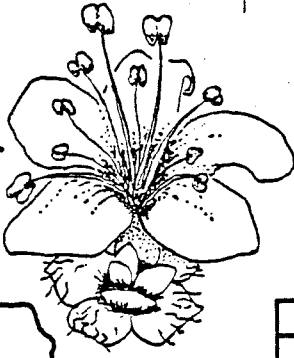


*Kelseya
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Kelseya

WINTER 1990

NEWSLETTER OF THE MONTANA NATIVE PLANT SOCIETY

Profile: Montana's Rare and Endangered Plants

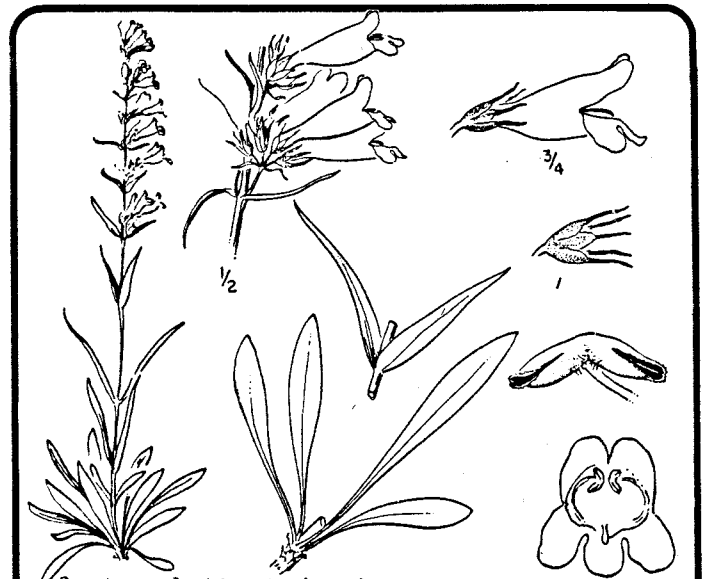
LEMHI BEARDTONGUE

- Steve Shelly

One of the most important floristic areas in Montana lies in the southwestern part of the state, in and adjacent to Beaverhead County. This is a region of high intermontane valleys, set among numerous spectacular uplifts. Its valleys have cold, dry winters while its mountains receive much snow; the area is characterized by warm summers with numerous thunderstorms.

The lowest elevations support desert vegetation in many places. This vegetation is dominated by *Artemisia tridentata* (big sagebrush) and several important bunchgrasses, including *Agropyron spicatum* (bluebunch wheatgrass) and *Festuca idahoensis* (Idaho fescue). The region is floristically unique because it supports one of the northern extensions of the Great Basin desert flora into our state. Several species in this part of Montana are common in the vast deserts of the Intermountain West, but are only known from a few peripheral sites here: *Townsendia florifer* (showy townsendia) and *Erigeron linearis* (yellow fleabane), for example.

Perhaps the most interesting aspect of this area, though, is that it contains major portions of the known ranges of several regionally endemic plant species. One of these is *Penstemon lemhiensis* - Lemhi beardtongue - a strikingly beautiful plant that is known only from Beaverhead and Ravalli Counties in Montana, and adjacent Lemhi County, Idaho. The species is a perennial, with one to several flowering stems that arise from tufts of rather long, entire basal leaves. The stems are generally about 15-30 inches tall, and bear a showy display of bright blue to purple flowers at the top, each flower about an



Penstemon lemhiensis (Keck) Keck and Cronq.

Lemhi beardtongue

Family: Scrophulariaceae (Figwort Family)

Habitat: Sagebrush slopes and bunchgrass communities, lodgepole pine and Douglas-fir forests, and ponderosa pine/bitterbrush habitats.

Location: Southwestern Montana (Beaverhead and Ravalli Counties)

Status: G3 - Rare and local in a restricted range (The Nature Conservancy); C2 - federal candidate species (US Fish & Wildlife Service); Sensitive (US Forest Service, Region 1).

inch and a half to two inches long. This floral display makes the plants very easy to see, even at some distance. In Montana it is in flower from early June to July.

Lemhi beardtongue was first discovered in Montana by Frank H. Rose, who found it in the vicinity of the Big Hole Battlefield in 1947. It was discovered not much later in Ravalli County, along the East Fork of the Bitterroot River between Conner and Sula, where it was collected by T.G. and V. C. McCall in 1950; it was also documented in

- continued on Page 6

FROM THE PRESIDENT

MERRY CHRISTMAS and HAPPY NEW YEAR to ALL !!!!

Once again we are coming to the close of the calendar year, but let not this be the end of your participation in your chapter meetings. There are lots of programs out there to be had, and don't forget to take your slides from last summer to share with our fellow botanizers.

We had a wonderful turnout for the fall Board of Directors meeting, with all chapters having at least one representative present, plus chairpeople of most of the standing committees.

We hashed out our first projected budget (included elsewhere in this newsletter). I hope that you will carefully review it and make your comments known to your chapter or area representative, or to one of the state officers. Since this is our first real budget attempt, there will undoubtedly be alterations needed in the coming year, so make your comments known. Chapter and state representatives are printed in every newsletter for your information.

We also established a bank account for money earmarked for special projects. General membership funds will not be used for these special projects. Please inform those that you meet who wish to contribute money that they can either contribute to the general fund or to the special project account. We have two projects in mind at this time: 1) a DOS compatible computer and printer for the Newsletter Editor to run WordPerfect for the newsletter and other publications, and 2) a phone answering machine and possibly a 1-800 phone number to have current Society news bulletins available (and eventually, we hope, a Wildflower Hotline). We are also soliciting donations from major companies in the form of

either money or equipment for these two special projects. If you have any ideas who would be good candidates to write letters to for this purpose, please let your chapter president, state representative or officer know so we can contact them.

It is time to start thinking of our spring state meeting in Missoula. The theme will be "Forests of Montana." Clark Fork chapter is well on its way in the planning effort for the event. The Secretary and Vice-President positions will be up for grabs at the spring meeting, so make your nominations known to your chapter or state representative by the end of January so that they may announce them at our next BOD meeting in February.

We still need committee people. PLEASE VOLUNTEER TO DO A SMALL PART! For those of you who cannot find the time to be a committee member, please convey to the chairperson your suggestions for projects, events, or concerns, and then participate in the events or projects that are planned by these committees. Please, we need some help here!!!

It's not too early to be thinking of field trips for the coming spring and summer. Let your ideas be known. Even if you do not want to lead one, let your chapter or the state officers know where you are interested in going.

Please be reminded that MNPS is a Non-Profit Organization registered with the IRS, so private or corporate donations of materials, services or money are tax deductible.

Feel free to call me any time (586-1348 home) to discuss events, ideas or problems. I am here to serve you, the members.

Stephen J. Harvey

NATURAL AREAS PROGRAM SEEKS REPRESENTATIVE HABITATS

The Natural Areas Program is looking for a variety of sites in each of the six geographical areas of Montana. Ideally they seek to designate and protect "the best" examples of wildlife and plant habitats, communities, or specific "microsites" of importance to certain species. The goal is to get a number of representative sites in each area or "biome" in Montana.

Typical "natural areas" are relatively small, usually from a thousand acres to less than ten acres, depending on what is being protected. Potential natural areas can be on private, state or federal land. They may already be under some sort of natural resource protection such as part of a National Forest, Wildlife Refuge, State Forest or BLM. The important thing is that these sites now be recognized specifically for their unique plant and wildlife values. Attention and eventually management could be focused on these special values. Some sites will be on private land, possibly in danger of disturbance or destruction. Natural area status could help preserve some of these private holdings.

Why create Natural Areas? This is yet another way of preserving natural habitats and natural diversity in a world that is rapidly destroying both. There are several social, scientific and economic reasons to preserve natural areas. Natural areas also offer important educational opportunities for students and everyday citizens to learn about botany, wildlife and ecology. Natural areas draw attention to conservation problems and challenges that face us elsewhere. Interested individuals - particularly those with a special resource expertise - can help by either nominating a Natural Area or by taking the time to evaluate/comment on a proposed Natural Area they may be familiar with or which lies near them. The program will provide nomination forms and solicit comments on previous nominations for anyone interested.

Designating and preserving representative Natural Areas that are not currently protected would do much to benefit plants and wildlife in Montana. The identification and evaluation of suitable areas (small or large, in private or public ownership) with unique habitat or community values have become a priority.

Anyone interested in nominating a potential Natural Area or evaluating one already proposed, is encouraged to contact: David Genter, Montana Natural Heritage Program, 1515 E 6th Ave, Helena, MT 59620, 444-3009; or Tom Lemke, Department of Fish, Wildlife and Parks, 1001 Ridgeway Dr, Livingston, MT 59047, 222-0102.



Manypeeplia Upsidownia.

contributed by Peter Lesica

Rare Plants Found in New Areas along Front...

ORCHID HUNT SUCCEEDS

- Bert Lindler

Rare orchids became better known this summer [of 1988] as botanists and amateur naturalists combed the east slopes of the Rocky Mountains in search of them.

Before the summer, two rare orchids had been found only in one small area of the Lewis and Clark National Forest. Thanks to the summer's field work, the orchids are now known to live in areas as far as 40 miles to the north and ten miles to the south.

The orchids are the Little Round-Leaved Orchis [*Orchis rotundifolia*], which has white flowers with small purple spots, and the Sparrow's-egg Lady's Slipper [*Cypripedium passerinum*], which has a white flower in the shape of a slipper.

Both flowers are normally found in the evergreen forests of Canada and Alaska. In Montana they are found in boggy areas underlain by limestone along the east slopes of the Rocky Mountains, from Highway 200 north to Highway 2.

The orchids are two of 11 "sensitive species" of plants found along the eastern slopes of the Rocky Mountains on the Lewis and Clark National Forest. They are among 51 sensitive species found on National Forest lands in Montana. Special attention is paid to sensitive species to keep them from becoming threatened or endangered with extinction, said Wayne Phillips, ecologist for the Lewis and Clark National Forest in Great Falls.

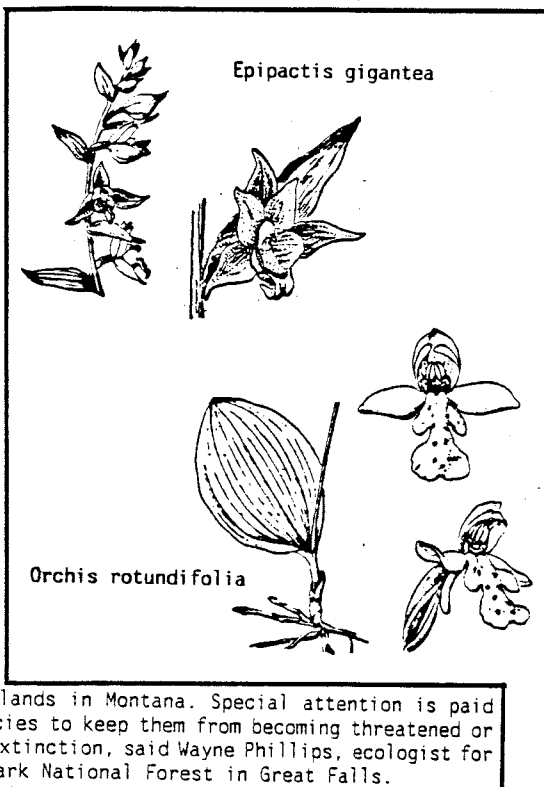
Seasonal botanists working for the Lewis and Clark National Forest, Bureau of Land Management and the Montana Natural Heritage Program, plus Phillips and a number of volunteers, helped to search for the orchids.

After Phillips gave a slide show on rare plants to the Upper Missouri Breaks chapter of the Audubon Society this spring ['88], several members volunteered to help look for plants. One volunteer, Carley McCaulay, found orchids in three new areas. One area may be the farthest south that the Sparrow's-egg Lady's Slipper has been reported. "She's a keen observer who takes good notes," Phillips said. "She's a naturalist."

Maria Ash lives with her wilderness ranger husband, Gordon, at Big Prairie deep inside the Bob Marshall Wilderness each summer. She is preparing a list of the plants found within the Bob Marshall. She had found the Sparrow's-egg Lady's Slipper on the Flathead National Forest in the Wilderness. Phillips asked her if she had seen the Little Round-Leaved Orchis in the same area. "No," she told him, "I'm sure I would have seen it."

However, she checked the area again this summer, just in case she had missed the second orchid.

"I found it," she exclaimed when she called Phillips to tell him of the discovery.



Dixie Whipple, who has a cabin in the Augusta area, and Larry and Leita Dickman of Augusta helped Phillips find the Round-Leaved Orchis and another rare plant, Trailing Fleabane Daisy [*Erigeron flagellaris*].

Although thousands of Trailing Fleabane plants are found along a trail in the Rocky Mountain Front, it is found nowhere else in Montana. The nearest places where it is found are western Wyoming and central British Columbia.

There are many reasons why a plant may be rare. The plant may be on the edge of its range, as with the orchids. Or it may be expanding its range into new areas where it will be rare until it becomes established. Phillips thinks that may be happening with Trailing Fleabane.

In the Southwest, Trailing Fleabane is relatively common. Here it is found just along one trail and in disturbed areas nearby. Phillips thinks hay from the Southwest may have been fed to a horse that deposited Trailing Fleabane seeds on the trail in its droppings. So far, he's been unable to prove his theory.

He did predict before the summer's fires that the plant would benefit from fire, since it seems to be found only where it has no competition from other plants. Trailing Fleabane was found in some areas burned by the Canyon Creek fire this summer, Phillips said, so his prediction will be tested.

Two areas where the Little Round-Leaved Orchis is found were within the perimeter of the fire, but the fire may have skipped the boggy areas, Phillips said. In one of the areas he had established an "Eco-data Plot," a one-tenth-acre area in which information on all plants is recorded.

"The area that burned provides us a unique opportunity to study the role of fire in these species' habitat," Phillips said.

He would not expect the orchids to benefit from the fire, since they prefer wet, shaded areas.

Phillips has found another rare orchid, Dwarf Rattlesnake Plantain [*Goodenra repens*], in the Little Belt Mountains.

The plant has never before been reported closer than the northwestern corner of Glacier National Park or the Black Hills of South Dakota.

"Montana is a state with a good opportunity for new botanical investigations," because there has been so little investigation," Phillips said.

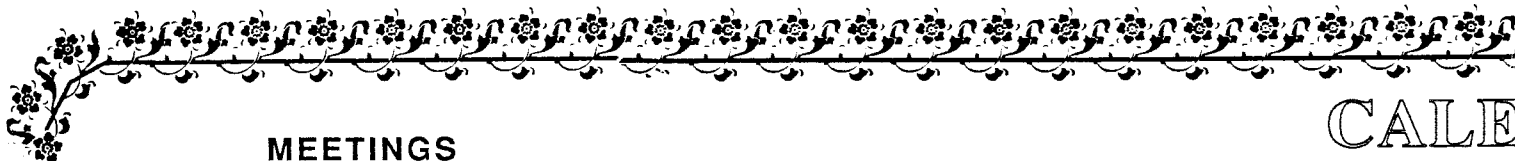
However, Phillips cautioned that wildflower enthusiasts should not pick orchid blossoms or dig out orchids to try to grow them in their garden.

Several rare Yellow Lady's Slipper orchids [*Cypripedium calceolus*] found above a road cut along the Rocky Mountain Front were dug out when they were blooming a year and a half ago, he said.

Orchids have tiny seeds and are dependent on fungi in the soil if the tiny seed is to survive. Without the fungi, the plants will eventually die out. Furthermore, the plants take years to mature. "Picking even one flower robs the gene pool of some important species," Phillips said.

"Please don't pick one. Worse yet would be to dig them out."

Bert Lindler is Staff Writer for the Great Falls Tribune. His article on orchids appeared in the Tribune in December 1988, and concluded with information on Montana Native Plant Society and its activities. Thanks to Bert and the Tribune for permission to reprint this article. If this whets your appetite to know more about these uncommon orchids, check out the information on the June 30-July 1 Field Trip, Page 4.



MEETINGS

THURSDAY, JANUARY 4, KELSEY CHAPTER: 7 pm, Lewis & Clark Public Library, Helena. Rob DeVelice, new ecologist with the Montana Natural Heritage Program, will present "Vegetation of New Zealand Natural Areas."

THURSDAY, JANUARY 11, CLARK FORK CHAPTER: 7:30 pm, Room 307, Natural Science (Botany) Bldg, UM Campus. Dorothy Fawcett will present a slide show on "Native Wildflowers of Kenya." Mrs Fawcett has studied and photographed plants in Africa and worked for the Kenya National Museum in Nairobi.

WEDNESDAY, JANUARY 17, FLATHEAD CHAPTER: 7 pm, Montana Power building, on Meridian Av, Kalispell. Rich Lasko of the Flathead National Forest will discuss "Bob Marshall Weed Management."

WEDNESDAY, JANUARY 17, CLARK FORK CHAPTER: HERBARIUM NIGHT, Room 303, Natural Science (Botany) Bldg, UM campus. Research botanist Peter Lesica will present "Common Aquatic Plants of Montana." This is an introduction to our aquatics.

THURSDAY, FEBRUARY 1, VALLEY OF THE FLOWERS CHAPTER: 7:30 pm, Fish, Wildlife & Parks Bldg on S 19th in Bozeman. Pat Burke of Bitterroot Native Growers will discuss landscaping and gardening with natives.

THURSDAY, FEBRUARY 8, CLARK FORK CHAPTER: 7:30 pm, Room 307, Natural Science Bldg, UM campus. Peter Rice, research associate with the University of Montana Division of Biological Sciences, will discuss "Herbicides and the Ecology of Invasive Plants in Native Communities."

SATURDAY, FEBRUARY 10, MNPS BOARD OF DIRECTORS: 10 am, Lewis & Clark Public Library (small meeting room), Helena. Bring a sack lunch.

WEDNESDAY, FEBRUARY 14, CLARK FORK CHAPTER: HERBARIUM NIGHT, Room 303, Natural Science Bldg, UM campus. Kathy Ahlenslager, herbarium curator, will present another installment of "Distinguishing Common Montana Plant Families." We've covered 21 and have only 97 more to go. Do you remember why a rose is a rose...?

WEDNESDAY, FEBRUARY 21, FLATHEAD CHAPTER: 7 pm, Montana Power meeting room, Meridian Av in Kalispell. Program TBA.

THURSDAY, MARCH 1, VALLEY OF THE FLOWERS CHAPTER: 7:30 pm, Fish, Wildlife & Parks bldg on S 19th in Bozeman. Stephen Harvey will discuss "Sagebrush - the Most Elegant of Shrubs."

THURSDAY, MARCH 1, KELSEY CHAPTER: 7 pm, Lewis & Clark Public Library, Helena. Bea Vogel will present a slide show on "Butterfly Gardening."

THURSDAY, MARCH 8, CLARK FORK CHAPTER: 7:30 pm, Room 307, Natural Science Bldg, UM campus. Angie Evenden, Botanist for US Forest Service Northern Region 1, and James Habeck, Forest Ecologist in the Division of Biological Sciences at UM, will discuss the Forest Service's Research Natural Areas Program.

WEDNESDAY, MARCH 14, CLARK FORK CHAPTER HERBARIUM NIGHT: 7:30 pm, Room 303, Natural Science Bldg, UM campus. Fern Feelers Unite! There're two families of ferns in Montana with 17 genera. Come take a look at them with Kathy Ahlenslager.

WEDNESDAY, MARCH 21, FLATHEAD CHAPTER: 7 pm, Montana Power meeting room, Meridian Av, Kalispell. Program TBA.

AND PLANNING AHEAD...

3RD ANNUAL MNPS SPRING MEETING

SATURDAY-SUNDAY, MAY 5-6 in Missoula. Put this date on your calendar now! Our third annual state meeting, hosted by the Clark Fork Chapter, will include a mini-seminar on "Biological Diversity and Montana Forests." Field trips will be scheduled with photography help sessions, plus workshops on using keys to identify plants, gardening with native plants, and illustrating wildflowers. Look for full details in the Spring issue of KELSEYA. Contact Kathy Ahlenslager (542-0522) if you have ideas or would like to help.

FRIDAY-SATURDAY, APRIL 20-21, MONTANA ACADEMY OF SCIENCE Symposium and Annual Meeting, to be held this year in

Missoula. Speaker for the banquet is natural philosopher Jim Posewitz (Montana Department of Fish, Wildlife & Parks) who will suggest ways to think globally while acting locally on the 20th Anniversary of Earth Day. For details write Dr Paul Sawyer, MAS Newsletter, Montana Tech, Butte MT 59701.

FRIDAY-SUNDAY, MAY 18-20, GREATER YELLOWSTONE COALITION Scientific Conference and Annual Meeting, Jackson Hole, WY. Further details in the spring newsletter.

IF YOU KNOW OF OTHER MEETINGS, SCIENTIFIC CONFERENCES, SYMPOSIA etc in a plant-related field, please let us know details so they can be included in future issues of KELSEYA.

FIELD TRIPS

"IDENTIFYING PLANTS IN WINTER" - MID-MARCH, VALLEY OF THE FLOWERS CHAPTER: Final date not set at press-time. A repeat of last year's popular late-winter outing with Jack Rumely, Professor Emeritus of Botany at MSU, helping us learn the basics of recognizing shrubs and trees without the benefit of flowers or leaves.

"PINE BUTTE SWAMP PRESERVE" STATEWIDE FIELD TRIP, SATURDAY-SUNDAY, JUNE 30-JULY 1: Visit the Nature Conservancy's Pine Butte Swamp Preserve as part of a statewide field trip. Located on the Rocky Mountain Front west of Choteau, this beautiful preserve encompasses foothills, prairie, spring-fed marsh, and upland mountain slopes. This trip is timed to maximize our chances of seeing a large number of plants in bloom.

On Saturday, June 30, there will be separate morning and afternoon excursions into the preserve, to allow people to arrive either on Friday evening or Saturday by noon. Sites visited will be accessible by car or short walks, and we will benefit from the company of a Conservancy naturalist. Camping is available at a Forest Service campground nearby, or lodging can be found in Choteau.

On Sunday morning Wayne Phillips, ecologist with the Lewis & Clark National Forest, will guide us to a unique area along the lower Sun River (near Gibson Reservoir) that harbors an unusually diverse assemblage of orchid species. More than a dozen have been observed in the area, including four on the Forest Service sensitive plant list: Orchis rotundifolia, Cypripedium passerinum, C. calceolus, and Epipactis gigantea. The site is accessible by road with optional botanical hikes of half a mile to a mile.

This trip should have something for everyone: rare photo opportunities, exquisite vistas, birding, a chance to learn about one of Montana's outstanding natural areas - and a chance to meet with MNPS members from all over the state.

Watch for more details in the Spring issue of KELSEYA, or contact Juanita Lichthardt in Bozeman at 585-3722 (home).

FIELD TRIP REPORTS

McWENNEGER SLOUGH

On September 9, Peter Lesica led an MNPS canoe trip on McWenninger Slough, an old oxbow of the Flathead River. Several members from Clark Fork and Flathead Chapters met in Creston for an afternoon float under unexpected sunshine. Peter gave us a checklist of the plant species we would find in the slough, and we shoved off - in canoes, kayaks, and Willis Heron's Poke boat.

With a rake, Peter dredged up species for us to learn, including Lemna minor (Common duckweed), Ceratophyllum demersum (hornwort - the plant we buy for our fish tanks), Wolffia columbiana (watermeal, the smallest vascular plant in the world) and seven [SEVEN!] Potamogetons. We fought our way through thick beds of Equisetum fluviatile (joint grass) to discover Nymphaea tetragona (Pygmy waterlily), Nuphar luteum (yellow water lily) was in plain sight, and Zizania aquatica (wild rice) was delightful discovery by Greg Morley.

- continued on next Page

McWENNEGER SLOUGH, continued

We named a few difficult plants ourselves, such as *Tarzan-ensis* (a vine, of course), and one member speculated that if humans had botanical names, hers would surely be 'vulgaris.' Entrepreneurial interests were excited during lunch on the pond when an idea surfaced to market *Wolffia*. Look for 'Puffed *Wolffia*' on grocers' shelves soon, I'm sure.

Our list contained twenty-nine species and we saw all but three, thanks to Peter. It was just a bunch of seaweed to me before this trip, and now it's a bunch of seaweed with names I can't remember. But I'm working on it!

- Anne Garde

CHAPTER ACTIVITIES

CLARK FORK PROJECTS

A native plant garden, tree identification signs, and riverside plantings - all figure into activities of Clark Fork Chapter members. Jean Parker and Jean Pfeiffer have formed a committee to revitalize the native plant rock garden which surrounds the greenhouse adjacent to the Natural Science (Botany) Building on the University of Montana campus. Growing in the garden are over a hundred species representing native vegetation from throughout the state.

In 1966 Klaus Lackschewitz, along with botany professors Mark Behan, Meyer Chessin, Reuben Diettert, Jim Habeck, Chuck Miller and Sherm Preece, brought in soil, rocks and plants for the garden. Members of the current committee include: Kelly Chadwick, Dana Field, Roxa French, Anne Garde, Klaus Lackschewitz, Sheila Morrison, Chinwon Reinhardt and Peter Stickney. Besides mapping the garden, they are planning for plant replacements, soil restitution and identification labels. Their efforts will be coordinated with Allen Johnson of the UM staff.

In another project, Kelly Chadwick, John Pierce and Peter Stickney are making species lists for the preparation of 250 identification signs for native woody species. These will be distributed over the UM campus and several city parks. This is the Nature Conservancy Centennial Arboretum Project for Missoula. Ellen Knight and Alice Austin are the local organizers for this state-wide Nature Conservancy project.

The metal signs will be made in Helena and Dean Martin's Sentinal High shop class will make the posts. This coming spring the Council on Urban Forestry (Dave Crabtree, representative) will place the signs. This coordinated project involves groups from across the city, including the Society of American Foresters, Missoula City Parks Dept., Lolo National Forest, UM School of Forestry and the UM grounds crew. A brochure is in the planning and Ellen knight welcomes hearing from anyone willing to work on it.

A third chapter activity takes place in Riverfront Park, between Orange and Higgins streets on the south side of the Clark Fork River in Missoula. Chapter members have supplied the Missoula Redevelopment Association with a list of native woody species that they recommend be planted on two acres above the 100-year flood plain. The MRA will purchase the recommended species and plans to plant them in the spring.

In a related project, John Pierce has compiled a list of over 40 plant species (native and non-native) from John H. Toole Park for the MRA. This city park lies between Higgins and Madison Streets on the south side of the Clark Fork River. Currently there are no plant restoration plans for this area.

Kathy Ahlenslager is assembling these tidy tidbits of Clark Fork Chapter enterprises and welcomes any new members have to share.

FRIENDS OF THE UM HERBARIUM

The University of Montana Herbarium could use some friends in the way of volunteers and moneys. The herbarium was formally established in 1926 by J.E. Kirkwood. It has steadily grown to over 111,000 dried plant specimens, with a concentration in the flora of the northern Rocky Mountains. It is the largest herbarium in Montana.

The herbarium comprises a type collection numbering 235 specimens. Collections of historical importance include those of Rydberg and Bessey, R.S. Williams, M.J. Elrod, J.E. Kirkwood, M.E. Marcus and J.W. Blankenship. The vascular plant collection is held in 55 cases. A small mycological collection is housed in two cases. Another two cases hold lichen and moss collections.

In the last 25 years, 16 species new to science have come from the collection. Botanists from around the world as well Montanans use the collection for their studies. Thus, the herbarium is not only a Montana resource but also a global one.

Monetary contributions are needed for further curation of the collection, the purchase of additional herbarium cases (approximately \$850 a case), and the purchase of a computer for storage of specimen label information. No donation is too small. Checks may be payable to the UM Foundation, P.O. Box 7159, Missoula, MT 59807. Please specify to the Foundation that your contribution is for the UM herbarium. The UM Foundation is a non-profit organization and all contributions are tax deductible to the full extent of the law.

Currently Kathy Ahlenslager curates the herbarium and supervises work study students in herbarium activities. In addition, there are several projects awaiting eager volunteers. If you are interested in hearing more about the herbarium and its collections, give Kathy a call at the herbarium (243-4743) or come on by for a tour. [See notes about Herbarium Nights in the MEETINGS section.]



1990 MNPS BUDGET

At the October Board of Directors' Meeting the following budget was approved for 1990. It was agreed that lifetime membership dues (currently \$1,200 total) be set aside as a minimum balance in the MNPS bank account, which is an interest-bearing account, to be used only in emergency and upon the approval of the Board.

ESTIMATED ANNUAL INCOME:

Membership	\$1,500
Annual Meeting	500
Donations	200
Total Estimated Annual Income	\$2,200

ESTIMATED ANNUAL OPERATING EXPENSES:

NEWSLETTER	\$1,100
Additional printings	100
Miscellaneous inserts	100
Misc publications including	
MNPS introductory brochure	150
P O Box	14
Subtotal - Newsletter	1,454

ANNUAL MEETING:

Honorarium	\$200
Meeting Facilities	150
Miscellaneous expenses	100
Subtotal - Annual Meeting	450

Telephone/postage reimbursement
for Board members \$250

Corporate Filing Fee \$10

Total Estimated Annual Operating Expenses \$2,164

BOOK REVIEW

RARE PLANTS OF COLORADO

The Colorado Native Plant Society in association with
the Rocky Mountain Nature Association
75 pages, softcover, 8-1/2"x11", \$7.95
ISBN-0-930-487-21-4
Designed by Ann E Green

This beautifully produced volume describes 92 plants in the categories "endangered," "threatened," or "Colorado Plant Species of Special Concern." (These are by no means all of Colorado's rare plants.)

The presentations are organized by habitat - alpine tundra, barrens, cliffs and canyons, forest, grasslands, shrublands, wetlands, and woodlands - with a full page photograph and description of the habitat introducing each section.

Each species is portrayed with either a color photo or a line drawing. Descriptions include information on its discovery and history, its location(s) and habitat, botanical features in non-technical language and other interesting tidbits. A small map of Colorado counties with dots for locations accompanies each description.

As the introduction states, "We emphasize that rare plants, in addition to being intrinsically interesting, are markers for rare or special habitats, often unusual combinations of

environmental factors such as soils, precipitation, temperature extremes, and exposure." Emphasized also is the importance of biological diversity, and the fact that its loss is occurring not just in Amazon rain forests but also "right here at home." The book accompanies the Colorado Natural Areas Program (a state agency) to identify and provide some form of protection for important natural features of the state, including "sensitive" plant species.

I found the book clearly organized, thoughtfully written and handsomely designed. The photographs and drawings, by a variety of people, are uniformly excellent. At \$7.95 it is a real bargain for botanists and lay people alike.

- Anne Banks



LEMHI BEARDTONGUE

Continued from Page One

Lemhi beardtongue was first discovered in Montana by Frank H. Rose, who found it in the vicinity of the Big Hole Battlefield in 1947. It was discovered not much later in Ravalli County, along the East Fork of the Bitterroot River between Conner and Sula, where it was collected by T.G. and V.C. McCall in 1950; it was also documented in the Darby vicinity in 1952 by J.C. Wright. The species was apparently not found again in Montana until the 1970s, during which several new populations were recorded.

And not until the early '80s were detailed studies of the ecology and distribution of the species undertaken. Jennifer Ramstetter, from the University of Montana, conducted research on the ecology and pollination biology of *P. lemhiensis*.

In 1986 field surveys and monitoring studies were initiated by the Natural Heritage Program. A number of new populations have been located in Beaverhead County, and during the summer of 1989 the species was rediscovered in Ravalli County. To date, 35 locations have been recorded in Montana, and approximately 15 in adjacent Idaho. However, the populations tend to be quite small, often comprising fewer than a hundred plants; sometimes they consist of only one or a few individuals along a roadside.

The diversity of habitat types occupied by Lemhi beardtongue is intriguing, given the rather narrow geographic range of the species. In Montana, the known populations occur at elevations from 4,150 feet, along the East Fork of the Bitterroot River, to 8,100 feet in the northeastern Pioneer Mountains.

Not surprisingly, the plant communities with which *P. lemhiensis* is associated are highly varied. At the lowest elevations in Ravalli County it occurs in quite dry habitats, and is associated with *Pinus ponderosa* (ponderosa pine) and *Purshia tridentata* (bitterbrush). Most of the known sites in Beaverhead County, however, are associated with *Artemisia tridentata* and several bunchgrasses, especially *Agropyron spicatum* and *Festuca idahoensis*; the majority of these populations are very close to - and often extend into - the lower edges of the *Pseudotsuga menziesii* (Douglas-fir) forest zone. The sites at the highest known elevations in Montana, near Vipond Park in the northeastern Pioneer Mountains, are actually associated with lodgepole pine (*Pinus contorta*), and occur in rich, moist forb meadows and on open slopes. This wide ecological tolerance, in a species with a fairly narrow

range, suggests that the geographic distribution of *P. lemhiensis* may be most closely related to its evolutionary history, since it is apparently not strictly confined to any particular vegetation type or unusual substrate. Interestingly, there are several closely related species of *Penstemon* that show similar patterns of regional endemism. An example is *P. carvi* (Cary's beardtongue), a morphologically similar species found in the Pryor Mountains of south central Montana, and in the Big Horn Mountains of Montana and adjacent Wyoming.

Penstemon lemhiensis is currently a candidate for possible listing under the federal Endangered Species Act of 1973. In addition, it is included on the sensitive species list for Region 1 of the US Forest Service. The latter designation affords the species some degree of protection on US Forest Service lands. However, recent attempts to propagate the species from seed have been unsuccessful. Additionally, the small size of many of the populations and the susceptibility of the stems to browsing by livestock and native animals, suggest that any large, viable population should be afforded as much protection as possible.

Steve Shelly is botanist with the Montana Natural Heritage Program, and is Vice President of the MNPS Kelsey Chapter in Helena.



CONSERVATION INFORMATION AVAILABLE FROM MONTANA AUDUBON COUNCIL OFFICE

Montana Audubon Council opened a staffed office in Helena this past fall, with Janet Ellis as Program Director. Montana Audubon (which serves as a unified voice for the nine Audubon chapters active in the state) is a conservation organization which emphasizes the importance of preserving wildlife and natural communities. They will be concentrating education and conservation efforts during the coming year on endangered species, state parks, forestry practices and wilderness.

They welcome your comments and requests for conservation-related information. Contact them at: Montana Audubon Council, P O Box 595, Helena, MT 59624, 443-3949.

MONTANA NATIVE PLANT SOCIETY

MEMBERSHIP/RENEWAL APPLICATION

Date _____

New _____

Renewal _____

NAME _____ ADDRESS _____

CITY/STATE/ZIP _____ PHONE _____

STATEWIDE MEMBERSHIP WITH CHAPTER AFFILIATION*

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

MEMBER-AT-LARGE (Statewide membership only)

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

*AREAS COVERED BY CHAPTERS:

CLARK FORK CHAPTER - Lake, Mineral, Missoula, Powell and Ravalli Counties

FLATHEAD CHAPTER - Flathead and Lake Counties plus Glacier National Park

KELSEY CHAPTER - Lewis & Clark and Jefferson Counties

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

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

Membership in the MONTANA NATIVE PLANT SOCIETY is on a calendar-year basis, March 1 through the end of February of the following year. New-member applications processed before the end of June each year will expire the following February; those processed after the first of July will expire in February of the year after. Membership renewal notices are included in the Winter and Spring issues of KELSEYA. Anyone who has not renewed by the Summer edition of KELSEYA will be dropped from the mailing list/Society roster.

Your mailing label tells your

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

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

DATE YOUR MEMBERSHIP EXPIRES: If your label reads "x2/90" your membership expires this coming February 28...please send in your renewal today! If you mailed in a renewal (for 1989 membership) by December 15, your label should read "x2/90". New memberships received since July 10, 1989, are good through 2/28/91, and the label reads "x2/91."

Please drop us a note if any information on your label is incorrect.

MAKE CHECKS PAYABLE TO:

MONTANA NATIVE PLANT SOCIETY

MAIL TO: Montana Native Plant Society
P O Box 992
Bozeman MT 59771-0992

PLEASE WELCOME THESE NEW MEMBERS:

MONTANA

BILLINGS

Jennifer Lyman

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Terry Divoky

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Rob Bates

GEORGIA

ATLANTA
Mrs John Izard

EARTH DAY 1990, continued from Page 8

local and global environmental issues; encourage national, state and local leaders to adjourn for a day to go home to hear concerns of their constituents; create media impact by promoting coverage of local events or by creating advertising and public service announcements that spread the word about the environment.

Tree plantings are also encouraged by Earth Day organizers. The goal is to plant one billion trees. The reason is simple: trees are environmental wonders. They remove carbon dioxide from the atmosphere, absorb other pollutants, help prevent erosion, deter sedimentation of water bodies, and provide recreational opportunities for humans and habitat for wildlife.

Now's the time for each MNPS member and chapter to start planning to take part in Earth Day 1990 with a project of your own. We hope to have more information on specific projects in the Spring issue of KELSEYA.

- adapted from
Project Learning Tree Branch
American Forest Foundation

Illustrations on Page 1 and Page 3
reprinted from FLORA OF THE PACIFIC
NORTHWEST



ADDRESS CORRECTION REQUESTED

PLEASE NOTE:

If your label reads "x2/90" your membership expires the end of February. If your label reads COMP2, this is your last free issue. We don't want to lose you...please send in your check today!

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Montana Native
Plant Society

MONTANA NATIVE PLANT SOCIETY

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

KELSEYA, newsletter of MNPS, is published quarterly. We welcome your articles, clippings, field trip reports, meeting notices, book reviews, cartoons or drawings - almost anything, in fact, that relates to our native plants or the Society. Please include a one- or two-line "bio" sketch with articles.

Drawings should be done in black ink with a fine-point pen. If you send clippings, please note the source, volume/issue and date. We especially need short (one to three paragraph) items which can be tucked in anywhere.

Changes of address and inquiries about membership or MNPS should be sent to MNPS, PO Box 992, Bozeman, MT 59771-0992. All newsletter material should be mailed to Jan Nixon at the same 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 the Spring issue is MARCH 10; newsletters will be mailed the third week of March.

BOARD OF DIRECTORS

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Newsletter/Publications - Jan Nixon, temporary chair		

EARTH DAY 1990: THE 20th ANNIVERSARY

On April 22, 1990, people across the globe will take time out of their busy schedules for a common purpose - to celebrate Earth's natural resources and educate each other about how to take better care of our planet.

Earth Day 1990 will be an opportunity for people of all ages, from all walks of life, to come together for a day of fun and learning. Earth Day organizers hope the event will be a worldwide demonstration that raises the public's consciousness about its environment and motivates individuals to take action to conserve it. In a sense, it is a way to kick off the next decade and launch a renewed effort to solve some critical environmental problems.

Earth Day 1990 is a followup to the original Earth Day held in 1970. On that day thousands of schools and millions of individuals from communities across the United States participated in parades, concerts, classroom teach-ins, political demonstrations, tree planting, television broadcasts

and more to show support for environmental concerns and solutions.

Since then progress has been made in cleaning up our water and air. But new environmental problems have become evident worldwide, and Earth Day is a way to draw attention to the new concerns, such as global climate change, solid waste disposal, ozone depletion, tropical rain forest destruction, and ocean pollution from medical and hazardous wastes.

Individuals can do their part by altering lifestyles and being catalysts for change within communities. That's what Earth Day is all about. The old adage holds true again: Think Globally, Act Locally.

Decisions on how best to participate in Earth Day must be made on the local level, but here are some suggestions: sponsor parades or other public gatherings that create a sense of community and provide opportunity for education, political action and entertainment; hold classroom teach-ins to discuss

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