

Kelseya

SPRING 1990

NEWSLETTER OF THE MONTANA NATIVE PLANT SOCIETY

A BITTERROOT VALLEY REFUGIUM FOR DRYLAND SPECIES

Judy Hoy



In hopes of finding at least one rare plant, we have had all the plants that we could find on our land identified and listed on a computer. We began this project in 1987 and to date have found several species, especially grasses, which are rare in West-Central Montana.

Some of these plants had not previously been found in Ravalli County.

This seems to indicate that we have on our land what Larry E Morse, in an article for *Nature Conservancy*, November/December 1982, calls a refugium. A refugium as defined in the article is "Literally a place for refugees. Biogeographically, a refugium is a place where a formerly more abundant species can survive or persist even though its populations have declined or disappeared in the surrounding area, or the remainder of its range. Sometimes a refugium is the sole remaining site for a plant or animal; more often, it harbors species otherwise rare in that part of the country, but more often common somewhere else. Viewed historically, a refugium is a place that has changed less than its surroundings."

We believe that our dryland sagebrush hillside meets the criteria for a refugium in that it supports several species that are rare or have never before been reported from this portion of the state. Many of these species also constituted first-recorded collections for Ravalli County.

Our land is located along both sides of a half-mile portion of Willoughby Creek, which runs east to west, about five miles

southeast of Stevensville, Montana, in Ravalli County. It encompasses 110 acres in the middle of Sections 13-14, Township 8 North, Range 20 West.

There are several habitat types, including ponderosa pine timbered habitat, dryland sagebrush along the south-facing slope of Sunset Bench, riparian habitat along Willoughby Creek, and irrigated farmland planted to an alfalfa-grass hay mixture.

To date we have found and identified over 290 plants, 183 of them native to Montana. The 183 natives include only those that were naturally growing on our land. All other plants - including native Montana plants that were planted by us - are considered introduced. This is a dynamic list developed from three years of observation.

Most of the forbs were identified by Wally Albert. Grasses found in 1987 were identified by Keith Boggs and verified by Klaus Lackschewitz. All grasses found since were identified by Klaus Lackschewitz, who was working at the University of Montana Herbarium and is author of the book *Plants of West-Central Montana - Identification and Ecology: Annotated Checklist*. He has also written several papers on botanical subjects. Any questionable identifications by Wally Albert were taken by Mr Albert to be verified by either Mr Lackschewitz or by Peter Stickney, who works for the US Forest Service Intermountain Research Station in Missoula.

Our native dryland habitat supports an *Artemisia tridentata*/*Agropyron spicatum* (big sagebrush/bluebunch wheatgrass) association, as does most of the east side of the Bitterroot Valley. However, the plant community on our south-facing slope contains a greater diversity of dryland grasses in a

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This will be my last communication as president, as I have taken a position as Research Ecologist at the USDA ARS Laboratory in Morris, MN. I have mixed feelings about leaving the area, but we all must make a living and we don't always get our first choice of locations. I will be sad to leave Montana, but excited to live in a new area with all sorts of new horizons to explore.

I have enjoyed serving you as your president, and have been delighted to participate in the emergence of our Society. I hope that I have in some way helped MNPS add to the footing on which we have been building since our inception just three years ago. MNPS has come a long way since those first fledgling days, but we still have building to do. We need to keep up the good efforts of so many to establish a good foundation for our Society. We are still feeling our way as to the direction(s) that our members desire MNPS to go, and we need you all to be active and provide your representatives with your ideas and desires for the future.

To quote Dr. Martin Luther King, "I have a dream!" My dream is to see some kind of program for every level of experience, from novice to professional, from new member to old, and for all our members to participate. We have a core group in each chapter that organizes and participates in most activities, but what we seem to be lacking is participation of the less experienced persons, those that are just getting interested in plants. I don't know if we intimidate you, or if you feel we don't come down to your level and communicate with you, but I do know that we care about your ideas and needs. Please tell your chapter what kind of trips you want

and what kind of help you need to learn more about the plants and the environment we live in.

Also, if we as members do not participate, the few who lead the field trips and meetings get burned out from lack of response compared to the effort put into planning and conducting those activities. When that happens, fewer activities get offered, resulting in fewer participating, etc. ad infinitum. Let us not fall into that trap. Express your desires as to the direction and activities of the Society and then participate. Better yet, organize a trip for your chapter.

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

This year the state meeting is in Missoula, organized by the Clark Fork Chapter. The schedule of events and other particulars are to be found elsewhere in this issue. I hope that you can all come and enjoy the companionship and learning experience. If you have not been to a state get-together before, it really is a memorable time for us plant lovers. With the warm winter and spring we have been having, there should be plenty of spring flowers out to see.

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

Stephen J. Harvey Home 586-1348

Bitterroot Valley Refugium

Continued from Page One

in a small area than any other similar site found thus far in the Bitterroot Valley.

We also found a lichen associated with the sagebrush and grasses, *Xanthoparmelia wyomingensis*, a species not commonly found west of the Continental Divide. It was identified by Bruce McCune, Assistant Professor at Oregon State University, Corvallis, Oregon.

In addition, we've located several flowering forbs common to dry desert-like habitats. One of the prettiest of these is *Oenothera caespitosa* (tufted evening primrose). Ours was the first collection from Ravalli County and West-Central Montana. We have since found this plant in several Ravalli County locations, but it is not abundant.

We also found *Sphaeralcea coccinea* (scarlet globemallow) and *Gaura coccinea* (butterfly weed), both of which can be found on the east side of the Bitterroot Valley in sagebrush habitat. They are not considered rare, but because of their infrequent occurrence in West-Central Montana, I feel they are worth mentioning.

Other forbs considered rare or infrequent that we found on our land include *Penstemon eriantherus* var *redactus* (fuzzy tongue penstemon), *Crepis intermedia* (gray hawksbeard), *Leptodactylon pungens* (prickly phlox), *Mentzelia dispersa* (small-flowered blazing star), *Tetradymia canescens* (gray horse-brush), *Oxytropis besseyi* (Bessey's crazyweed), *Astragalus adsurgens* (standing milkvetch), and *A. inflexus* (hairy milkvetch).

Grasses found on our land which are considered rare in West-Central Montana include:

1. *Aristida longisetia* (red three-awn), considered rare in this area but known from other collections. I have found it in several dryland sagebrush sites on the east side of the Bitterroot Valley.

2. *Oryzopsis hymenoides* (Indian ricegrass), previously collected near Missoula, is considered rare in West-Central Montana, and ours was the first Ravalli County collection. I have not found this grass at any other site, although I have searched many neighboring sagebrush areas. This grass is easy

to recognize, even from a distance; if anyone in West-Central Montana happens upon this or any of the other grasses mentioned here, please report your finding to Klaus Lackschewitz, c/o University of Montana Herbarium, University of Montana, Missoula, MT 59802.

3. *Sporobolus cryptandrus* (sand dropseed) had not been previously been collected in our county or in West-Central Montana. Found in only one location so far.

4. *Bouteloua gracilis* (blue grama), a Great Plains grass, was previously collected from one other site near Missoula which has since been destroyed by development. Consequently our land is the only known site containing *B. gracilis* in West-Central Montana, and is a first for Ravalli County.

5. *Aristida* spp., as yet not positively identified, resembles *A. fendleriana* (Fendler's three-awn), also a Great Plains grass. I found it too late in the season, so will have to have it positively identified next year when it is flowering. Any new *Aristida* will be a first collection for Ravalli County and West-Central Montana. We do not have many specimens of this grass on our land, but fortunately I have found a site on nearby land where it is more abundant.

It would also be of interest to mention *Muhlenbergia asperifolia* (slender muhly), which we found about 300 yards east of our eastern boundary on the bank of Willoughby Creek. It is the first collection of this grass from West-Central Montana and Ravalli County. This grass differs from the others mentioned above in that it grows in a wet habitat while the others are all dryland species.

The grasses we have found here were probably once quite common in the dry areas of the east side of the Bitterroot Valley, but are rarely found in this area now. Overgrazing, development, agriculture and irrigation have contributed to the gradual disappearance of these plants from most of West-Central Montana. Thus our land could be considered a refugium for the disjunct dryland and Great Plains species that we have found there.

Judy Hoy is an artist and new member of MNPS. She and her husband, Bob, run the Bitterroot Wildlife Rehabilitation Center





PROPAGATING WILD VIOLETS FOR YOUR GARDEN



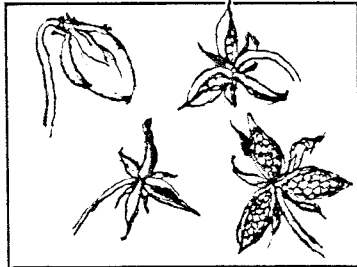
- Carol Morris

In Montana, at least 13 species of wild violets blossom in various shades of blue, purple, yellow and white. To gather violets from the wild, you may have to mark a site during bloom and return later to collect seed or cuttings. Fortunately for the collector, violets are often plentiful on staked forest road sites where Plant Society members are invited to dig plants before bulldozers move in to raze the area. Entire plants are thus available; most violets transplant readily. Contact your local Forest Service district office for possible sites...

Violets may be propagated by seed, cuttings or root division. Rootstocks are rhizomatous, and some species have stolons.

Propagation Methods

Seed: Capsules develop quickly after bloom. About 1/3 inch in diameter, green and smooth, the capsules are divided into three seed compartments. Seeds are 1/16" long and tan. Monitor plants closely to collect capsules before they dehisce (split and spew out seeds). Collect the capsules and pinch them over a clean sheet of paper, indoors. The alternative is to bag seed capsules tightly in a paper sack and allow them to dry and explode naturally. Store the seed in a dry, tight jar in the refrigerator until February or March. Sow the seed in flats or pots. Well drained soil is critical to success. Be patient; seed may not germinate until the second spring. Transplant the seedlings to individual containers when the second leaves appear.



Cuttings: After bloom, lift a plant and remove a leaf, along with a piece of the rhizome, just as you cut potatoes for planting. Heel the cuttings into sand, covering the pot with plastic. Within a few weeks you should see new growth.

Division: In late winter, bring in a mature plant from the garden, pot it, and place it in a cold frame to force it. When it leafs out about two weeks later, the plant can be divided. Slice off sections, using a razor blade. Be sure each section has a leaf and a piece of rhizome, with roots. Dust the cuttings with fungicide and pot the divisions individually.

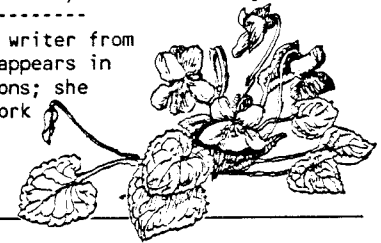
Stolons: Dig a piece of stolon with its tiny leaves and roots intact. Pot it in good soil with leaves barely peeking out. Keep pot moist until new growth begins. Stolons may also be transplanted directly to the garden, if conditions are right.

Cultivation

Study the wild site and the soil where you collect the plants. Some violets need dry prairie or rockery conditions, while some grow in deep forests on moist, boggy soil. For best garden results, emulate the conditions where the wild violets were gathered.

When weather warms in spring, move your young plants into their permanent site. A loose covering of dead leaves helps shelter them. As they become established, you'll be rewarded by finding shy, sweet violets in your wildflower garden.

Carol Morris is a freelance writer from Missoula, whose work often appears in KELSEYA and other publications; she is Secretary of the Clark Fork Chapter.



LEE METCALF NATIONAL WILDLIFE REFUGE PLANT SLIDES

- Sheila Morrison

Still ponds, dry grassland with ponderosa pines and cottonwoods, cultivated land, clear streams and the Bitterroot River all make up parts of the 2,800-acre Lee Metcalf National Wildlife Refuge near Stevensville, Montana. The Refuge was initially established for waterfowl and hosts everything from swans and phalaropes to owls, eagles and cormorants. All those birds, as well as the white-tailed deer, muskrats and beavers, need something to eat and somewhere to live. The nearly-400 species of plants that grow on the Refuge provide those - only one plant eating the animals in return.

Over the past three years, MNPS member Sheila Morrison has volunteered to photograph the plants to make an educational slide presentation. Wally E. Albert of Stevensville and Peter F. Stickney of the USFS Intermountain Research Station in Missoula (also an MNPS member) provided most of the plant identifications. The slide set consists of 140 slides, mostly of plants, with some birds, animals and winter scenes included to show other aspects of the Refuge. A written narrative identifies each slide. Plants are identified by common name, Latin name and family, and categorized as native or introduced, annual, biennial or perennial.

Despite the extent of disturbed land on the Refuge, native plants outnumber introduced species nearly three-to-one among the plants pictured. Both native and introduced plants have been variously used, fought, ignored and avoided by men and animals over the centuries. Brief comments on this interaction or on some botanical oddity follow the identification. For example, the fact that Indians dove into ponds to harvest the large edible roots of the native yellow pond lily (*Nuphar polysepalum*), or that the introduced black henbane (*Hyoscyamus niger*) was used as a sedative by ancient Egyptians and - into the Twentieth Century - was still the active sedative ingredient in the "twilight sleep" given to women in labor. Or it is noted that some of the pondweeds have two kinds of

leaves: broad floating leaves and narrow submersed ones. The lone carnivorous plant is the aquatic bladderwort (*Utricularia vulgaris*) which has little valved bladders which capture tiny water crustaceans.

The slide set is available for use by groups. Contact Refuge Manager Margaret Anderson at the Lee Metcalf National Wildlife Refuge, Stevensville, MT 59870, or phone 777-5552.

Sheila Morrison, in addition to photographing Refuge wildflowers for their slide show, has written a trail guide to the Bitterroot Mountains and has made the wildflower presentation at teachers' workshops at the Lee Metcalf Refuge for the past two years.

FOURTH ANNUAL KNAPWEED PULLOUT, JULY 10

For the fourth year in a row, we're "getting a handle" on spotted knapweed and other nasties at the Kirk Hill Nature Area, just off S 19th Road, south of Bozeman. A joint effort of the Museum of the Rockies volunteers and staff, Sacajawea Audubon Society and Valley of the Flowers Chapter, we're continuing an intensive program of hand cultivation and mulching aimed at subduing undesirable invasive species while protecting the outstanding plant diversity of this Nature Area. Come join us from 6-9 p.m., or as much time as you can spare that evening. A screwdriver makes an ideal digging tool, and you may want gloves as well. Ice cold lemonade will be provided. HOPE TO SEE YOU THERE...WE NEED YOUR HELP!

There will be a regular Tuesday-evening weeding crew at work throughout the summer from mid-June on, so if you can't make it on the 10th, any Tuesday (starting in mid-June) from 6 p.m. until dark there'll be someone there to show you where and what to pull.

Montana Native Plant Society 3rd Annual Meeting

May 4-6, 1990, Missoula

All indoor events are at the University of Montana campus, in the Natural Science Bldg (NS - formerly the Botany Bldg), except the Saturday morning Mini-Symposium which will be in the Social Science (SS) Building. Registration fee for the entire weekend is \$5.00 per person, children free.

10:45- Wendell Hann: "Biological Diversity and Old-
11:30 Growth in National Forests."

11:30 am-1:00 pm Lunch on your own

1-3 pm Workshops (each workshop lasts an hour so you can attend more than one; there will be two workshops offered each hour)

1. Basic Plant Identification, Anne Bradley, NS Room 202.

2. Drawing workshop, NS Room 207.

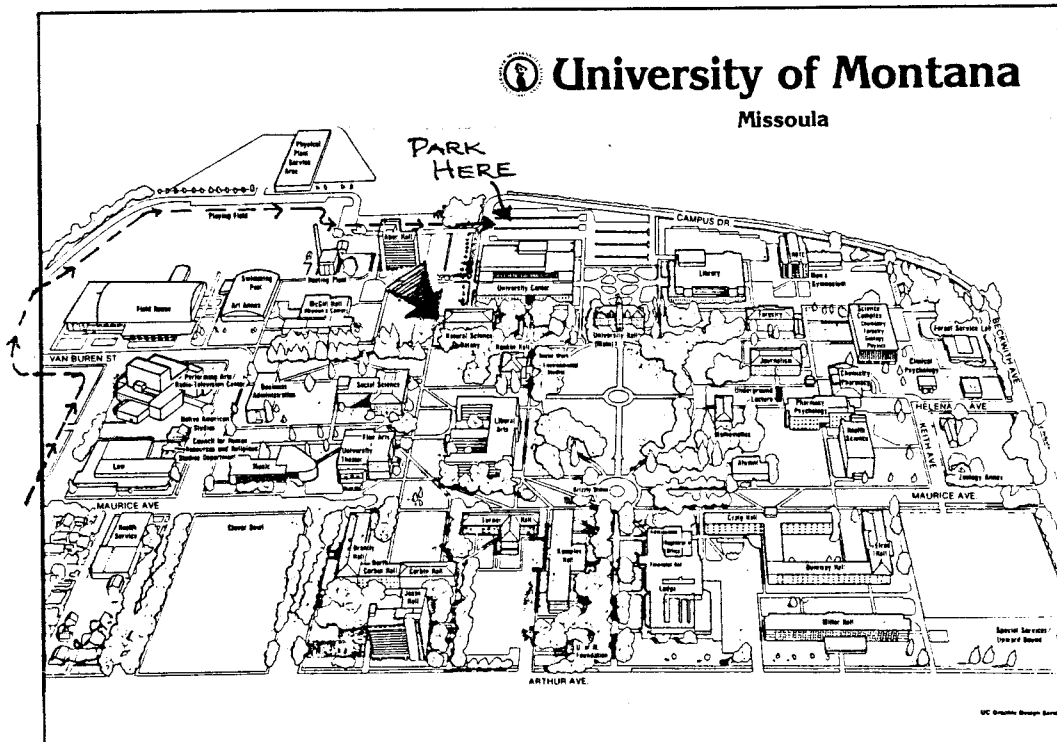
3. Gardening with Natives, Roxa French, NS Room 202.

3-4 pm Committee meetings, NS Rooms 202, 203, 208. You need not be formally a member of a committee to attend its session - we want to hear your ideas!

4-5 pm General membership meeting/reports from Committees, NS Room 307.

5:15pm Close of Silent Auction. Payments may be made directly to treasurer Roxa French.

6:30 pm Potluck dinner - bring a dish (your choice) plus serving and eating utensils, plates and cups.



FRIDAY, MAY 4

7:00 pm Registration, check-in of Silent Auction items in NS Room 203 and Poster Session items in NS Room 202. Each chapter is encouraged to prepare a poster or display showing their activities, projects, field trips...you name it!

7:15 pm Introduction and welcome by Clark Fork Chapter, NS Room 307.

7:30 pm Movie night, NS Room 307: a selection of plant-related offerings.

SATURDAY, MAY 5

Breakfast on your own

7:00 am Board of Directors' breakfast meeting, Apple Tree Restaurant, 700 E Broadway.

8:00 am Registration and check-in of Silent Auction and Poster Session items, NS Rooms 202-203

8:45 am Installation of new officers and welcome by outgoing President, Stephen Harvey, NS Room 307

9:00 am Mini-Symposium: "Biological Diversity of our -noon Forests," with introductions by Peter Lesica, SS Room 352. Time will be available for questions following each speaker.

9-10 am Reed Noss, keynote speaker: "New Directions in Managing our Forests;"

10-10:45 Peter Stickney: "Wildfires and Wildflowers;"

SUNDAY, MAY 6

Breakfast on your own

10:00am Field Trips, meet at the University Center

1. Walk up Mt Sentinel with Peter Stickney, half-day trip
2. Explore Blodgett Canyon with Peter Lesica, all-day trip (bring a sack lunch). See FIELD TRIPS, May 6, for more details on both.

HOW TO FIND THE NATURAL SCIENCE BUILDING

From Interstate 90, take the Van Buren St exit, go under the overpass, turn right onto Broadway, left onto Madison St, left onto Arthur Ave, left onto S 6th St, then left at the T-intersection in front of the gym, right at stop sign onto S 5th St, and curve around Washington Stadium. Follow the main road to stop sign. You are now behind the University Center.

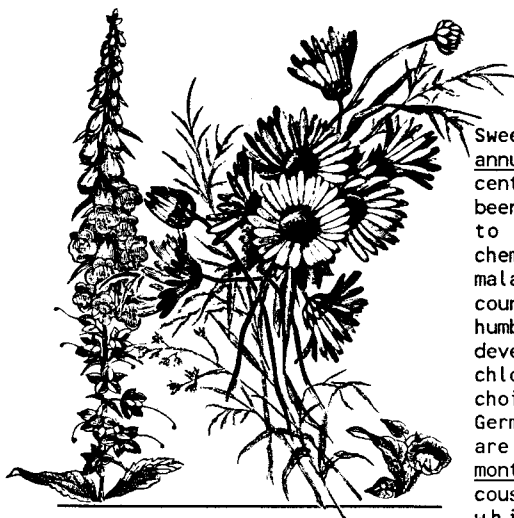
The Natural Science/Botany Building is straight up the sidewalk past the University Center; it has a greenhouse attached to it.

SILENT AUCTION ITEMS

Start thinking now about items you can bring to donate for the Silent Auction...such as live plants, photos, books, gardening supplies, homemade goodies, weavings, gift certificates...let your imagination run wild and make this year's Silent Auction an even bigger success than it was last year! Chapters and individuals should canvass local nurseries, bookstores, restaurants, etc, for donations. All donors who make a commitment to give something by Friday, April 27, will be listed on the Annual Meeting Program with our thanks. Let Kathy Ahlenslager (542-0522) know the names of your donors for inclusion on the program. And don't forget donations are tax-deductible!

WILDCRAFTING IN MONTANA

- Robyn Klein



Sweet wormwood, *Artemisia annua*, which grows in central Montana, has been of recent interest to natural-products chemists as a remedy for malaria in Third World countries. It seems the humble mosquito has developed a tolerance to chloroquine, the drug of choice. Meanwhile, some German pharmacognosts are dissecting *Arnica montana*, a European cousin of our Arnicas, which has some interesting antitumor

and immunostimulant activity. Even our dastardly weed, St. John's Wort (*Hypericum perforatum*) is not safe from the chemists' scrutiny. Appreciation for its antiviral, antidepressive and wound-healing attributes go back to our Greek friend Dioscorides.

These are just three examples of plants that are being sought after by "wildcrafters" in the Pacific Northwest. Pharmacognosy, the study of crude drugs obtained from plants, is alive and thriving in our society and in Third World countries today. Plant medicines are usually thought of in terms of herbal remedies sold in health food stores. Most of us are unaware of the vast amount of crude plant materials used in our prescriptions and over-the-counter (OTC) medications. It has recently been estimated that active ingredients extracted from plants are contained in 25% of all prescriptions. In 1981 the American public spent \$8.1 billion on these prescriptions. And the interest in herbal teas alone amounted to \$200 million in 1985. This is not a small, quaint market!

Chemical constituents of plants are an important part of our medicine chest. Politics is, of course, involved. I am amused at the recent furore over psyllium (*Plantago psyllium*). You know, plantain (*Plantago lanceolata*), that stuff that takes repeated abuse in your driveway? Well, its cousin is now being used in "fiber-rich" breakfast cereals. Psyllium is also the main ingredient in the product "Metamucil," an over-the-counter bulk laxative. This puts the FDA in a fine pickle because they consider psyllium a "drug." One cereal manufacturer resolved this issued by putting a warning label on the box. (I suppose you COULD bloat yourself to death if you ate the whole box at once.) So goes the controversy of whether herbs are drugs or food. Let's get right to the point: herbs are a viable and important market. They are used in many industries from the floral, cosmetics, and industrial (waxes and resins) to the pharmaceutical.

If you don't believe me, just peruse your local pharmacy shelves for botanicals listed in ingredients. Some can be found right here in Montana! *Cassia sagraada*, senna, blackberry root, white pine bark, rhubarb root, menthol, thyme oil, camphor, cajuput, star anise, licorice root, juniper, wintergreen, witch hazel, etc. Better yet, find a "health food" store and decipher the Latin on herbal tincture and tablet products. You may be surprised. It is BIG business. You will also note on those labels the words "organic" and "wildcrafted." These terms denote purity and non-adulteration. In this decade of concern over chemical contamination, the herb and spice industry has discovered that consumers will pay more for products which are organic or wildcrafted.

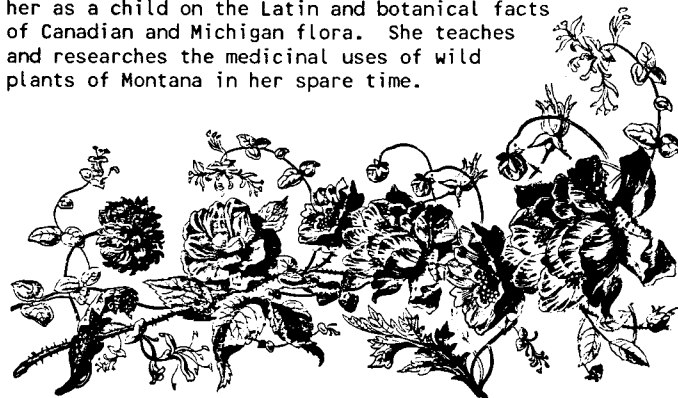
Which leads us right back to home. Our relatively unpolluted Montana wilderness contains the perfect product. Most state wildcrafters sell their products to the potpourri and floral industry. I guesstimate that the yearly harvest

is limited to a few hundred pounds, at most. But wildcrafting could expand to the medicinal plant market and become a viable industry for our state.

Most harvesters enjoy this work because they love plants, and hence have a healthy regard for their propagation. Wildcrafting classes always include emphasis on not overpicking plants. It is a common practice of herbalists to harvest only one out of five plants in an area, and to take only that part which is needed. In fact, herbalists on the West Coast have boycotted the purchase of some "wildcrafted" plants like *Echinacea* and *Cypripedium*, because they do not want to contribute to the decimation of the species. Purple Coneflower is being grown on farms, instead, to substitute for the wild species. Lady's-slipper root is valued as a sedative and nervine and is still wildcrafted in the Adirondacks, as is "Sang" or American Ginseng.

In appreciating our flora we should not forget their economic uses. Their importance in the pharmaceutical and herb industry is far reaching, and will continue to catch the interest of consumers in the years to come. How wildcrafting standards and values are developed can be affected by the education undertaken by groups such as native plant societies.

Robyn Klein, Valley of the Flowers Chapter, owes her interest in wildflowers to her father who tutored her as a child on the Latin and botanical facts of Canadian and Michigan flora. She teaches and researches the medicinal uses of wild plants of Montana in her spare time.



BOOK SALE TO SUPPORT MSU HERBARIUM

The Montana State University Herbarium is located on the MSU campus in the newly remodeled Room 408 of Lewis Hall. The Herbarium houses approximately 60,000 specimens representative of the Montana flora, and is open to the university and general community, especially to those who have come across an unknown plant and ask "What is it?"

In order that the MSU Herbarium should more completely represent the Montana flora, it needs plant lovers' support. One way in which this can be done is through buying some hard to get books that won't be found at your local bookstore, and that are useful to understanding the Montana flora. To support the MSU Herbarium, the following books by W E Booth are available for sale at \$20 each:

Flora of Montana, Part I. Conifers and Monocots. Research Foundation of Montana State College, 1960. Eighteen copies available;

Flora of Montana, Part II. Dicots. Research Foundation, Montana State University, 1966. Sixty-six copies available;

Agrostology. Research Foundation, Montana State College, 1964. Three copies available.

The books are unused and thus in very good condition. If interested, contact Matt Lavin, Department of Biology, Montana State University, Bozeman MT 59717 (phone 994-2032). Checks should be made payable to the MSU Foundation, MSU Herbarium Fund. Monies deposited to the fund will be used for general operation of the Herbarium, as well as holding public workshops and supporting graduate student research involving the native Montana flora.

CALENDAR

MEETINGS

THURSDAY, APRIL 5, VALLEY OF THE FLOWERS CHAPTER: 7:30 pm at the Fish, Wildlife and Parks building on S 19th in Bozeman. Hear about "Wildflowers from Hell" from Gallatin County Weed Control Officer Reeves Petroff. Election of officers will also be held.

MONDAY, APRIL 9, CLARK FORK CHAPTER: Joint meeting with Five Valleys Audubon, 7:30 pm at Washington School (Bancroft and Central) in Missoula. Colin Henderson, ecologist and research professor in the Division of Biological Sciences at UM, will discuss "Squirrels, Cones and Shell Games."

TUESDAY, APRIL 17, FLATHEAD CHAPTER: 7 pm, Bio Lab on the Flathead Valley Community College campus. "Plant Identification Workshop" with Kathy Ake and Maria Ash, using hand lens/microscope, botanical key and live plants. Basic stuff!

WEDNESDAY, APRIL 18, CLARK FORK CHAPTER HERBARIUM NIGHT: 7:30 pm, Room 303, Natural Science (Botany) Bldg, UM campus. "The First Grapple with Grasses." Join Peter Stickney in an introductory look at grasses.

TUESDAY, MAY 1, KELSEY CHAPTER: 7 pm at the Lewis & Clark Public Library meeting room, Last Chance Gulch in Helena. Program TBA at this point; meeting will include election of officers and discussion of future directions for the chapter.

THURSDAY, MAY 3, VALLEY OF THE FLOWERS CHAPTER: 7:30 pm at the MSU Herbarium, 4th floor of Lewis Hall, MSU campus. Curator of the herbarium, Matt Lavin, will introduce us to the Herbarium, its contents and purpose, and discuss possibilities for volunteer help in Herbarium activities.

FRIDAY thru SUNDAY, MAY 4-6, ANNUAL MNPS SPRING MEETING: UM campus in Missoula. Full list of activities on Page 3...hope you call can make it!

THURSDAY, MAY 10, CLARK FORK CHAPTER: 7:30 pm, Room 307, Natural Science Bldg, UM campus. Professor Rustem Medora of the UM Pharmacy Department will present a talk on "Recent Research in Medicinal Plants."

WEDNESDAY, MAY 16, FLATHEAD CHAPTER: 7 pm, Montana Power meeting room on Meridian Rd, Kalispell. This is our last meeting before summer; program TBA.

WEDNESDAY, MAY 16, CLARK FORK CHAPTER: 6 pm, 601 Ford, Missoula. "Basketmaking with Native Plants." Carol Morris and Mona Frangos will help you weave a basket. Bring clippers, a bucket and clothespins. Space is limited to 12 basketweavers, call Carol at 549-0831 to reserve a spot.

SUNDAY, JUNE 3, VALLEY OF THE FLOWERS CHAPTER: A VoF tradition for the last meeting of the season, our annual "Welcome to Spring" brunch. This year we'll rendezvous at the main trailhead of the unique Bear Trap Natural Area on the Madison River, west of Bozeman. Meet us at 8:30 am at the southwest corner of the Main Mall parking lot on West Main, or at the site at 9:30 am (see map). Brunch is \$3.50/person, kids under twelve \$1 - all you can eat! Please bring NON-disposable plates, cups, silverware and something to sit on. We'll



venture out to enjoy and learn

about the flora (and perhaps fauna) of this beautiful and unusual area. Fishing gear, hand lens, binocs, camera, ID books and kids are encouraged. Long pants are recommended (some poison ivy in the area). Make reservation by Wednesday, May 30, with Renee' at 994-3514 (days).

THURSDAY, JUNE 14, CLARK FORK CHAPTER: 6:30 pm, Pattee Canyon Picnic Area. The Annual Spring Potluck. Bring a dish of your choice, and we'll have supper and look at some wildflowers. Call Willis Heron (549-9744) for more information.



ANNOUNCEMENTS

FRIDAY-SATURDAY, MARCH 23-24, SOCIETY OF AMERICAN FORESTERS: Annual state meeting, held this year in Bozeman at the GranTree Inn. Theme of the meeting is "Images of Resource Managers: the Public, Professional Interface." Sessions start at noon Friday (preceded by ASF business meeting), and include "Perceptions of the Forestry Profession" and "Resolving Environmental Disputes: A Decade of Experience." Members as well as non-members are encourage to attend. Contact D J Bakken at 444-3633 for information.

FRIDAY-SATURDAY, APRIL 20-21, MONTANA ACADEMY OF SCIENCE Symposium and Annual Meeting, to be held this year in Missoula. Speaker for the banquet is natural philosopher Jim Posewitz (Montana Department of Fish, Wildlife & Parks) who will suggest ways to think globally while acting locally on the 20th Anniversary of Earth Day. For details write Dr Paul Sawyer, MAS Newsletter, Montana Tech, Butte MT 59701.

TUESDAY, APRIL 24, MINI-SYMPOSIUM: FORESTS AND PUBLIC LANDS: Part of the Earth Week celebration in Bozeman, the symposium will be held in SUB Ballroom A, MSU campus, 6-9 pm. Topics to be discussed include Old Growth and New Age Forestry, Ecosystem Inventory and Monitoring, Change on the Range, and Sensitive Plant Programs/Research Natural Areas.

SUNDAY-THURSDAY, APRIL 29-MAY 3, SOCIETY FOR ECOLOGICAL RESTORATION: 2nd Annual Conference, Chicago, IL. Building on the experience of the Society's highly successful first conference in Oakland last year, the organizing committee has planned a substantial program of special events for this year's conference. Especially evident will be an expanded program of planned symposia, special lectures and other events, and a strong emphasis on audience participation in symposium discussion and other activities.

Overall, the program - which is still expanding - brings together leaders from within and outside the restoration community for discussions of the latest techniques, emerging opportunities and most-pressing issues facing restorationists. Altogether, a program you can't afford to miss!

Symposia will cover Prairie Restoration, Setting Standards for Monitoring Restoration Projects, Restoration and Global Climate Change...to name only a few. Eight different field trips are also scheduled.

For more information write: Society for Ecological Restoration, 1207 Seminole Highway, Madison WI 53711, or phone (608) 267-9547.

FRIDAY-SUNDAY, MAY 18-20, GREATER YELLOWSTONE COALITION Scientific Conference and Annual Meeting, Teton Village, Jackson Hole, WY. This year's conference/meeting has an exciting new look, promises Coalition organizers. Friday's Scientific Conference spotlights "The Greater Yellowstone Story: Yesterday, Today and Tomorrow." Both the Conference and Annual Meeting focus on Greater Yellowstone's magnificent landscapes, its spectacular wildlife and its diverse people and management needs. For registration materials, write: Great Yellowstone Coalition, P O Box 1874, Bozeman MT 59771, or call 586-1593.



FIELD TRIPS

SUNDAY APRIL 22, WILDFLOWERS OF SPRING GULCH: Join John Pierce in celebrating Earth Day and viewing our earliest spring blossoms. Meet at the Rattlesnake Recreation Area parking lot at 1 pm. Call John for more information, 542-2640.

MONDAY, APRIL 23, WILDFLOWER WALK UP WATERWORKS HILL, MISSOULA: Explore the ridgetop cushion-plant community with Kathy Ahlenslager. Douglasias, yellowbells and shooting stars will be in bloom. Come join us at 5:15 pm at the north end of the Buttrey parking lot in Eastgate Shopping Center, Missoula. For questions, call Kathy at 542-0522.

SUNDAY, MAY 6, ANNUAL MNPS SPRING MEETING: Meet in the University Center at 10 am, in front of the bookstore (see map on Page 3). Take your choice of two trips scheduled: (1) Hike up Mt Sentinel with Peter Stickney and see the many species of wildflowers found on our dry hills. Approximately 3 hours. Or (2) explore the forests and slopes of Blodgett Canyon with Peter Lesica. There are three rare plants found on the moist cliffs...come help us find them. There will be an optional side-trip to Bitterroot Wildflower Nursery in Hamilton. All-day trip; bring lunch.

SATURDAY, MAY 12, 3RD ANNUAL NATIVE PLANT DIGOUT, CLARK FORK CHAPTER (Part I): Come and collect native wildflowers for your garden from the soon-to-be-constructed ski trail in Pattee Canyon Recreation Area. Meet at the turnaround at the head of Pattee Canyon (where the pavement ends) at 1:30 pm. Bring shovels, buckets, big pots and boxes. For more information, call Virginia Vincent, 543-8078.

SATURDAY, MAY 12, TRILLIUM TIME AT KIRK HILL: Bozeman's Museum of the Rockies is presenting a series of three wildflower walks at the Kirk Hill Nature Area on S 19th. Join Jan Nixon at 2 pm to explore the trails of this amazingly diverse area. Group size is limited so reservations are required, call the Museum at 994-2251. There is a small fee (\$2 for Museum members, \$3 nonmembers).

SATURDAY, MAY 19, SPRING WILDFLOWER WALK IN THE FOOTHILLS: Visit Clark Fork Chapter's Kelly Chadwick at her home west of Missoula and hike in the hills above Big Flat with botanist John Pierce. In addition to the beautiful surroundings, Kelly has a greenhouse full of orchids and succulents, and a house full of exotic birds and fish. Bring a lunch and come to see for yourself. Meet in the parking lot of the Quality Inn on West Broadway just west of Russell at 10 am and we'll carpool from there. For more information, call Kelly at 721-0075.

SATURDAY, MAY 19, SQUEEZER CREEK NATURE TRAIL: Explore this new nature trail in the Swan Valley. Contact Anne Morley, 886-2242, for meeting time and place.

SATURDAY, MAY 26, 3RD ANNUAL NATIVE PLANT DIGOUT, CLARK FORK CHAPTER (Part II): Help save some of our wildflower friends from the bulldozer up in the Lolo Creek drainage approximately 10 miles southwest of Lolo, and get some natives for your cooler garden spots. Meet in the Best (LaBelle's) parking lot on Hwy 93 just south of Reserve St at 10 am. Bring a lunch. For more information call Virginia Vincent at 543-8078.

SATURDAY, JUNE 2, LIMESTONE HILLS, A UNIQUE ECOSYSTEM: Join George Chaffee to explore this interesting area with its wide range of plant community types and vegetative diversity. Will include plant identification and ecotype recognition. Meet at the Horseshoe Cafe in Townsend at 10 am; bring a lunch, hand lens, ID books. Trip will end about 3 pm. Call George for more information, 933-5565.

SATURDAY, JUNE 2, VOLUNTEER DAY IN GLACIER PARK'S NATIVE PLANT NURSERY: 10 am-? Come tour Glacier's new experimental nursery and - if you have time - pitch in with the projects which may include taking and sticking shrub cuttings, pinning Linnaea borealis segments, transplanting wild strawberries, KELSEY, Spring 1990

carpentry or ??? Bring something to share for lunch. Follow the sign to "Park Offices" just across the West Glacier bridge. If you let Rachel Potter know ahead (888-5441wk or 892-2446hm) she can arrange free camping and gate admission for volunteers.

SATURDAY, JUNE 9, SATURDAY SAFARI TO THE YELLOWTAIL AREA: Eastern Montana College offers a series of trips in south-central Montana, looking at ecology, wildflowers and birds, primarily, and led by Dr Schoental of EMC's Biology Department. Cost is \$15 per outing per family, and trips are limited to 30 families. Make a reservation by calling the EMC Biology Dept, 657-2341. Subsequent trips will be: June 16, Pryor Mountains; June 23, Yellowstone River (between Waco and Custer); June 30, Fire Ecology in Yellowstone National Park; and July 7, Beartooth Wildflowers.

THURSDAY, JUNE 7, ORCHIDS OF KIRK HILL: The Museum of the Rockies' Kirk Hill Nature Area, on S 19th in Bozeman, is home to five species of orchids. An evening stroll (6:30-8:30 pm) along Kirk Hill's trails with Jan Nixon will help you learn these and other early summer wildflowers. See May 12 for reservation info.

SATURDAY, JUNE 23, WILDFLOWERS OF THE LEE METCALF WILDLIFE REFUGE: Explore the Bitterroot River bottom with Sheila Morrison. Meet at the Y Store on Hwy 93 at the Stevensville turnoff at 10:30 am. Bring a lunch. For more information call Sheila at 721-1398.

SATURDAY, JUNE 23, HORSEBACK TRIP IN THE BOULDER VALLEY FOOTHILLS: Botanize from the back of a horse, traveling through early summer wildflowers. We'll make some stops along the way to examine plants more closely. Horses will be provided by the X Bar A Dude Ranch south of Big Timber; cost is \$15 per person (for the horse) and there is a minimum of five, max of 15 participants. Reservations are a must; call Linda Iverson at 932-4250 after April 1. Trip will last 6-7 hours; bring a sack lunch. If more than 15 people want to sign up, it will be possible to drive to the cabin where we'll have lunch and rendezvous with the group for some on-foot botanizing.

SATURDAY, JUNE 23, SQUEEZER CREEK NATURE TRAIL, SWAN VALLEY: Contact Anne Morley for meeting time and place, 886-2242.

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

On Saturday, June 30, there will be separate morning and afternoon excursions into the Preserve, to allow people to arrive either on Friday evening or Saturday by noon. Meet at 8 am at the entrance to the Pine Butte Guest Ranch; or meet at 1 pm, same place, if driving up Saturday morning. Sites visited will be accessible by car or by short walks, and we will benefit from the company of a Conservancy naturalist. Camping is available at a Forest Service campground nearby, or limited motel space is available in Choteau. If you plan on camping with the group, bring a camp-out potluck item to share.

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

-continued on Page 8

FIELD TRIPS *continued*

PINE BUTTE PRESERVE...continued:

This trip should have something for everyone: rare photo opportunities, exquisite vistas, birding, a chance to learn about one of Montana's outstanding natural areas - and a chance to meet with MNPS members from all over the state. For more details contact Juanita Lichthardt in Bozeman at 585-3722 (home).

SATURDAY, JULY 7, or SUNDAY, JULY 8 - Wildflower Ramble on the Beartooth Plateau (same trip each day): Joint trip, Valley of the Flowers Chapter and Montana Wilderness Association. Join Jan Nixon for a look at "early spring" wildflowers in the alpine zone, and at how water, wind and topography interact to create the habitats for these plants. Trip limited to 15 each day; reservations must be made by Monday, July 2 (587-0120wk), or write P O Box 992, Bozeman MT 59771.

THURSDAY, JULY 12, MID-SUMMER WILDFLOWERS OF KIRK HILL: 6:30-8:30 pm at the Museum of the Rockies' Kirk Hill Nature Area, Bozeman. See May 12 for reservation info.

SATURDAY, JULY 14, TRACKING FIRE RECOVERY IN YELLOWSTONE PARK: Valley of the Flowers Chapter has established a number of permanent plots on the upper part of Grayling Creek in the northwest corner of Yellowstone Park, and plans to monitor the changes that occur over the next several years. This is a joint trip of VoF Chapter and Montana Wilderness Assn. Meet at the southwest corner of the Main Mall parking lot, West Main in Bozeman, at 9 am. Bring a lunch; the chapter will provide cold lemonade for the mid-afternoon break. Call Renee' Cook at 994-3514 (days) if you have questions.

SATURDAY, JULY 14, JEWEL BASIN: More details in the Summer KELSEYA - contact Pattie Brown (837-5018) if you need more info in the meantime.

SATURDAY, JULY 14, WILDFLOWERS OF STARK MOUNTAIN: Visit Virginia Vincent on her fire lookout, enjoy the view, and explore for mountain posies at 7,350 ft. Meet at the Tarkio

exit on I-90 about 40 miles west of Missoula at 10:30 am. Bring a lunch and clothes to protect you against the wind. Call Willis Heron at 549-9744 for more information or if you need a ride.

SATURDAY, JULY 21, CENTENNIAL VALLEY & RED ROCKS LAKES NATIONAL WILDLIFE REFUGE: This is a followup trip to our mid-June visit in 1988. We hope to see some of the species in bloom which only occur in Montana in this valley. Lisa Schassberger, whose Master's thesis detailed the area's unusual flora, will join us to point out some of these species and their habitats. Camping is available at Upper Red Rock Lakes Campground. Meet at the campground (if you didn't camp there the night before) at 10 am; bring lunch. Outstanding birdwatching opportunities also - bring binocs! For more information, contact Jan Nixon, 587-0120 (days).

SUNDAY, AUGUST 5, POISONOUS AND MEDICINAL PLANTS OF FAIRY LAKE: Meet Robyn Klein at the Battle Ridge Campground entrance, approximately 21 miles north of Bozeman on Bridger Canyon Rd (Hwy 86), at 1 pm. Robyn will discuss the herbal and medicinal properties of the common - and uncommon - plants found in the Fairy Lake area of the Bridger Range. For more information, call Robyn at 585-9134.

SATURDAY, AUGUST 25, 3RD ANNUAL LOGAN PASS SEED COLLECTING DAY: Meet at 9 am at Glacier Park Headquarters, or 10:15 at Logan Pass. Help Rachel Potter collect seeds to restore the subalpine meadows around recent construction zones. Learn about past and ongoing revegetation efforts at the Pass. Call Rachel (888-5441wk, 892-2445hm) for details and a weather update.

NOTE: Many Flathead Chapter trips are still in the planning stages as we go to press. A flyer listing all field trips will be mailed to Flathead Chapter members in early April. Anyone else wishing a copy, send a SASE to Anne Morley, P O Box 147, Swan Lake MT 59911.



THERE'S ALWAYS MORE TO LEARN



Perhaps the various field trips and outings put on by MNPS and its chapters have whetted your appetite for learning about Montana's plants in a more concentrated way. Here's a list of classes offered this summer in settings ranging from 'recreational' and informal to those for people with a previous botany background and some familiarity with terminology and identification techniques.

GLACIER INSTITUTE "Discovering Wildflowers" Session A, July 7; Session B, July 8; \$20 each day for individuals, family rates available. One-day exploration of the wildflowers found in Glacier's mountain meadows, along its stream banks, in its forests and rockscapes. Teacher: Janet Paul Jones.

"Alpine Wildflowers" - July 21-22, \$90. The alpine country of Glacier National Park offers some of the most diverse and spectacular displays of alpine flora in the Rocky Mountains. The course focuses on wildflower identification, species distribution and adaptations to the rugged alpine environment. Teacher: Kathy Ahlenslager; 1 credit available through Flathead Valley Community College.

YELLOWSTONE INSTITUTE "WILD Edible Plants and Medicinal Herbs" - June 15-17, \$110. Learn the edible and medicinal plants used by Native Americans and early settlers, in a beautiful setting based in the Squirrel Meadows area on the west side of the Tetons. Teacher Wayne Phillips has had a life-long interest in the edible wild, and his expertise and enthusiasm make learning them easy.

"Wildflowers and Wildfire" - July 7-8, \$75. The Yellowstone fires of 1988 left a mosaic of areas burned with varying

degrees of severity. Join Wayne Phillips to follow the recovery of these areas and vegetational changes that occur.

"Alpine Wildflowers" - July 9-10, \$75. Day trips to the alpine tundra of the nearby Beartooth Plateau will familiarize participants with plants to be found in various habitats above timberline - krummholz, boulder fellfields, lush meadows and late-lying snowbanks.

"Wildflowers of the High Lake Country" - July 12-14, \$235. A backcountry trip to the Beartooth Plateau, with llamas toting the gear and a camp-tender to prepare meals. Wildflowers along the edges of the many lakes, streams, snowbanks and glaciers will be featured, from the alpine tundra to open subalpine forest.

Information on credit available is included in the Institute's brochure.

CARROLL COLLEGE "Identification of Wildflowers, Trees and Shrubs" - June 11-22. Basic course on plant ID, no pre-requisites. Students collect plants on their own and take them to lab, where they learn the basics of plant identification and taxonomy, and the use of a floral key in making determinations. Teacher: Dr John Christenson, 3 credits.

FLATHEAD VALLEY COMMUNITY COLLEGE "Summer Field Botany" - Summer Session. Native flora of western Montana as it appears in the Summer; identification of plants and consideration of their environment. Emphasis on the high altitude flora. Some field trips may include moderate hiking.

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LIMESTONE COLUMBINE

- Steve Wirt

One of the most distinctive features of Limestone columbine (*Aquilegia jonesii*) is the hanging or horizontal flowers, whose five petals have long tubes - "spurs" - extending upwards or backwards. The name columbine comes from the Latin *columba*, "dove"; the five spurred petals were apparently thought to resemble as many doves.

Limestone columbine, sometimes called "Jones columbine," is a dwarfed species restricted to high elevation rocky, exposed slopes. It is found from southwest Alberta to northwest Wyoming, mostly along the Continental Divide or immediately east, generally on subalpine to high alpine limestone scree sites or in limestone crevices. These rocky slopes or "talus" are composed of ice-chipped rock fragments, and are mostly devoid of other vegetation and too unstable

and too high in elevation to support tree growth.

Another interesting characteristic of these rocky exposures is that they frequently move. These are areas which typically receive large snowfalls throughout the long winter. Associated with these snow accumulations are avalanches, which move anything in their paths, including the rocks beneath their surfaces - the home of the columbine.

The Limestone columbine's environment is a harsh one, but well protected, seemingly, from the ways of man. Although the exception to this may come in our ever-increasing problems with acid rain and air pollution. These areas of concern are coming under constant scrutiny with advances in technology and an ever-increasing interest in our environment. Well recognized is the importance of a clean environment for people. How about that of the Limestone columbine?

May the columbine provide you with nearly half as much joy and happiness as it has me, from the first time I saw it to the most recent, and every time a flower of beauty comes to my thoughts.

ANNOUNCEMENTS

THINK LOCALLY AND ACT GLOBALLY

Even as we consider the many ways to "Think Globally and Act Locally" for Earth Day, we have an opportunity to turn that phrase around and do something positive for another area of the world.

The Everest Environmental Expedition will this summer launch a program to clean up garbage left by several decades of mountaineers at the base of Mt Everest. The expedition was conceived three years ago when several friends attempted to climb Everest from the Tibetan side. Shocked by the litter, some of the members decided to go back - not to climb, this time, but to help clean up. They hope to focus the world's attention on the shameful trashing of the world's highest peak, and to begin to remedy the problem through sorting, burning and recycling "waste" materials with the cooperation of local Tibetans.

Louisa Willcox, Valley of the Flowers member and Program Director for the Greater Yellowstone Coalition, will join the group as a staff member and participant in the cleanup this summer. The EEE is a not-for-profit (501-C-3) organization based in Colorado. The Expedition is endorsed by the American Alpine Club, the American Mountain Foundation and Sir Edmund Hillary. For more information on the expedition, or to make a (tax deductible) donation, write: Everest Environmental Expedition, 3730 Wind Dance Ln, Colorado Springs CO 80906.

ASSOCIATION OF MONTANA TURF AND ORNAMENTAL PROFESSIONALS

At an organizational meeting in January attended by representatives of the turf and ornamental industry throughout the state, the Association of Montana Turf and Ornamental Professionals (AMTOP) was formed.

Robert Andrews, President of the Indiana State Lawn Care Association, and member of the Board of Directors of PLCAA, spoke on the purpose of forming a state association and the

benefits for the members of such an organization.

John Bass, President of AMTOP, spoke of the need for unity and professionalism within the industry, and that the Association could help to bring some of that about.

Attendees at the meeting also selected a Board of Directors, and formed committees to help determine the purpose and goals of the organization. It was decided that one of the major concerns was to increase AMTOP's membership, and that all current members should concentrate their efforts on obtaining more of their colleagues as members.

For membership or other information, contact: Association of Montana Turf and Ornamental Professionals, P O Box 375, Milltown MT 59851.

MAPPING OLD GROWTH FOREST...

YOU CAN HELP!

The National Audubon Society has established a Montana Ancient Forest program patterned on successful efforts in Washington, California and Oregon. Their focus is on identifying and preserving biologically viable tracts of old-growth habitat.

Coordinator of the program is Rosalind Yanishevsky of Polebridge. The first goal is to map old-growth forests and past management activities for each Ranger District in the state. This will permit monitoring cumulative effects of planned activities, enable more informed citizen involvement in decision making, and identify biologically intact old-growth stands that need to be protected.

According to Rosalind, their big need right now is for people to help with the mapping projects, which will involve work at home and at the Ranger District offices. National Audubon will cover expenses, plus a small amount for the mapping work itself. Instructions will be supplied. If you're interested in helping out with this new program, please contact: Rosalind Yanishevsky, Montana Ancient Forest Office, HCR 69, Polebridge MT 59928.

Glacier Park's Management Plan for Exotic Plants

The Draft Exotic Plant Management Plan for Glacier National Park is being finalized following public involvement that includes an extensive mailing, agency review, two public meetings and consultation. The plan is prepared in response to a growing concern about the spread of non-native (exotic) plants in Glacier National Park. This Exotic Plant Management Plan reviews alternatives and proposes a course of action for management of exotic plant species within the Park while keeping the integrity of other Park resources intact.

Native plants are an important natural resource in National Parks. The invasion and spread of non-native plants are considered to be a threat to the integrity of the Park and ecosystem in general. The goal of the Plan is to implement a comprehensive plant management program to preserve biological diversity of native species. Priorities are established for management actions based on ranking of exotics into categories, location of occurrence, and plant communities targeted for treatment.

Integrated Pest Management (IPM) is the recommended procedure identified in the Plan to control exotic plants in Glacier. This approach targets an individual plant species, then selects the method or combination of methods that will best achieve the desired management result. The objectives of IPM include inventory, monitoring, public information and

involvement, prevention, control and investigation. Alternatives considered for weed control when IPM is implemented typically utilize physical, mechanical, biological, sociological and cultural treatments as preferred choices. The use of herbicides to control exotic plants may be considered within developed areas, if other treatments are ineffective or unacceptable in achieving control objectives.

As a direct result of comments received during the public review period, an informal consultation team assists the Park with exotic plant project plans. Their advice assists Park staff in planning for exotic plant control, identifying biologically-sound alternatives, and incorporating regional considerations. Consultation with our neighbors in site-plan strategy continues the progress we achieve in cooperative problem solving.

For further information please contact Dave Lange, Natural Resource Specialist at Glacier National Park. Copies of the Exotic Plant Management Plan are available at Park headquarters in West Glacier. Copies are also available by calling 888-5441 or writing:

Superintendent
Glacier National Park
West Glacier, MT 59936.

THERE'S ALWAYS MORE TO LEARN

continued from Page 8

Where do I sign up?

Many of these classes have limited enrollment and fill up early; if you're interested in one, you should send for details right away. For information on registration requirements (the colleges may require filing an "Intent to Register" if you're not currently a student), as well as lodging and meal availability, write:

Office of the Registrar, Carroll College, Helena MT 59625;
Office of the Registrar, Flathead Valley Community College,
1 First St East, Kalispell MT 59901;
The Glacier Institute, P O Box 1457A, Kalispell MT 59903;
Yellowstone Institute, P O Box 117, Yellowstone National
Park WY 82190.

In addition, almost all of these institutions as well as the state universities offer classes in related areas such as fire or alpine ecology, geology, terrestrial plant or stream ecology, etc. They'll be happy to send you their summer session catalog on request.

My particular recommendation is MSU's "Alpine Ecology" class, offered the second half of summer session, which includes a terrific four-day field trip on the Beartooth Plateau. This class will give you a good understanding of the ways that wind, water and topography interact to form alpine habitats, and of the plants and animals that occupy those habitats. Teacher is Sharon Eversman, 3 credits. If interested, write the Office of the Registrar, Montana State University, Bozeman MT 59717.

HAPPY LEARNING!

FIELD TRIP REPORTS

SEED COLLECTING AT LOGAN PASS, Glacier National Park. The 2nd Annual Logan Pass Seed Collecting Day, 1989, was a success with sunny weather, a reward for those who didn't believe the forecast. Species we were able to collect in quantity included Sibbaldia procumbens, Carex paysonis, C. haydeniana, Erythronium grandiflorum, Erigeron peregrinus, Phleum alpinum and Luzula hitchcockii.

Watching a sow grizzly and two cubs through binoculars on

distant Cariboo Ridge was a special treat. Collected seeds were later planted either at Logan Pass in the construction zone behind the bathrooms, or in Glacier Park's new Native Plant Nursery.

If you missed the trip in '88 or '89, never fear - there will be a 3rd Annual Collecting Day in 1990, see Field Trips, August 25.

CHAPTER ACTIVITIES

CAMPFIRE KIDS AND MNPS-FLATHEAD CHAPTER

With the help of Joyce Lapp (of the Glacier National Park Native Plant Nursery), members of both organizations will plant native plant seedlings around the Campfire building at 698 3rd Avenue NW in Kalispell. If you're in Kalispell this summer, be sure to stop by to take a look!

The Campfire Kids will also plant seeds in appropriate sites at Lawrence Park, Kalispell. Seeds will be planted in June when the Kids have their week of camp. Joyce Lapp will also be coordinating this project.

Flathead Chapter also plans a display for the Kalispell Center Mall during Earth Week, April 22-29.

- Anne Morley

CLARK FORK CHAPTER

At its March meeting, Clark Fork Chapter voted in new officers: Scott Miles, President; Vice-president, Peter Lesica; Secretary, Carol Morris; and Dorothy Fawcett as Treasurer.

Members of the Chapter are getting organized for the state-wide annual meeting, exploring the selling of T-shirts at the meeting, and writing letters regarding purple loosestrife. Hope to see you all in May for the festivities.

- Kathy Ahlenslager

IF YOU KNOW OF MEETINGS, SCIENTIFIC CONFERENCES, SYMPOSIA etc in a plant-related field, please let us know details so they can be included in future issues of *KELSEYA* (see Page 12 for deadline of the Summer issue).

Illustrations on Page 1 reprinted from Hitchcock and Chase Manual of the Grasses of the United States. Illustration on Page 2 reprinted from Zwinger Above the Aspen Grove. Illustrations on Page 3 reprinted from Klüber Violets.



MONTANA NATIVE PLANT SOCIETY *** MEMBERSHIP APPLICATION/RENEWAL

Date _____ New _____ Renewal _____

NAME _____ ADDRESS _____

CITY/STATE/ZIP _____ PHONE _____

STATEWIDE MEMBERSHIP WITH CHAPTER AFFILIATION*

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

MEMBER-AT-LARGE (Statewide membership only)

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

*AREAS COVERED BY CHAPTERS:

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

FLATHEAD CHAPTER - Flathead and Lake Counties plus Glacier National Park

KELSEY CHAPTER - Lewis & Clark and Jefferson Counties

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

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

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

Your mailing label tells your

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

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

DATE YOUR MEMBERSHIP EXPIRES: If your label reads "x2/90" your membership expired this past February 28...please send in your renewal today! If you mailed in a renewal (for 1990 membership) by March 20, your label should read "x2/91". New memberships received since July 10, 1989, are good through 2/28/91, and the label reads "x2/91."

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

MAKE CHECKS PAYABLE TO:

MONTANA NATIVE PLANT SOCIETY

MAIL TO: Montana Native Plant Society

P O Box 992

Bozeman MT 59771-0992

PLEASE WELCOME THESE NEW MEMBERS:

MONTANA

BIGFORK

Charlotte McCahill

BILLINGS

Donald H Heinze

BOZEMAN

Valorie Drake

CORVALLIS

Teller Wildlife Refuge
(Chris Miller)

KALISPELL

Richard and Linda Yeo

LIVINGSTON

Dick Murphy
Mrs Bernie Rustad

MISSOULA

Claudia LaRance
Cynthia Staley
Blue Tanttari

SHERIDAN

Carolyn O'Brien

STEVENSVILLE

Judy Hoy
K A Marthens

TROY

Cliff Bara

OREGON

ESTACADA

Gale Masters

ALBERTA, CANADA

CALGARY

Pauline Olthof

EARTH DAY 1990, continued from Page 12:

ways to protect the environment. Ed Madej of Great Divide Graphics in Helena did the attractive design and layout. A camera-ready copy is available for groups or individuals to make their own copies for distribution locally. Address is given at the end of the article.

There are school lesson plans prepared for grades K-6 and 7-12, each about 40 pages long, detailing projects and activities for various age levels and interests. These packets have been distributed to teachers in the BESTERS program and those who are members of the Science Teachers Association. If your school did not receive one, call Bill Engle at 449-5486, Helena, to receive a copy for duplication.

There is a statewide Montana Earth Day Essay and Poster Contest for grades K-12, sponsored by the Earth Day Coordinating Committee in conjunction with the state Office of Public Instruction. The theme is "Who Says You Can't Change the World?" Students may interpret the Earth Day contest theme in any way they feel is appropriate, and are encouraged to explore their own thoughts and feelings. The purpose of the contest is to provide a focus on the earth, its natural resources and natural wonders, and on-going efforts to sustain the Earth's resources for future generations, and to provide an opportunity for children and young adults to use their creative talents to develop solutions to the problems which affect the health of our planet. For entry information about the Poster/Essay Contest, call the Montana Audubon Council office, weekdays 8am-5pm, 443-3949.

If you're not sure of who to contact in your community to get involved in Earth Day activities, call or write Coordinators Jay Sinnott and Stephanie Wallace at:

Montana Earth Day 1990, Drawer 10096, Helena MT 59626, 449-5414.

MONTANA NATIVE PLANT SOCIETY

KELSEYA Editor

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Peter Lesica
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x2/91

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 chapter, or may be made to the general fund.

Your yearly membership fee includes a subscription to KELSEYA, 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 Summer issue is JUNE 10; please include meeting/field trip notices through late September. The Summer issue of KELSEYA will be mailed the third week of June.



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IF YOU MOVE, PLEASE SEND US YOUR
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EARTH DAY 1990: THE 20th ANNIVERSARY

We had originally planned to run a list of Earth Day and Earth Week activities around the state in this issue of KELSEYA, but the number and variety of activities planned is simply stupendous!

Almost every community in Montana has at least one celebration planned, and larger

towns and cities have a range of activities scheduled that will provide everyone an opportunity to get involved, enthusiastic and committed!

Governor Stephens has officially proclaimed April 22, 1990, as EARTH DAY. There are preliminary plans by his office to present awards for hands-on environmental projects such as litter clean-up, adopt-a-tree, and so forth. If you are interested in this, contact his office at 444-3111.

There is an Earth Day brochure, featuring the Montana Earth Day logo (shown above), and detailing how you can "Act Locally: You Can Make a Difference." It features many helpful suggestions we can each put into practice for conserving water and energy, recycling various kinds of solid waste, and dealing with hazardous products such as pesticides. It also offers a list of publications you can refer to for further

- continued on Page 11

