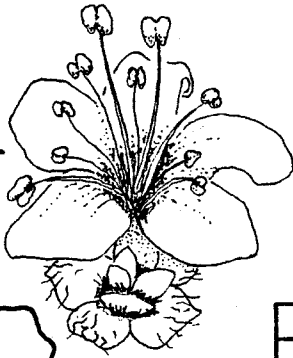


Kelseya uniflora



Kelseya

Vol 5, No 2

WINTER 1992

Newsletter of the Montana Native Plant Society

PROFILE: Montana's Uncommon Plants...

JOVE'S BUTTERCUP...GIANT OF THE PLANT WORLD?

- Jan Nixon

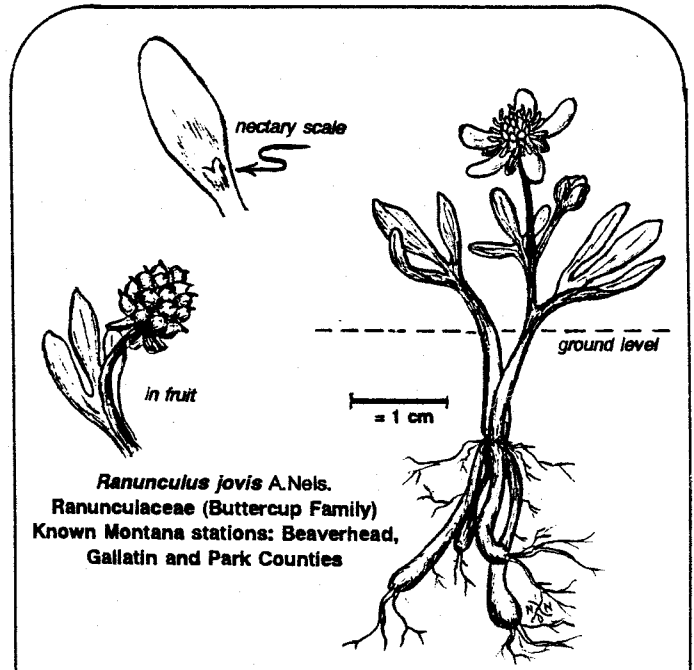
Perhaps the name "Jove's buttercup" suggests to you a commanding presence, a brawny individual shouldering its way through the spring meadows. In fact, this species, *Ranunculus jovis*, is one of the most diminutive of our native terrestrial buttercups; only the pygmy buttercup, *R. pygmaeus*, is consistently smaller. So why the apparently incongruous name?

This species was described by Aven Nelson in 1900 from a collection made by E. Nelson and L. Gooding in Yellowstone National Park on July 13, 1899. The population from which the type specimen was collected grows on a mountain ridge known as "The Thunderer" which divides Soda Butte Creek from the Lamar River, in the northeast quadrant of the Park. Lee Whittlesey, in *Yellowstone Place Names*, states that the ridge was named by the Hague USGS Expedition in 1885 because of impressive thunderstorm activity while they were camped in the vicinity. Apparently Aven Nelson interpreted the name with a more classical bent, however, perhaps picturing Jovian thunderbolts being flung at an unwary traveler. The article in which he first described this taxon (in the *Bulletin of the Torrey Botanical Club* 27:261), does not include a rationale for selecting that particular name, so I am reading between the lines a little in my interpretation of the specific epithet.

Other collections were made in the western Wyoming/eastern Idaho/northeastern Utah region which comprises the main part of this species' range, and at least one other name was proposed: *Ranunculus digitatus* was published by Hooker in 1851 for a collection made in the "Rocky Mountains near Fort Hall" [Idaho]. However, this name was already applied to a taxon described by a European botanist in 1781, and so could not be applied to "our" species, under the rules of the International Code of Botanical Nomenclature.

Hitchcock *et al.*, in *Vascular Plants of the Pacific Northwest*, Volume 2, note its distribution as: "In sagebrush to forested slopes; s.e. Ida. to Nev., e. to Yellowstone Nat. Park, s.w. Wyo, and adj. Utah; usually blossoming soon after the snow recedes. Late Mar.-June."

The buttercup may be locally common, with populations in the thousands noted by several collectors working in the main part of its range. Until this year, it had only been collected twice in Montana, however: in 1928 along the Hellroaring/Buffalo divide, just above the north edge of Yellowstone Park, north of the Blacktail Plateau area; and in 1965 by Wyoming botanist Robert Dorn in the Centennial Range, along the Continental Divide. Thus it appears to barely edge into Montana at the furthest northern extensions of its range.



Ranunculus jovis A.Nels.
Ranunculaceae (Buttercup Family)
Known Montana stations: Beaverhead,
Gallatin and Park Counties

I have seen the species at two easy-to-reach locations in Wyoming: at Lake Butte Overlook, near the northeast "corner" of Yellowstone Lake in the Park, and above Teton Pass west of Jackson, on the rocky, sparsely-vegetated slopes north of (and several hundred feet above) the highway. The secret of finding this species is to get out early in the season, when the snowpack is just going away, and look for it on exposed, south-facing slopes in natural forest openings and meadows. It seems to show a preference for rocky, calcareous soils - those derived from limestone parent materials. However Jennifer Whipple, a ranger-naturalist in Yellowstone, tells me she sees it quite commonly around the geyser basins in the southeast part of the Park, where it's one of the earliest bloomers. Geyser basins along the Firehole River tend to be neutral to alkaline in pH, again suggesting this plant does not like acidic conditions.

Jove's buttercup is on the Forest Service Region One Sensitive Plant list, and is listed by the Montana Natural Heritage Program as a "G4/S1" species. "G4" means it is apparently secure globally (in terms of being threatened or endangered), but may be quite rare in parts of its range, especially at the periphery. "S1" means

- continued on Page 6

HOWELLIA AQUATILIS PROPOSED FOR LISTING AS AN ENDANGERED SPECIES

[Several members sent in copies of this article which appeared in the Missoulian on November 3, 1991, bylined Bill Morgan of the Daily Inter Lake. Thanks to all of you for keeping us up to date on this issue. *Howellia* is a regional endemic in the Bellflower Family (Campanulacae), an annual occurring in glacial pothole ponds and oxbow sloughs, where it blooms starting in late June. We will update you in future issues as this plant proceeds through the Federal listing process.]

Grazing, timber sales seen as threats to rare local plant

A legal foundation in Colorado has joined with a Kalispell-based conservation group, a botanist and the Montana Native Plant Society in seeking federal protection for a rare plant believed to exist in only five places, including the Swan Valley.

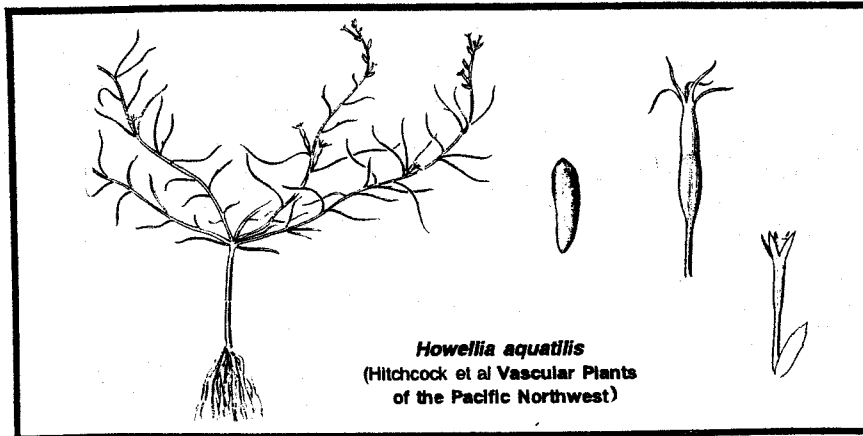
If the request is granted, it could affect timber harvesting and grazing in the Swan Valley.

The Biodiversity Legal Foundation of Boulder, Colo., and the Swan View Coalition, the Flathead Chapter of the Montana Native Plant Society, and botanist Peter Lesica have formally petitioned the US Fish and Wildlife Service to quickly list the *Howellia aquatilis*, commonly called the water *Howellia*, as an endangered plant species.

The plant, which grows primarily underwater in ponds and sloughs, is known to exist in one location in Idaho, three locations in Washington state and in parts of the Swan Valley in Lake and Missoula counties.

The coalition says one Washington site near Spokane and the Swan Valley location contain the only two concentrated populations of the plant. The Swan Valley plants are in ponds in coniferous forests. The forests are "being disturbed and altered by timber harvesting" and roads constructed for timber harvests, the group says.

The coalition adds that some of the ponds are subject to grazing by livestock. "Overgrazing has the potential to change pond substrates by compaction, and may alter water chemistry by addition of nutrients," the group says.



Jim VanDenburg, silviculturist for the Flathead National Forest, said Friday that water *Howellia* is fairly common in the Swan Valley. "We get reports of it being found in some logging sites," he said.

The plant has been listed as a candidate for endangered species for several years, and the Forest Service has listed it as a sensitive species, but the coalition claims the agency has failed to protect the plant.

The Flathead Forest timber-planning process requires studying the effects of ground-disturbing activities, such as timber sales, on sensitive plants. If the plant were granted endangered status, a lengthier analysis of possible effects would be required for sales in areas where the plant occurs.

In 1986, the Nature Conservancy purchased the 400-acre Swan River Oxbow Preserve adjacent to the Swan Lake Wildlife Refuge for the primary purpose of protecting water *Howellia*.

"At the time we purchased it, we estimated that 6,000 plants were there," said Joan Bird, Montana protection planner for the group. "The Swan Valley is the last best place for this plant.

"It has already been lost from California and Oregon altogether."

CONSERVATION BULLETS

[This column, one of the results of the Conservation Committee bull session at last May's Annual Meeting, is intended to help our membership keep pace with conservation issues on many scales - state, region, nation, planet. Please feel free to send KELSEYA items to include, with an emphasis on issues of more than local significance. See Page 8 for deadline information for the next issue.]

WETLANDS PROTECTION

Wetlands harbor many important and sensitive plants and plant communities. The Bush Administration has recently made attempts to weaken wetlands protection. Senator Max Baucus has introduced a bill (S1081) that reauthorizes the Clean Water Act. This bill is a powerful tool to protect wetlands. Write Max to express your opinion and encourage wetlands conservation.

Although wetlands make up less than 1% of the state's total acreage, approximately 73% of Montana's original wetlands are intact. There are nine types of wetlands recognized and considered critical nationwide, and Montana contains two of these: prairie potholes and western riparian wetlands. Temporary wetlands, those areas that have water for only a short time (usually in spring during snowmelt runoff), play a critical role for migrating birds by providing shelter and resting areas plus much needed food for species headed toward northern nesting sites. In fact, more than half of Montana's bird species depend on wetlands at some time during their life cycle.

In addition, many rare plant species in Montana are wetlands-dependent. See the above article about current MNPS efforts to support the listing of *Howellia aquatilis* as an endangered species.

Other critical wetlands-dependent species are still in need of protection. A "Wetlands Summit" is being hosted by the Montana Audubon Council in early January to discuss Montana wetlands issues further. See ANNOUNCEMENTS for details.

ENDANGERED SPECIES ACT RENEWAL

Renewal of the Federal Endangered Species Act will come up in the 1992 Congressional Session. Environmentalists are warning that extraction industry lobbyists will be trying hard to weaken the act. Senator Max Baucus is a member of the influential Environment and Public Works Committee that will review renewal of the Act. Because of Max's position on this pivotal committee and his relatively small number of constituents, Montanans have a lot of influence on this important legislation. Write or call him to express your opinion.

TOLL-FREE PESTICIDE INFO

Need impartial information about pesticides? Help is just a toll-free call away, according to the Fall 1991 issue of **Small-Scale Agriculture Today**, the newsletter of the USDA Office for Small-Scale Agriculture/ - continued next Page



SUCCESSFUL SEED COLLECTING TIPS FOR NATIVES

- Ruth Unger

So, you want to be a seed collector! That whole field you just passed is one mass of blooms. It's hard to decide which ones will be most effective in your yard, or as next year's Christmas presents to fellow gardeners, etc.

First of all, **timing** is of utmost importance. Most wildflowers come up fast, bloom and completely die back. It's very hard to catch the seeds at full maturity. Once the seed starts to ripen, keep a sharp eye on the weather. Wind, rain and hailstorms can abort the best-planned picking trip.

I use brown paper grocery bags, usually the large ones, and a magic marker. Be sure to **identify the seed first**. Once back at the house with several bags of seed heads, you'll not be able to tell pasqueflowers from prairie smoke, I assure you!

Like flower arranging, pick with a knife, not scissors. I sue a designer's knife, a single blade jack knife, sharp as a razor (and use it for a lot of other things too).

The seed that 'flies' is the bane of my existence - namely pussytoes and fireweed. Pick early in the day before the wind comes up. A little dew will dry off in the bags.

Roll the top of the bag down once the stems are picked and put in upside down. You can easily carry six or more bags down a steep hillside this way without spilling.

Once you're back home, open the bags and set them in a warm dry place for several days or until you have time to clean the seed. Mine are stashed under the buffet.

Please remember - don't try to pick everything at the end of the season. The early varieties will be long gone. Others need to be picked while the stems are a little green, like lupine. Once ripe, those pods "pop" and the seed is scattered. Let them pop inside the bag and the seed will fall to the bottom (it's a very heavy seed).

While the seed is drying for a few days, get your containers ready. Glass is by far the best. Plastic is porous and allows the tiny seeds to lose moisture so they'll never germinate. Mustard and jam jars with good lids work best [or how about baby food jars?]. Sterilize both jars and lids, and **be sure they are thoroughly dry before filling**. Clean-up time (besides, you want those bags for the next batch, don't you?): lay several thicknesses of newspaper on the table and dump a bagfull at a time. Save the cleaned seed, throw the stems and chaff on your garden - what you've missed will likely grow for you.

Label the jar first, with both common and botanical names. A piece of freezer tape works fine!

Store the jars in the freezer (-20 F) for at least 24 hours to kill any bugs, wormies etc. that you have picked along with the seeds. Your toddlers or grandchildren who have bug collections will love this part - there are some neat bugs out there, and each likes his/her own brand of flowers best, believe me. After proper freezing, take the jars out and store in a cool, dry place (40-45 F), like your basement.

Most seeds will keep for years, but to be sure, run a germination test before you send them out. Pasqueflower (*Anemone patens*) is the only species I've found to be short-lived; plant soon after you pick. This explains why no seed companies handle them. But they'll sell your started plants.

Evergreen seeds I keep in the freezer at all times.

Good luck picking. Think how healthy you'll be, wandering the hillsides gathering seeds. It's a great vocation!

One additional caution for seed collectors: only collect from good-sized populations of any given species - many people use the "One in Twenty" rule of thumb; and don't go back to collect from the same spot two years in a row, so that the impact of the seeds you're removing from the gene pool will be minimized.

<<CONSERVATION BULLETS, continued from Page Two>>

PESTICIDE HOTLINE, continued

Cooperative State Research Service. Call 1-800-858-7378 to reach the National Pesticide Telecommunications Network anytime.

MONTANA WILDERNESS BILL

The Montana Wilderness Bill, Senate Bill 1696, will be coming before the full Senate and the House Interior Committee in 1992. This bill creates ca. 1.4 million acres of wilderness and releases ca. 4 million acres of roadless lands for multiple use. Write to Representative Bruce Vento and Montana Representatives Pat Williams and Ron Marlenee to express your opinion.

RECYCLING HOTLINE

The Montana Environmental Information Center Recycling Project has established a toll-free Recycling information hotline, 1-800-823-MEIC (823-6342). Funded by a grant from the EPA to promote recycling in our state, the hotline provides information about recycling centers and organizations, and general information about HOW to recycle. They have also developed fact sheets on office recycling, composting, source reduction, and dealing with household hazardous waste and automobiles wastes. Jennie Dixon is the Recycling Coordinator for MEIC. Call the above toll-free number, or write her at P O Box 1184, Helena MT 59624 for more information or sample HOW TO sheets.

AUDUBON SAVES ANCIENT CEDAR GROVE

The rarest and most threatened forms of old growth in Montana are cedar groves and ponderosa pine. Audubon's Adopt-a-Forest program is helping identify and save Montana's old growth forests. Through mapping and gathering solid information, the project has a reputation for the quality of its work. And the work is paying off.

Recently the program took on a difficult mission: to save an old growth cedar grove that was already scheduled to be logged. When Audubon identified the cedar grove, it was already sold as part of the Earthquake Timber Sale on the Superior Ranger District of the Lolo National Forest. Because of the rare and threatened status of old growth cedar, Audubon approached District Ranger Ellen Vollmer to see if something could be done to save the grove.

Although initially the answer was "no," through negotiations the answer became "Yes, we will save the cedar grove." The US Forest Service bought back the cedar grove from the timber purchaser. The Earthquake Timber Sale will cut about half the area originally slated for logging. The ancient cedars will be saved, with a 200-300 foot buffer zone around the grove. Congratulations to the Adopt-a-Forest program and all of its volunteers and mappers!

Audubon's Adopt-a-Forest program will continue to work to protect all rare and important old growth stands remaining in our forests. If you want to find out more about the program, contact Rosalind Yanishevsky, Montana Adopt-a-Forest Coordinator, HCR 69, Polebridge MT 59928, or call 756-4794.

- Janet Ellis. Reprinted from

Montana Audubon News, Fall 1991

WHO TO WRITE

Representative Ron Marlenee or Representative Pat Williams
House Office Building
Washington DC 20515

Senator Max Baucus or Senator Conrad Burns
Senate Office Building
Washington DC 20460



MEETINGS

THURSDAY, JANUARY 9, CLARK FORK CHAPTER: 7:30 pm, Room 307, Natural Science Bldg, UM Campus. Merrill Davis, Special Products Forester for the Northern Region of the U.S. Forest Service will give a presentation on "Pacific Yew in the Northern Rockies, Taxol and Cancer."

WEDNESDAY, JANUARY 19, FLATHEAD CHAPTER: 7 pm, Fish, Wildlife & Parks Bldg, Kalispell. Peter Achuff of the Montana Natural Heritage Program in Helena will present "Natural Features of the Tibetan Plateau." For more info, call Terry Divoky in West Glacier, 387-5527 (evenings).

THURSDAY, JANUARY 30, CLARK FORK CHAPTER HERBARIUM NIGHT: 7:30 pm, Missoula County Library, 301 E. Main. John Pierce will demonstrate how to use the library's herbarium in identifying the local flora (see KELSEYA Vol. 5 No. 1 for a description of the library's Rattlesnake Herbarium).

WEDNESDAY, FEBRUARY 5, VALLEY OF THE FLOWERS CHAPTER: 7:30 pm, Loft of the Plant Growth Center, S 11th at Garfield, MSU campus. Jan Nixon will show slides illustrating the "Alpine Plant Communities of the Beartooth Mountains."

THURSDAY, FEBRUARY 13, CLARK FORK CHAPTER: 7:30 pm, Room 307, Natural Science Bldg., UM Campus. Representatives from the Alliance for the Wild Rockies and the Montana Wood Products Association will present "Wilderness and Forest Management: Two Visions of the Future."

WEDNESDAY, FEBRUARY 19, FLATHEAD CHAPTER: 7 pm, Pacific Power & Light Bldg, Kalispell (note change for this meeting only). Merrill Davis from the Forest Service Northern Region office in Missoula will present his program on the Pacific Yew.

THURSDAY, FEBRUARY 27, CLARK FORK CHAPTER HERBARIUM NIGHT: 7:30 pm, Room 303, Natural Science Bldg, UM Campus. Peter Stickney from the Forest Service Intermountain Experiment Station will help people learn "Identification of Winter Trees and Shrubs." (a field trip will be held the following Saturday, see below).

WEDNESDAY, MARCH 4, VALLEY OF THE FLOWERS CHAPTER: 7:30 pm, Plant Growth Center loft, MSU campus. Program TBA, watch the Bozeman Chronicle and MSU Exponent for info.

MONDAY, MARCH 9, CLARK FORK CHAPTER: 7:30 pm, Room 207 Health Sciences Bldg. Joint meeting with Five Valleys Audubon. Erick Greene from the UM Division of Biological Sciences will show slides on his research in Arizona, "The Evolutionary Game of Hide-and-Seek: Interactions Between Plants, Herbivores and Predators."

WEDNESDAY, MARCH 18, FLATHEAD CHAPTER: 7 pm, Fish, Wildlife & Parks Bldg, Kalispell. Glacier National Park's Exotic Plant Management Plan will be discussed by Dave Lange, a Resource Management Specialist from the Park. More info, call Terry Divoky, West Glacier, 387-5227, evenings.

THURSDAY, MARCH 26, CLARK FORK CHAPTER HERBARIUM NIGHT: 7:30 pm, Room 303, Natural Science Bldg, UM Campus. Diane Pavak of the UM Division of Biological Sciences will present "An Introduction to Montana's Ferns." Bring a hand lens and copies of identification manuals, if you have them.

WEDNESDAY, APRIL 1 (NO FOOLIN'), VALLEY OF THE FLOWERS

CHAPTER: 7:30 pm, Plant Growth Center loft, MSU campus. Program TBA. Final work/planning session for the upcoming Annual Meeting.

THURSDAY, APRIL 9, CLARK FORK CHAPTER: 7:30 pm, Room 307, Natural Science Bldg, UM Campus. Rachel Potter, a resource management specialist with the U S Park Service, will talk about her work "Restoring Native Vegetation in Glacier National Park."

WEDNESDAY, APRIL 15, FLATHEAD CHAPTER: 7 pm, Fish, Wildlife & Parks Bldg, Kalispell. Jay Windifield, a biological technician for the Flathead National Forest, Spotted Bear District, will speak about range management and "all things related to range" in the Bob Marshall Wilderness. Need more info? Call Terry Divoky at 387-5527 (evenings).

THURSDAY, APRIL 30, CLARK FORK CHAPTER HERBARIUM NIGHT: 7:30 pm, Room 303, Natural Science Bldg, UM Campus. Can you tell a horsetail from a horse turd or a club-moss from a club sandwich? Stay informed on Pteridophyte politics. Join Peter Lesica in "The World of Fern Allies."

FRIDAY, MAY 1, thru SUNDAY, MAY 3, 5TH ANNUAL MNPS SPRING MEETING, hosted in Bozeman by Valley of the Flowers Chapter. See ANNOUNCEMENTS for details.



FIELD TRIPS

SATURDAY, FEBRUARY 29, CLARK FORK CHAPTER: Back by popular demand! Winter Botany Field Trip. Peter Stickney from the Forest Service Intermountain Experiment Station will lead a walk along the Clark Fork River guiding the participants in the identification of plants in winter condition. Meet at 12:45 pm in the University Center in front of the bookstore. Wear warm clothes and bring a hand lens and a copy of Winter Field Key to the Native Shrubs of Montana, if you have them.

SATURDAY-SUNDAY, MARCH 21-22, STATE FIELD TRIP - GLACIER NATIONAL PARK: Come ski in Glacier's backcountry. You can stay with a local (Flathead) chapter member at their home or there are several local motels. On Saturday we'll ski the Autumn Creek Loop to look at scenery and animals, and key out bushes and plants in their dormant winter state. Saturday night will feature a potluck dinner, and there will be an optional half-day ski on Sunday. Call Terry Divoky, 387-5527 (evenings), or write her at P O Box 254, West Glacier MT 59936, for more details or to let her know you are coming.

SATURDAY-SUNDAY, JUNE 27-28, STATE FIELD TRIP, PINE BUTTE SWAMP + NORTH FORK/SOUTH FORK TETON RIVER: Because of the enormous popularity of the 1990 trip, the Program/Field Trip Committee has scheduled a rerun. Terry Divoky can do the leg work, but she needs someone who can commit to going on the trip as leader. We'll camp in one of the local campgrounds (and motel space available in Choteau), check out the local plants, tour Pine Butte, hike, ride bikes. Further details in the Spring KELSEYA. Call Terry if you'd be willing to serve as trip leader.

ANNOUNCEMENTS

**DR ARTHUR CRONQUIST TO BE
FEATURED SPEAKER AT IDAHO ACADEMY
OF SCIENCES' MARCH MEETING**

The 1992 Idaho Academy of Sciences annual meeting features a special symposium on Botany of Idaho, to be held at Albertson College of Idaho (formerly The College of Idaho) at Caldwell ID on Friday, March 27.

Aimed at interpreting Idaho's botanical heritage and planning for the future, the symposium will include speakers on a variety of topics relating to Idaho floristics, and the Academy is soliciting papers for this session. Send Abstracts to Dr Eric Yensen or Dr Don Mansfield, Department of Biology, Albertson College of Idaho, 2112 Cleveland Blvd, Caldwell ID 83605, no later than March 7, 1992.

A highlight of the symposium will be the appearance of Dr Arthur Cronquist of the New York Botanical Gardens as the keynote speaker following the IAS Annual Banquet. This address will be open to the public. This is an outstanding chance to hear one of the renowned botanists of our time. For further information, contact Don Mansfield at the above address, or call (208)459-5287.

MONTANA WETLANDS SUMMIT

Montana Audubon Council is launching a wetlands protection campaign, and has scheduled a Wetlands Summit as the lead-off activity. On Saturday, January 11, attendees will explore what is being done in Montana, discuss what issues need to be addressed, and prioritize goals and objectives for 1992 and beyond.

This day-long session will be held at the Lewis & Clark Public Library, 120 S Last Chance Gulch, Helena, starting at 9:30 am. Call Janet Ellis at the Montana Audubon Council office, 443-3949, if you are interested in participating or need more info.

**MONTANA ENVIRONMENTAL EDUCATION
ASSOCIATION ANNUAL CONFERENCE
MARCH 27-28, 1992**

"Bug Net," newsletter of the Montana Environmental Education Association, reports that their Second Annual Conference is scheduled for Bozeman's Holiday Inn on Friday-Saturday, March 27-28. Their theme this year is "CUTTING EDGES: Hot Issues and How to Integrate Them."

Concurrent workshops will discuss leading environmental issues facing Montana today, including wolves, bison, forest and timber, grazing and riparian areas, mining, wetlands, water rights, hunting, endangered species and economics, and waste disposal. Whether you are formally involved in education or not, it sounds like this should have a number of interesting sessions. Conference registration is limited to 200 people, and there will be a special rate for those who register early. For registration info, write MEEA at P O Box 928, Dillon MT 59725.

**NEW HERBARIUM ESTABLISHED AT
ROCKY MOUNTAIN COLLEGE**

New MNPS member Steven J Wolf has contacted KELSEYA to let us know that he is now Curator of the Herbarium at Rocky Mountain College. An Assistant Professor of Biology at the College, he brings extensive curatorial and other herbarium experience to this new position, and many years' field experience in the northern Rockies.

The herbarium is actively soliciting collections, and will be happy to accept unmounted field collections which have complete collection information. His note was triggered - at least in part - by John Pierce's article in the Fall 1991 KELSEYA which related his difficulty in finding a "home" for his collection of plants from the Rattlesnake drainage near Missoula.

The herbarium will be accessible to the public, and will welcome serious volunteers who would like to contribute their time in exchange for

training in specimen mounting, curation and computer work. Interested persons may contact Dr Wolf at (406) 657-1126, weekdays, or write him at Rocky Mountain College, 1511 Poly Dr, Billings MT 59102-1796.

**NATURAL RESOURCES YOUTH CAMP
AT LUBRECHT FOREST**

Every summer the University of Montana's Lubrecht Experimental Forest station in western Montana hosts a Natural Resources Youth Camp, a week of activities for students ages 14-18. At the 1991 MNPS Annual Meeting in Glacier Park, members decided to help sponsor a student's attendance at the camp. An impromptu fundraiser brought in \$100, which was split between the Clark Fork and Flathead chapters, so that two students could receive economic assistance.

The Clark Fork Chapter, after consulting with Missoula schools about prospective applicants for the camp, chose to fully sponsor (\$135) Renee Somerset, a Missoula-area 8th grader. Renee reports that the money was well spent. She enjoyed the camp so much she wants to go again next summer.

The camp was held in early August. Forty-seven students attended, living in several cabins on the property. It was a busy week: they got up at 6:30 every morning. Days were filled with activities such as Natural Resource classes, where they learned about range and wildlife management. Bureau of Land Management personnel and various scientists were among the instructors. Fifty per cent of the Range Management classes, says Renee, were spent learning to identify plants, grasses and trees. In Soils classes, they learned what kinds of soils will support which kinds of trees. Other highlights included a raft trip on the Blackfoot river, a visit from a cowboy poet, and an afternoon learning how to rapel.

Renee has agreed to come to a meeting of the Clark Fork Chapter to show members some photos of her week at the Montana Natural Resources Camp.

The camps are run through the Conservation Districts Bureau, Montana Department of Natural Resources and Conservation. For more information or applications to attend the 1992 camp, contact your county extension agent, conservation district, or Craig McCollim, 1753 Moffit Gulch Rd, Bozeman MT 59715.

**HORTICULTURAL LIBRARY
A PRIME RESEARCH RESOURCE**

The Anderson Horticultural Library, part of the University of Minnesota library system, is the only horticultural research library in the Upper Midwest. The collections of 9,000 volumes and more than 350 periodicals focus on the literature of botany, landscape architecture, natural history and horticulture, particularly horticulture of the Upper Midwest. At the heart of the library are its research collections, which include rare books featuring botanical illustrations and herbals. The library also maintains one of the largest seed and nursery catalog collections in the country, including some 2,000 dating from the mid-1800s. The monograph holdings can be researched and located using LUMINA (Libraries of the University of Minnesota Integrated Network Access), the computerized catalog of the University's library collections. Current monographs and periodicals are available to all visitors and researchers. By submitting written applications in advance, qualified researchers may use the collections and archives not on open shelves. Write Anderson Horticultural Library, Minnesota Landscape Arboretum, 3675 Arboretum Dr, Box 39, Chanhassen, MN 55317; or call (612) 443-2440.

- submitted by Robyn Klein.

Reprinted from

Herbalgram 21, Fall 1989

JOVE'S BUTTERCUP, continued from Page One

a species is critically imperiled in Montana because of extreme rarity (five or fewer occurrences, or very few remaining individuals), or because of some factor of its biology which makes it especially vulnerable to extirpation from the state.

Many of the Region One Forests are conducting searches for plants on the Sensitive Species list, and I contracted with the Gallatin Forest this past spring to try to determine whether the buttercup occurs on Forest lands anywhere besides the 1928 collection. Several of the Gallatin's Ranger Districts appear to have suitable habitat and would be (along with the southern Beaverhead Forest) the most likely part of the state to harbor undiscovered populations. The 1928 collection site lies within the Gallatin's Gardiner Ranger District, and is now within the Absaroka-Beartooth Wilderness. Although this locale was heavily impacted by the 1988 fires, the buttercup's deeply-seated roots should have been little affected that late in the season.

As a glance at the illustration will indicate, the buttercup has a number of distinctive field characters. Each somewhat-fleshy leaf is deeply three-parted, and these show little of the tendency of many buttercups to have irregular extra lobes or teeth. A single leaf rises directly from the top of the root crown, which usually lies well below the soil surface. A separate flowering shoot also rises from the crown which may have one to three three-parted leaves (or a few more in very robust individuals), with one to three flowers on each shoot. The sepals are greenish, and tend to bend backward so they lie more-or-less parallel to the stem. The petals are usually five (and again tend to show little of the buttercup tendency to extra petals), and are fairly narrow and well separated around the floral axis, so that you can see the sepal between each adjacent pair of petals. This helps to distinguish it from one of the common high-elevation buttercups with which it might be confused, *Ranunculus eschscholtzii*, which has broad, overlapping petals which form a bright yellow "dish". On many buttercups, the nectary scale is a useful field character in determining the species. This is a little flap of tissue on the petal's inner surface which lies over the nectar-producing gland, and the shape of the flap and degree to which it is attached to the petal can be a helpful diagnostic tool. An illustration of the nectary scale in Hitchcock et al is redrawn above, but very few of the plants that I've examined show this nice, symmetrical notching, so I don't consider it a very reliable character to distinguish this from other species.

A final field character is the shape of the root. Most buttercups have bundles of fibrous roots, but *R. jovis* has a distinctive fleshy, starch-filled, clavate root - shaped like a baseball bat or Indian club, with the fat end out. These are surrounded by a mass of small, fine root hairs. If you find a population that you think might be *R. jovis*, you can carefully dig a plant up, check the root shape without disturbing the root hairs too much, then replant it and it will survive.

My search last spring did turn up three new populations, one on the Targhee Forest and two on the Gallatin. Two of the populations are on rocky, calcareous soil, as I had originally predicted, and one was on a bare shale outcrop. In the process I covered a whole lot of countryside containing what looked like wonderful habitat...but no buttercups. Common plant associates on the sites I located (or had known previously) are springbeauty (*Claytonia lanceolata* var *lanceolata*), shooting star (*Dodecatheon* spp), and elk sedge (*Carex geyeri*) - all of which are so common as to be useless in helping cue you to look for *R. jovis*. However, if you also see steershead (*Dicentra uniflora*) or another member of the Fumariaceae such as golden corydalis (*Corydalis aurea*), and/or the goosefoot violet (*Viola purpurea*), then you should check out any little dots of gold to see if they might, indeed, be Jove's buttercup. One or another of these relatively uncommon species have been associated with *R. jovis* in every population I've seen so far.

Usually the plants are found among scattered big sagebrush (*Artemisia tridentata*), between 7500 and 9500 feet (2285-2800 meters) elevation, in natural forest meadows surrounded by Douglas fir or subalpine fir/Engelmann spruce forests. Many times this spring my boots made the first human prints in the snow along shaded parts of the trails, along with lots of deer, elk, moose, and the occasional bear.

Next spring, if you hit any trails in the far southwest/south central edge of the state, please keep your eyes open for this attractive little buttercup - and if you spot it, take pictures, note the location, and drop me a line.



KNAPWEED AS A CASH CROP?

Those involved in weed control generally do not view diffuse knapweed as a thing of beauty. However, many brokers of floral products feel that knapweed has the potential to become nearly as popular as baby's breath (*Gypsophila* spp.) with florists worldwide.

In Okanogan County [Washington], growers have sold baby's breath and other weedy species on the international marketplace for years. Several recent incidents in the region indicate that the push is on to market diffuse and other knapweed species in a similar manner. Some examples include:

* A Douglas County floral products entrepreneur soaked truckloads of diffuse knapweed overnight in the Columbia River so that the heads would swell prior to drying, and sold the finished product as "Autumn Thistle."

* A florist in Ferry County decided to cash in on the knapweed bouquet craze. The county extension agent caught wind of this and was able to dissuade the florist from selling the weed only by pointing out the seed heads were full of *Urophora* larvae [an insect introduced to control knapweed], which the florist found disgusting.

* An Okanogan staff member recently witnessed street vendors at Pike's Place Market in Seattle selling spotted knapweed for \$1.50 per stalk.

* A number of seed catalogs, as well as Lilly Miller seed company, offer bighead knapweed (*Centaurea macrocephala*) for sale. Lilly Miller markets the weed under the name of "Yellow Globe;" it is also sold as "Lemon Fluff."

* In Okanogan, a floral broker reports standing orders for truckloads of diffuse knapweed to floral outlets throughout the country. To date, state and local weed board efforts have dissuaded the broker from filling the orders.

The Okanogan County Noxious Weed Control Board contends that state and federal laws need to be strengthened to prohibit the sale of noxious weeds. The Board will support an educational program to help floral product suppliers understand that they are buying and selling diffuse knapweed, a noxious weed, not "Autumn Thistle," an attractive floral filler.

- Jeff Silverson, Okanogan Cnty Noxious Weed Control Board. Reprinted from *Knapweed 5(3)*, newsletter of the Washington Interagency Knapweed Committee.



DEFINITIONS LINNAEUS NEVER KNEW

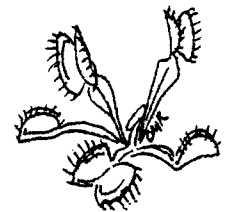
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MONTANA NATIVE PLANT SOCIETY *** MEMBERSHIP APPLICATION/RENEWAL

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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
- ___ 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 + 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 time the Summer edition of 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 or 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 "x2/92" your membership expires February 29, 1992...please send in your renewal today! New memberships received since July 1, 1991, are good through 2/28/93, and the last item on the top line of your label should read "2/93." Please drop us a note if any information on your label is incorrect.

MAKE CHECKS PAYABLE TO:

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Bozeman MT 59771-0992

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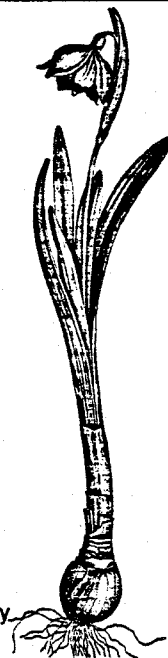
Tempe

Lucille M Alston

ILLINOIS

Lake Forest

Tom & Barb Donnelley



Ponderosa pine overstory, and mistletoe was observed. How mistletoe reproduces and migrates in isolated stands and an arid environment is an interesting question.

Barr's milkvetch (*Astragalus barrii*), now on the Forest Service "Watch List," was observed in a recently-reclaimed area, which shows that direct-haul topsoiling can contribute to the diversity of reclaimed landscapes, even for species of restricted ecological amplitude. Whether such species can persist in a more competitive environment than they are normally found is another question.

- Richard Prodgors

Rockin Rudy's
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Coyotees Tee Shirts
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The Clark Fork Chapter would like to thank these Missoula businesses for their help in selling Missoula Trails T-Shirts, a joint fund raising venture between CFC and the Missoula Trails Project.

UNUSUAL SPECIES FOUND ON RECLAIMED COAL MINE SITES

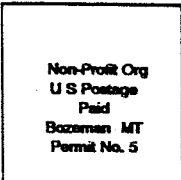
I did some work for coal mining companies in southeast Montana last summer. Near the Tongue River Reservoir in an area that received about eight inches of annual precipitation over the last decade, the occurrence of some Palouse Prairie species such as Idaho fescue (*Festuca idahoensis*) and prairie smoke (*Geum triflorum*) on cool aspects was interesting. *Symphoricarpos albus* (common snowberry) grew under a

MONTANA NATIVE PLANT SOCIETY

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PLEASE NOTE:
If your label reads x2/92, 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 ... won't you send us your check today?

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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 to share that knowledge. Contributions to MNPS are tax deductible, and may be designated for a specific project or chap-ter, or may be made to the general fund.

Your yearly membership fee includes a subscription to KELSEYA, the newsletter of MNPS, which 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 each article.

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; please include meeting/field trip notices through early July. The Spring issue of KELSEYA will be mailed the last week of March.

MARK THIS DATE ON YOUR CALENDAR...!

Reserve the first weekend in May to come to Bozeman for the **Fifth Annual MNPS Spring Meeting**. Theme of this year's meeting is **Natural Areas of the Greater Yellowstone Area**.

What are Natural Areas? How is an RNA different from an ACEC? Why do we think we need them? A series of individual presentations and panel discussions by state and federal agencies, corporate landowners and private organizations will help familiarize us all with the ins and outs of this important topic. Starting Friday evening, May 1, the sessions will run all day Saturday, and conclude (weather cooperating) with a field trip or two on Sunday, May 3. Full details and a preliminary schedule will be included in the Spring issue of KELSEYA. Start thinking now about Silent Auction items you can bring - hope to see you all there!

NEW EASTERN DISTRICT REP APPOINTED

At its October Board meeting, MNPS Directors appointed Steve Regele to fill Linda Iverson's term (which is up next May). Linda is currently serving as state Vice President. The Eastern District Representative

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Landscaping - Greg Hallsten	Helena	443-6141
Membership/Outreach - currently vacant		
Newsletter/Publications - Jan Nixon, temporary chair	Bozeman (wk)	587-0120

serves MNPS members who do not have chapter affiliation in the eastern half of the state.

Steve, who lives in Joliet, works for the Department of State Lands, and is enthusiastic about the possibility of getting a Billings-area chapter started soon. Welcome aboard, Steve!

SOURCE LIST FOR NATIVE PLANTS & SEEDS

Final additions and revisions are being incorporated into the MNPS Source List for Native Seeds and Plants. Linda Iverson has put an enormous amount of work into compiling this list, and we anticipate having the 1992 List available for distribution by the Spring newsletter - just in time for your spring gardening. Ordering details will be included in that issue.

**1992 MEMBERSHIPS EXPIRE FEBRUARY 29
PLEASE TAKE A MOMENT TO MAIL IN YOUR
MEMBERSHIP RENEWAL TODAY!!**

