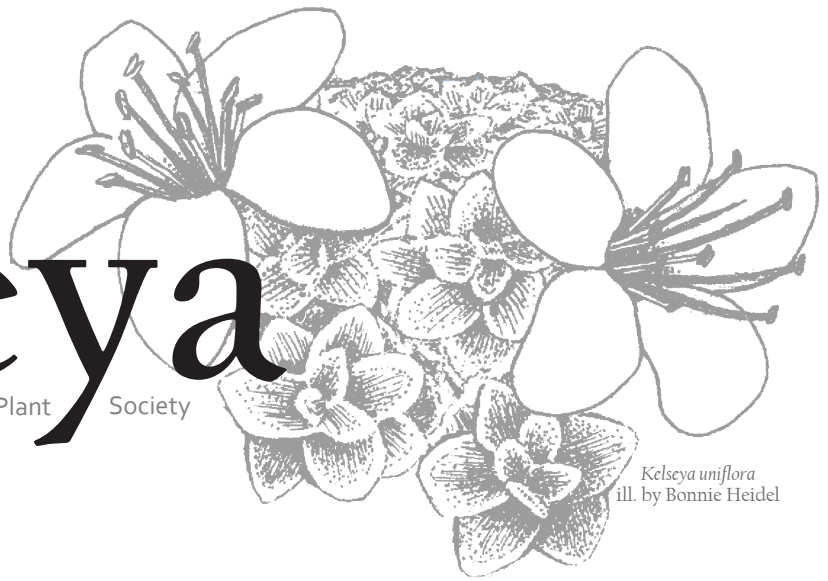


Kelseya

Newsletter of the Montana Native Plant Society



Kelseya uniflora
ill. by Bonnie Heidel

Important Plant Areas Update

by Peter Lesica

Pine Butte Peatlands

The Pine Butte Peatlands IPA surrounds Pine Butte along the Rocky Mountain Front, about 15 miles west of Choteau. The Pine Butte Peatlands are possibly the largest peatland complex in Montana and include a large patterned area and several plant communities: (1) open fen¹ dominated by sedges, small shrubs and mosses, (2) open fen dominated by hardstem bulrush, (3) dwarf carr² dominated by bog birch, shrubby cinquefoil and Baltic rush, (4) carr dominated by large willows and birch. In addition, there are two types of wetland community on mineral soil rather than peat.

Marsh vegetation is dominated by cattails, bulrush and beaked sedge and wet meadows supporting shrubby cinquefoil, tufted hairgrass and Nebraska sedge. Due to the spatial distribution of wetland vegetation, some upland grassland and aspen communities are also included within the IPA boundary.

The Pine Butte Peatlands IPA provides habitat for 13 species of concern that are considered rare in Montana, although more common elsewhere. Many of these populations are very large. *Braya humilis*, *Primula incana*, *Carex crawei* and *Juncus acuminatus* occur as small populations in discrete habitat patches. *Eleocharis rostellata* and *Trichophorum cespitosum* occur as large but localized populations in open fen and dwarf carr communities. *Gentianopsis macounii*, *Kobresia simpliciuscula* and *Trichophorum pumilum* are widespread in open fen and dwarf carr communities. *Salix serissima* is widespread in dwarf carr and localized in carr communities. The mosses, *Cinclidium stygium*, *Meesia triquetra* and *Scorpidium scorpioides*, are widespread in open fen communities.



Pine Butte Fen. Photo by Dave Hanna



Gentianopsis macounii.
Photo by Dave Hanna



Salix serissima. Photo by Dave Hanna

The Pine Butte Peatlands are fed primarily by sub-surface water from the Teton River moving through intervening alluvial deposits. Maintenance of the functional hydrologic system from the Teton River watershed to the Teton River and surrounding substrates

continued on page 3

Chapter Events

Calypso Chapter

The Chapter had a very successful spring field trip season and members are looking forward to regrouping this fall with a program in November and the winter brunch in December. For information about Chapter programs and events, contact Catherine Cain, 498-6198 or nativeplants@montana.com.

Clark Fork Chapter

Chapter meetings are held the second Thursday of the month at 7:30 pm in Room Log, Gallagher Business Bldg., UM, unless otherwise noted.

Thursday, 10/11. "Digital Macro Photography Demystified." Digital cameras have made photography a lot easier, but close-ups of wildflowers are still a challenge. Clare Beelman and Ken Stolz, two of our most dedicated photographers, will give us important tips and some hands-on help. So bring your camera and the instruction book that came with it and join us!

Thursday, 11/8. "How Surprising Complexities in Historical Fire Patterns Shaped Today's Forests." Elaine Sutherland has been studying Montana's forests for the U.S. Forest Service for the past two decades. Come listen to her tell the story.

Thursday, 12/13, 6:30 pm. Our annual Christmas potluck will again be held in the Del Brown Room, Turner Hall, UM campus on the northwest side of the Oval. With luck, parking will be available west of the Gallagher Business Bldg., in lots or on the streets off Arthur Ave. and Connell St. We will email a map in early December. Bring plates, utensils and a dish to share. Alcoholic beverages are okay! Don't forget to bring a few of your favorite slides or digital pictures from the summer. Info: Peter, 728-8740 or Kelly, 258-5439.

Flathead Chapter

Chapter meetings are held the third Wednesday of October, November and January through April at Teakettle Community Hall, 235 Nucleus Ave., Columbia Falls, unless otherwise noted **[Note new location]**. Programs begin at 7 pm; members are encouraged to come to the 5:30 business meeting beforehand to discuss and help plan Chapter activities. Feel free to bring a sack supper. For more information, contact Rachel Potter, 892-2446 or Jen Hintz, 270-7028.

Wednesday, 10/17, 5:30 pm. Potluck Dinner. We'll be sharing adventures from the summer and planning events in the coming year. With no program, this evening gives us more time for socializing, getting to know other members and catching up. Bring dishes, utensils and some food to share.

Wednesday, 11/28, 7 pm. **[Note date change due to Thanksgiving Holiday.]** Join botanist Mel Waggy and Terry Divoky from Windflower Nursery as they present "From the Mountains to the Prairies: Conservation Efforts at the MPG Ranch." The ranch encompasses about 10,000 acres that include parts of the forested Sapphire Range, large grasslands and four miles of Bitterroot River riparian plant communities.

Wednesday, 12/19, 5:30 pm. Annual Christmas Party. The gathering is at Edd and Betty Kuropat's house, 2688 Witty Lane, Columbia Falls. Bring a potluck dish, beverages and an inexpensive or recycled gift for exchange. Watch your email for directions. Info: Betty at 892-0129.

Kelsey Chapter

For information about upcoming Chapter events and programs, contact Kathy Lloyd, 449-6586

Wednesday, 11/7, 7:00 pm. "Wildflowers of the Utah Canyon Country." Peter Lesica, author of the new "Manual of Montana Vascular Plants," presents this program at the Lewis and Clark Library. The event is free and open to the public.

Maka Flora Chapter

For information about upcoming Chapter events and programs, contact Libby Knotts, 774-3778 or rek@midrivers.net.

Valley of Flowers Chapter

Meetings are held on the second Tuesday of each month from October through March at 7 pm in Room 108, Plant Biosciences Building, unless otherwise noted.

Tuesday, 10/9. Program to be announced.

Tuesday, 11/13. "Digital Resources for Plant Information." Katie Gibson will speak about the smart phone application for native plant identification that she and Whitney Tilt have developed. She will demonstrate the "Flora of Yellowstone" and tell us about similar projects they have going. Also, Matt Lavin will discuss the www.pnwherberia.org site, which is a bit improved since his last presentation on it, and also talk about Google, Flickr and USDA Plants Database.

Tuesday, 12/11. Holiday Potluck. Details to be announced.



is crucial to the existence of the Pine Butte Peatlands. While the importance of these areas outside the IPA boundaries is recognized, they were not included within the IPA since current threats to hydrologic function between the Teton River and the peatlands appear limited.

¹Fen is an area of saturated peat that receives water from surface and subsurface sources, and is dominated by herbaceous vegetation.

²Carr also is an area of saturated peat, but the dominant vegetation is woody.

South Pryor Mountains

The South Pryor Mountains IPA is located in Carbon County about 50 miles south of Billings between the Bighorn River to the west, the Clark's Fork of the Yellowstone River to the east and the Wyoming state line to the south.

The South Pryor Mountains IPA supports a large number of plants considered species of concern in Montana. The majority of these are plants with affinities to the Great Basin floristic province. They are more common in Wyoming and Utah but reach the northern margin of their range in the South Pryor Mountains area. These include *Astragalus aretioides*, *Astragalus geyeri*, *Boechera demissa*, *Camissonia andina*, *Camissonia parvula*, *Cleome lutea*, *Eriogonum salsuginosum*, *Grayia spinosa*, *Leptodactylon caespitosum*, *Malacothrix torreyi*, *Mentzelia pumila*, *Nama densum*, *Stipa lettermanii* and the lichen *Rhizoplaca haydenii*. Five species of vascular plants in the IPA are globally rare, being endemic to the north end of the Bighorn Basin of Montana and Wyoming: *Erigeron allocotus*, *Penstemon caryi*, *Physaria lesicii*, *Shoshonea pulvinata* and *Sullivantia hapemanii*. The IPA encompasses the entire known range or a significant portion of the known populations of these species within Montana.

The South Pryor Mountains IPA has 5,000 feet of vertical relief and supports roughly 29 distinct plant communities (DeVelice and Lesica, 1993). Forests and woodlands dominated by limber pine occur on warm, often exposed, stony-soil slopes at or above 6,500 feet. Douglas-fir forests occur on slopes between 5,000-7,000 feet. Woodlands dominated by Utah juniper occur on shallow, calcareous soil of slopes and ridges at 4,000-6,000 feet. Limber pine-juniper woodlands are found on shallow, calcareous soils of slopes between 4,000-5,300 feet. Shrublands dominated by black sagebrush and big sagebrush occur at 4,200-6,700 feet on slopes, ridgetops and benches. Toeslopes, terraces and alluvial fans at 3,800-5,300 feet, often with heavy soil, support shrublands dominated by big sagebrush (*Artemisia tridentata*), bird's-foot sagebrush (*Artemisia pedatifida*), black greasewood (*Sarcobatus vermiculatus*) and Gardner's saltbush (*Atriplex gardneri*). Idaho fescue grasslands occur above 8,000 feet on gentle slopes. Grasslands dominated by bluebunch wheatgrass and cushion plants are common on gravelly soils of low-elevation ridgetops and upper slopes.



Townsendia spathulata.
Photo by Peter Lesica



South Pryor Mountains IPA. Photos by Peter Lesica.



News & Notes

2013 Small Grant Competition Open

by Linda Lyon

The Montana Native Plant Society (MNPS) announces the 17th annual Small Grant competition for projects or studies that support the small grant program objectives to: 1) stimulate research, conservation and educational activities that help foster an appreciation of Montana's native plants and plant communities; and 2) promote native plant conservation through better understanding of Montana's native flora and vegetation and the factors affecting their survival. The grant competition is open to residents of Montana and, of course, all MNPS members. The deadline for proposals is February 15, 2013. Project or study proposals must pertain to native plants of Montana. All proposals that meet the minimum criteria will be considered, however proposals are sought that generate data or public support for conservation of native plants in the wild. For more information go to the MNPS website at www.mtnativeplants.org, or contact Dr. Linda Lyon at l_lyon@umwestern.edu.

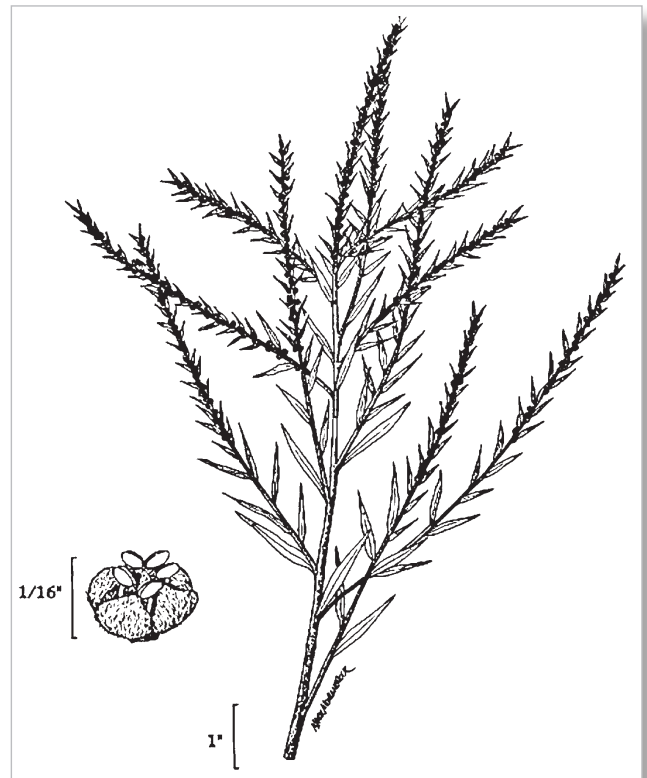
MNPS Committee Update: Conservation Goals

by Peter Lesica

The Agricultural Research Service (ARS), part of the U.S. Department of Agriculture, has introduced many Asian and European plants for agricultural purposes. Some of these plants, such as tamarisk (*Tamarix* spp.) have become serious weeds. ARS recently introduced a perennial *Kochia* even though *Kochia scoparia* is a serious weed of wheat fields in Montana. ARS scientists are required to do extensive research to make sure that biocontrol insects do not harm native or agricultural systems, but there are no such requirements for introducing non-native plants. MNPS will partner with native plant societies from other western states to attempt to pressure ARS to seriously consider the possibility that their introductions can go bad and to focus more on native plants rather than introductions. If you would like to help with this issue, contact Peter at lesica.peter@gmail.com.

Save the Date: 2013 MNPS Annual Meeting

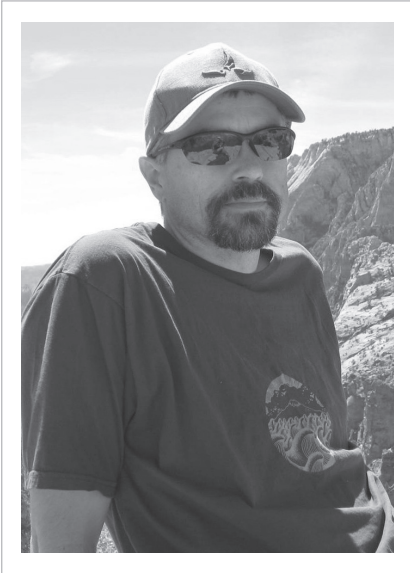
The 2013 Annual Meeting of the Montana Native Plant Society is scheduled for **July 5-7** at Camp Rotary in the Little Belt Mountains. Camp Rotary is on Belt Creek between Monarch and Neihart. The Kelsey Chapter will host the meeting and is hard at work planning field trips and activities for the weekend. We hope you will make plans to attend. Watch for more details as the date gets closer.



Kochia scoparia. Illustration courtesy
USDA-NRCS PLANTS Database



President's Platform



Early in September I was walking around a small fen wetland and came across one of my favorite fall plant displays—autumn willow (*Salix serissima*). In early fall it has bright red catkins that contrast with the dark green upper sides of its leaves (see photo on page 1). Later that day, I passed by a drying reservoir ringed with abundant flowers of sneezeweed (*Helenium autumnale*), which blooms in late summer and fall. I was struck by how both these species had names that reflect something of their seasonal habits and wondered how many other species in Montana had similar autumnal monikers.

I searched through my copy of the new “Manual of Montana Vascular Plants” and discovered that those are only two species with “autumn” in their names. I also found that there are two grasses with “fall” names: fall panicgrass (*Panicum dichotomiflorum*) and fall rosette grass (*Dichanthelium wilcoxianum*). Fall panicgrass flowers in the fall, and fall rosette grass has distinct spring and fall flowering periods. Further searching revealed one species with an “old” autumn name—the water star-wort *Callitriche hermaphroditica*, formerly known as *Callitriche autumnalis* or autumnal starwort.

So, at least five species with names of the current season. Since no book can possibly include all common names, it is likely that some other Montana plant species has one that refers to fall. But regardless of names, many of our native plants are spectacular in autumn. Which is your favorite?

~ Dave Hanna

Book Sale: Don't Miss Out!

The recently published “Manual of Montana Vascular Plants,” by Peter Lesica, has been flying off shelves and out of trunks of MNPS Chapter representatives’ cars. Flathead, Kelsey and Valley of Flowers reps who brought copies of this terrific botanical resource home for their members after the Annual Meeting reported being sold out within days.

If you failed to secure a copy for yourself, MNPS members now can save 20% off the retail price (\$40, instead of \$50) by contacting their local representative before October 15. Books will be distributed to reps on October 27 and can be picked up from them thereafter.

Welcome New Members!

The Montana Native Plant Society welcomes the following new members:

Clark Fork Chapter:

Rosemary Polichio, Kenton Swift, Warren Hampton, Janet Scott, Loman Merle, Aaron Clausen, Dana Eisenberg, Teagan Hayes, Brace Hayden and Joyce McDonough

Flathead Chapter:

Shirley Rogers and Anne Van Lynden

Kelsey Chapter:

Susan Leferink

Maka Flora Chapter:

Marie Neal

Valley of Flowers Chapter:

Emily Sieger

Western-At-Large:

Rosa Mickey and Karen Sheets

Eatern-At-Large

Clea Klagstad



2012 Annual Meeting Roundup

MNPS's 25th Annual Meeting was hosted by the Clark Fork Chapter at the Lubrecht Experimental Forest in the Blackfoot Valley. Highlights included a great silent auction and a beautiful t-shirt with art by Jean Pfeiffer. Members from around the state contributed photos of past annual meetings (including our very first!), which became several poster collages for all to enjoy.

Friday night featured a barbeque and pot luck at Kathy and Mike Settevendemie's beautiful home and Blackfoot Native Plant Nursery in Potomac, a short drive from Lubrecht. Saturday was perfect weather for field trips. One outing identified more than 100 plants. After dinner and the general meeting, Wayne Phillips gave a quiz on the plants collected by Lewis and Clark in the Blackfoot Valley. Annie Garde then addressed the members with her version of Lincoln's Gettysburg speech, declaring that "this society of the flora, by the flora and for the flora shall not perish from the earth."

Election Results: Apathy or Contentment?

by Patrick Plantenberg

The lowest number of MNPS voters since 2001 re-elected incumbent Vice President Karen Shelly and incumbent Secretary Patrick Plantenberg to another term as MNPS officers. No one stepped forward to put their name in the hat to replace the retiring Wayne Phillips as Eastern-at-large representative. [Recently, however, David Shea of Choteau, who was a popular write-in nominee, "enthusiastically" agreed to fill that position. Thank you David!] But why the low turnout at the polls for the MNPS 25th anniversary elections? Why did no one step forward to run for Eastern-at-large representative? Was it apathy?

Exit polls and analysis by the MNPS Electoral College revealed the truth. The Montana Native Plant Society has been running smoothly under the leadership of President Dave Hanna and the other officers for years. We are in the black financially, and most recently MNPS helped publish Peter Lesica's new flora of Montana in 2012. Conclusion: MNPS members are not apathetic; they are content.

The Kelsey Chapter won the \$100 prize for the largest percentage of voters, beating out the heretofore perennial champion Maka Flora Chapter by one vote. Thanks to the voters who did turn out, especially the three members from California who continue to vote regardless of their contentment. Such dedication!



Valuing Our Members

2012 MNPS Awardees

Special Achievement Award



Photo by Drake Barton

This year the Montana Native Plant Society was proud to honor Sheila Morrison. Even among our many wonderful members, she truly stands out!

Sheila has been a mainstay of MNPS almost since its inception, taking her turn as president of the Clark Fork Chapter from 1992 to 1993. During that time she established and nurtured

the native plant sale that occurs each May at the Missoula Farmer's Market, an event that has become the main fundraiser for the Chapter, and she has been responsible for starting many of the plants sold there.

Sheila also is an essential member of the group that, starting in 1989, brought back the Native Plant Garden at the University of Montana. Without fail, and through many long hours, Sheila has taken care of her dry grassland habitat area, growing plants for it, nurturing them and sharing her knowledge with others so the garden can continue. As a mentor, Sheila is without peer. Just as she does with her native plant seeds, Sheila gently shepherds gardeners, teaching them about plants and how to take care of them.

Besides being a plant wizard who can grow anything from seed, Sheila is a gifted photographer. She took many of the photographs in her two books. Her first book, "29 Bitterroot Trails" was published in 1982 and is still the "go to" guide for many of us who delight in accurate information and descriptions of plants as well as vistas.

Her second book, "The Magic of Montana Native Plants: A Gardener's Guide to Growing Over 150 Species From Seed," published in 2003, is a true labor of love. Through hands-on research over many years, Sheila figured out the germination requirements of these species. Growing these babies was, for Sheila, both an art and science, giving each little seedling exactly what it needed.

Sheila Morrison is one of those people who just gets things done, cheerfully and thoroughly. We are lucky to have her as part of our organization. Her generosity in sharing her knowledge, her plants, and her all around good cheer is why we are so proud to give her the Special Achievement Award for 2012.

Outstanding Service Award

This year, we honor Kathy Settevendemie for her outstanding service to MNPS. Gardening and landscaping with native plants have long been emphasized by the Montana Native Plant Society, and



Photo by Drake Barton

our Landscape/Revegetation Committee has always been active and had outstanding leadership. Kathy has continued that tradition. She became chairperson of the Landscape Committee

in 2008. Since then, she has updated the MNPS Native Plant Source Guide and put it, and much more information, onto the Native Plant Landscaping page on the MNPS website.

Kathy worked with the Montana Nursery and Landscape Association to highlight the use of native plants in commercial landscaping, and recently she initiated the Native Plant Garden Award. She more-or-less single-handedly produced the MNPS landscaping guide for the Missoula area.

Kathy faithfully attends state board meetings and volunteers to do the driving. She took on and completed the task of revising and producing the MNPS brochure. She has offered to show her photography, lead field trips and give presentations at Clark Fork Chapter meetings, and has been instrumental in making the Chapter's annual native plant sale a success. Kathy and her husband, Mike, run the Blackfoot Native Plants Nursery, which provides native plants and native landscaping to the Missoula area. If that weren't enough she and Mike hosted the first night of the 25th MNPS Annual Meeting. Congratulations and thank you Kathy!

Nature Smile: Douglas-fir Adaptive Strategy

Kathy Settevendemie led a field trip to Garnet Ghost Town during the 2012 MNPS Annual Meeting. Participants were fortunate to observe and photograph a unique plant adaptive strategy: the rare, ground nesting Douglas-fir.

A Special Special Award

On this 25th anniversary of MNPS, members reserved a special award for one of the founders, Peter Lesica. As Annie Garde said in her presentation, along with Kathy Ahlenslager and Virginia Vincent, Pete mobilized interested people around the state and got the society going. He has been an active member both on the local and the state level all along, a tireless advocate for our native flora.

Along with his books and publications in scientific journals, Pete has made numerous contributions to *Kelseya*, led countless field trips and made endless presentations for MNPS and other organizations. He's added thousands of plant specimens to the Herbarium at the University of Montana, started the herbarium database, collected seeds for the Clark Fork Chapter's plant sale.

He is available every time we need him, arrives on time, finishes projects ahead of deadline (oh no!) and manages to be a pretty good guy. Pete has brought his skills as a writer, photographer, speaker, collector, hiker, advocate and idea man to his passion for our native flora and we have benefited from his efforts. Thanks Pete!

The certificate reads "your ideas, energy and expertise have been an inspiration to the society since its inception. Thank you for 25 years of dedicated service to the Montana Native Plant Society and the botanical world."



Photo by Drake Barton



Photo by Patrick Plantenberg



PRAIRIE ROSE AND THE SCOURGE OF LAKE WEED-BE-GONE, MT

Photo by Patrick Plantenberg.



(by Annie Garde, with thanks to Bernice Roberts and Betsy Griffing for contributing fun and puns. The late Barney Baxter wrote a pun piece that was printed in a recent Utah Native Plant Society newsletter. I stole a few puns from him.)

My name is Rose, Prairie Rose. I'm an umbel cop from Raceme, Wisconsin, transplanted to Lake Weed-be-Gone, MT. Why? I got a call. From Del Phinium, a bachelor buttonist frond of mine.

"Rose", he said, "We've got a deep rooted problem in the garden city. A seedy character named Leafy Scourge has big plants to take over Montana. He's a bane to us natives. Why, he'd ...uh...stagalus if he could. Can you help us squash him in the bud?"

"Leaf it to me, Del," I said. And sow, the Leafy Scourge caper began. I mustard my dog, Fern, up from her bed on the border. "Come on, Fern," I commandra'd. "We gotta rush". Fern was a fiddlehead, easily distracted by kittentails and pussytoes. Any catkin come along and my dogwood chase it. But she's got a sweet hounds tongue and I lovage her.

Our first stop was to the church to talk with Jack in the Pulpit. He was mixing some pasque flour in a sugarbowl for some biscuitroots he was baking for the candy stripes. And he was madder than a wet hen and chicks because someone had stolen St John's Wart, a famous relic, from the church. "That wart was in mint condition," Jack said, his bishop's cap quaking as pen in hand he affixed his golden seal to a reward poster.

"Who'd have the gall?," I asked.

"I think it was Leafy Scourge. I sedum lately. He thought that monkshood was a good disguise, but those Dutchman's britches gave him away."

"Leaf it to me, Jack. I'll bring that wart back in a shepherd's purse for you."

My next stop was the Club Moss to talk with the bartender, Spike Nard. Spike was a naturalized cultivar from the Germination.

"You've spruced up, Spike, since I spore you last."

"I'm trying to 'press Myrtle. She's a fast growing shrub and she looks good all year. Care for a grass of red vine as long as you're here, Sprout?"

"That would beebalm for my soul, Spike, but right now I need a tidytip. Seen Leafy Scourge lately?"

"Yeah", he anthered. "I sedum creeping up every hillside in Townsendia. But you should ask Wild Iris. She's node him a long thyme. Those two were kind of a prickly pear for years."

Wild Iris was a spring beauty, a slender young perennial with big bulbs and a beard. I knew she was wilting at work in that Shady Grove pincushion plant. At home, she watched Okra on TV. I knocked on the door – kinnick-i –nik – i nik . She opened up her night shade and shook her shaggy mane. "Grape Caesar's Ghost, Rose, waddaya want at this hour?"

"You know Leafy Scourge, Iris. Where is he?"

She hedged, then said, "I've pined away for him long enough. He's plum rotten, Rose. Nuts to him."

"Just the flax, Iris, just the flax. Where is he?"

"Well," she said, "there's a rumex that he's sowing wild oats with a needle and thread at the Devil's Club. But be careful – he's armed. It could be a thorny situation."

I was about to petal away when I saw my dog and then heard a voice. "Is this your poppy?" It was Blue eyed Mary speaking, a drought tolerant little annual who grew up on a disturbed hillside nearby. Her tulips were curled like a parrot's beak. She was in near wisteria. "This dog about killed me with that steershead in her mouth. I thought I was having a bleeding heart.!"

"Mallow out, Mary," I said. "I'm lupine for Leafy Scourge."

"That lily livered cowslip! He had his tendrils around my limbs last night. He's at a camas you are party at the Devil's Club right now – over there."

I petalled over, put on my foxgloves and climbed Jacob's ladder to peek in on the club. There wasn't mushroom in there. The air was full of prairie smoke. It made my nose itch. I spotted Knap Weed and Sarah Pollen at a table lit by a miner's candle. A tuber blew calypso music and a little Kentucky bluegrass. Then Leafy stood upright. "Ladies and Gentian. Before the sundew set tomorrow, I intend to loose strife all over Montana. Those whose parents came over on the Rayflower can follow me."

Just then I sneezed. "Fes---cue!!

"Hoe, Hoe," Leafy rasped. "It's yew, Rose. Well, dig this." He took out a pistil and waved it at me. I picked up some cleavers. "Thistle fix ya" I shouted and beet him til he began to drupe. "Sorrel, Leafy, but you irrigate me."

Leafy doddered to his feet. "Lemma tell ya, Rose, you've got style."

"You can't violet the law here anymore, Leafy. Be on the next sage coach or I swertia, I'll opuntia for a goodyera more."

Leafy packed his trunk, tied on his corn belt and bolted. So that terminated the Leafy Scourge caper. I became a celebritree, a blazing star in Lake Weed Be Gone for an ephemeral moment and even saw my name in inflorescence lights. The best part: Del came over and fixed me a breakfast of champions!

Oh, and P.S. : the stolon St. John's Wart? Fern found it. Turns out a church elder berry'd it. I barked," Fern, Vetch!" and she doug fir it.



Small Grant Report: White Sulphur Springs Pollinator Garden

by Sarah Dawe

Thanks to the Montana Native Plant Society, a native plant pollinator garden at the White Sulphur Springs Ranger District was planted on July 25, 2012! The Ranger District, located in White Sulphur Springs on the Lewis & Clark National Forest, was one recipient of a 2012 MNPS Small Grant Award. The District used this funding to purchase native plants for their 2,000 square foot garden, which is adjacent to the District office at a site that provides high visitor exposure and interpretive value. This garden will serve to facilitate conservation education, using native Montana plants to raise awareness of the vital importance of pollinators to the survival of native plant communities.

Phase one of garden construction began in 2011, with funding awarded through the U.S. Forest Service Region One's Native Plant Program. The Chief of the U.S. Forest Service has encouraged administrative sites throughout the nation to develop and install native plant pollinator gardens. The purpose of these projects is to raise awareness of the vital role of pollinators in ecosystem function, and to create habitat and nectar sources for native pollinators. The District hopes to educate the public on this topic, encouraging landowners and homeowners to save critical space for pollinators by establishing native plant gardens on their own property.

Garden construction began August of 2011 with site preparation. The Meagher County Road Department donated topsoil for the garden, which was amended and mounded to create interest on the site, then covered with varying sizes of rock. Large lichen-covered rocks and dead snags were collected from the Lewis & Clark National Forest by a local community member. These large rocks were placed throughout the garden for decoration, and used to construct planters and a bench. Snags were set upright in the ground, and designated with small signs as "wildlife trees," to be saved for pollinator habitat. An underground sprinkler system was installed, and a pathway was constructed to guide guests on a tour through the garden.

Phase two concluded this past July with the purchasing and planting of native plants. Plants were chosen according to bloom schedules, flower color, plant height and plant texture. The goal was to provide a food source for an array of pollinators throughout the growing season, and a range of plant height and canopy layers for pollinator habitat. An interpretive panel created specifically for Region One Forest Service and titled "Creating Pollinator & Native Plant Gardens: The Little Things Run the World," was installed in the garden. Finishing touches, such as plant markers, bee boxes, bird houses and bird baths, will be installed this fall and next summer. Additional interpretive panels, plants and educational displays will be included in the future as funding allows.

This project has given the District a valuable opportunity to form partnerships within the local community. Members of the White Sulphur Springs Garden Club, Meagher County Community Foundation, the Stephens Youth Center, the Natural Resources Conservation Service, Meagher County 4-H and Extension, and individual local community members have all contributed to the garden planning and construction process. Project partners will play a key role in helping to maintain the garden in the future. Additionally, the native plant pollinator garden is located adjacent to the future site of the new community library building. The garden has already sparked ideas to incorporate native plant landscaping and conservation education programs into plans for the new library.

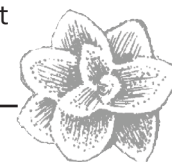
The Forest Service is excited about the incredible educational value the garden provides to the community and its visitors, and is encouraging the community to take advantage of the educational, hands-on learning opportunity provided by the garden. The White Sulphur Springs Ranger District would like to thank MNPS for their support of our project and our community!



Volunteers hard at work.
Photo by Sarah Dawe



Pollinator garden nearly complete! Photo by Sarah Dawe



Plant Profile: Mountain Avens Little Nymph of the Alpine

by Walter Fertig

[Reprinted with permission from the September 2012 issue of *Sego Lily*, the newsletter of the Utah Native Plant Society.]

The genus *Dryas* contains two to six species of low, mat-forming perennials in the rose family (*Rosaceae*). All are characterized by relatively large white or yellow flowers on naked stalks borne above a dense rosette of shallowly lobed leaves. In fruit, the solitary flower is replaced by a woolly cluster of single-seeded achenes, each topped by long, silky-feathery white hairs. These hairs are modified from the persistent styles and help spread the attached seed via the wind. The thick tufts resemble the locks of Troll Dolls popular in the 1960s, but apparently reminded Linnaeus more of mythological dryads or wood nymphs of ancient Latin lore when he named the genus.

Mountain avens (*Dryas octopetala*) is a circumpolar species found in arctic tundra of northern Eurasia and North America, but also extending southward above treeline in the Cascades and Rocky Mountains to Washington, Oregon, Utah and Colorado. The species is morphologically variable and has been segregated into several distinct species and varieties over the years. Utah plants belong to var. *hookeriana* and are restricted to the higher reaches of the Uinta Range. Ecologists have also been drawn to the species on account of its different growth forms associated with late snow-bed sites and rocky scree slopes. Reciprocal transplant experiments have confirmed that the ecotypic variability between sites is genetically based, but sufficient gene exchange still occurs to prevent speciation.

Fossils of *Dryas* plants are important to paleo-ecologists studying past episodes of climate change and shifts in arctic-alpine vegetation. Late in the Pleistocene, the climate of the northern hemisphere began to gradually warm as the last great Ice Age went into retreat. On two occasions the general pattern of warming was abruptly reversed for periods of 300-1,000 years and arctic tundra vegetation returned to areas that had been changing into forest cover. Ecologists refer to these periods of time as the Older Dryas (approximately 13,800 years ago) and the Younger Dryas (11,500-12,800 years ago) because of the prevalence of *Dryas* fossils. The exact cause of the relatively rapid change in climate (estimated to have taken just a few decades) is still being debated, but may bear on research into contemporary climate change.

The flowers of mountain avens track the movement of the sun across the sky during the day, a phenomenon called heliotropism. Most plants that have similar abilities do so to reduce the amount of solar radiation striking their flowers or leaves. In *Dryas*, the flowers do the opposite, moving to maximize the amount of sunlight reflecting off the petals and onto the mass of pistils at the center of the flower. Experiments by researchers in Sweden have shown that flowers that track the sun are warmer and have pistils that develop faster and produce heavier seeds than those that are shaded, have their petals removed or are otherwise manipulated to prevent heliotropism.

[This essay is adapted from the "Plant of the Week" feature of the U.S. Forest Service's "Celebrating Wildflowers" website (www.fs.fed.us/wildflowers).]



Dryas Octopetala. Photos by Peter Lesica



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Montana Native Plant Society

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