptive information for 263 established and 55 proposed RNAs (including many areas in Montana) is easily accessed through interactive maps and tables. The site also

provides information on the purpose, management and use of RNAs, and on Forest Service RNA contacts. This site is located at <http://rna.nris.state.mt.us/>

It is our hope that information provided on this new website will help increase awareness and appreciation for the role of RNAs in maintaining biological diversity and in serving as reference and study sites for natural resource monitoring, research and education. Please help spread the word on this new site.

- Angie Evenden



FROM THE PRESIDENT

WAYNE PHILLIPS

For Wayne's President's Remarks, see page 8

The Man with a Dual Personality

I could've sworn it was Wayne Phillips who stopped at my office one day in early June, having traveled from Great Falls to Noxon for a hike he would help lead the next day. But by the time we got over to the home of Rodd Gallaway and Jill Davies, it was no longer Wayne that accompanied me – it was Meriwether Lewis.

For several hours that evening – until well after midnight, in fact – Mr. Lewis took us back 200 years to the great journey of discovery when the West was still unknown to the European settlers populating the East.

At the behest of President Thomas Jefferson, Meriwether Lewis and William Clark launched an expedition at the turn of the 19th Century that opened a continent to exploration. Known today as the Lewis and Clark Expedition, it's a chunk of American history with which Wayne Phillips has become intimately familiar – so much so, he occasionally loses his identity to another personality apparently living inside him – that of Meriwether Lewis.

Adorned in buckskins, floppy hat, moccasins and toting an assortment of stuff packed away in his travel bag, Lewis (aka, Wayne Phillips) enthralled our small group with tales from the trail.

The journey to the Pacific Ocean really began in St. Louis and took two years to complete. Up the Missouri, down the Clark Fork, over Lolo Pass and beyond, the party traveled, becoming the first white men to ever be seen in much of this wild, uncharted country.

Along the way, Lewis collected a wide variety of natural things, including plants. Lewis, as Wayne Phillips, has re-collected some of those plants, often from the same site from which Lewis collected them. They are mounted on card stock for display. Wayne, as Meriwether Lewis, was able to tell us about each of them, pointing out the ones that were collected in the Bitterroot, or over the divide in Idaho. Even early in the trip, when the party of adventurers passed through the Great Plains, Lewis was

collecting specimens and packing them to be sent down river to the Gulf of Mexico and then shipped to Washington. Even birds and small animals were shipped live back east, and some survived the two-month ordeal.

Trying to save plant material for future examination was tricky, and we heard of the times that entire stashes of specimens were lost to mold and dessication. It was frustrating at best, infuriating at worst. But, remarkably, an amazing array of plant and animal life was "discovered" and catalogued along the route that took Lewis and Clark and their men to the Pacific and back over the Rocky Mountains.

In a comfortable living room, seated on padded chairs, we heard of the trials those men faced on the tortuous trail in the wilderness – the times of hunger; the dangers from the elements and wild rivers; and the uncertainties in meeting native peoples and learning to trade with them.

When Lewis was done, and Wayne was among us again, in those few hours we only got a brief glimpse of the Expedition that opened up the American West. But what an eye-opening glimpse it was.

Wayne has traveled the state and offered this unique look at the Lewis and Clark Expedition to numerous groups, and he's willing to do so again and again. He obviously loves it, and provides a great deal of information on this subject: all the way from the commissioning of the expedition to the rumored suicide of William Clark.

If you'd like Wayne to come to your town as his alter ego, Meriwether Lewis, give him a call. He'll be glad to slip into the buckskins and moccasins and take you on a journey nearly 200 years old.

Don't forget to ask him about the Lewis and Clark Interpretive Center in Great Falls, as well. He says it is well worth a visit to where the explorers faced the rampaging waters cascading over the "Great Falls" of the Missouri River.

- DN

Wayne can be reached at 2601 Third Ave. North, Great Falls, MT 59401 (406)453-0648 e-mail: mtwayne@juno.com

Carnivorous Plants

From page one

Spommer placed a thin protein film against the leaves and found that the film was digested in a manner identical to that obtained from leaves of sundew. He then used radioactive tracers to show that the digested protein was indeed absorbed by the plants.

Spommer's findings suggest that many common plants with sticky hairs have the ability to ingest the insects that become caught on their leaves and stems. They

appear to be protocarnivores as Darwin suggested. If true, it is possible that they have not evolved truly carnivorous species with specialized traps because water, not nutrients, is usually more limiting in prairie habitats. However, other questions must be asked before we can assume that sticky geranium and tall cinquefoil are carnivores. Do these plants actually ingest insects in the field? Are the insect-derived proteins incorporated into the plant tissue? How important is this carnivory to the growth of these plants? These questions notwithstanding, Spommer's findings will make me look at

sticky geranium differently, and it is intriguing to think that our grasslands may be "little shops of horror."

Further Reading:

Albert, V. A. et al. 1992. Carnivorous plants: phylogeny and structural evolution. *Science* 257: 1491-1494.

Spommer, G. G. 1999. Evidence of protocarnivorous capabilities in *Geranium viscosissimum* and *Potentilla arguta* and other sticky plants. *International Journal of Plant Sciences* 160: 98-101.

Absorbed in the Absarokas

The 2000 Annual Meeting

PINE CREEK – Plants in Paradise, the 2000 annual meeting of the Montana Native Plant Society, brought together plant lovers from all corners of the state and Wyoming in late June. About 85 people made their way to Luccock Park near the small community of Pine Creek in the Upper Yellowstone River valley.

Clear weather for Friday night's beer and chili at the Forest Service campground and Saturday's excursions were welcome after a week of rainy skies. The rain resumed Sunday, but it cleared for the driving field trips and folks made their way home or into Yellowstone National Park with Jennifer Whipple, park botanist. People went away knowing a little more about the area's flora and geography, the upper Yellowstone River's ecology (thanks to the Saturday evening presentation by members of the Upper Yellowstone Task Force) and plants in the greater Yellowstone ecosystem.

The tee shirt that many of you purchased at the meeting was designed by Kris Ellingsen of Bozeman, with a generous donation by MNPS member, Farwell Smith. The caption read, "Go Native," and displayed the leaf

silhouettes of four distinct native plants. We also sold last year's ball caps, plant books, and held a raffle. Winners were once again announced by our own "Vanna" Brown, otherwise known as Patti Brown, from Bigfork.

The camp was a wonderful place to hold the meeting, nestled as it was in the foothills of the Absaroka Mountains at about 6,000-foot elevation. The dramatic view easily mesmerized everyone's gaze throughout the weekend. The staff at Luccock Park, a church camp, was especially attentive to all our needs, for which we again extend our thanks and appreciation.

Valley of the Flowers chapter members worked long and hard to pull the meeting together. Like Bonnie Heidel always says, "A good meeting is no accident."

After all that organizing, planning our winter lectures and summer field trips will seem easy!

We thank all the field trip and workshop leaders for their help; the Saturday night speakers were terrific; and to everyone who lent a hand in making this a successful meeting, "Thank you!"

- Linda Iverson

*Western
Redcedar
(Thuja
plicata)*



2001: A Plant Odyssey

The 2001 Annual Meeting

BULL RIVER – Each and every year, the annual meeting for the Montana Native Plant Society seems to get better and better. Plants in Paradise was no exception. The Valley of the Flowers chapter did a magnificent job of pulling it together. And so we were inspired – those few of us MNPS members in extreme northwestern Montana – to offer to host next year's annual meeting.

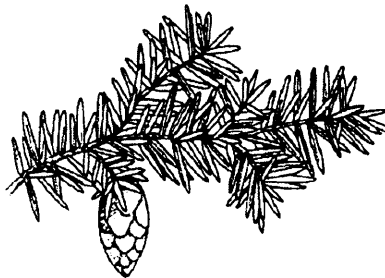
Mark your calendars for July 13-15, 2001 for a weekend of botanizing in the Cabinet Mountains, one of Montana's wettest ranges. Upper elevations of the Cabinets receive over 100 inches of precipitation a year. But even in the valley bottoms, rainfall is abundant. The town of Noxon, at 2200 feet, may well get more rain and snow than just about any other community in the state, with an average of nearly 35 inches of precip and over 130" of snow annually.

This type of climate accommodates a unique

regime of plant life. Subject to Pacific maritime influences, the Cabinets are cloaked with thick forests of cedar and western hemlock, whitepine, larch and Grand fir, Douglas fir, lodgepole pine and Ponderosa, and spruce, subalpine fir and mountain hemlock at higher altitudes. Beneath the forest canopy and in high alpine meadows, the array of plant life is staggering.

Jill Davies, Sam Culotta and Dennis Nicholls are working on next year's annual meeting, which will be a somewhat more rustic experience than we've had in the recent past. We'll camp in the Bull River valley, but accommodations for those who don't want to "rough it" are nearby, though limited.

Look for more about 2001: A Plant Odyssey, in upcoming issues of *Kelseya*. And please make your plans to join us in the Cabinets. We're eager to show off our corner of the state. Just don't forget to bring an umbrella!



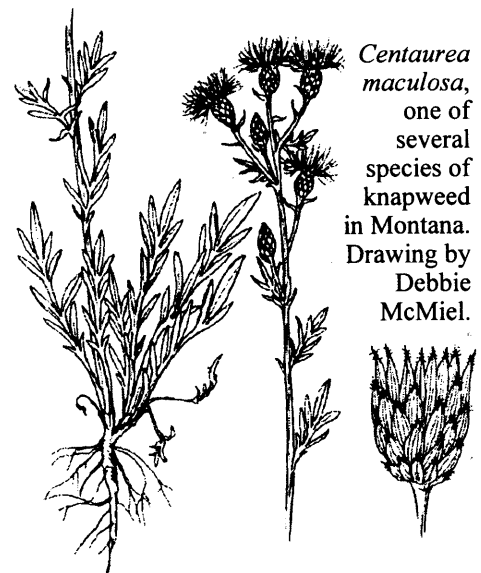
*Western
Hemlock
(Tsuga
heterophylla)*

There are more than 400 members in the Montana Native Plant Society who love landscaping, gardening, medicinal herbs, and other products or services related to Montana's native flora.

Perhaps you run a business that offers these products and services. Call 847-2040 to find out how to advertise in *Kelseya*.

KNAPWEED:

What kind of threat?



The story Jerry Niehoff recounted about pulling spotted knapweed, cutting his fingers in the process, developing benign (non-cancerous) tumors and ultimately having his little and ring fingers amputated is a sad and shocking incident; particularly if you are one of tens of thousands of people that have pulled many knapweed plants. What was especially alarming was the information indicating knapweed as a carcinogen.

This write-up is an attempt to shed some more light on this topic; it's not an exhaustive, definitive answer, but rather is an update on what we have learned so far.

Regarding Jerry's story, here are some items from the original story to keep in mind:

- Jerry was pulling spotted knapweed on private property.
- There are many different species of knapweed – spotted, diffuse, Russian, squarrose, yellow starthistle and others.
- There have been articles published indicating compounds in Russian knapweed have cyto-toxic properties (J. of Neucrosi Research, Jan. 1997 – authors: Robles, Wang, Kim and Choi, and another in J. Nat. Prod. Jan.-Feb. 1990 by Stevens, Riopelle and Wong), caused by a compound called repin, a sesquiterpene lactone. In talking to Professor Andrea Stierle at Montana Tech, she indicated that the term “cyto-toxic” in the research arena is a strong indication that a compound may be carcinogenic.
- There are numerous compounds occurring naturally in the environment that are known carcinogens and/or mutagens: hydrazines, which are present in edible mushrooms; linear

furocoumarins which occur in plants of the Umbelliferae family (celery, parsnips, parsley, figs); aflatoxins from molds that occur on corn, nuts, peanut butter, bread, cheese, and fruit; alcohol has been associated with cancer of the mouth, esophagus, larynx, and the list goes on (see Dietary Carcinogens and Anticarcinogens by Ames in Science, Sept. 1983).

- Human bodies have the ability to detoxify these compounds. The degree to which it accomplishes this determines the point at which something is poisonous. Vitamin A is essential to life, and yet, too much can be poisonous. People vary in their ability to handle various compounds. Some people have hypersensitivity to some compounds, which we refer to as allergies. These allergic reactions can be so severe as to be deadly; i.e., penicillin, bee stings, certain shellfish, etc.
- In talking to Jerry and getting copies of a couple of the medical reports, his benign tumor was very rare – less than 100 have been documented in the entire country.

What does this information do for other people in light of Jerry's story?

Jerry was pulling spotted knapweed, not Russian knapweed, so there isn't any confirmation that there is a similar compound in spotted knapweed as there is in Russian knapweed. Jerry is personally convinced that the tumors originated from the injuries he received during the process of pulling spotted knapweed, and the doctors see the logic of the sequence of events; though this doesn't prove knapweed or a compound in it caused the

tumors. It could have been something on the knapweed at that location, in the soil or somewhere else that entered his body through those open wounds. These are possibilities that are unresolvable at this point in time and will require further research to determine if there was a cause-and-effect relationship.

Jerry's doctors speculated that Jerry may have a particular sensitivity (allergy) to something in the spotted knapweed that made this highly unusual situation occur. I don't think Jerry plans to do any experiments to test the hypothesis on himself. His purpose in sharing his sobering story was to hopefully prevent anyone else from going through a similar experience.

We live in a world full of risks, naturally occurring and human induced. We cannot eliminate all of them, however, things can be done to reduce them. They include the use of seatbelts, driving defensively, wearing eye protection or hard hats. And now we have another good reason to wear gloves when we are pulling weeds (any weed!), not just knapweed. Any cut or scrape can potentially get infected and therefore it is wise to minimize them.

An ounce of prevention...

This was written by David C. Atkins, Ecologist and Forest Health Protection specialist, in October 1997. It was sent to us by MNPS member Virginia Vincent, Missoula, in June this year.

There are numerous compounds occurring naturally in the environment that are known carcinogens and/or mutagens: hydrazines, which are present in edible mushrooms; linear furocoumarins which occur in plants of the Umbelliferae family (celery, parsnips, parsley, figs); aflatoxins from molds that occur on corn, nuts, peanut butter, bread, cheese, and fruit; alcohol has been associated with cancer of the mouth, esophagus, larynx, and the list goes on ...

Hawkweeds in Montana

By Peter Rice and Sarah Wilhelm

In the last issue of Kelseya, we learned from Peter Rice and Sarah Wilhelm about the ecology and reproduction of hawkweeds in Montana. Here is the rest of their article on the species of Hieracium.

There are native and exotic species of hawkweeds (*Hieracium spp.*) in Montana. Proper identification of noxious hawkweeds can be difficult because species in the meadow hawkweed complex tend to interbreed when their populations overlap. They also have features that closely resemble native hawkweeds.

NATIVES

Native species, including the widespread and common Canadian or narrow leaf hawkweed (*H. canadense* syn. *H. umbellatum*), have leafy stems and lack a well developed cluster of basal leaves when flowering. Basal and lower leaves are deciduous, dropping off as the plant matures. Leaves are attached directly to the main stalk (sessile), and are somewhat clasping at the base, reducing in size up the stem. The stems and leaves are somewhat hairy. The plant can grow up to 4.5 feet tall. Native hawkweeds lack stolons and grow as individual plants.

EXOTICS

The exotic species of hawkweeds have an invasive growth habit, producing stolons or rhizomes that form dense mats of rosettes that choke out other vegetation. These exotic noxious hawkweeds have persistent rosettes of basal leaves, and leafless or nearly leafless stems. The flowers are in terminal clusters. They have cord-like stolons that sprout from axillary leaf buds at the time of flowering. The stolons can root and develop into daughter plants, or secondary flowering stalks, depending on environmental conditions. King-devil hawkweed does not form stolons but does have the underground rhizomes that form mats of rosettes and axillary leaf buds that can form secondary flower stalks.

MEADOW HAWKWEED COMPLEX

This collection of hawkweeds can be very troublesome for identification

because of interbreeding, but they do have some distinguishing traits.

It may be impossible to separate all specimens within the meadow hawkweed complex because they are in fact interbreeding and forming hybrids in the Northern Rockies. The current management methods are the same for all members of the meadow hawkweed complex.

LOOK-ALIKE SPECIES

Hawksbeard (*Crepis spp.*) and spotted cats ear (*Hypochaeris radicata*) are sometimes confused with hawkweeds. The hawksbeard is most often confused with native hawkweeds. However, these species do not have the stolons nor the rhizomes that are characteristic of the exotic noxious hawkweeds.

MORE INFORMATION

More information can be found for Hawkweeds and other species on the INVADERS Database at <http://invader.dbs.umt.edu>. One way to find information is to Query from a list selecting the common name, Latin name, or plant ID, no spelling required. An area (the Northwest, a state, or a county) may also be specified. Once a plant is selected a list of all records for that plant in the area selected will be displayed. Links to distribution maps and graphical interpretation of the records can be found at the end of the page. There is also a "Links" option. This gives interactive links to web sites with information, some including photos, about the particular plant of interest. Click on the "Links" icon to view these species indexed web sites.

PROJECT GOALS

Noxious hawkweeds have a core range in the northwest corner of the state, having been reported in Lincoln, Flathead, Pondera, Sanders, Lake, Mineral, Missoula, and Ravalli counties. Monitoring is needed to see if their range is expanding to the east or south. Botanists finding new occurrences of hawkweed species are encouraged to report the finding and send a plant specimen. Since proper identification can be difficult, specimens in question can be mailed to Peter Rice or Sarah Wilhelm for

Noxious hawkweeds have a core range in the northwest corner of the state. Monitoring is needed to see if their range is expanding to the east or south.

identification.

MAILING SPECIMENS

Dig specimen plants with roots, rhizomes, and stolons if present. These parts are critical for confirmation of hawkweed species. Fresh specimens should be placed in a plastic bag with one moist (not wet) paper towel. Send by Priority Mail on Monday through Wednesday so the specimens can arrive in Missoula by Friday without molding. Pressed and dried specimens can be sent at any time.

Include a brief description of where the plant was collected, the locale (nearest name that would be on a USGS topographic map), and if possible a geo-coordinate. The geo-coordinate can be township, range, and section; or latitude or longitude, if available. Also include any information on the type of setting and associated vegetation, who collected the plant, and/or who to notify about the identification.

MAIL TO:
Sarah Wilhelm
C/O Peter Rice
Division of Biological
Sciences, HS105
University of Montana
Missoula, MT 59812-1002
(406) 243-2671
sarwil@selway.umt.edu
biopmr@selway.umt.edu



Hieracium triste
By Debbie McNiel



CHAPTER LIFE

Contact your local chapter representative for information about late summer and fall programs and field trips.

Native Plant Sale was the biggest ever

MISSOULA – The Clark Fork Chapter of MNPS completed its biggest-ever native plant sale back in May. Hundreds of plants of over 30 species were sold, in addition to seed packets for 12 species. The net result was a lot of native plant education, a lot of natives to gardens in the community and over \$700 for the chapter's funds.

Fittingly, much of the proceeds from the plant sale usually go for plants and other needs at the University native plant garden maintained by the chapter. With a large new addition to the garden this year, funds will be especially needed.

Plant growers making the sale happen were: Lori Parr-Canpbell, Calvin Duke, Pelah Hoyt, Scott Miles, Helen Atthowe, Jean Parker, Jean Pfeiffer, Kelly Chadwick and Sheila Morrison. Also, students at the Victor School, under the direction of Lisa Hendricks and Nathan Beckwith, took care of several flats of plants in their greenhouse.

Wildflower viewing in the Flathead

KALISPELL – Members of the Flathead chapter of MNPS

shared with board members at the spring meeting a copy of their year 2000 brochure, *Celebrating Wildflowers: Wildflower Viewing in the Greater Flathead Area*. The informative, 3-panel brochure identifies not only places to view flowers, but places where you can learn about the area's native flora as well; places such as the Glacier Institute and Flathead Valley Community College. Native plants are welcome in the classroom in the Flathead, and anyone interested is invited to call Terry Divoky about native plant educational programs. There is also an excellent video series entitled *The Private Life of Plants* hosted by David Attenborough that can be obtained through the chapter, and all that information is included in the brochure.

Want some input from the U.S. Forest Service? The Flathead National Forest can help, and you can contact Teresa Wenum at the Supervisor's Office for more detail, whose number appears in the brochure.

Among the places to see wildflowers, and when, the brochure lists hot August sites such as the Danny On Memorial Trail on Big Mountain, Jewel Basin in the Swan Range, and Logan Pass in Glacier Park. There is also a wildflower hotline and website that can be checked: 1-800-354-4595 or go online at www.fs.fed.us/outdoors/naturewatch/wildflowers/flower.html. Several other websites are listed in the brochure, too, and include www.nps.gov/plants/ and

<http://nris.state.mt.us/mtnhp/>.

Summer field trips were also listed in the Flathead chapter's brochure, rounding out an amazing amount of information that they fit into a small space.

If you'd like to see a copy of the brochure, call Maria Mantas, who is listed as the contact person at 862-3044. It's a beautifully done pamphlet that could easily be done for any area of the state.

No trouble filling our summer

WHITEFISH – We members of Flathead Chapter are finally doing what we love best: hiking through the woods, climbing the mountains and strolling the grasslands to see native plants. We had no trouble filling our summer calendar with field trips; in fact, we've had at least one a week scheduled all summer long. Neil Brown and Anne Morely have sponsored weekly walks along the "wild mile" a whitewater section just out of Bigfork where they view birds and identify plants. These walks have become very popular, and for a good cause as well, as the city is trying to raise money to purchase the land along the river and keep it from development.

We've increased the number of short evening strolls to try to reach more people, such as Rachel Potter's hike up the Columbia Mountain Trail, Tara

Williams' West Glacier Walk, and Mary and Gary Sloans' Johnson Terraces hike, where they found *Aspidotis densa*. I led an evening walk through Mrs. Margaret Murdock's Nature Conservancy Easement near Whitefish Lake where we saw yellow lady's-slippers (*Cypripedium parviflorum*), and Buckler fern (*Dryopteris cristata*). We have many more field trips scheduled for the rest of the summer, so if you are in the Flathead area, give us a call and come join us! I also want to remind everyone that our first meeting in the fall will be the third wed of October (18th) at the new Montana Logging Association building just east of Kalispell on Highway 35, across from Hooper's Nursery. For more details call me at 862-3044. It was great to see all of you in the Paradise Valley, and hope to see you again soon!

Maria Mantas,
Flathead Chapter President

Botany "Blowout" at the Matador

PHILLIPS COUNTY – It couldn't have been better! Good weather and a great location teamed up to make the weekend trip to The Nature Conservancy's newest and biggest project in Montana a resounding success. The Matador Ranch, in Phillips County, is a 60,000 acre ranch recently

Continued next page >>>

It's a big state. Let's share our adventures.

Be sure to write up a report of your programs and share the excitement of what you learn with the rest of us. Send your reports to: Montana Native Plant Society, Kelsey Editor, P.O. Box 1632, Noxon, MT 59853.

purchased by The Nature Conservancy and a ranching family. Consisting of large expanses of native mixed-grass prairie, the vistas are long and soothing to the eye. What a treat to see so much native prairie and a variety of plant species, with few exotics!

Thirteen of us from the Kelsey and Maka Flora chapters and elsewhere, met on Saturday and hiked through one of the native prairie areas called the Coburn Ditch Pasture. Led by botanist Peter Lesica, (who due to poor road conditions was able to put off paying work to help us with a species list!), and Brian Martin of The Nature Conservancy, we listed close to 165 species before lunch. We were all impressed with the variety of native grasses and forbs found in the area. Those of us from the west had not seen *Oxytropis lambertii* before, and were much pleased by the beautiful purple-blue blooms that grew in great profusion in the area.

Many of us camped at a BLM campground in the Little Rockies and the contrast between that lush, higher area and the prairie was magnificent. The campground was a bird haven and was full of native shrubs such as American plum, chokecherry, service berry, aspen, rose, and hawthorn, with a coniferous backdrop.

On Sunday the group visited a drier, big sagebrush community and black-tailed prairie dog towns. Being careful not to step on the nests and eggs of ground-nesting birds, we continued the plant species list, noting approximately 65 species.

Brian Martin did a great job elucidating The Nature Conservancy's goals and vision for the Ranch and we thank him and The Conservancy for preserving this expanse of native prairie and for sharing it with us.

- Kathy Lloyd

Artemisia Chapter Scores 50-50

BILLINGS – Over 50 persons attended the alpine flower slide show presented by Wayne Phillips on July 19 at the MSU-Billings Science Hall. Wayne had a good day autographing his book, "Central Rocky Mountain Wildflowers" at Dalton's bookstore and sold a few more after the program.

The next morning, a convoy of cars from Billings stopped at the Red Lodge Ranger Station to pick up the Beartooth

Chapter members and some Wyoming and Bozeman folks, with the eventual destination of the Gardner Lake trail. A group picture by Hal Vosen revealed over 50 wildflower enthusiasts - three of which were using canes.

Tour guide Wayne Phillips was ably assisted by Jan Nixon of Bozeman. The above-timberline area was covered with wildflowers, four ground hugging willows, and a yet to be identified mustard. Of particular delight were pigmy bitterroot, moss campion, miniature elephant head, marsh marigold, and swamp laurel. Over 60 species were viewed and discussed. Most participants never reached Gardner Lake, but all agreed it was the right time for alpine wildflowers.

- Hal Vosen

In snow up to our knees

NOXON – Pete Lesica and Peter Stickney once again joined an enthusiastic group for botanizing in the Cabinet Mountains in late June. They were both on hand last year when a new plant for the state of Montana was discovered on the west slopes of Berray Mountain. At the end of this day, several of us went back to see if it was still there, and it was! *Githopsis specuarioides* seemed to be even more widespread in the small meadow in which we found it a year ago.

In addition, more of the sensitive species, *Madia minima*, was seen, and Peter Stickney even pointed out a small, annual monkey flower (*Mimulus breweri*) that was new to most of us.

On a steep, rocky bank in Snake Creek, Pete Lesica found what he thought might be a new species for Montana, though it would be an exotic species of *Festuca*.

We examined trees as well, since we were in the vicinity of the Berray Mountain Cedars. Not as famous as the nearby Ross Creek grove, it is nonetheless an impressive stand of old growth, and we found that the largest known tree in the grove measures 119 inches in diameter (or more than 30 feet in circumference) and is over 150 feet tall.

From there, an attempt to hike onto a ridgeline to see early spring flowers was stymied by knee-deep snow! But Annie Garde did get her first-ever look at western Goldthread (*Coptis occidentalis*) still in bloom near the snow line.

Thanks, Pete & Peter, for the hike!

Board Banter

A report on the Summer Board of Directors meeting

PINE CREEK – At the annual meeting in the Absaroka Mountains south of Livingston in June, new officers were welcomed onto the MNPS board of directors. Patrick Plantenberg of Townsend will serve another term as Secretary, Betty Kuropat is repeating as Vice President, and Fay Valois replaces Hal Vosen as Eastern Montana Representative at Large. Hal is now working more closely with the Artemisia Chapter in southeast Montana. Scott Mincemoyer, Membership Chair, reported 400+ members, but noted that about 160 people had not renewed their memberships as of late June. The location for next year's annual meeting was selected, and folks in the Noxon area will host it in the Cabinet Mountains. Treasurer Madeline Mazurski reported that the Society's finances are in good shape with over \$20,000 in assets. Various chapter reps gave updates on their respective activities, and as always, it was encouraging to hear about what so many people are doing to conserve native plants and plant communities in Montana. The possibility of developing a website for MNPS is being explored by Maria Mantas, so we may soon be accessible on the Internet.

There's a flower that needs you!

Don't let your membership in the Montana Native Plant Society lapse. Send in your renewal today! See the membership form on page 11. Every one of you are important to the conservation of native plants in Montana.

"I've Seen Fire and I (would like to) See Rain..."

Smoke filled valleys, homes destroyed, thousands of acres of forests blackened: a dreadful scene, and with "sunny days I think will never end" there is no conclusion in sight. At a time like this it is hard not to be negative about forest fires...to remember that fire is, after all, just a force of the ecosystem the same as wind, flood, avalanche and bitter cold, shaping the landscape and native vegetation the same as it has for thousands of years...that for native plants fire is neither good nor bad...that the destruction of the late successional forests creates habitat for early successional plant species...that next spring these burned areas will be filled with the flowers of mountain hollyhock, Bicknell's geranium, American dragonhead, and other plants whose seeds have been lying on the forest floor waiting for this opportunity to germinate, while the surviving sprouts of asters, arnicas, roses, wild bergamot, snowberry, goldenrod, beargrass (and many more) will spring up to reclaim the charred earth and fill the hillsides with brilliant color.

As the Society that promotes understanding and education of native plants, we can represent the symbol of hope in a time when hope is certainly needed.

Annual Meeting 2001

Society members in the deep forest country of the Bull



FROM THE PRESIDENT

WAYNE PHILLIPS

River in far northwestern Montana have accepted the challenge to host the next annual meeting. Jill Davies, Dennis Nicholls and Sam Cullota are excited about showing their area to the Society. They have already picked a mascot, the wild ginger (*Asarum caudatum*), a herb that grows in the deep shade of the giant cedar forest. Jill has offered to create a piece of artwork of the wild ginger for the tee shirt. Exciting! The area is the location of the great ice dam that created glacial lake Missoula, which will likely be featured in the meeting program. Mark off July 13-15, 2001 on your calendar now! The cool shade of the majestic old growth cedars...a perfect place to relax, meditate, and reflect on how our Society can help perpetuate such native plant refugias for future generations.

Plants in Paradise

The spectacular peaks of the Absaroka Range thrusting overhead...a quiet, green meadow to camp in...trails across cascading streams...a soft, gentle rain...forests filled with orchids...and wildflower friends to share it all with... these are my memories of Luccock Park and the 2000 Annual Meeting of the Society. For the field trip I joined a lively group hoping to learn more about grasses and sedges from Matt Lavin of the Department of Plant Sciences at MSU in Bozeman. Matt has a gift for teaching about these (difficult?) plants that is both non-intimidating to the beginner and stimulating to the student of grasses. A charming, spontaneous little boy in our group inspired lunchtime songs (If I were a tree...) and stories (How the Douglas fir got its

name). The climax of the trip was emerging from the forest to an immense meadow filled with wildflowers and grasses with a view of Paradise Valley. Thanks for a great trip, Matt!

Other trip leaders included Sheila Thompson (lichens), Robyn Klein (keying plants), Pete Lesica (plants of the limestone outcrops), Don Mathre (mushrooms), Pete Husby (Riparian), Jennifer Whipple (Plants of Yellowstone NP), and the Yellowstone River Raft Co. (rafting the river).

The evening program, by the team of Liz Galli-Noble, Chuck Dalby and Mike Merigliano, was an amazing multi-media presentation on the Upper Yellowstone River Task Force Studies. There was a great raffle of plants, books, and artwork. I came away with a beautiful silver buffaloberry shrub to add to my native plant landscaping.

Thanks so much to Linda Iverson and all the members of the Valley of the Flowers Chapter for hosting the 2000 Annual Meeting of the Native Plant Society...the highlight of my summer.

Ethical Wildflower Collecting

In early June, I was having breakfast at the Lodge at East Glacier when a beautiful vase of fresh wildflowers was placed on my table, including several racemes of blue camas. Glancing around I noticed that a similar arrangement was being placed on every table in the dining area, over 20 vases with perhaps a hundred wildflowers, picked for the table arrangements. I began to mentally add up how many wildflowers would be picked to keep fresh flowers on the table every day, all summer, at this

lodge and the many lodges in and around Glacier National Park. I soon found myself in the office of the Lodge manager, where a huge vase of camas wildflowers sat on the desk. With the calmest and least judgemental tone that I could muster, I explained that I was a member of the Montana Native Plant Society, our purposes, etc. I explained the need to allow the plants to complete their life cycle and set seed, so they could continue to fill the nearby wet meadows. I also mentioned that camas is a sacred plant and important traditional food source for the Blackfeet People and that we were within the Blackfeet Reservation, etc. I suggested that the profusion of cultivated flowers in front of the Lodge would be a great source of table flowers, without the impact of picking native plants from the wild. I was well received by the person behind the desk, who promised to pass my message on to the administration.

This incident reminded me of my personal responsibility to limit my own collecting of specimens to the material that is absolutely necessary, and once collected of the responsibility to care for them and see that they are placed in a permanent herbarium collection (and not rotting in the fridge). I urge each of you to keep alert to the indiscriminant collecting of our native wild plants for table arrangements or any inappropriate use. Who will speak for the plants if we don't? Our Society is the voice for preserving, conserving and educating the public to the values of our native flora. Besides, our native plants have enough trouble competing with noxious weeds, introduced grasses, and wildland development, without the added pressure of human collecting. Every flower removed is a flower that the next visitor will not have an opportunity to see.

Wayne Phillips

Big Sky

By Lisa Larsen

KETCHES

Spike-Moss: *Plants older than them thar hills!*

Compact spike-moss (*Selaginella densa*) is a small, perennial moss-like plant that is generally classified as a fern ally.

Ferns, club mosses and horsetails have traditionally been grouped together by botanists as pteridophytes, which are vascular plants that reproduce by spores rather than seeds. However, in the mid-20th century considerable information gathered indicated that these three spore-bearing plant groups are not closely related and, in fact, represent three totally separate lines of evolution.

All three plant groups are ancient, with fossils of each being found in rocks of the Devonian age, a time when land was first being colonized by plants. Even 350 million years ago, the three groups were distinct from one another as they are today.

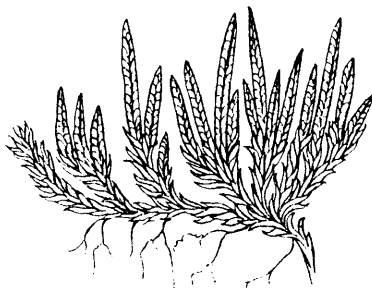
Although the Lycophytes (*Selaginella* and related clubmoss *Lycopodium*) are a small and inconspicuous group of plants today, they dominated major habitats for 40 million years. In the Carboniferous Period, some lycophytes were forest-forming trees more than 100 feet tall; their remains are a source of the coal we

now burn.

Compact Spike-moss is an evergreen forb with lance-shaped leaves that grow in four ranks to form squared rod-like branches. Stems are prostrate with short, erect (less than one inch tall) branches which form dense mats somewhat resembling Berber carpet. It has a shallow, extensive root system, allowing it to rapidly utilize water from small precipitation events, thus making it unavailable to other plants.

It is found throughout the Intermountain West and northern Great Plains on dry, sandy or rocky soils.

Reprinted from a "Wildflower Watch" column which appeared in the Helena Independent Record August 28, 1998. Lisa Larsen is a revegetation specialist in Helena and a member of the Kelsey Chapter of MNPS.



Native Plant Sketches Grace Kelsey

TROY – Perhaps you've noticed a number of sketches in this issue of *Kelsey* that have you wondering who has such talent for drawing our native (and some of our exotic) flora. Her name is Debbie McNeil and she lives in Troy in far northwestern Montana.

Pete Lesica has worked with her on creating over 350 native plant sketches and Debbie is kindly allowing MNPS to use those in our newsletter. Slowly, we

are getting them scanned and on disk for our private organizational, non-profit use. It's a wonderful thing, as good native plant drawings are sometimes hard to come by, and clip art CDs usually don't have good representations of natives.

Thank you, Debbie, for permission to utilize these sketches.

Look for an interview with Debbie in the Autumn edition of *Kelsey*.

RHIZOMES

(news briefs from around the state)

Roadside Plants

MILES CITY – Hal Vosen reported that he has had quite a few inquiries about the book, *Roadside Use of Native Plants*, which he reviewed in the last issue of *Kelsey*. Folks like MNPS member organization Lawyer Nursery in Plains have been asking where they can obtain copies of the book. So here's how. An agreement has been made with Island Press to print more copies. Here's the ordering information if you're interested:

ROADSIDE USE OF NATIVE PLANTS
FHWA handbook for all fifty States
Available this summer through:

Island Press

Orders: 800-828-1302

fax orders: 707-983-6414

email orders: orders@islandpress.org

Mail orders: Island Press, PO Box 7, Covelo, CA 95428

Roadside Use of Native Plants
BOOK COSTS:

Quantity Discount

1-9 books 0%.....\$25.00 each

10-24 10%

25-49 20%

50-99 25%

100-499 30%

500 plus 50%

Add the cost of shipping to your order as well: \$5.75 shipping for 1 and \$2.00 for each additional book.

ORDERS must be prepaid (Government agencies can submit purchase orders.)

Fall Board Meeting

HELENA – The MNPS Board of Directors will meet on Saturday, Oct. 28th at 10 a.m. in the Lewis and Clark County Library (small meeting room) in Helena to conduct the business affairs of the Society. The meeting will conclude by 4:00 pm. This meeting is open to all MNPS members and guests, so come join us and participate in the business affairs of your Society. If you can't attend the meeting, but would like to express your opinions or make suggestions to the Board, please contact your chapter representative (see back page of this newsletter), or write or call me anytime.

Wayne Phillips

A Community Project

Transforming an industrial site into a native plants paradise

By Jan Metzmaker

WHITEFISH – A new library was constructed on the former playground adjacent to Whitefish Central School in 1998. Additional property was purchased from Burlington Northern Railroad to develop a larger site. Unfortunately, a flat, grassy field surrounded by a chain link fence with a view of a blighted industrial area left much to be desired.

In order to improve the viewscape, I wrote a grant to the Plum Creek Foundation and was awarded \$2000 to purchase native trees for a 300x40 foot boulevard situated between the chain link fence and the rail yard. I was uncertain as to how to

construct and develop the site, so I submitted my idea to Bruce Boody, a local landscape architect. He “enhanced” the plan and created a \$26,000 project. Undaunted by the price tag, I decided to pursue local donations and benefactors.

I was able to enlist various members of the community in the project. The Whitefish Parks and Recreation Department removed and recycled the sod. The City of Whitefish donated the site prep, grading and excavation of the site. A drip irrigation system was installed by the Whitefish School District. Local contractors donated 10 dump truck loads of topsoil, 58 tons of very large boulders, and a dump truck load of pathway gravel.

A weed barrier between the site and playground fence was constructed with 920 square feet of donated weedblock, and several additional loads of pea gravel. A chip truckload of Glacier Gold compost was purchased to enhance the poor soil and protective fencing was donated to protect the site.

Once the preliminary work was accomplished, the 7th and 8th graders spread the topsoil and compost over the entire site so the planting could begin. During the last week of school, the students planted approximately \$1000 in purchased trees, shrubs and plants. The native tree species planted were:

Pinus ponderosa,
Pinus contorta,
Larix occidentalis,
Pinus monticola,
Picea engelmannii,
Abies lasiocarpa,
Tsuga heterophylla,
Thuja plicata,
Populus tremuloides,
Pseudotsuga menziesii,
and *Betula papyrifera*.

Approximately 30 different native shrubs were planted along with four different

ground covers. The Native Plant Nursery in Glacier National Park donated some additional plants, however, there is still a great deal of bare ground awaiting plants.

In the fall of 1999, 7th grade science students went on a field trip on Big Mountain with Jeff Evans, a botanist/re-vegetation specialist to collect native wild flower seeds. The students planted the seeds in 700 peat pots which were placed in the Whitefish Gardens greenhouse for planting in early June. Additional plants which were either too difficult to grow or the seed was unavailable were purchased from a native plant nursery with grant money provided by the Montana Native Plant Society.

This project has been enthusiastically embraced by teachers and students alike. The 7th grade science students are using the site for their forestry unit in biology. They can see the difference among our many species of native trees and learn the various requirements necessary for each to grow and thrive. The importance of native plants, where and how they grow in the wild, the different growing strategies, how to collect and grow seeds and how to care for plants have been valuable lessons. The students enjoy the outdoor classroom and are willing participants; well, for the most part. Getting a 13 year old to weed is sometimes a hard sell!

Hopefully, each student will be able to identify the different plants growing in the mini-environments we have created. They will learn about fire ecology and how Lodgepole Pine trees re-seed, feel the difference between a fir tree and a spruce and know that Western Larch lose their needles.

Developing the Native Tree Site has been a rewarding



experience.

Many members of the community have become involved either through in-kind donations or purchasing memorial trees. All trees have an engraved sign indicating the species common name, scientific name and person for whom the tree was purchased.

Using the generous grant from your organization, I bought the following plants: (20 or 40 of each):

Anemone patens,
Aquilegia caerulea,
Balsamorhiza sagittata,
Erigonum umbellatum,
Gaillardia aristata,
Xerophyllum tenax,
Physocarpus malvaceus,
Rubus parviflorus,
Spirea douglasii,
Pachystima myrsinites,
Camassia quamash.

The 7th grade science classes use the last week of school to plant the site. The school district will expand the irrigation system into the newly planted areas. My family and I tend the site during the summer. The additional plants currently residing in a local greenhouse will be planted when they are large enough to be transplanted.

If you are in Whitefish, take a few minutes to check out our site, east of the library and train depot on Railway Avenue, between Spokane and Kalispell Avenues. Look for the bright orange and blue temporary fence. Additional plants, weeders, and donations are always welcome. For more information, contact Jan Metzmaker, 915 Dakota Avenue, Whitefish, MT 59937 (406) 862-7960 or jmetzmaker@hotmail.com.



MNPS CHAPTERS & THE AREAS THEY SERVE:

- **ARTEMISIA CHAPTER** - Yellowstone and Carbon Counties; southeastern/south-central Montana
- **BEARTOOTH MOUNTAIN CHAPTER** - South-central Montana, the Beartooth Plateau country
- **CALYPSO CHAPTER** - Beaverhead, Madison, Deer Lodge, Silver Bow Counties; southwestern Montana
- **CLARK FORK CHAPTER** - Lake, Mineral, Missoula, Powell, 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, 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. Additional 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.

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 the Flowers)

DATE YOUR MEMBERSHIP EXPIRES. If your label reads "2/97" your membership expired February 28, 1997. 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 any address changes.

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 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 included in the Winter issue of *KELSEYA*. Please renew your membership before the summer issue of *Kelsey* 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.

BECOME A MEMBER OR RENEW YOUR MEMBERSHIP IN THE MONTANA NATIVE PLANT SOCIETY

DATE _____

NAME (please print) _____ Email _____

ADDRESS _____ CITY/STATE/ZIP _____

PHONE (____) _____ NEW MEMBERSHIP _____ RENEWAL _____

STATEWIDE MEMBERSHIP WITH CHAPTER AFFILIATION

- | | |
|----------|---|
| ___ \$18 | I. Individual |
| ___ 22 | II. Family |
| ___ 35 | III. Business/Organization |
| ___ 300 | IV. Lifetime Members (one-time payment) |

MEMBER-AT-LARGE (No chapter affiliation) or "LIVING LIGHTLY"

- | | |
|----------|--|
| ___ \$12 | I. Individual |
| ___ 18 | II. Family |
| ___ 30 | III. Business/Organization |
| ___ 300 | IV. Lifetime member (one-time payment) |

MAKE CHECKS PAYABLE TO:
MONTANA NATIVE PLANT SOCIETY
P.O. Box 8783
Missoula MT 59807-8783



Canadian subscribers please add \$4.00 to each category to cover additional mailing costs. Additional donations may be specified for a particular project.

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 to the values 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 may be made to the general operating 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 line or two of "bio" information 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. All meeting and field trip notices, field trip reports or announcements should be mailed to *KELSEYA* EDITOR, P.O. BOX 1632, NOXON, MT 59853. All items should be typed and, if possible, put on a 3.5" disk and saved in Microsoft Word or Microsoft Publisher for a PC. Please include a hard copy with your disk.

CHANGES OF ADDRESS AND INQUIRIES ABOUT MEMBERSHIP IN MNPS SHOULD BE SENT TO: MNPS MEMBERSHIP, P.O. BOX 8783, MISSOULA MT 59807-8783. GENERAL CORRESPONDENCE SHOULD ALSO BE DIRECTED TO THE MISSOULA ADDRESS.

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 each issue is AUTUMN – September 10; WINTER – December 10; SPRING – March 10; SUMMER – June 10. NOTE THE DEADLINE FOR AUTUMN 2000 IS OCTOBER 15.

Want extra copies of *Kelsey* for friends or family? Call the Newsletter Editor or write to the Noxon address for more information.

BOARD OF DIRECTORS

PRESIDENT - Wayne Phillips	Great Falls	453-0648
PAST PRESIDENT - Linda Iverson	Big Timber	932-5840
VICE-PRESIDENT - Betty Kuropat	Col. Falls	892-0129
SECRETARY - Patrick Plantenberg	Townsend	266-5265
TREASURER - Madeline Mazurski	Missoula	542-0262
NEWSLETTER EDITOR - Dennis Nicholls	Noxon	847-2040

DIRECTORS AT LARGE

Eastern Montana - Fay Valois	Vaughn	264-5465
Western Montana - Sam Culotta	Bigfork	837-4298

CHAPTER REPRESENTATIVES

Artemisia Chapter - Hal Vosen	Miles City	232-2608
Beartooth Mountain - Jean Radonski	Red Lodge	446-3907
Calypso Chapter - Annie Greene	Dillon	683-6594
Clark Fork Chapter - Gertrude Lackschewitz	Missoula	543-5009
Flathead Chapter - Maria Mantas	Whitefish	862-3042
Kelsey Chapter - Kathy Lloyd	Clancy	449-6586
Maka Flora Chapter - Al Joyes	Westby	385-2579
Valley of Flowers Chapter - Linda Iverson	Big Timber	932-5840

STANDING COMMITTEES

Conservation - Peter Lesica	Missoula	728-8740
Education - vacant		
Landscaping/Revegetation - John Pierce	Missoula	542-2640
Newsletter/Publications - Linda Iverson	Big Timber	932-5840
Small Grants - Rachel Feigley	Townsend	266-3094
Membership - Scott Mincemoyer	Missoula	251-7099

IF YOU MOVE, PLEASE NOTIFY US AT MNPS MEMBERSHIP, 2405 HIGHWOOD, MISSOULA MT 59803-2127

MONTANA NATIVE PLANT SOCIETY

KELSEYA Editor

P.O. Box 1632

Noxon, MT 59853

ADDRESS SERVICE REQUESTED

(c) Copyright 2000
Montana Native
Plant Society



Printed on
Recycled
Paper

U.S. Postage
PAID
Bulk Permit #3
Plains, MT
59859

PETER LESICA
929 LOCUST
MISSOULA MT 59802

I. 2/1/01