

Kelseya

Newsletter of the Montana Native Plant Society

www.umt.edu/mnps/

Frederick Pursh and the Lewis and Clark Expedition Part 2

By H. Wayne Phillips



Clarkia pulchella, drawn and engraved by Frederick Pursh and published in 1814 in *Flora Americae Septentrionalis*.

who was willing to share his extensive American botanical collections, and A. B. Lambert, a benefactor willing to finance Pursh in writing a flora of North America. The work, titled *Flora Americae Septentrionalis*, was completed and presented to the Linnaean Society at its meeting in December of 1813. Officially published in 1814, the manual includes 3,076 American plant species, or almost twice the number in Michaux's 1803 manual. Pursh's manual sold in London for one pound, 16 shillings if uncolored, and two pounds, 12 shillings if colored. Today's exchange rate is about one pound equals \$1.50 (U.S.).

The plant species are arranged in Pursh's flora according to the Linnaean Sexual System based on the number of pistils and stamens that the plants bear. The entry for each plant includes the Latin binomial scientific name by genus and species, a plant description in Latin, habitat requirements, geographic distribution, a Linnaean symbol indicating the habit and life span (i.e. perennial, annual, woody), blooming sea-

son, the source document for known plant species, and sometimes comments and notes on the uses of plants. For example, Pursh included a long narrative describing the Native American method of preparation and storage for Indian bread-root (*Psoralea esculenta* Pursh), in part from information supplied by Meriwether Lewis. The book has three indices, a Latin and English index, an English and Latin index, and a genus and synonym index (Index Generum Et Synonymorum). The English names are common names, like bearberry.

Pursh also indicated in his flora the source of each of his plant descriptions with the abbreviations v.s. for *vidi siccam* (I have seen in a dried state), and v.v. for *vidi vivam* (I have seen in a living state). Thus, he credited the plant descriptions from the Lewis and Clark herbarium with "M. Lewis v.s. in Herb. Lewis," meaning "I have seen the plant in a dried state in the Herbarium of Meri-

(Continued on page 7)

In London in 1811, Pursh became acquainted with Sir Joseph Banks,

WHAT GOOD IS A STERILE STAMEN?

By Peter Lesica

Penstemons are one of our favorite and most familiar groups of native plants. That's understandable because there are lots of them and most have colorful, showy flowers. In fact, *Penstemon* is the largest genus of plants among those found only in North America. Of the 250 species, the majority occur in the western U.S. The

great diversity of penstemons makes them a great group for gardening, but it also allows us to study how flowers evolve without having to go too far from home.

Beardtongue is the common name applied to many members of the genus *Penstemon*. It refers to the fact that all penstemons have a sterile stamen called a "staminode" that is hairy to some extent in the majority of species. Penstemon flowers are pretty simple, so the staminode is easy to see. Just peel open the corolla. There are six slender, whitish stalks inside. Four have elongate sacs at their tips; these are the fertile stamens, and the sacs contain pollen. One of the two remaining

(Continued on page 5)



President's Platform

Betty Kuropat



One Man's Weed is Another Man's Wildflower

"Would you like to swing on a star?
Carry moonbeams home in a jar?
And be better off than you are?
Or would you rather be a weed?"

A weed is a plant that nobody likes.
You always see them on your hikes.
They're big and ugly with lots of
seed,
Grow on dirt that native plants
need.

If that's the kind of life you'd like to
lead,
Maybe you'd rather be a weed."

The mention of WEEDS inspires wrath and aggression in most people who care about plants. Basically, they are plants someone doesn't like, either native or non-native. I have heard Yarrow and Goldenrod called weeds. I have seen Knapweed in a bouquet. Audubon had a picture of Purple Loosestrife one year in their wildflower calendar. Some weeds are excellent medicinals; some are edibles. Dandelions make a fine wine or tea. This is WEED season.

We all respond differently to weeds as well. Some of us are in denial. We let our noxious weeds go to seed, increasing the problems for our neighbors. Some of us are diligent pullers and use organic methods to rid areas of weeds. Then there are those who nuke the heck out of the land with herbicides, creating more serious problems than invasives. Personally, I tolerate the Hawkweed, weed-eat the Thistle, mow the Dandelion and pull the Knapweed. I like the Yarrow and love when it out-competes the Orchard-grass. I don't like the Tansy and Burdock, yet I know they are medicinals and I wish someone would come to my house and harvest them. In an old How To Identify Plant book, I found a great definition of WEED, "A troublesome or aggressive plant that intrudes where not wanted, especially a plant that vigorously colonizes disturbed areas. To the rangerman a weed is a herbacious non-grass-like plant on the range." Whatever your subjective position is on weeds, understand your prejudice and learn more about what you hate. Maybe

there is another way, like "use it" instead of "kill it". Maybe not.

The pretty plant that Neal and I love to hate is Purple Loosestrife. There is no other way. Eradication rules. Loosestrife out-competes the native vegetation in wetlands. A Cattail marsh becomes a purple monoculture with no wildlife. We have been pulling Loosestrife with Flathead Audubon and Flathead MNPS for 12 years now at two ponds in Ninepipe National Wildlife Refuge and by golly, the Loosestrife is in recession. While it is a lofty dream to aspire to eradication, we know we can never pull it all. There is an integrated program in place that also has success with spraying and biological control using beetles. But we love to PULL and feel very proud of our success.

Your Chance to Help!

Join the Flathead Chapter on Saturday, August 10 for a Purple Loosestrife pull. See the calendar listing on page 9 for the delicious details!

Pattie Brown
MNPS Vice-president

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

NOMENCLATRURAL NONSENSE?

There are those who fondly embrace the nomenclatural changes going on in botany today (sick puppies). And, there are those of us who find the rearrangement of familiar names disagreeable, even though we understand what is driving the changes (healthy puppies). So, here is some good news and some bad news. The bad news is, according to the latest authorities, there are no longer any members of the *Aster* genus in Montana (see Big Sky Sketches on page 8). The *Asters* have been moved into approximately 11 genera, some familiar like *Solidago* and *Townsendia*, and some new to Montana like *Oreostemma*. So *Aster engelmannii* is now *Eucephalus engelmannii*; *Aster conspicuus* is now *Eurybia conspicua*; and our much beloved *Aster occidentalis* is now *Symphotrichum spathulatum*. Sad but true! The good news is that regardless of the name, they can still be enjoyed in an area near you.

Drake Barton

TURNING GREEN?

I read with great interest James R. Habeck's article about Montana Blue Violets in the Spring *Kelsey* and found it very interesting and informative. It was well written and provided a great deal of information about violets I had not known before. A question arose while I was reading. James states that though violet flowers are edible and palatable, the leaves should not be consumed. I have long been under the impression that the leaves of *Viola orbiculata* are edible and I have often stooped down on the trail and grabbed a leaf here and there and stuck it in my mouth. To me they have good flavor and texture and I delight in eating them. I don't pick lots of these violet leaves for my green salads, but I do partake of them from time to time, without any side effects. Perhaps it is because I only eat a few now and then that I have no stomach distress, but if greater quantities of *Viola orbiculata* are consumed, will I be the one turning green rather than my salad?

Dennis Nicholls

If you have a letter-to-the-editor, send it to *Kelsey* at the address listed on page 12.

PROTECTING OUR HERITAGE

By Kim Goodwin and Roger Sheley, MSU, Bozeman

Noxious weeds affect healthy ecosystems by displacing native plants. This reduces Montana's local biodiversity, threatens rare species, alters nutrient and water cycling, decreases wildlife habitat, and increases soil erosion and stream sedimentation which directly affects water quality. The best, most effective, and least costly defense against the consequences of native plant displacement is to prevent weed establishment in weed-free or relatively weed-free areas. These high quality, valued areas have a high percentage of native vegetation and should be identified and "protected" from weed invasion and establishment.

Protecting high quality or valued areas includes limiting weed seed dispersal into these sites. To accomplish this, the following strategies could be implemented:

* Use only certified noxious weed-free gravel, forage when packing livestock and feed, seed mixes when reseeding is necessary, and mulch when mulching newly seeded areas.

* Thoroughly clean the undercarriage and tires of vehicles prior to entering the "protected" area. Vehicle travel should be limited to established roads.

* Avoid adjacent weed patches and infestations during the seeding period—weed seeds can be transported attached to boots, clothing, and animals. Nearby patches should be eradicated through hand pulling or herbicide spot treatments, carefully applied only to the target weeds, with judicious follow-up management to ensure reproduction is stopped completely. Any nearby infestations should be controlled (entire population is managed) or contained (population perimeter is managed to limit spread). Consider revegetation with competitive plants when desired vegetation is less than 20 percent within the infestation.

Limiting seed dispersal into "protected" areas is a large component of preventing establishment and ultimately conserving Montana's heritage. However, it is not possible to entirely prevent weed seeds from reaching these "protected" areas. By far, the most critical component in protecting these landscapes is frequent, systematic monitoring efforts to detect new weeds early for quick eradication prior to vegetative spread or seed production and dispersal.

A monitoring plan should include the following schedule, with concentrated effort along roadways, railways, and waterways, where new weeds often begin establishment: **Spring/early summer.** Methodically examine the "protected" area when young weeds could be hand-pulled, dug-up (ensure the entire root crown is removed, especially with rhizomatous weeds) with a shovel, or carefully spot treated with an appropriate herbicide.

Summer. Examine the area again during the early bud stage to eradicate any overlooked weeds.

Early fall. Examine the area again to clip, bag, and burn any developed seed heads. Otherwise, entire weeds could be removed through hand pulling/digging, or regrowth could be carefully treated with an appropriate herbicide.

According to most experts, noxious weeds currently infest between 9 and 10 percent of Montana. Current infestations should be managed by preventing spread and reestablishing healthy plant communities. To conserve Montana's heritage, private and public land managers should aggressively "protect" these remaining areas from native plant displacement. This could be successfully accomplished in a cost-effective manner by actively limiting weed seed dispersal into these areas through simple prevention techniques. Further, and most importantly, the key to protecting these remaining and valued areas is frequent, systematic monitoring efforts to detect and eradicate new weeds early, well before reproduction.



COAL BED METHANE

The Montana Native Plant Society recently commented on the Draft Montana Statewide Draft Oil and Gas Environmental Impact Statement (DEIS) prepared by the U.S. Bureau of Land Management and Montana Department of Environmental Quality. MNPS believes the DEIS is inadequate for four reasons: (1) The DEIS does not consider the effects of dewatering aquifers on hardwood draw vegetation. (2) The DEIS does not give enough emphasis to monitoring weed invasions. (3) The DEIS does not give enough importance to protecting native grassland vegetation. (4) The DEIS fails to recognize the importance of the rate of implementation and how this contributes to the cumulative effects of development. We hope that BLM and Montana DEQ will do some additional research and revise the current DEIS to include a more thorough analysis of the effects on native vegetation and appropriate mitigation measures for all alternatives. At this time Alternative A, allowing little or no new development, is the only acceptable alternative because development should not proceed without adequate analysis of the potential effects.

Peter Lesica

WELCOME NEW MEMBERS!

Sharon & Dan Browder, Richard Casteel, Bryce Christiaens, Barbara & Keith Cooksey, Steve & Sue Cummings, Nell Delao, Leslie Eddington, Scott & Anita Fisher, George Furniss, Dan Goehring, Clare Hafferman, Lurette Hansen, Phil Johnson, Juliann Jones, Beth Judy, Sandy King, Bill & Ellen Klenn, Carol Lee-Roark, Susan Lenard, S. Inez Love, Anne Mason, Rhona Meislik, Bob Mellow, Heidi Muench, Rich's Landscape Care, Sylvia Robert, Ross Rodgers, Gloria Ross, Carol Rowland, Paul Sawyer, Kathleen Stachowski, Swan Ecosystem Center, and Ted & Yvonne Weaver.

Visit: www.umt.edu/mnps

Preventing Exotic Plant Invasions

The Montana Native Plant Society believes that preventing the establishment of new weeds is essential for protecting native plants and plant communities. We will never gain ground on the problem of invasive exotic plants if we only react to them after they have become well established. There are several initiatives that will help prevent new weed invasions, both here in Montana and nationwide. Several federal agencies have united to develop an early warning-rapid response protocol for new invasive plants. If implemented, this initiative will help new invasive exotics from becoming well established and will also aid local weed managers by providing information, including a comprehensive weed database. Representatives of federal agencies, private nurseries, garden clubs, botanical gardens, arboreta and universities met at the Missouri Botanical Gardens in December to discuss the problem of invasive exotics introduced through the nursery trade. They developed draft voluntary codes of conduct for 5 groups: botanical gardens, nurseries, government, landscape architects, and the gardening public. They are now in the process of finalizing these codes. In Montana, the Conservation and Landscape committees of MNPS and the Montana Nursery and Landscape Association are in the process of developing voluntary guidelines for selecting plant material for Montana. We hope to have a final draft to present to MNLA for approval this winter.

Peter Lesica

Native Seed Collection List for 2002

The Plant Materials Program is requesting seed collections of four species in Montana and Wyoming. NRCS Field Office personnel, and other interested collectors, are being called upon to participate in the collection of fuzzytongue penstemon, *Penstemon eriantherus* ssp. *eriantherus*; silverleaf phacelia, *Phacelia hastata*; scarlet globemallow,

Sphaeralcea coccinea; and American vetch, *Vicia americana*. The annual collection bulletin will be in field offices by June 2002, and will contain an attachment outlining the areas of each state that still need species representation. Also included with the bulletin will be a detailed description of each species to aid in identification, potential site location, bloom period, and approximate time of seed maturity. Seed is subsequently planted in evaluation studies to test performance and utility for solving conservation problems outlined in the Long-Range Plans for Montana and Wyoming. For more information call Larry Holzworth, Plant Materials Specialist, USDA NRCS Montana State Office, Federal Bldg., Rm 443, 10 East Babcock Street, Bozeman, MT 59715-4704, Phone: 406-587-6838.

FLATHEAD CHAPTER REPORT

On June 1st a small group of us visited Karen and Rod May's Native Orchid Nursery, where they specialize in propagating and growing native lady's-slipper orchids (*Cypripedium*). We toured through Karen and Rod's house, where it seems every room has been transformed into some part of the business. An upstairs bedroom is the "lab" where seeds are planted and transplanted in petrie dishes and jars filled with sterile agar substrates. The kitchen table is covered with potted seedlings. An office has live specimens of the most beautiful and rare *Cypripediums*, between computer hardware where they manage their business, "Rocky Mountain Orchids". Other whole rooms are dedicated to preparing potted plants for the transition to the outdoor raised beds where the plants live for another two or more years until they reach flowering size. It was obvious, after spending a few hours there, that Karen has dedicated her life to propagating and growing these beautiful and rare species. Indeed, she is the first to have discovered how to germinate *Cypripedium montanum* in the lab!

Some of you may remember Karen

as a member of the Task Force on Wild Medicinal Plants that was assembled by Governor Racicot after passage of Senate Bill 197 in April of 2001. Karen and Rod are not your typical orchid collectors or growers. Rather, they are conservationists who are concerned about propagating native species from seed, so that collection of plants from the wild will be "unnecessary" for those who would have them for their garden. We applaud the hard work of Karen and Rod and wish them success in their business! Check them out at <http://www.rockymtnorchids.com/>



Drake Barton

Cypripedium montanum

Bryophyte Workshop Scheduled...plan now!

A bryophyte workshop is scheduled for September 17, 18, 19, 2002 at the Lubrecht Experimental Forest, 40 miles NE of Missoula, Montana. Cabins and lodge rooms are available at the Lubrecht Experimental Forest. The tuition cost is nominal, with the majority of the tuition at this time being picked up by the Region One Botany Program of the US Forest Service. An introduction to mosses will be followed by extensive field trips to look at mosses common to this area. Contact Susan Rinehart (406-329-3669) or Darlene Lavelle (406-329-3800) for registration. There is a limit to the number of attendees that can be accommodated, so please reserve your spot early.

...Sterile (Continued from page 1)

stalks comes from the top of the ovary; this is the style that carries pollen tubes to the young seeds. The other sacless stalk is the staminode.

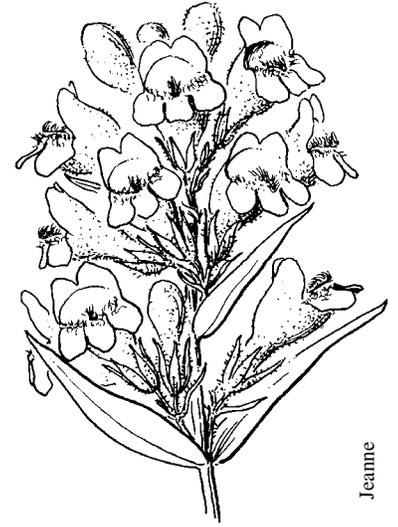
Evolutionary biologists believe that the pollen-bearing function of the staminode was lost during the evolution of penstemon's two-sided, two-lipped flower from more primitive, radially symmetrical tube flowers. Flowers of these less advanced groups have five functional stamens. But five doesn't divide evenly into the two halves of the bilaterally symmetrical penstemon flower, so apparently the function of one of the five stamens was lost as flowers evolved toward being two-lipped.

Organs that no longer serve their primary function are called vestigial. Vestigial organs eventually meet one of two fates: they cease to be produced (like the tail in humans), or they evolve to serve a new function. An example of a novel function for a vestigial character is facial hair in humans. Facial hair undoubtedly serves a protective function in most mammals, but it is not needed for this in humans. It has been lost in females but served a signaling function in males—white-bearded males

have seniority, and, of course, a mustache is rakish and debonair.

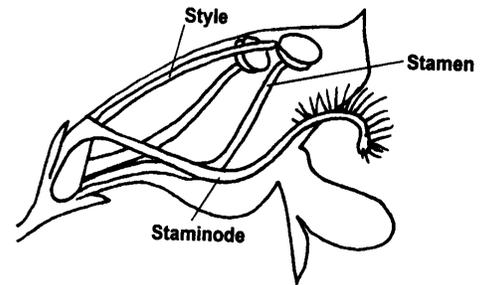
There has been a good deal of speculation about the function of penstemon's staminode. Some researchers considered it useless, while others felt it prevented nectar robbing or otherwise facilitated pollination. Recently two biologists from Calgary sought evidence for staminode function in two hummingbird and two bee-pollinated penstemons. Lawrence Harder and his student Jennifer Walker-Larsen removed the staminode in some flowers through a small slit they cut at the base of the corolla. In red, bird-pollinated penstemons there was no difference in pollination between flowers with and without a staminode. However, the bee-pollinated species were a different story. In the narrowly tubular flowers of *Penstemon ellipticus*, a common species in northwest Montana, the staminode impeded visiting bees. They spent more time in the flower and consequently went away with more pollen on their bodies. Walker-Larsen and Harder also looked at *P. palmeri*, a species with a pouch-shaped corolla, very similar to our common fuzzy-tongue, *P. eriantherus*. In these species the staminode acts like a lever, causing the style to be pressed against the back of the bees when they land in the spacious flower. The long hairs help ensure contact, and the bees deposit more pollen on the stigma than in flowers with the staminode removed.

The results of Walker-Larsen and Harder's study suggest that the evolution of the staminode is taking several different directions within the genus *Penstemon*. All red, hummingbird-pollinated flowers in the Intermountain Flora (6 species) have glabrous staminodes. It appears they serve no function in pollination, so we might expect them to be reduced or lost in the future. On the other hand, the staminode in bee-pollinated flowers has evolved to enhance pollination, and it is hairy to some extent in most of these species. Staminodes of narrowly tubular flowers act as a barrier, while those of pouch-like flowers have evolved to be levers. The vestigial staminode has taken on a secondary function,



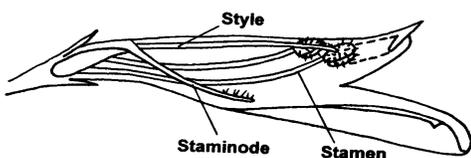
Jeanne

Penstemon eriantherus



Debbie McNeil

Penstemon ellipticus



and even within a single genus, evolution of the staminode has gone in different directions depending on the shape and color of the flowers.

Additional reading:

Walker-Larsen, J. And L. D. Harder. 2001. Vestigial organs as opportunities for functional innovation: the example of the *Penstemon* staminode. *Evolution* 55: 477-487.

Bank Stabilization Fact Sheet

One of the key ways people impact floodplains is through bank stabilization projects that prevent rivers from meandering and change the way rivers function. Montana Audubon has produced a brochure that introduces people to the effects of bank stabilization structures. If you would like a copy write to Montana Audubon at P.O. Box 595, Helena, MT 59624 or e-mail Janet Ellis at: jellis@audubon.org

LANDSCAPING with NATIVES

...Education Clark Fork Chapter Style

In spring of 2001 I got a call from Trish Kenney and Jennifer Notman, teachers at Rattlesnake Middle School in Missoula. They wanted a consultation regarding a section of school property they wanted to transform into a native landscape.

I went to consult with Trish and Jennifer in April. Their idea was to rid the front of the school of an eye sore; a 100 x 15 foot dandelion-infested lawn area. They hoped to make it a native plant showcase. I learned that the school had absolutely no money for this project. All these gals had was gumption!

It just so happened that at the time, the Clark Fork Chapter of MNPS was solidifying a concept we'd all come to realize filled a necessary niche in our (and any) community: an Education Sub-committee. We have so many talented professionals in our chapter and we even have a little money to pay them for demonstrating, teaching and providing other services.

Our chapter wondered just how we should break into this field. I suggested we start with the Rattlesnake School project, as they would value our connections, were working on minimal funding, and as a school, would naturally be a community project.

The chapter paid me to consult with the school, which went over well with both parties! The consultation consisted of advice and an extensive list of resources that I'd had previous experience with. They also got a list of plants I was fairly confident they could find locally. I drew them a map to scale on simple graph paper. I did not expect this would be followed to a 'T', but just wanted to give them something to work from.

One of the provided resources was Rainmaker Sprinkler Supply. Even native plants appreciate a good drink periodically, but especially during the first year to help them establish. My friend Annie Baker is the office manager at Rainmaker and makes the whole thing go like clock work. Her son Mike is a student at Rattlesnake School. So Annie became a pilot volunteer, bless her heart! She also provided a lot of the material for this article. She laid out a nice drip system attached to a battery operated timer, all of which were donated to the cause.

Brian Lohans of Lohans Landscape was one of the first volunteers on the scene. He donated half a day's labor removing sod with his Bobcat and hauling the compostable debris to the piles at the Northside Community Garden. Valley Landscape donated hauling and distributing of eight or so yards of EKO compost.

One third of the project was completed in the spring. The other two thirds was covered in black plastic to solarize the disturbed, yet unplanted, soil until fall.

Linda Wilsey was the star parent volunteer for the fall work and rounded up most of the plants for that round.

Plants were donated from so many sources that I hope I don't neglect anybody. Big thanks go to Marchies Nursery, Bitterroot Restoration, and Clark Fork Chapter MNPS for plant sale leftovers. I contributed some extras I had left from over-buying, as usual!

Some edging was installed to keep the whole thing from wandering onto the sidewalk and this was donated by Home Depot.

All in all, the principals, about a dozen parents and half as many students, spent a month of weekends applying themselves to the project. For \$75.00 and a lot of hard work and coordination the school now has a landscape that could easily have cost \$10,000.00. I'd say this was a great project to cut our teeth on.

The landscape is being maintained by an after-school summer program called The Flagship. I understand they could use some guidance, and maybe next summer we can continue our relationship by providing some on-site maintenance demonstrations.

This winter our Education Sub-committee met once a month. Our current goals are to solidify connections to other related educational programs in our community so we can share resources. We are also working to create an education 'trunk'. In the trunk we hope to have flyers, books and other information one would need in order to start a native garden. There will be a list of plant resources and people in our area that you can hire to do it for you.

I guess gardeners never do sleep, even when the snow is deep or the rain is pouring!

Lori Parr Campbell owns and operates Kinship Gardens, a maintenance and consulting service based in Missoula.

CLARK FORK CHAPTER REPORT

We all admire a well-kept lawn of perfectly trimmed grass without dandelions. However, a lawn suffering benign neglect can be a repository of biological diversity as a few Plant Society members discovered on a cool day this past May. This small but elite crew of ace botanists cataloged 34 species of naturalized plants growing in a matrix of Kentucky bluegrass and smooth brome in Peter Lesica's 50 X 150 feet yard. There were two species of dandelion, *Taraxacum officinale* and *T. laevigatum*. Some, such as creeping Charlie (*Glechoma hederacea*) and tall bellflower (*Campanula rapunculoides*) are common lawn weeds, while others, like spotted knapweed (*Centaurea maculosa*) and sulfur cinquefoil (*Potentilla recta*) are notorious wildland invaders. The crew found 12 species of annuals, including two *Veronicas* and madwort (*Asperugo procumbens*). Six species were native, with two herbaceous perennials (*Lomatium dissectum*, *Erigeron divergens*) and one tree (Douglas-fir). After the exhausting inventory work, the crew retired to the kitchen to sample pie and chocolate cheesecake (Kelly had two pieces).

Peter Lesica

KELSEY CHAPTER REPORT

It is possible to visit Crown Butte on a nice day! After several years of cancelled trips due to rain and mucky roads, the Kelsey Chapter and MWA ascended The Nature Conservancy Preserve at Crown Butte. What a view! The real joy of Crown Butte is the intact native grasslands on the top of the Butte, largely comprised of rough fescue

(Continued on page 7)

...Pursh (Continued from page 1)

wether Lewis." In writing his flora Pursh used 55 sources of plant specimens to supplement his own extensive collections. Some of the collections used were from famous botanists of the day, including John and William Bartram, John Bradbury, Aloysius Enslin, Archibald Menzies, Andre Michaux, Henry E. Muhlenberg and Thomas Nuttall.

Of the 132 plant species in Pursh's manual that were described from plants in the Lewis and Clark herbarium, 94 were new species proposed by Pursh, and 40 have been retained as the accepted scientific name for the species today (Reveal, Moulton, and Schuyler). Pursh also named three new genera, which are still recognized: *Lewisia* (in honor of Meriwether Lewis), *Clarkia* (in honor of William Clark), and *Calochortus* (Greek for beautiful grass). Other new species Pursh named in Lewis's honor were *Linum lewisii*, Lewis's blue flax; *Philadelphus lewisii*, mockorange or syringa (state flower of Idaho); and *Mimulus lewisii*, Lewis's red monkeyflower. Thirteen of the 24 plates illustrating plants in Pursh's book are plants from the Lewis and Clark herbarium; 7 were drawn by Pursh himself, probably under contract with Meriwether Lewis.

However, Pursh failed to recognize the opportunity to name several additional new genera from the Lewis and Clark herbarium, including *Balsamorhiza*, *Camassia*, *Lomatium*, and *Purshia*. In 1816, P. A. Poiret named *Purshia* in Frederick Pursh's honor. Also, an additional 66 plant species in the Lewis and Clark Herbarium today do not appear in Pursh's flora.

Not everyone was happy about this new floral manual. In 1818 John Torrey exclaimed, "I have detected more than fifty [errors] merely in the course of looking up a few plants of the neighborhood" [Ewan].

Pursh had his problems, namely alcoholism and perhaps a dishonest streak born of ambition. Dr. Barton warned his brother in 1806, "drinking is his greatest failing (and God knows it is a big one), but the poor fellow, who has been well educated, has merit..." [Ewan]. In 1816 Dr. John W. Francis wrote, "...perhaps Pursh is his own worst

enemy: drunk morning, noon and night" [Ewan]. In 1838 Nuttall wrote, "Pursh 'the Cossack'...he altered the names, or published my specimens...that I intended to publish..." [Ewan].

Pursh later collected plants in Canada and was working on a Canadian flora when his collections were destroyed in a fire in Montreal. He died there in 1820, penniless, at the age of 46.

Despite his limitations, Pursh was a man with exceptional powers of observation, organization, patience and endurance. By describing the plants of the Lewis and Clark Expedition in his *Flora of North America*, he completed the task that Dr. Barton failed to do, and that Lewis was unable to do, because of his untimely death.

William Darlington praised Pursh in 1827 when he exclaimed, "the light which has been thrown upon the plants of this country by that valuable work, and the spirit of botanical research which it has excited amongst us, will forever entitle the Author to our greatest remembrance" [Ewan]. In 1857 Dr. Francis wrote, "we want the pen to describe the labors of Pursh...His adventurous spirit, his hazardous daring, and his indomitable energy...[we have] great regard for the benefits Pursh had conferred on American botany" [Ewan].

Literature cited:

Cutright, Paul Russell. 1969. *Lewis and Clark: Pioneering Naturalists*. University of Nebraska Press, Lincoln and London.

Ewan, Joseph, editor. 1979 reprint. *Flora Americae Septentrionalis* by Frederick Pursh. J. Cramer, Braunschweig, Germany.

Moulton, Gary E., Editor. 1999. *Herbarium of the Lewis and Clark Expedition, The Journals of the Lewis & Clark Expedition*, Volume 12. University of Nebraska Press, Lincoln and London.

Reveal, James L., Gary E. Moulton, and Alfred E. Schuyler. 1999. *The Lewis and Clark Collections of Vascular Plants: Names, Types, and Comments*. Proceedings of the Academy of Natural Sciences of Philadelphia 149: 1-64.

ARTEMISIA CHAPTER REPORTS

Our field trip in early June to Meteetse Spires with the Montana Wilderness Association was led by Hal Vosen, as Dr. McCracken is recovering from a hiking accident in Weatherman Draw. The anemones were blooming, as were violets, vetch, phlox, flax and Oregon grape. The Kelseyia did not look like it had bloomed this year. The rain held until we got back to the Ranger Station at Red Lodge. Assisting on the trip was Ed Jacobson of Billings.

The Pryor Mountains trip in June was affected by bad roads to the north side, so we went to Bear Can-

yon and parked in the rustic BLM campground. There Kelseyia had flowered, as evidenced by the tan seedstalks. This is a birdwatcher's paradise, with almost constant music from wrens, redbellied vireos and other LBJs. Utah juniper dominated as we entered Bear Canyon, but it changed to narrowleaf cottonwood and then into Douglas-fir and limber pine. A rare find was *Corydalis aurea* along the good trail up the canyon. Threatening clouds, rain and wind let up once we had parked and had our raingear on. Assisting on the trip were Bill Roney, Susan Winslow, Lilo Klaehn of Cody, and Sue Crispin of Helena.

Hal Vosen

...Crown (Continued from page 6)

(*Festuca scabrella*), bluebunch wheatgrass (*Agropyron spicatum*) and Idaho fescue (*Festuca idahoensis*), and the fact that very few weeds inhabit the Conservancy property. How nice to hike through native grasses and to have to search to spot a dandelion! Thanks to The Nature Conservancy for preserving Crown Butte. Helen Fee for MWA and Drake Barton for MNPS did a great job filling us in on the natives and some of the other features. In addition to native grasses, Bessey's crazyweed (*Oxytropis besseyi*) was in bloom and golden eagles were flying around the Butte. All in all, a great day.

Kathy Lloyd

Big Sky Sketches

By Roberta Walsh

Montana Asters—the stars of summer

Asters are the “stars” of summer, and fall in Montana meadows, open forests, and gardens. *Aster* actually means star in Latin, and is both the scientific and the common name of the group. Asters belong to the daisy family, and are such prominent members that the family has been officially named Asteraceae.

There are between 250 and 500 species of asters worldwide, depending on who is naming them. Most are native to North America, but a few have arisen in South America, Eurasia, and Africa. About 35 aster species occur in the Rocky Mountains (see page 2); they vary from small annuals a few inches tall to perennials five feet and more in height.

Native aster species in west-central Montana are perennial herbs. Most are tall, but we do have a few low growing, tufted asters at higher elevations. In our species, each flower head contains two types of flowers: small, tightly clustered disk flowers in the center, and larger ray flowers around the edge. The ray flowers can be purple, blue, white, or occasionally pink, but never yellow. The disk is yellow or reddish-purple. Our asters bloom from midsummer into autumn, giving a great deal of pleasure after spring and early summer flowers have finished their show for the year. The leaves, stems, and flowers are eaten by many of our big game animals, and the flowers are used by adult butterflies.

Showy aster (*Aster conspicuus*) is one of our most noticeable native species, with bright blue to lavender rays and yellow to brownish disk flowers. Each flower head is about one inch wide, with 12 to 35 ray flowers. The flowering stem is usually one to three feet tall, branched, somewhat flat-topped, and carries

few to many flower heads which open from late summer to early fall. Leaves are two to seven inches long, and are rough to the touch. In Montana, showy aster occurs at elevations from 3,000 to 7,100 feet. It is found in open forests and along forest margins from valleys into mountains, and is most common at mid elevations. Showy aster makes a spectacular display with mass flowering in the first and second years after a fire. Black bears, grizzly bears, deer, elk, cattle, and domestic sheep use showy aster as forage.

Great white aster (*Aster engelmannii*) also occurs in western Montana. It can be found from open spruce or Douglas-fir forests up to dry subalpine meadows, and flowers in late summer. Each flower head usually has 13 to 19 white (or sometimes pink or bronzed) rays, each ray up to one inch long. Flower heads cluster rather tightly at the top of the stems. The plant grows to as much as four feet tall, and the leaves are nearly smooth.

The asters are easily confused with two other groups of “daisies,” the fleabanes (*Erigeron*) and the townsendias (*Townsendia*). However, a few characters can help sort them out.

Fleabanes flower in the spring, while asters are summer and fall bloomers. The fleabanes generally have more numerous (often more than 50) and narrower rays on a flower head than do the asters. Fleabanes are usually low plants with leafless, unbranched stems that carry a single flower head, whereas asters

generally grow taller and have leafy branched stems carrying several flower heads per stem. The leafy bracts just below fleabane ray flowers tend to be rather equal in length and occur in one or two rows. In asters these bracts occur in several rows of differing lengths that overlap like shingles. The result looks like a very small artichoke just below the ray flowers.

Townsendias look very much like asters and fleabanes, but have one unusually large flower head at the top of each short, unbranched stem. One or several flowering stems grow from a basal tuft of leaves. The townsendias bloom in late spring or early summer in high prairies and valleys up to timberline. Parry's townsendia occurs in western and central Montana. It has large, showy flower heads two to three inches in diameter at the top of stems that are up to 10 inches in height. The ray flowers are violet to purplish-blue. The disk flowers are bright yellow.

Several North American aster species have been hybridized to produce valuable garden plants. However, if you would like to try growing our native species you can collect seeds by bagging a few flowers after they have bloomed and faded, but before

the seeds have fallen. A section of nylon stocking, wrapped and tied at both ends to enclose the flower, works well. Let the seeds ripen on the plant until after first frost, and then collect them. Note the conditions in which you find the plant growing, and reproduce them as closely as you can. You can also use pieces of root crown if you find your aster of choice on land on which a road or building is going to be constructed.

Enjoy our asters wherever you find them!



Aster engelmannii

Debbie McNeil

CALENDAR

ARTEMISIA CHAPTER

Saturday, July 6, 8:30 a.m.

"Beartooth Pass Ski Area", led by Jerry Moore. Meet at the Red Lodge Ranger Station at 8:30 a.m. Bring water, lunch, sunscreen, camera, rain/windbreaker and sturdy shoes for walking on rock. Contact Jerry Moore at joyjerry@earthlink.net or 628-7367.

Saturday, July 27

William Clark Day at Pompey's Pillar. Five plant tour guides are needed in the morning. Contact Hal Vosen at htrees@midrivers.com or 232-2608 or his new number, 234-8160. Hal will have a plant list available.

Mid-August, date to be decided

The Artemisia Chapter hopes to visit the north side of the Pryors in August, probably on the second weekend. Contact Hal Vosen or Jerry Moore, 628-7367, for details.

CALYPSO CHAPTER

July, 2nd week, exact date pending Gravelly Range Wildflower Tour. This is coordinated with the Forest Service. The Ranger Station in Ennis will be the starting place. Exact time and date depend on weather and road suitability. Contact Kevin Suzuki at 682-4253.

Mid-July to August

Self guided trip to the Gravelly Mountains. This area south of Ennis has several loops to access the subalpine meadows. Fields of *Polygonum bistortoides*, *Hymenoxys grandiflora* and *Wyethia* are abundant. Rare pink *Agoseris lackschewitzii* and *Thalictrum alpinum* can be found. To obtain a map, plant lists and more info contact Kevin Suzuki, Madison Ranger District Office at 682-4253 or e-mail: ksuzuki@fs.fed.us

CLARK FORK CHAPTER

Saturday, August 24

Native Plant Society Annual Canoe Trip sponsored by the Clark Fork Chapter. EASY float for canoes or kayaks. The trip will be held in the Flathead Valley. Meet at the Harry

Horne Rest Area on HWY 35, at the south end of Big Fork at 10:30 a.m. Contact Anne Morley, 886-2242 or Kelly Chadwick, 258-5439. Pack a lunch!

October 4 -6

Mushroom Foray. The Western Montana Mycological Association and MNPS will have a combined Fall Foray. Frank Dugan, research plant pathologist with USDA, and Plant Society member, will be one of the expert mushroom guides. The foray will be held at Sacagawea Lodge, Lost Trail Hot Springs Resort. Guests staying overnight at the lodge on Saturday will be charged \$20.00 and there will be a potluck dinner. Saturday, there will be an 8 hour hike starting at 8:00 a.m., a 5-6 hour hike led by Frank Dugan at 9:00 a.m., and a 4 hour hike at 10:00 a.m. To request registration information, write PO Box 7306, Missoula, MT 59807. For more details, log onto <http://www.fungaljungal.org>

Thursday, October 10, 7:30 p.m. Elaine Sheff of Meadowsweet Herbs in Missoula will talk about the many uses of "The Medicinal Herbs of the Rocky Mountains". Rm L09 Gallagher Business Bldg, UM Campus.

Thursday, November 14, 7:30 p.m. Plant Society member and former Flathead Chapter president Mary Sloan will give us an insider's view on "The Ecology of the Three Forks of the Flathead River". Rm L09 Gallagher Business Bldg, UM Campus.

EASTERN MONTANA

Jennifer Walker 538-9054

FLATHEAD CHAPTER

All Flathead Chapter meetings are at the Montana Logging Association Building, 2224 Highway 35, east of Kalispell, across and just east of Hooper's Nursery. The conference room door is at the back of the building. Everyone is invited to the 5:30 general meeting. Programs start at 7:00. Call Rachel Potter (892-2446) for more information.

Saturday, July 13, 1:00 p.m.

Dee Strickler, author of *Northwest*

Penstemons and several other wildflower guide books will give us a tour of his Penstemon Garden near Columbia Falls. We will also tour a few other gardens in the area. On the way to Columbia Falls, the Missoula group will stop at Rocky Mountain Orchids, propagators of native orchids in Big Fork. Missoula people will meet at 8:30 a.m. at the NW corner of the Providence Center parking lot near the Orange St. exit and should pack a lunch. People from the Kalispell area will meet at Dee's house (192 Larch Lane) at 1:00. Contact Dee at 862-5038 or Kelly at 258-2974 for more information.

Saturday, August 10

Purple Loosestrife Pull at Ninepipe. Join the Flathead & Mission Mountain Audubon for our 12th annual effort to control the wetland invasive weed, Purple Loosestrife. This fieldtrip requires shoes that can get wet, gloves, lunch, water, and the desire to make a difference. Meet at 8:00 a.m. at Ninepipes Lodge (six miles south of Ronan on U.S. Highway 93) for a shorebird field trip to the Ninepipe wetland complex. Purple Loosestrife pull will begin at 10:00 a.m. with lunch at noon featuring (tradition demands) gourmet desserts! Contact Neal or Pattie Brown at 837-5018 for more information.

KELSEY CHAPTER

Kelsey Chapter programs will begin in the fall. Members will be notified by e-mail or telephone and by a notice in The Independent Record. For information call Kathy at 449-6586.

Tuesday, July 2, 6:30 p.m.

Join the Kelsey Chapter for a tour of the facilities and the native plants at Tizer Lake Gardens, near Jefferson City. Bring a picnic dinner and the family. Call Belva at 933-8789 for details and directions.

MAKA FLORA CHAPTER

Late July, date to be set

(Continued on page 10)

...Calendar (Continued from page 9)

Becky Kallevig will be coordinating a Yellowstone River canoe trip during late July. Contact her at 488-5455 if you want to be included in the plans.

Saturday, July 20

CCC Campground near Theodore Roosevelt National Park, North Unit. The Maka Flora Chapter will be joining a Forest Service plant walk led by a range specialist. Meet at 10:00 CT (9:00 MT) at the CCC campground. (At North Unit entrance, continue south on Highway 85 and cross the Little Missouri River. Take the first right just after crossing the bridge and drive in about one mile to the CCC Campground.) Walk will end back at the campground for a picnic lunch. Bring your own lunch, drinks, and guidebooks. Contact Libby Knots for more information: 774-3778.

Saturday, August 3

Missouri River Canoe Trip. Canoe the short (8-10 mile), mellow stretch from Fish Camp to the Culbertson Bridge and explore the river floodplain and islands. Usually an easy half-day float. Contact Doug Smith if you have a canoe to loan, need a canoe, or need a paddling partner. Meet at 9 a.m. at the Culbertson Bridge where shuttles will be arranged. As the road to Fish Camp is impassable when wet, rain date will be Saturday, August 10.

VALLEY OF FLOWERS

Valley of Flowers Chapter meets the second Monday of each month. Programs will begin at 7:00 p.m. in Room 108 (on the first floor using the door at the bend of the "L") of the Agbioscience Building on South 11th. Parking is available in the lot to the north of the building (they do not require a permit at night). For info call Joanne Jennings at 586-9585.

Monday, July 8, 6:00 p.m.

Kirk Hill Knapweed Pull in Bozeman. Join Jan Nixon for the annual assault on knapweed and other invasive weeds at the Kirk Hill/Foothills Nature Area, 6 miles south of Main Street in Bozeman on South 19th Ave. Bring water, gloves, bug repellent, and a digging tool (a long-shank screwdriver works well). Bags will be

provided, as well as identification of the plants we're after. Call Jan Nixon at 406-585-9959 evenings if you have questions.

Saturday, July 27, 10:00 a.m.

"Valley of Flowers Fire Recovery Sites", established by the chapter with permanent photo points at a location on Grayling Creek in Yellowstone National Park, to track recovery from the 1988 fires. Meet at 10 a.m. at the pair of pullouts just north of the 16-mile marker on Hwy 191 south of Bozeman. Bring lunch, water, bug/sun stuff, and dress for the weather. Call Jan Nixon at 585-9959 evenings, for questions or car-pool possibilities.

Sunday, August 18, 9:00 a.m.

Meet at the Agbioscience parking lot in Bozeman at 9 a.m. for a midseason field trip to the Bridger Mountains. We will walk and talk in the flowers. Call leader Matt Lavin at 994-2032 for details.

Thursday, August 29, 6:00 p.m.

A planning potluck for the fall and winter meeting season. Bring a dish to share and lots of ideas to 1402 Cherry Drive. For more information call Sharon Eversman at 586-6788.

Monday, September 9, 7:00 p.m.

First fall meeting in Room 108 of the Agbioscience building on South 11th Avenue. Carol Asleson, a successful native plant grower, will be there to share her secrets. Call Joanne Jennings, 586-9585, for information.

WESTERN MONTANA

Sal Culotta 837-4298

Thursday, July 11

"Noxious Weeds: The Bandits in Our Woods" sponsored by the Glacier Institute and supported with a grant from MNPS. FREE. To register call 406-755-1211.

Thursday, Friday, July 11-12

"Native Plants and the Blackfeet People" with Wayne Phillips & Alex Gladstone, sponsored by the Glacier Institute. The cost is \$140 (includes lodging.) Call 406-755-1211 to register.

Saturday, July 13

"Wildflower Wanderings" with Janet Paul Bones, sponsored by the Glacier Institute. The cost is \$45. There is no sight more breathtaking than the

colorful flowers found in Glacier's lush, alpine meadows, along its stream banks, and on its glaciated rockscapes. Call 406-755-1211 to register.

Saturday, July 13, 8:00 a.m.

"The Turrets of Government Mountain." Join Pete Lesica for a moderately easy hike along the rocky crest of Government Mountain near Noxon. Meet at 8:00 a.m. in front of the Noxon Cafe. Following the hike will be a potluck at Jill Davies'. For info contact Dennis Nicholls at 406-847-2040 or e-mail: trj@blackfoot.net

Saturday, July 27, 8:00 a.m.

"Dad Peak - Wilderness Ecology Hike" led by Peter Landres and Dennis Nicholls. This day hike into the Cabinet Mountains Wilderness will focus on the ecological management of Wilderness with Peter Landres, Research Ecologist for the Aldo Leopold Wilderness Research Institute in Missoula. The trail begins in Devil's Club Creek and is 10-12 miles round trip. Meet at 8:00 a.m. at Bull River Country Store at the junction of Hwy 200 and Hwy 56. For info contact Dennis at 847-2040 or e-mail: trj@blackfoot.net

August 2-4, 8:00 a.m.

"Scotchman Peak #2." A joint MWA and MNPS overnight hike led by Dennis Nicholls. The hike covers 20-25 miles, beginning at Spar Lake and ending at Ross Creek Cedars. This strenuous backpacking trip is geared for experienced hikers who want to explore the rugged backcountry of the West Cabinets on the Montana/Idaho border. Meet at 8:00 a.m. at Bull River Country Store at the junction of Hwy 200 and Hwy 56. Reservations required and group size limited. For info call Dennis Nicholls at 847-2040 or e-mail: trj@blackfoot.net

Saturday, Sunday, September 28-29

"Fall Mushroom Foray" with Larry Evans, sponsored by the Glacier Institute. The cost is \$125. Fungi play a critical role in the ecosystem, many of them growing in mutually beneficial partnerships with specific trees and plants. Learn about these fascinating ecological relationships while you gain important and practical identification skills. Call 406-755-1211 to register.

MNPS Chapters & the Areas They Serve:

- ARTEMISIA CHAPTER - Yellowstone and Carbon Counties; southeastern/south-central Montana
- 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 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. Watch for meeting announcements in your local newspaper. Ten paid members are required for a chapter to be eligible for acceptance in MNPS.

Your mailing label tells you the following:

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

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

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

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

MONTANA NATIVE PLANT SOCIETY MEMBERSHIP

DATE _____

NAME (please print) _____ E-MAIL _____

ADDRESS _____ CITY/STATE/ZIP _____

PHONE _____ NEW MEMBERSHIP _____ RENEWAL _____

STATEWIDE MEMBERSHIP WITH CHAPTER AFFILIATION

___ \$18 I. Individual

___ \$22 II. Family

___ \$35 III. Business/Organization

___ \$300 IV. Lifetime Membership (one-Membership)

MEMBER-AT-LARGE (no chapter affiliation) or LIVING LIGHTLY (with chapter affiliation)

___ \$12 I. Individual

___ \$18 II. Family

___ \$30 III. Business/Organization

time payment) ___ \$300 IV. Lifetime

MAKE CHECKS PAYABLE TO:
 Montana Native Plant Society
 P.O. Box 8783
 Missoula, MT 59807-8783



Canadian subscribers please add \$4.00 to cover 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 about the value of our native flora. Contributions to MNPS are tax deductible, and may be designated for a specific project or chapter, for the Small Grants fund, or the general operating fund.

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

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

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

The deadline for each issue is: Autumn— September 10;
Winter— December 10; Spring— March 10; Summer— June 10.

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

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

BOARD OF DIRECTORS

President—Betty Kuropat	Col. Falls	892-0129
Past President—Wayne Phillips	Great Falls	453-0648
Vice-president—Pattie Brown	Big Fork	837-5018
Secretary—Patrick Plantenberg	Townsend	266-5265
Treasurer—Madeline Mazurski	Missoula	542-0262
Newsletter Editors—Kathy Lloyd & Drake Barton	Clancy	449-6586

Directors At Large

Eastern Montana—Jennifer Walker	Lewistown	538-9054
Western Montana—Sal Culotta	Bigfork	837-4298

Chapter Representatives

Artemisia Chapter—Hal Vosen	Miles City	234-8160
Calypto Chapter—Annie Greene	Dillon	683-6594
Clark Fork Chapter—Gertrud Lackschewitz	Missoula	543-5009
Flathead Chapter—Maria Mantas	Whitefish	862-3044
Kelsey Chapter—Kathy Lloyd	Clancy	449-6586
Maka Flora Chapter—Al Joyes	Westby	385-2579
Valley of Flowers Chapter—Joanne Jennings	Bozeman	586-9585

Standing Committees

Conservation—Peter Lesica	Missoula	728-8740
Education—Peter Husby, Kim Goodwin	Bozeman	587-0490
Landscaping/Revegetation—Linda Iverson	Big Timber	932-5840
Small Grants—Cathie Jean	Clancy	449-7354
Membership—Scott Mincemoyer	Missoula	251-7099

If you move, please notify MNPS Membership, P.O. Box 8783, Missoula, MT 59807-8783

Montana Native Plant Society
Kelsey Editors
314 Travis Creek Rd.
Clancy, MT 59634

CHANGE SERVICE REQUESTED

© Copyright 2002
Montana Native
Plant Society



Printed on
Recycled
Paper