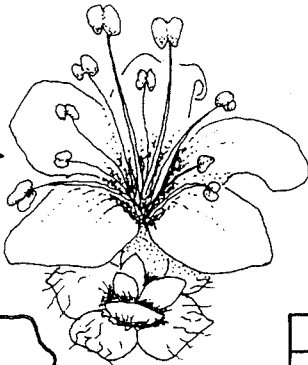


Kelseya uniflora



Kelseya

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SPRING 1993

Newsletter of the Montana Native Plant Society

Type Localities and the Botanical Exploration of Montana

— Peter Lesica

If you're a member of the Montana Native Plant Society, you're probably getting used to hearing plants referred to by their scientific name. Even though they're often long and hard to pronounce, perhaps you're even becoming convinced that they're useful. But where do these names come from, and how do taxonomists know what name correctly applies to which plant? When spotted knapweed first appeared in North America, how did taxonomists know that it was a European weed, *Centaurea maculosa*, instead of something else – perhaps an undescribed species? Taxonomy rests on a system of standards: for each species that is described new to science, there is a type specimen. This type specimen represents what the taxonomist believes is typical of the newly described species. Just like Greenwich mean time sets the standard for time throughout the world, the type specimen sets the standard for what a particular species is like.

Most plants in North America were first described as new to science from specimens sent back to Europe or the eastern United States by explorers. In most cases type specimens were the first examples taxonomists had seen of these species. Many common plants of the Northern Rocky Mountains were first described from type collections sent from Montana by explorers in the early part of the 1800s. The sites where these collections were made are called *type localities*. Type localities are of historical interest, but they are also important because populations at these places are a "living standard" that can be studied in the case of difficult taxonomic problems.

The Lewis and Clark expedition collected the first plant specimens from what is now Montana, and type localities from their journeys have been documented by historians. On their way to the Pacific Ocean, they collected golden currant (*Ribes aureum*) near the present-day town of Three Forks. On their return trip Meriwether Lewis collected specimens of bitterroot (*Lewisia rediviva*), pink owl-clover (*Orthocarpus tenuifolius*), small-headed or woolly clover (*Trifolium microcephalum*) and worm-leaf stonecrop (*Sedum stenopetalum*) near the present town of Lolo in early July, 1806. Three days later Lewis collected the first specimen of mock orange (*Philadelphus lewisii*) in Hellgate Canyon, just east of Missoula. Two days after this he was in the Ovando Valley where he first collected bitterbrush (*Purshia tridentata*). The next day they travelled from near the present town of Lincoln to Lewis and Clark Pass, and Lewis made the first

collections of blanketflower (*Gaillardia aristata*), balsamroot (*Balsamorhiza sagittata*), silvery lupine (*Lupinus argenteus*) and mountain death-camas (*Zigadenus elegans*) – not bad for a day's work. Two weeks later he found scarlet globe-mallow (*Sphaeralcea coccinea*) near the Marias River in Toole County.

Another early explorer in western Montana was Nathaniel Wyeth. He made a number of type collections from what he said was the vicinity of the Flathead River. Among these were Columbia virgin's-bower (*Clematis columbiana*), low larkspur (*Delphinium bicolor*) and Wyeth's lupine (*Lupinus wyethii*). He also made the first collections of white-head mule's-ears and northern mule's-ears (*Wyethia amplexicaulis* and *W. elianthoides*). His notes say that these plants were also found near the Flathead River, but mule's-ears don't occur north of Dillon. Historians believe that Wyeth either didn't know where he was, or his notes were incorrectly written. Either way, the correct locations of his type collections cannot be determined, although the mule's-ears collections were probably made in Idaho.

Many other type collections were made in Montana around the turn of the century. Perhaps the most famous botanist of this time to work in the state was Per Rydberg. Rydberg and his partner, Charles Bessey, were the first to discover our most common pussytoes, *Antennaria microphylla*, near the town of Manhattan. In late June of 1897 Rydberg and Bessey found four species new to science in Spanish Basin south of Gallatin Gateway: tall pussytoes (*Antennaria anaphaloides*), Rydberg's daisy (*Erigeron rydbergii*), Bessey's crazyweed (*Oxytropis besseyi*) and stiff-leaf penstemon (*Penstemon aridus*). Less than a month later they discovered showy paintbrush (*Castilleja pulchella*), rhexia-leaved paintbrush (*C. rhexifolia*) and fern-leaved lousewort (*Pedicularis cystopteridifolia*) in the Madison Range southeast of Ennis. In late August of that same year Rydberg and Bessey camped under Electric Peak near Gardiner and found sulphur paintbrush (*Castilleja sulphurea*), pale larkspur (*Delphinium glaucescens*) and Dodge willow (*Salix dodgeana*), all new to science. These two discovered other new species in the Bridger Mountains and along the Gallatin River north of Bozeman.

Another well-known collector from this time was F. D. Kelsey, a minister from Helena who discovered at least five species new to science practically in his own back yard. *Dodecatheon conjugens*, our most common species of shooting star, Kelsey's

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From the President

Board of Directors' Activities

The Montana Native Plant Society Board of Directors met on February 27th in Helena. I would like to welcome new board members who participated in our meeting: Robyn Klein, Valley of the Flowers Chapter President, Bonnie Heidel, Kelsey Chapter President, and Blue Tanttari, Education Committee Chair. It is wonderful to see our society growing and to have new, enthusiastic participants. These members bring valuable expertise to our board: Robyn is very knowledgeable about medicinal uses of plants and wildcrafting, Bonnie is a staff botanist with the Montana Natural Heritage Program and is very interested in conservation issues, and Blue is a private educational consultant specializing in interpretation of natural resource management issues through visual media.

Overall membership in our society has grown to 373 members, both inside and outside of Montana.

Guidelines for Collecting Native Plants

One of the highlights of our recent board meeting was approving MNPS guidelines for collecting native plants. These guidelines are presented elsewhere in this newsletter and have been developed through the work of the Conservation Committee and many individual members over the past two years. The purpose of the guidelines are to help those wishing to collect native plant material to do so without damaging our native plant populations and communities. Copies of these guidelines are available in brochure format, and may be obtained from any board member.

Nominations

It is election time again! President, Treasurer and Western Montana Director-at-Large are to be filled. The nomination committee was successful in finding candidates for all positions. A ballot providing the background of each candidate is enclosed with this newsletter. Please participate in this election and mail your vote in by May 1st.

Committees

The Society has the following standing committees: Education, Landscaping/Revegetation, Conservation and Membership/Newsletter. These committees have functioned to varying degrees over the past several years. We are in need of member participation on all of these committees. New ideas – and new energy – can help increase our effectiveness as an organization, in helping people understand and appreciate Montana's native flora, and in conserving our valuable native plant resources. If you have interest in a particular area, or an idea that you would like to see the society pursue please contact myself or any board member. The next newsletter will summarize past, present, and possible future activities of these committees.

Summer Annual Meeting

Don't miss the annual meeting – this year the Clark Fork Chapter is hosting a special field oriented meeting in July. We will be exploring the higher elevation flora in southwestern Montana with regional and local alpine ecosystem experts. Hope to see you there!

– Angela Evenden

...<<<<<<<<<Conservation Bullets>>>>>>>>...

UPDATE ON THE STATUS OF *HOWELLIA AQUATILIS*

On October 30, 1991, the Biodiversity Legal Foundation, the Swan View Coalition, Flathead Chapter of the Montana Native Plant Society and Peter Lesica formally petitioned to have *Howellia aquatilis* listed as an endangered species under the Endangered Species Act of 1973. One month later the U S Fish and Wildlife Service (USFWS) acknowledged receipt of the petition and indicated that they would rule on the petition within "the next several months." The USFWS is required by law to rule on a petition within 90 days.

On February 21, 1992, the Biodiversity Legal Foundation wrote the USFWS to remind them of their obligation to respond within 90 days. On November 30, 1992, Peter Lesica sent a letter to Dr James Miller of the USFWS Office of Endangered Species in Denver, inquiring about the status of the petition and sending him a recently published article on the biology of *H. aquatilis*. By the end of December 1992 there was still no reply from USFWS.

On January 7, 1993, the Sierra Club Legal Defense Fund filed a 60-day notice of intent to sue as a result of the USFWS failure to comply with the Endangered Species Act. On February 26, 1993, USFWS responded with a letter stating that a proposed ruling on *H. aquatilis* was sent from Denver to Washington DC in June 1992, but was returned for further work. A revised proposed ruling was sent back to Washington DC in December 1992. This proposal is now being considered by the Deputy Director of the USFWS, and "action regarding the proposed listing is anticipated within the next month."

THE VALUE OF OLD GROWTH FORESTS

Only in the last few decades have we begun to look beyond the trees, attempting to understand the complexity and uniqueness of ancient forests. Old growth forests are ecosystems with enormous importance to both plants and animals:

- * Forty per cent of the 373 wildlife species in Montana and northern Idaho prefer old growth forests for feeding and breeding.

- * Of the 54 species of neotropical migratory birds that are in decline in Montana, 20 species are associated with mature and old growth forests. Scientists are not sure how much of these birds' population decline is due to loss or fragmentation of habitat on breeding grounds, wintering areas, and migration stopovers. Many biologists believe it's a combination of effects.

- * It's the "specialists" of the plant world that are more likely to need old growth forest habitat: orchids that survive only on decaying matter; lichens that enrich the soil with nitrogen so that other plants may grow; a plant resembling a candy cane, which lives off a fungus that, in turn, lives off ancient lodgepole pine trees and will die without those trees.

- * Old growth forests are termed "conservators" – they conserve nutrients, soil, and carbon dioxide, and provide the purest water.

- * Scientists are just beginning to discover the dynamics of insect populations and how insects self-regulate in old growth forests to reduce epidemics.

- * In just the past few years a plant that was piled and burned as a "trash tree," the Pacific yew, has been found to contain *taxol*,

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MNPS Sixth Annual Meeting:

ALPINE WILDFLOWERS OF THE GRAVELLY RANGE

Registration fee is \$10.00

FRIDAY, JULY 23

- 7:30 pm Registration and slide show of alpine areas and wildflowers in the Northern Rockies

SATURDAY, JULY 24

- 7:00 am Board of Directors Meeting (over breakfast at Wall Creek)
- 8:00 am Breakfast on your own (coffee, hot chocolate, sweet rolls will be provided)
Registration
- 9:00 am Head for the Hills! Carpool to the Gravelly Ridge Road at 10,000 ft (bring a lunch, warm clothes, rain gear, field guides, camera etc.)
- 10:30am Field Trips – Meet on Gravelly Ridge Road. There will be three trips of varying difficulty:
(1) climb Black Butte or Cave Mountain, a gain of about 1500 vertical feet;
(2) Big Horn Mtn. a gentle climb and 3-4 mile hike; (3) Short hikes off of Gravelly Ridge Road – suitable for children, photographers and less vigorous adults. Trips will be led by Bob Moseley, Steve Cooper and Peter Lesica.
- 4:00 pm Return to Wall Creek
- 6:00 pm Supper on your own
- 7:30 pm General membership meeting
- 9:00 pm Campfire – S'Mores and Ghost Stories (bring your scariest tale)

SUNDAY, JULY 25

- 8:00 am Breakfast on your own (coffee, hot chocolate, sweet rolls will be provided)
- 9:00 am Committee meetings
- 11:30am Lunch on your own
- 12:00pm Madison Valley field trip (a short hike to look at wildflowers on the valley floor)
- 3:00 pm Break camp and cleanup

HOW TO GET THERE

The meeting will be held at the Wall Creek Wildlife Management Area, roughly 20 miles south of Ennis, just west of the Madison River. The main building will be available for activities in case of rain. Camping is allowed on the premises. Large trailers can find accommodations half a mile east at BLM's West Madison Recreation Area on the river. Fishing and hiking are alternate activities for those not interested in wildflowers.

FOOD

Please note that no food will be provided except coffee, hot chocolate and sweet rolls for breakfast. A microwave oven is available at Wall Creek WMA. The Blue Moon Saloon and Restaurant, seven miles north at Cameron, serves meals and is reasonably priced. The nearest grocery is in Ennis; Cameron has a convenience store.

Drinking water is available at the camping area.

Instead of having a silent auction, we will be selling autographed copies of **Alpine Wildflowers of the Rocky Mountains** by Duft and Moseley, and limited edition Gravelly Range t-shirts to raise money for the state coffers.

MOTEL/CABIN ACCOMMODATIONS

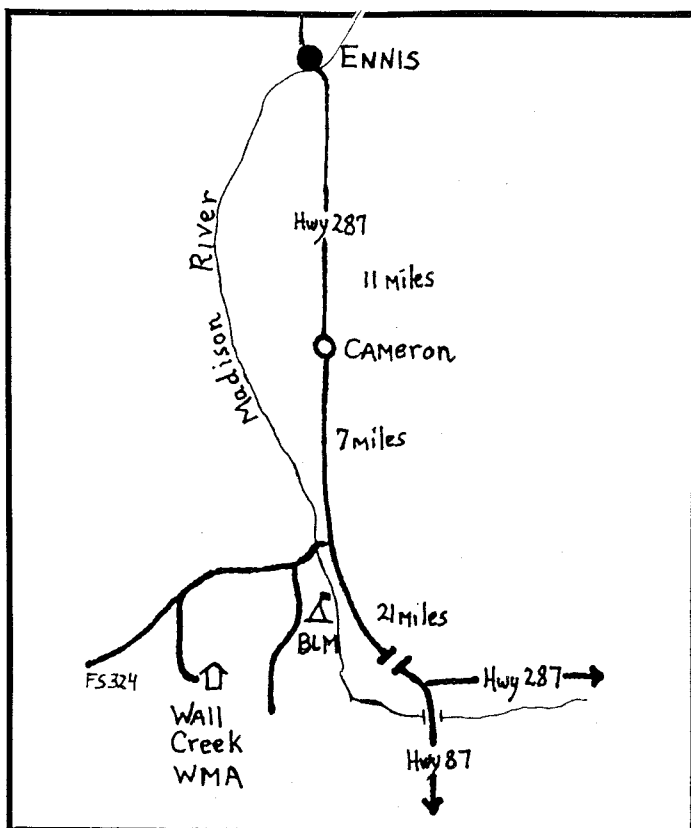
The Upper Madison gets heavy tourist traffic all summer – recommend you make reservation inquiries as soon as possible!

Motels in Ennis (about 20 miles north of Wall Creek); prices are for two persons for one night:

El Western (682-4217)	\$65
Hickey's Four Seasons Motel (682-4378)	\$35-40
(kitchen units available, add \$4)	
Rainbow Valley Motel (682-4264)	\$50-55
(kitchen units available)	
Riverside Motel (682-4240, 1-800-535-4139)	\$38-48
(kitchen units available)	
Silvertip Lodge (682-4384)	\$35
(all rooms have refrigerators)	
Sportsmans Lodge (682-4242)	\$38-45

Near Cameron:

Madison Valley Cabins (682-4890)	\$32
(located 10 miles north of Wall Creek)	
Beartooth Lodge (682-7525)	\$55
(located 4 miles from Wall Creek)	



Montana Native Plant Society

GUIDELINES FOR COLLECTION NATIVE PLANTS

1993

An important goal of the Montana Native Plant Society is conservation of the state's native plants and plant communities. Collecting plants and plant parts from the wild is a threat to rare species as well as small populations of more common species. The Montana Native Plant Society discourages the digging of native plants because transplants often do not survive, and digging can destroy native habitat and encourages invasion by introduced species such as noxious weeds. Nonetheless, there are situations when collecting native plants may be justified. The following guidelines were developed to help those wishing to collect native plant material, to do so without damaging our native plant populations and communities. Some of the guidelines are general and apply to collecting for any purpose, while others are appropriate when collecting for a particular purpose.

There are three purposes for collecting wild plants or plant parts:

- (A) Scientific study (e.g., museum collections, research projects);
- (B) Education (e.g., class projects, college courses on flora); and
- (C) Garden, personal or commercial use (e.g. medicinal herbs, food plants, reclamation, garden plants, native seed).

General Guidelines

(1) Obtain permission to collect from the public or private landowner. Permits are often required for plant collecting, especially commercial collecting from public lands.

(2) Know which plants are rare. Use books and lists published by the Montana Natural Heritage Program (address below) to familiarize yourself with the state's endangered, threatened and sensitive plants, and plant communities. Do not collect rare plants.

(3) Photograph the plant for identification, if possible, instead of collecting it.

(4) Obtain permission to collect from the public or private landowner. Obtain needed permits for collecting on public lands where there are regulations (e.g., Glacier National Park, National Forests, etc.).

(5) Avoid collecting the same species from the same site in consecutive years.

(6) Collect only what is needed for your purposes. Take proper care of collections; do not waste any plant material.

(7) Set an example by using proper and careful plant collecting methods. Teach others when leading field trips or collecting projects.

(8) Avoid unnecessary damage to habitats and their aesthetic values. Avoid collecting plants along trails and in other areas that receive a lot of human use, or that may be viewed by many people.

(9) Know which plants are noxious weeds. Do not transport or transplant these species, or collect seeds of plant parts for propagation.

A. Guidelines for Scientific Collecting

(1) From large populations, collect only the minimum amount of material necessary. Do not collect so many plants, plant parts, or seeds that the population's reproduction and survival are impaired. Collect no more than one in 20 of the plants in any large population.

(2) If it is necessary to collect a voucher from a small population, collect only a single plant. Do not dig up the whole plant if collecting just above-ground parts will serve your purpose. Try to leave behind some regenerative parts such as roots or rhizomes. Never collect whole plants from populations of fewer than 20 plants. Never collect the only plant at a site.

(3) Deposit specimens in an appropriate, recognized public herbarium. Provide adequate information on the label.

B. Guidelines for Educational Collecting

(1) Encourage nondestructive means of learning and enjoyment such as photography, drawing, painting, and scientific description. Photographs of plants will often provide a good aid in identification and provide an alternative to collecting.

(2) Collect only above-ground parts and, if possible, leave some leaves or stems that will help the plant recover.

(3) Avoid collecting from the same site more often than once. Never collect the same species from the same site in consecutive years.

(4) Do not allow large numbers of people to trample an area, especially areas with fragile soil or where weeds are likely to invade.

(5) Collect only common species in large populations. Do not collect more than 1 in 20 of the plants from any population.

C. Guidelines for Garden, Personal and Commercial Collecting

(1) Obtain native plants from reputable nurseries which propagate them from seed or cuttings collected according to these guidelines. In order to maintain the genetic diversity of natural populations of native plants, it is preferable to utilize local plant materials. (The MNPS *Native Plant Source Guide* provides a list of suppliers for plant materials derived from local genetic sources).

(2) Collect seeds or cuttings for propagation rather than whole live plants.

(3) Only collect seeds or cuttings from common species in large populations. Collect from no more than 5% of the plants in any population.

(4) Do not collect so much seed or so many cuttings from any population that the population's reproduction and survival are impaired.

(5) Conduct plant salvage projects only at sites that are scheduled for imminent destruction and only with permission of the appropriate agencies or private landowners. Do not collect from portions of the site that will not be disturbed.

(6) Do not sell, trade or purchase wild-collected plants or plant

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REDISCOVERING LOST SPECIES

- Judy Hoy

The Montana Natural Heritage Program has a list of plants which are termed historic plants because they were collected in Montana in the 1800s or early 1900s, but have not been discovered here since.

Since 1985, however, Wally Albert has rediscovered three of these historic Montana plant species: *Trifolium microcephalum* (woolly clover), *Centunculus minimus* (chaffweed), and *Myosotis verna*, (spring forget-me-not).

T. microcephalum was first collected in Montana near Lolo by Meriwether Lewis, thus endowing this plant with a special historical significance. Lewis found this distinctive clover (in his words), "on the banks of Clark's River." His collection would have been made either in September of 1805 on the way to the Pacific Ocean, or in July of 1806 on the return trip. Most likely the collection was made on the return since he mentions finding a clover with white blossoms in the Bitterroot Valley at that time. Lewis and Clark's expedition camped at Travelers' Rest near Lolo each time they went through the Bitterroot Valley. They called the Bitterroot River "Clark's River." The collection is dated 1814, so the plant must not have been identified until that date.

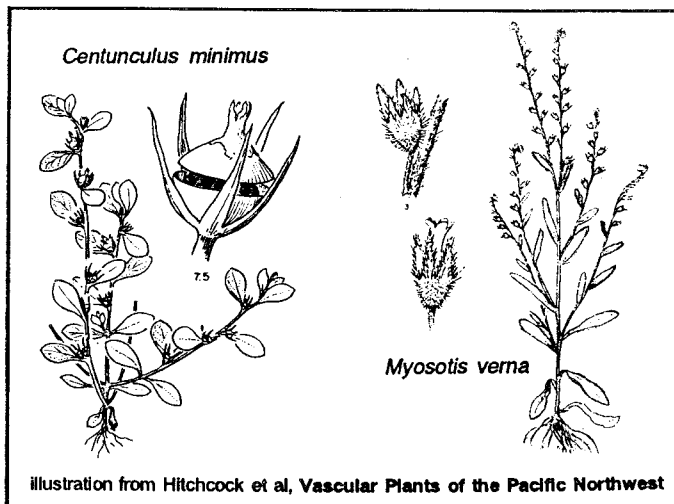
Although botanists searched for Lewis's clover, *T. microcephalum* eluded rediscovery for 180 years until the summer of 1985, when it was rediscovered by Albert in a meadow near Stevensville. He has found in two more Ravalli County sites in 1987 and 1992, both near Stevensville, and in Missoula County in 1991 at a site south of Buckhouse Bridge.

All collections of *T. microcephalum* are from private land and sites are not accessible without permission from landowners. In each place that woolly clover was found, soil at the site had been slightly disturbed, allowing the small annual room to grow with less competition from other plants.

T. microcephalum may have been overlooked in the past because it is usually small in size, although under ideal conditions its stems can reach two feet in length.

Centunculus minimus is another interesting historic plant species which Albert rediscovered in Ravalli County in 1992. This plant had not been collected in Montana for over 100 years.

A member of the Primrose family, *C. minimus* was first collected in Cascade County in 1888 and again in 1891. Albert found the small annual in a littoral site along the Bitterroot River, between Stevensville and Florence. This site, also on private land, is the only current location know for this species in



Montana.

Myosotis verna was known in Montana only from a 1902 collection in Missoula County, near Lolo Hot Springs, and a 1938 collection in Lake County.

M. verna was rediscovered in 1989 by Albert at a site west of Stevensville. He collected it again in 1992 at a different site near Stevensville. Both sites were pascual habitats and on private property.

Cyperus rivularis (shining flatsedge) was also rediscovered by Albert, but the first and only previous collection of this interesting little sedge was made on the Lee Metcalf Refuge in 1976, too recently for *C. rivularis* to be considered a true historic species.

Albert first collected it in the summer of 1985 near Stevensville. In the summer of 1992, he found two more Ravalli County sites (again near Stevensville), and made the first collection of this plant for Missoula County between Florence and Lolo. All the sites where *C. rivularis* was found are pascual sites where soil is moist in the spring.

Thanks to Wally Albert's rediscovery of these plants, they have all been listed by Montana Natural Heritage Program as S1 species.

COLLECTING GUIDELINES, continued from Page Four

parts of rare or endangered species. In some cases these activities are illegal, in all cases they are detrimental to the survival of rare species.

(7) Permits are often required for commercial collecting on public lands. Check with public land management agency offices locally to secure permits.

Sources for Additional Information

For information on endangered, threatened and sensitive

plants, and on plant communities write: Montana Natural Heritage Program, 1515 E Sixth Avenue, Helena MT 59620; or call (406) 444-3009.

For information on noxious weeds contact your local County Extension Agent or County Weed Control Office (check white pages under your county's listings).

The **Montana Native Plant Source Guide**, a listing of sources for seed and live plants, are available for \$3 (includes postage) from: Montana Native Plant Society, P O Box 992, Bozeman, MT 59771-0992.

CALENDAR

MEETINGS

TUESDAY, MARCH 30, CLARK FORK CHAPTER HERBARIUM NIGHT: 7:30 pm Room 303, Botany Bldg., UM Campus. Diane Pavsek and Roberta Walsh from UM's Division of Biological Sciences will introduce you to "The Pea Family."

THURSDAY, APRIL 1, KELSEY CHAPTER: 7:30 pm, Lewis & Clark Public Library, Helena. Noted Montana artisan Bobbi Harris will demonstrate the use of "Wild Plants in Basket-Making."

MONDAY, APRIL 5, ARTEMISIA CHAPTER: 7:30 pm, Bair Science Center, Rocky Mountain College, Billings. Don Heinze of the BLM will discuss "Plants of the South Pryors." This will be a great introduction to the upcoming field trip to that area.

MONDAY, APRIL 12, CLARK FORK CHAPTER: 7:30 pm, Rm 307 Botany Bldg, UM Campus. Meeting with Five Valleys Audubon. Kerry Foresman of UM's Division of Biological Sciences will speak on his recent trip to China, "Plant-Animal Interactions on the Tibetan Plateau: Prescription for Disaster."

WEDNESDAY, APRIL 21, FLATHEAD CHAPTER: 7 pm, Fish, Wildlife & Parks Bldg, Kalispell. Program TBA.

TUESDAY, APRIL 27, CLARK FORK CHAPTER HERBARIUM NIGHT: 7:30 pm Room 303, Botany Bldg., UM Campus. Bonnie Heidel of the Montana Natural Heritage Program will come over from Helena to give us some pointers on "The Parsley Family."

MONDAY, MAY 3, ARTEMISIA CHAPTER: 7:30 pm, Bair Science Center, Rocky Mountain College, Billings. Program TBA.

WEDNESDAY, MAY 5, VALLEY OF THE FLOWERS CHAPTER: 7:30 pm, Loft of the Plant Growth Center, S 11th Av, MSU campus. Why are noxious weeds a threat to natives? What can be done about them? "The Silent Invasion - Spotted Knapweed and Leafy Spurge," by Missoula videographer Blue Tanttari, will provide some of the answers. This is our last evening meeting 'til October - join us for field trips!

THURSDAY, MAY 6, KELSEY CHAPTER: 7:30 pm, Lewis & Clark Public Library, Helena. "Native Plants for Montana Landscaping," will be presented by Pat Burke of Bitterroot Native Growers.

THURSDAY, MAY 13, CLARK FORK CHAPTER: 7:30 pm, Rm 307 Botany Bldg, UM Campus. Suzanna McDougal from Montana Botanicals of Hamilton will speak on and show slides of "Medicinal Plants of the Bitterroot Valley."

FRIDAY, MAY 21, FLATHEAD CHAPTER: 7 pm, Fish, Wildlife & Parks Bldg, Kalispell. PLEASE NOTE THE CHANGE FROM WEDNESDAY TO FRIDAY! Larry Evans, a mycologist from Missoula, will show slides and talk about "Common Edible and Poisonous Mushrooms of Western Montana." He will lead us on a field trip the next day, Saturday, May 22.

MONDAY, JUNE 7, ARTEMISIA CHAPTER: 7:30 pm, Bair Science Center, Rocky Mountain College, Billings. Program TBA.

THURSDAY, JUNE 10, CLARK FORK CHAPTER SPRING POTLUCK: 6:30 pm at the Greenough Park pavilion near the north end of Monroe Street. Bring plates, utensils and a dish to share.

FIELD TRIPS

BRIDGER FOOTHILLS WILDFLOWER WALK

SUNDAY, APRIL 25, 1-4 PM

The south-facing slopes of the Bridger Range are home to a wonderful array of early spring flowers and shrubs in a variety of habitats. Learn to recognize the common - and some of the uncommon - plants of our area's grasslands and foothills. Meet at the "M" Picnic Area on Bridger Canyon Rd, Bozeman. Reservations are required, call Museum of the Rockies, 994-2251; there is a small fee for this walk.

TWO MOON PARK, BILLINGS, SATURDAY, MAY 1

Meet at 9 am at the parking lot of the Centennial (Ice) Arena, 427 Bench Blvd. This will be a short hike along the Yellowstone River. We will see a beautiful riparian area that is being degraded by noxious weeds. Trip will take approximately three hours. Dogs are welcome.

SPRING WILDFLOWERS OF THE NATIONAL BISON RANGE, SATURDAY, MAY 8

We have special permission to hike the slopes and open forests. John Pierce will be along to fend off marauding bison and answer any botanical questions. Meet at the Bison Range Visitor's Center east of Moiese at 10 am. Bring lunch and water. Flathead Chapter is encouraged to join us, and members or visitors from anywhere are welcome. For information or if you need a ride call Willis (549-9744).

TRILLIUM TIME AT KIRK HILL SATURDAY, MAY 8, 1-4 PM

Join Jan Nixon for a stroll around the Kirk Hill Nature Area, on S 19th Rd in Bozeman. An abundance of spring wildflowers will be out, including the beautiful lily relative, trillium or wake-robin. Group size is limited; please make reservation by calling Museum of the Rockies, 994-2251. There is a small charge for this walk.

MEETEETSE SPIRES, MAY 23

Meet at the Beartooth Ranger District station parking lot in Red Lodge at 9 am. The ranger station is located just south of town on Highway 212. We will view the prairie wildflowers at the base of the precipitous Beartooth Mountains. The area has been set aside by the BLM and the Nature Conservancy as an Area of Critical Environmental Concern (ACEC) because it is one of the most biologically diverse places in Montana. Little or no walking will be required. The trip will take approximately 3 hours. Dogs are discouraged.

RETURN TO THE GIANT RIPPLE MARKS SATURDAY, JUNE 5

Explore the unusual grassland communities and vernal pools in Camas Prairie south of Hot Springs with Peter Lesica. Bring a lunch and water, and meet at 11:00 am at the pulloff just south of Markle Pass on Hwy 382, 13 miles north of Perma and 4 miles south of Hot Springs. Flathead Chapter is welcome. If you need a ride or have questions call Peter (728-8740).

ORCHIDS OF KIRK HILL, THURSDAY, JUNE 10, 6-8 PM

The Kirk Hill Nature Area, on S 19th Rd in Bozeman, is home to five species of orchids. Join Jan Nixon to see how many of these we can spot, along with the abundance of other early
- continued next page

FIELD TRIPS, continued:

summer wildflowers. Group size is limited, and a reservation is required with Museum of the Rockies, 994-2251. There is a small charge for this walk.

SOUTH PRYOR MOUNTAINS, JUNE 12

Meet at the iron statue of Jim Bridger on the south side of the town of Bridger, Hwy 72. The statue is in a small park on the east side of the road. We will tour the "Montana Desert," which is perhaps the most unique botanical area in the state. It has no fewer than 40 plant taxa that the Nature Conservancy considers species of Special Concern. We will be able to see some of these. Minimal walking will be necessary, but dogs are discouraged. The trip will take all day - bring lunch and water.

PLANT CREEK BURN OF 1972, SATURDAY, JUNE 19

Learn about plant succession following fire in the Sapphire Range south of Missoula. Peter Stickney will interpret the vegetation and identify late spring wildflowers during a hike of about one mile. Bring lunch, water, rain gear and hiking boots, and meet in the University parking lot west of the field house at 9:30 am. For more information call Peter (549-0063).

NORTH PRYOR MOUNTAINS, JUNE 26

Meet at the Jim Bridger statue, in the small park on the south edge of Bridger, Hwy 72, at 9 am. This time we will go to the opposite side of the Pryors where things are vastly different: lush forests and mountain meadows. With a little luck, we will view one of the most spectacular wildflower blooms that Montana has to offer. Again, minimal walking will be required, but dogs are discouraged. The trip will take all day - bring lunch and water.

WILLOW CREEK, NORTHERN BEARTOOTH MTNS, JULY 10

Meet at the Beartooth Ranger Station at 9 am, on Hwy 212, south edge of Red Lodge. We will take a short hike up the creek from Palisade Campground. We hope to see one of the best wildflower displays that the Beartooth Mountains has to offer. The trip will take approximately 3 hours. Dogs are welcome.

ANNOUNCEMENTS

BASIC PLANT IDENTIFICATION

SATURDAY, APRIL 10, MUSEUM OF THE ROCKIES

What features and characteristics do you need to observe in the field, in order to identify an unfamiliar plant? Isn't all that terminology awfully confusing? What books are helpful? Learn the basics of identifying plants with Jan Nixon, in a hands-on workshop using spring wildflowers presently blooming around the Gallatin Valley. Reservations are required and there is a small fee for the class; call Museum of the Rockies at 994-2251.

GARDEN CLUBS OFFER SCHOLARSHIP

A \$1,000 scholarship is available to a Montana student majoring in conservation, horticulture, parks or forestry, floriculture, greenhouse management, land management, or related subjects. Students from all schools of the Montana University System which offer such courses are invited to compete.

The scholarship is offered by the Montana Federation of Garden Clubs. Contact Mrs Henry Blend, Scholarship Chair, 2604 1st Av South, Great Falls MT 59401, for application and deadline information.

CLARK FORK CHAPTER PLANT SALE

SATURDAY, MAY 15

The Clark Fork Chapter will sell a variety of seed-grown native plants at the Farmers' Market in Missoula on May 15. Plant offerings will include penstemons, evening primroses, gay-feathers and ferns raised by members.

The goal of the plant sale is to introduce native plants and the Montana Native Plant Society to the general public, and to raise money. All proceeds will go to the work of the chapter. For additional information or donations, call Virginia Vincent, plant sale chair, 543-8078, or Sheila Morrison, chapter president, 721-1398.

AMERICAN SOCIETY OF SURFACE MINING AND RECLAMATION, 10TH NATIONAL MEETING, MAY 16-19

Meeting in Spokane, Washington, the conference will include a symposium on restoration ecology. For more information, contact Benjamin A Zamora, Natural Resource Sciences, Washington State University, Pullman WA 99164-6410, or call (509) 335-6166, FAX 509-225-7862.

FIELD ECOLOGY COURSE, JUNE 21-26

MONTANA ENVIRONMENTAL EDUCATION ASSN

MEEA announces a graduate-level field ecology course for teachers in grades 5-12, to be held in Deer Lodge. Two graduate credits from U of M are offered. The course consists of six days of field study and lab work. Teachers pay \$40-65 to register (depending on whether they're members of MEEA), and receive a stipend to help defray living and travel expenses. Financial support for the course comes in part from the EPA environmental education grant program. For more information and/or application, contact MEEA at P O Box 928, Dillon MT 59725, or call Jack de Golia at 683-3984.

-continued on Page Eight

ANSWER TO BORAGIMANIA WORD-SEARCH from Winter 1993 issue

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HERITAGE CORNER



– Bonnie Heidel

With this issue of *KELSEYA*, we begin a new feature section: **Heritage Corner**, a compendium of news about the Montana Natural Heritage Program's activities, publications, discoveries and plans. The Heritage Program is jointly funded by the State of Montana and The Nature Conservancy.

An updated list of Montana plant species of concern will be released in May, in time for the field season. Many of the 384 taxa on the list have updated ranks, e.g. making the appropriate rank change for plants rediscovered which were previously known in the state only from historic records (see Hoy article, this issue). Copies will be sent to all holders of previous editions of the list, and additional copies are available from: Montana Natural Heritage Program, 1515 E 6th Av, Helena MT 59620, ATTN: Botany.

Copies of **Sensitive, Threatened and Endangered Vascular Plants of Montana**, by Peter Lesica and J Stephen Shelly (1991) are also available for \$5.00 from the Montana Natural Heritage

Program at the above address. This soft-cover book represents the most complete published information on species of concern in Montana, including information on species distribution, habitat and phenology. List contents and ranks are periodically updated and revised, so it is to be used in tandem with the most current state species of concern list.

A bibliography listing all botanical reports prepared through the Montana Natural Heritage Program is available. Copies will be sent to current holders of the state plants species of concern list. Many of the reports are now available through Interlibrary Loan if your library is a participant in WLN (Western Library Network). Further information available from MNHP at the above address.

CALENDAR/Announcements, continued from Page Seven:

SOCIETY FOR ECOLOGICAL RESTORATION 5TH ANNUAL CONFERENCE, JUNE 14-20, IRVINE CA

Features symposia on mined arid lands, island restoration, sage scrub, education, animal populations and others. Workshops will include cost estimation and specification writing, genetic considerations, and ecology of mycorrhizae. Participation is possible in a restoration project, meeting with community conservation groups, a folk concert and more. Contact Society for Ecological Restoration, 1207 Seminole Hwy, Madison WI 53711, or call (608) 262-9547.

PROPAGATION & CULTURE OF INTERMOUNTAIN NATIVE PLANTS, JUNE 22, 1:30-5 PM, UNIVERSITY OF MONTANA

Sponsored by the American Society for Horticultural Science (Western Region) and co-sponsored by the Botanical Society of American (Pacific Section). Organizer is Larry A Rupp, Department of Plants, Soils and Biometeorology at Utah Stat University, Logan UT 83422-4820.

Will examine the current state of propagation and production of native plants for horticultural purposes, and focus on future research and educational needs.

AMERICAN HORTICULTURAL SOCIETY CONFERENCE CHILDREN, PLANTS AND GARDENS: EDUCATIONAL OPPORTUNITIES AUGUST 12-14

This is a national symposium on educating children through plants and gardens. Contact Maureen Heffernan, American Horticultural Society, 7931 East Boulevard Dr, Alexandria VA 22308, or call (703) 768-5700.

SYMPOSIUM: ECOLOGY, RESTORATION AND MANAGEMENT OF PRAIRIE WETLANDS, AUGUST 9-13

A meeting sponsored by the U S Fish and Wildlife Service will be held at the Northern Prairie Wildlife Research Center in Jamestown, North Dakota. For more information contact: Dr N H

Euliss, USFWS, Northern Prairie Wildlife Research Center, Route 1, Box 96C, Jamestown ND 58401-9736, call (701) 252-5363.

CHAPTER ACTIVITIES

WORKSHOP ON GROWING NATIVES FROM SEED

On March 6, Valley of the Flowers Chapter conducted a workshop on growing native grass and wildflowers from seed. The turnout was good, and much information was exchanged on the cultural requirements for growing these plants. Panel members Pat Plantenberg, Larry Holzworth, and Linda Iverson presented a step-by-step plan for restoring a disturbed site (such as following home construction), including site evaluation and preparation, seed mixes, necessary followup and monitoring, and tips for success.

We still have many handouts available, including lists of suitable grass and forb species for southwestern Montana, info on wildflower establishment, dryland lawn grasses/forbs, "pure live seed" calculation etc. If anyone was unable to attend but would like to obtain this information, send Jan Nixon a large (9x11), self-addressed envelope with 52 cents postage on it. A condensation of this talk will appear in a future *KELSEYA*. Watch out for spring fever!

– Linda Iverson

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...for all you "High Plains Drifters"...

GREAT PLAINS BOTANICAL SOCIETY



I recently discovered this organization, based out of Hot Springs, South Dakota. The group formed in 1974 to study and appreciate plants of the North American Great Plains, which consists of the high, arid country east of the Rockies from Canada down through Texas. Much of central and eastern Montana is considered part of this geographic region. Their informational brochure notes: "The plants of this Great Plains region are different from their

lower-altitude or higher-altitude cousins, but not less beautiful nor less needy of study, protection and preservation."

The inspiration for the formation of this society was Claude A Barr. His Prairie Gem Ranch, located near Hot Springs, was

a major source of cultural knowledge and seeds for the gardeners and scientists who grew and studied the Plains flora. Today Claude is gone, but the group is establishing a Great Plains Botanical Garden near Rapid City, South Dakota, in his memory. The remaining plants in Barr's garden - along with many representatives of the region's plants - will be displayed. The garden will give us an opportunity to observe up close the many diverse plant communities occurring in this vast landscape.

So far the garden is in the planning stages, but work is underway to secure a location. The group has commissioned a Master Plan for the garden, completed by Herb Schaal of EDAAW, Inc, in Ft Collins, Colorado.

The Society publishes periodic newsletters, and is currently putting together a seed exchange. For more information, contact Cynthia Reed, Director, at P O Box 461, Hot Springs SD 57747, or call (505) 745-3397.

- Linda Iverson

potpourri...odds and ends...this 'n that...Items of Interest...potpourri...odds and ends...this 'n that...neat stuff

FOOD CROPS AT RISK BY GENETIC EROSION

We have all heard about soil erosion, but the idea of genetic diversity loss in food crop plants is not nearly so widely recognized as a conservation concern. The following is extracted from **Earth in the Balance** by Al Gore (1992):

"...The way a plant or animal avoids extinction is by retaining enough genetic variety to adapt successfully to changes in its environment. If its range of genetic diversity is narrowed, then its vulnerability is correspondingly increased.... The steady loss of genetic diversity in a species is called genetic erosion, and an astounding number of important food crops now suffer from it at a high rate. Among those listed by the United National International Board for Plant Genetic Resources as most at risk are the apple, avocado, barley, cabbage, cassava, chickpea, cocoa, coconut, coffee, eggplant, lentil, maize, mango, cantaloupe, okra, onion, pear, pepper, radish, rice, sorghum, soybean, spinach, squash, sugarbeet, sugarcane, sweet potato, tomato, wheat and yam."

A "SEASON EXTENDER" YOU CAN BUILD

Whether your gardening preferences run to growing native plants, or sticking with more traditional garden choices, here's a publication which offers a helpful idea. *Green Winters* is a 14-page manual with concise, straightforward instructions any semi-skilled person can follow to build a solar-heated walk-in season extender building. Price of the manual is \$11.20, check payable to Ozark Exotic. Contact Jack Frazier, Rt 3, Box 500-C, Theodosia MO 65761; or phone (417) 273-4949.

MNPS SOURCE LIST FOR NATIVE SEEDS AND PLANTS

It's not too early to think about your spring planting needs! MNPS has available the **Montana Native Plants Source Guide**, a list of nurseries, seed companies and individuals retailing native plants and/or seeds. Companies dealing strictly (or primarily) in a wholesale capacity have not been included at this time.

There is a charge for some of the suppliers' catalogs (between

\$1 and \$3), but many have good information on the plants and on seed germination techniques. Gardening with natives is a very rewarding experience, and a great chance to learn about seed germination and plant-habitat requirements.

Cost of the **Source Guide** is \$3.00; order from Linda Iverson, HC 88, Box 3733, Big Timber MT 59011. We also have available a book list with many sources for information on how to garden with natives. This book list is free (on request) when you order the **Plant Source Guide** from Linda. For the book list only, send her a stamped, self-addressed #10 (business-size) envelope with your request.

THE YEAR KELSEYA UNIFLORA GERMINATED

Linda Iverson passed along this clipping from the magazine of the American Rock Garden Society, published several years ago. We'd be interested in hearing if any of our members have had any luck germinating our "mascot" plant. This is the experience of Jaroslav Kazbal, of Prague, Czechoslovakia:

"It is about three years since I obtained viable seed of that pretty, long-sought-after species and excellent example of high mountain flora. The seed germinated the spring of sowing and four seedlings came up, reaching, by fall, the size of one tiny rosette so small that *Eritrichium nanum* looked a giant by comparison. Repotting them I noticed long primary roots that indicate a fissure plant, so I treated them as such, planting them in big clay pots with good drainage and porous, tritty soil.

The second year each one added a few side rosettes (the strongest plant, ten) so closely adpressed that it was difficult to tell them apart. They now form bluish "thimbles" 15 mm in diameter.

Now I would like to plant them into my rockery and, as I found no competent information on the cultivation of this plant, I send an SOS to any knowledgeable reader with personal experience. I also want to thank the unknown donor as well as the Exchange people who treated the seed so that it did not lose its viability. They all should have a feeling of envoys well representing their country abroad."

STRIKE THAT SEDGE

- Bonnie Heidel

Many botanists will be surprised to see the familiar name of *Carex rostrata* (beaked sedge) appear on the 1993 Montana Natural Heritage Program update for plant species of special concern (see **Heritage Corner** elsewhere in this issue). It has been characterized as a widespread species of "wet areas" in western and central portions of the state (Dorn 1984), also named as dominant species in wetland classifications.

However, only one collection of *Carex rostrata*, made by Peter Lesica in northwestern Montana, has been verified by an authority in the group, A. A. Reznicek. Other specimens which key to *C. rostrata* in existing floristic references are *Carex utriculata*, treated as a synonym for *C. rostrata* in Hitchcock et al (1973) and Hermann (1970) but reconsidered as a separate species (Reznicek 1985). Beaked sedge is a circumboreal species of very wet, sunny, boggy sites.

The recognized distinction between these two species is based on the following: *C. rostrata* has oblong to ovate pistillate scales, blunt to merely acute, shorter than the

perigynia, more-or-less terete culms, more-or-less involute, glaucous leaves 1.45-4 mm wide which are strongly pillose on the upper side. *C. utriculata* has narrowly ovate to linearly lanceolate pistillate scales, tapering to an acuminate tip or awned, with sharply trigonous culms, and flat leaves 5-12 mm wide which are smooth or scabrous on the upper side.

It is expected that future wetland classifications and floristic references will make this distinction. Until such time, botanists are encouraged to annotate the references they use with this change, striking out *Carex rostrata* and inserting *Carex utriculata* as the species of ubiquity in Montana.

References:

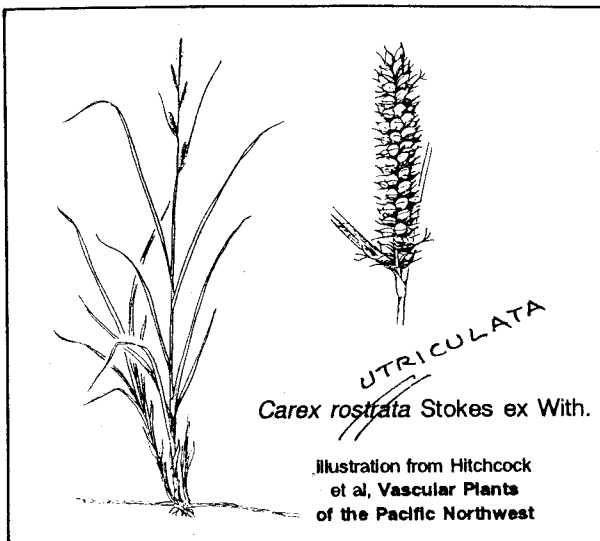
Griffiths, G.C.D., 1989. The true *Carex rostrata* in Alberta.

Alberta Naturalist, 19(3): 105-108.

Hitchcock, C.L., and A. Cronquist, 1973. **Flora of the Pacific**

Northwest. University of Washington Press, Seattle WA.

Reznicek, A.A., 1985. What is *Carex rostrata* Stokes?
(abstract) **American Journal of Botany** 72: 966.



TYPE LOCALITIES, continued from Page One

phlox (*Phlox kelseyi*) and white-margined phlox (*P. albo-marginata*) were all collected within what is now the city limits of Helena. And of course he discovered the monotypic genus *Kelseya*, after which our newsletter is named, just northeast of Helena in the Big Belt Mountains.

Although the pace of discovery has slowed since Rydberg's time, at least ten new species have been described from Montana within the past 20 years. Nowadays roads and automobiles make exploration easier. Collections of new species are often made at more than one site, and type locations are not always the first place the plant was discovered. For instance, storm saxifrage (*Saxifraga tempestiva*) was first found by Klaus Lackschewitz in the Bitterroot Mountains in 1968, but Patrick Elvander (who published a description of the species) chose one of his collections from the Anaconda Mountains as the type. Peculiar moonwort (*Botrychium paradoxum*) was first discovered in Alberta, but Herb Wagner appointed his collection from west of Anaconda as the type.

As I travel about Montana I try to visit type localities to see if the plants can still be found where they were first collected. Lewis and Clark first found the red monkeyflower (*Mimulus lewisii*) near the springs on the east side of Lemhi Pass in Beaverhead County. The Forest Service now has a picnic area at this site, and I have

searched the area unsuccessfully for this famous wildflower. On the other hand, Joseph Blankenship first discovered spurless jewelweed (*Impatiens ecalcarata*) along Boyer Creek just east of Plains in 1901. That population is still there in spite of all the changes that have occurred in the area in the past 90 years. Seeing those plants makes me think of what it was like here a century ago and forges a tangible connection between history and botany.

Further Reading

Lesica, P. and S. Molina. 1985. **An Inventory of Significant Botanical Features Found Along Montana Rivers**. Report to the Montana Department of Natural Resources and Conservation, Helena.

Thompson, L. S. 1985. **Montana's Explorers: The Pioneer Naturalists, 1805-1864**. Montana Magazine Inc., Helena.



Montana Recycling Hotline ** 1-800-823-MEIC

Toll-free number for information on composting and on what/where/how to recycle your household and office waste, hazardous waste etc.

MONTANA NATIVE PLANT SOCIETY *** MEMBERSHIP APPLICATION/RENEWAL

Date _____ New _____ Renewal _____

NAME _____ ADDRESS _____

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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
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 ___ 150 IV. Lifetime member (one-time payment)

Additional Donation \$ _____

*AREAS COVERED BY CHAPTERS:

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

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

FLATHEAD CHAPTER - Flathead and Lake Counties plus Glacier National Park

KELSEY CHAPTER - Lewis & Clark and Jefferson Counties

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

All MNPS chapters welcome members from areas other than those counties indicated - we've listed the counties just to give you some idea of what part of the state is served by each chapter. More chapters are in the planning stages for other areas; watch for announcements of meetings in your local newspaper. Ten paid members are required for a chapter to be eligible for acceptance in MNPS. Membership in the MONTANA NATIVE PLANT SOCIETY is on a calendar-year basis, March 1 through the end of February of the following year. New-member applications processed before the end of September each year will expire the following February; those processed after the first of October will expire in February of the year after. Membership renewal notices are included in the Winter issue of KELSEYA. Anyone not renewed by the time the Summer KELSEYA is ready to mail will be dropped from the mailing list/MNPS roster.

Your mailing label tells your

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

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DATE YOUR MEMBERSHIP EXPIRES: If your label reads "x2/93" your membership expired February 29, 1993...please send in your renewal today! New memberships received since October 1, 1992, are good through 2/28/94, and the top line of

your label should read "2/94." Please drop us a note if any information on your label is incorrect.

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MAIL TO: Montana Native Plant Society

P O Box 992

Bozeman MT 59771-0992

NEW BOOK

Edible and Medicinal Plants of the Rocky Mountains and Neighboring Territories

Terry Willard

Wild Rose College of Natural Healing, Ltd,
 302, 1220 Kensington Rd NW, Calgary AB T2N 3P5
 1992, 276 pp softcover, \$25 + \$3 S/H

Finally! Another rare addition to the medicinal and edible uses of Rocky Mountain plants. Willard has assembled information scattered among dozens of texts for 144 plants found in this region. A profusion of photos and drawings makes this text invaluable, while its compact size allows for field use. Regionally important plants such as sweet root (*Osmorhiza* spp), blue camas (*Camassia quamash*), and bitterroot (*Lewisia* spp) are covered.

However, the arrangement of plants by family makes it difficult not to keep seeking the index during a search. And, alas, one more expert falls prey to the intricacies of identifying *Lomatium dissectum*, for the photo labeled as such is of another species. Still, all Rocky Mountain plant lovers will find this book extremely useful and well worth the cost.

- Robyn Klein

<<<CONSERVATION BULLETS>>>>>>continued from Page Two

* In just the past few years a plant that was piled and burned as a "trash tree," the Pacific yew, has been found to be a potential cure for cancer. What additional medicinal and other secrets do the old growth forests hold? - excerpted from **Montana Audubon News**, a publication of the Montana Audubon Council, Vol 2, No 3, Summer 1992

PLEASE WELCOME THESE NEW MEMBERS: MONTANA

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Mark Syverson and
 Noor Jahan Parwana

BILLINGS

Don Sasse

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DAGMAR

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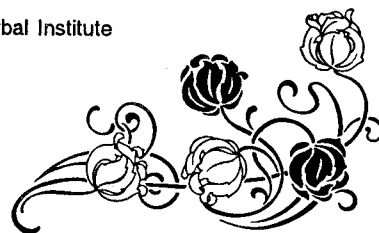
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MONTANA NATIVE PLANT SOCIETY

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

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

Changes of address and inquiries about membership in MNPS should be sent to MNPS, P O Box 992, Bozeman MT 59771-0992. All newsletter material should be mailed to Jan Nixon at the same address, and may be typed or on disk (either size) in WordPerfect 4.2 or better.

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

A special **Field Trip list** will be mailed the third week in May; deadline for it is **MAY 10**. Please include all field trips/outings planned through early fall.

Deadline for the Summer issue is JUNE 10; please include meeting/field trip notices through early October. The Summer issue of KELSEYA will be mailed the last week of June.

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



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MONTANA NATURAL RESOURCES YOUTH CAMP, AUGUST 1-7, 1993

The seventh annual Montana Natural Resources Youth Camp is scheduled for the first week in August at the Lubrecht Experimental Forest, 35 miles northeast of Missoula. Purpose of the camp is to help our youth develop the knowledge and skills necessary to make informed decisions regarding the future management, conservation, wise use, and protection of Montana's natural resources.

Campers in grades 10-12 spend a week in a rustic setting learning about Montana's natural resources. They focus on such topics as forestry, water, soils, minerals and geology, range, wildlife, survival skills, and recreation management. All camp instructors are experts in their fields, with many years of professional and teaching experience.

The camp receives broad support and sponsorship from state and federal agencies, industry, conservation

organizations, professional societies, service organizations, and private individuals. These groups develop and help teach the camp program, provide donations and in-kind services, and supervise all aspects of the camp.

Activities during the week include Learning-through-Discovery workshops on many interesting topics, leadership training, a half-day raft trip on the Blackfoot River, evening campfire programs, and an optional half-day rappelling.

Applications may be obtained from your local conservation district office, county extension agent, and science teachers. Cost is \$150, of which the camper is expected to pay \$50. Sponsors may provide the remainder of the funds. For more information, contact Montana Natural Resources Youth Camp, 1753 Moffitt Gulch Rd, Bozeman MT 59715, or call 587-7198.