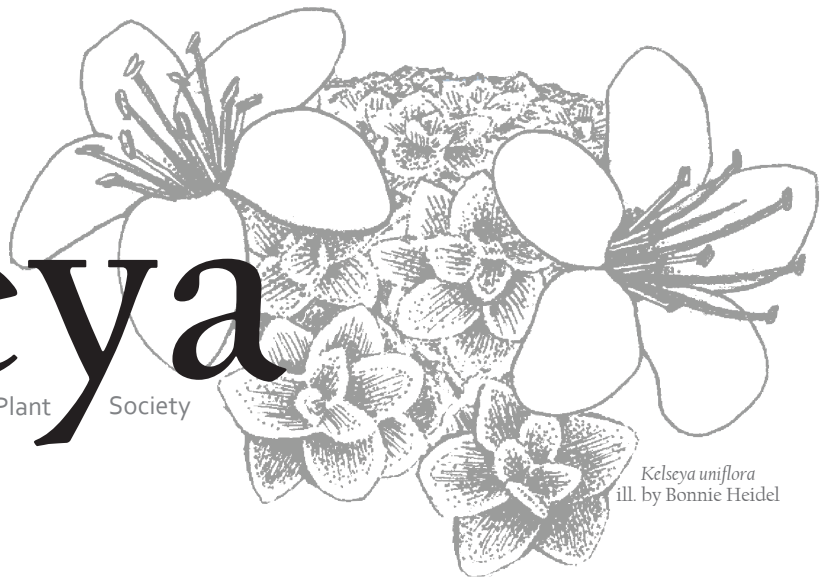


# Kelseya

Newsletter of the Montana Native Plant Society



*Kelseya uniflora*  
ill. by Bonnie Heidel

## Invasive Eurasian Watermilfoil: A Threat to Montana's Waters

by Celestine Duncan, Kelsey Chapter

This summer, don't give rides to strangers. By adhering to watercraft, boat trailers or other water-associated equipment, aquatic invasive plants like Eurasian watermilfoil (*Myriophyllum spicatum*) are threatening Montana's waterways. Once they colonize a new location, such invaders are difficult and costly to control, and can have a huge impact on the ecology of our streams, rivers and lakes and on industries like agriculture and recreation.

Eurasian watermilfoil is a submersed plant native to Europe, Asia and northern Africa. Although it is one of the most widespread non-native aquatic plants in North America, it is relatively new to Montana. It forms a dense canopy at the water surface that can obstruct navigation, exacerbate flooding, and clog irrigation and hydropower structures. Its aggressive growth decreases native plant and animal diversity, and affects the predator/prey relationships of fish. And dense infestations of Eurasian watermilfoil can damage healthy aquatic ecosystems by reducing dissolved oxygen under the canopy, increasing shifts in pH, slowing down water movement and increasing sedimentation rates.

Eurasian watermilfoil first was confirmed in Montana in 2007, in Noxon Reservoir in the lower Clark Fork River drainage. Since that time, a small infestation (less than one acre) has been reported in Beaver Lake northwest of Kalispell. East of the Continental Divide, the plant has been reported in the lower Jefferson River, the Missouri River from Three Forks to Canyon Ferry Reservoir, and in Fort Peck Reservoir.

Eurasian watermilfoil is an evergreen perennial that typically grows in three to 12 feet of water, although it can be found in water up to 30 feet deep. It has a long, rooted underwater stem that branches profusely when it reaches the water surface. Leaves are whorled on the stem at each node, and there generally are four leaves per whorl. Leaves are finely divided and feather-like in appearance, usually 12 to 21 pairs of leaflets. Each leaflet on Eurasian watermilfoil is thin, fine and about ½ inch long. Eurasian watermilfoil often is confused with

*continued on page 4*



*Myriophyllum spicatum*. Photo by Celestine Duncan

# Chapter Events

## Calypso Chapter

**Saturday, 7/6, time TBA. Landscaping with Natives: See What's Being Done in Butte!** Info: Kriss at 782-9060, samjd@montana.com.

**Friday-Saturday, 7/19-20. Botany Blitz: Penstemons of Lemhi Pass.** Calypso Chapter and USFS Dillon are coordinating this fun, two-day event. Meet at USFS office in Dillon. Info: Jessie Salix at 683-3900, jsalix@fs.fed.us.

## Clark Fork Chapter

**\*Saturday, 7/27, 7:00 am. Kent Lake Basin.** Join botanist Wayne Phillips at the headwaters of Skalkaho Creek in the Sapphire Range for an outstanding wildflower hike that includes a large area of white rhododendron in bloom and a meadow full of the rare *Linanthastrum nuttallii*, which is only found in Ravalli County. We also will look for the little endemic *Chionophila tweedyi*, plus explore wet places full of columbine, lovage, etc. The hike is about 6.5 miles round trip on trail, with 1,300 feet elevation gain above 7,200 feet. Plan on a full day from 7:00 am to 9:00 pm. To carpool, Missoulians meet at the southwest corner of the old Walmart on Hwy 93 S at 7:00 am; Bitterrooters meet at Sam's Spade, 111 S. 4th St., Hamilton, at 8:00 am. We will all leave from Sam's. At the end of the day you can either head home or dine at the farm-to-table digs of Sleeping Child Farms ([www.sleepingchildfarms.com](http://www.sleepingchildfarms.com)). Info: Clare at 728-0189 or Wayne at 453-0648.

**\*Saturday, 8/3, 7:00 am. Heart and Pearl Lakes.** Join Lolo National Forest botanist Craig Odegarde for a hike along a well-maintained trail through forest and lush understory to the sub-alpine basin of Heart and Pearl Lakes in the Bitterroot Mountains. The hike is eight miles round trip with 1,600 feet of elevation gain. We will take our time as we look for many woodland species and hope to catch a great display of wildflowers between the lakes. Carpool from Missoula to the trailhead near Superior. Meet at Starbucks, 5620 Grant Creek Road, northeast corner of the Igo interchange. Info: Clare at 728-0189.

**Thursday, 10/10, 7:30 pm. Cleaning and Stratifying Your Native Seeds.** Join Kathy Settevendemie, Blackfoot Native Plants, and Bryce Christiaens, Native Ideals Seed Farm, for a workshop

on how best to treat native seeds to get maximum germination. Natural Sciences Bldg. (formerly Botany Bldg.), Rm. 203, UM Campus.

**Thursday, 11/14, 7:30 pm. Wildflowers at the Gates of the Arctic.** Madeline Mazurski thrives in the cold, as do these plants. Come hear about her travels in one of Alaska's national parks.

*\* Camera Geek trips are designed with ample time for photography and exchanging camera tips and techniques.*

## Flathead Chapter

**Tuesday, 7/16, 6:00 pm. Evening on the Whitefish Trail.** Join Flathead Chapter members and Whitefish Legacy Partners to learn about a variety of native plants in the dry, Douglas-fir habitats west of town. Mary Sloan and others will lead an easy, one to two-mile walk along the Whitefish Trail. Meet at the Lion Mountain trailhead. Info: Carla, Whitefish Legacy Partners, at 862-3880 or Mary at 862-3360.

**Tuesday, 7/23, 10:00 am. Glacier National Park Weed Blitz.** Join fellow citizens in removing invasive plants from priority sites in GNP. Park biologist Dawn LaFleur will train participants on identification and effective hand pulling techniques for targeted weed species. Meet at the West Glacier Community Building. Space is limited; a second date may be set if necessary. Info and to sign up: Dawn at dawn\_lafleur@nps.gov.

## Kelsey Chapter

Join Chapter members at the **2013 MNPS Annual Meeting, A Little Botany in the Little Belts, July 5-7 at Camp Rotary.** For details visit [www.mtnativeplants.org](http://www.mtnativeplants.org).



Jones' columbine, Photo courtesy Bransford, W.D. and Dolphia, Lady Bird Johnson Wildflower Center, [wildflower.org](http://wildflower.org).



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## Maka Flora Chapter

### **Saturday, 7/20, noon. Skjermo Lake, North Dakota.**

We will hope to see lots of blooming western red lily on this outing. Meet at Skjermo Lake, 12 miles east of Westby, MT. From Westby, go east on Hwy 5 about six miles, turn north onto 147th Ave. NW and go two miles, turn east onto 104th St. NW and go 2.1 miles, turn onto County Rd. 5/145th Ave. NW and go about two miles to the lake. Info and to confirm trip: Libby at 774-3778, rek@midrivers.com.

### **Sunday, 8/18, 10:00 am. Brush Lake State Park.**

Come for shoreline cleanup and plant walks. Bring garbage bags and gloves, and something for a potluck picnic. The lake has a sandy beach, good swimming, and camping is allowed. Meet at Brush Lake. From Plentywood, go south 15 miles on Hwy 16 to Hwy 258 (East Reserve Hwy), go east about 15 miles to Brush Lake county road, turn south one mile. From Medicine Lake, go north eight miles on Hwy 16 to Hwy 258. Info and to confirm: Libby at 774-3778, rek@midrivers.com.

## Valley of Flowers Chapter

Watch your email for announcements about a possible July field trip. If you aren't on the email list but would like to be, contact Larissa at jackiwb@aol.com. Meanwhile, join naturalist Tom Forwood at the Lewis and Clark Cavern State Park for nature walks. Check for weekend specials.

## Eastern At-Large

### **Saturday, 7/27, 9:00 am. Crown Mountain Hike.**

Dave Shea will lead a hike through coniferous forest to the sub-alpine zone, a seven-mile round trip. Along with plants, Dave will discuss local history, geology and wildlife. Meet at the USFS Ranger Station in Augusta and carpool to the Crown Mountain trailhead on the Benchmark Rd. Info: Dave at 466-2161.



*Ivesia tweedyi* Photo by J. Brew@inaturalist.org.

## Western At-Large

### **Sunday, 7/7, 9:00 am. Flatiron Mountain.**

Join Jon Reny and Betty Kuropat for a five- to six-mile round-trip, moderate hike with about 1,500 feet elevation change. Part will be on a forested trail; part will be cross-country over grassy openings with great views and sub-alpine floral displays. Meet at Mac's Market one mile north of Libby on Hwy 37. Bring lunch, water and wind/rain gear. We can carpool or caravan the 25 miles to the trailhead. Info and to sign up: Jon at 293-7339 or Betty at 892-0129.

### **Saturday, 7/13, 9:00 am. Black Peak Hike.**

Co-sponsored by the Montana Wilderness Association, Peter Lesica leads this hike to one of the higher points in the Coeur d'Alene Mountains. At 6,546 feet, Black Peak looms over the south end of the Trout Creek drainage, containing one of the few remaining unroaded areas of the lower Clark Fork River. The hike will be five or six miles round trip, with about 1,400 feet elevation gain. Some parts will be off-trail, but mostly we will stay on USFS trails through mountain hemlock/sub-alpine fir forests where we will look for rare plants such as *Ivesia tweedyi* and *Douglasia conservatorum*. Meet in the parking lot just west of the Naughty Pine Saloon, Trout Creek, Hwy 200. From there we will carpool to White Pine Creek drainage, south of Trout Creek. Be prepared for a full-day hike with all the usual rain gear, food, water, etc. There are USFS campgrounds in the vicinity, as well as accommodations in Trout Creek and Thompson Falls. Reservations requested by June 30; group size limited to 12. Info: Judy at 847-2717, jhutch7494@aol.com.



the native northern milfoil (*M. sibiricum*), which has five to 10 pairs of leaflets. Leaves of Eurasian watermilfoil tend to be limp along the stem when held out of water, whereas leaves of northern watermilfoil remain rigid.

Eurasian watermilfoil also differs from native milfoils in that it does not form turions, which are specialized over-wintering structures. Shoots of Eurasian watermilfoil persist through the winter, and new shoots rapidly elongate as water temperatures reach about 59 degrees in early summer. When the plant stem reaches the water surface it branches, forming a dense canopy. Typically plants produce small, reddish flowers that emerge several inches above water on a spike grown from the tip of the stem, although some populations rarely flower. Flowers are inconspicuous and probably wind-pollinated. After flowering, plant biomass declines as a result of stem fragmentation.

Eurasian watermilfoil spreads both by stem fragments and seed. Individual plants can produce 100 seeds or more but new plants rarely germinate from seed. Long distance dispersal occurs through a combination of human intervention and natural processes. Eurasian watermilfoil is a prolific former of auto-fragments, which usually occur in late July and August in Montana. During this growth phase, the plant produces roots at nodes that naturally break from the original plant and result in floating, rooted plant fragments. Fragments with two nodes and an internode can start a new plant colony. Eurasian watermilfoil can survive weeks out of water if kept moist, allowing for its spread to non-infested water bodies on boats, trailers and other contaminated water-associated equipment.

Hybridization between Eurasian watermilfoil and native milfoils is known to occur in North America. However, results from molecular analysis of more than 35 milfoil samples collected in Montana have not confirmed hybridization between invasive Eurasian watermilfoil and native milfoils in the state.

Eurasian watermilfoil grows in a wide variety of habitats and conditions. It can colonize ponds, lakes, reservoirs, and flowing rivers and streams. Once Eurasian watermilfoil is in a lake or a watershed, it is difficult to prevent its spread by natural means. That is why it is so important for those of us enjoying Montana's water resources —this summer or anytime—to remember to inspect, clean and dry boats, trailers and equipment to help prevent the spread of Eurasian watermilfoil and other aquatic invasive species to non-infested waters.



Eurasian watermilfoil tangled in a boat propeller. Photo by Celestine Duncan.



Montana Conservation Corp./County Weed District team hand removing Eurasian watermilfoil from Jefferson slough in 2012. Photo by Celestine Duncan.



A floating colony of Eurasian watermilfoil. Photo by Celestine Duncan.



*Celestine Duncan is an Invasive Plant Consultant with 30 years experience. She lives in Helena.*

# News & Notes

## Welcome New Members!

The Montana Native Plant Society welcomes the following new members:

### **Calypso Chapter:**

Judy Chadwick

### **Clark Fork Chapter:**

Steve Holden, Pat Basting, Missoula County Weed District/Extension and Naturalists Mercantile. Special thanks to Kenneth Stolz for your lifetime membership.

### **Flathead Chapter:**

Noel Dvry and Michael Pilarski

### **Kelsey Chapter:**

Ken Tucker, Amanda Hendrix and Kim Ellis. Special thanks to Debbie Milburn for your lifetime membership.

### **Maka Flora Chapter:**

Robert Srygley

### **State-Eastern-At-Large:**

Janice Driver and Anna Crow

### **Valley of Flowers Chapter:**

Heather Begger

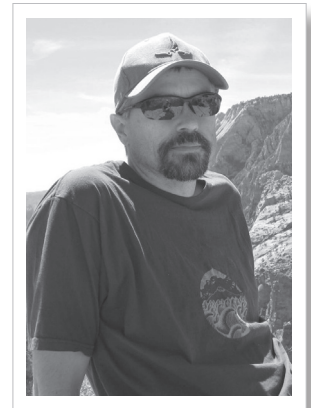
## President's Platform

The Montana Native Plant Society is an all-volunteer organization. I think that is pretty remarkable, given how full everyone's life seems to be these days and all the ways we have of being busy. I think being an all-volunteer organization is also a significant strength of MNPS, since it helps keep us focused on what we think is really important without doing things just to do them. When I think about everything that MNPS does, it adds up to a lot.

This newsletter and our website provide a wealth of information and resources. The Annual Meeting and all the other field trips keep us connected and provide an opportunity to explore the diversity of our state. Educational programs and service projects enhance our local communities. The bi-annual Plant Conservation Conference brings critical information and connections to the Montana conservation community. Our small grants program supports important educational, research and conservation efforts for native plants. We advocate for native plant conservation in both policy and land management realms, and provide information on native plant landscaping, restoration and sources. There are many, many other things that MNPS does, too numerous to recount here (or even for me to remember at any one time).

All this requires a huge amount of effort and dedication from the board, chapters and members. Some of this effort is obvious, but a lot of it is done quietly, behind the scenes. I want to express my admiration and gratitude to everyone responsible for all that MNPS does, serving not only our mission and our members, but all of Montana and its landscapes. Montana is a better place for your efforts. Thanks to you all!

~ Dave Hanna



## Looking Ahead

The Northwest Scientific Association, The University of Montana Plum Creek Lecture Series, Montana Wetland Council and Northwest Lichenologists are sponsoring a joint conference with associated field trips March 26-29, 2014 at the University of Montana, Missoula.

Their theme will focus on the "Future of Forests & Forest Management: Change, Uncertainty and Adaptation." Drs. Richard Waring and Steven Running are scheduled to give keynote addresses.

Join scientists from the region in presenting the latest research and exchanging ideas. The call for papers and posters will begin in September 2013. Organizers are seeking contributions in the natural, social and applied sciences, including archaeology, botany, bryology, climatology, conservation biology, ecology, fishery biology, forestry, geography, geology, lichenology, restoration ecology, soil science, wetland ecology, wildlife biology and zoology. Additional information about the conference and deadlines for participation can be found at [www.northwestscience.org](http://www.northwestscience.org), or by contacting Andrea Pipp at [andrea.pipp@atkinsglobal.com](mailto:andrea.pipp@atkinsglobal.com).



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# 2013 Annual Meeting: A Little Botany in the Little Belts



*Aquilegia brevistyla* Hook. Photo courtesy Loughmiller, Campbell and Lynn, Lady Bird Johnson Wildflower Center, wildflower.org.

It's time once again for the Annual Meeting of the Montana Native Plant Society, an event we look forward to all year. This year, the extravaganza is hosted by the Kelsey Chapter and will be held July 5-7 at Camp Rotary in the Little Belt Mountains.

Camp Rotary is adjacent to the Lewis and Clark National Forest, which offers myriad opportunities for exploring and botanizing in lower grassland sagebrush habitats, montane and sub-alpine forests, grassland parks and drainages. Visit the Forest website at <http://www.fs.usda.gov/lcnf> for additional information on area attractions.

Each habitat in the area features its own diverse flora. We will be on the look-out for Jones' columbine and short-styled columbine, our mascot plant and a Species of Concern in Montana. There are lots of hiking opportunities in the Little Belt Mountains and we hope to entice you to come with us to one of the several nearby Research Natural Areas. You can learn more about RNAs in Montana by visiting <http://www.fs.fed.us/rmrs/research-natural-areas/>, or you can download a publication

about them at [http://www.fs.fed.us/rm/pubs/rmrs\\_gtro69.pdf](http://www.fs.fed.us/rm/pubs/rmrs_gtro69.pdf).

During the weekend, you may opt to take a field trip to Spur Park, Ant Park, or down to the Middle Fork of the Judith River and Hay Canyon, where we hope to view short-styled columbine. On the Dry Fork of Belt Creek, FWP fisheries biologist David Moser will explain a project to restore westslope cutthroat trout to the Dry Fork drainage. To learn more about this project check out <http://fwp.mt.gov/fwpDoc.html?id=57688>. Alternatively, you can visit King's Hill to see Jones' columbine and interesting cushion plant communities. And there will be much more to choose from.

Of course, you also can relax in camp, catch up with friends, and sit around the fire for stories, poetry and song. Some activities are planned for children as well, including a GPS weed mapping event. Bring your musical instruments and songs or poetry to share. Friday night is a potluck supper; after Saturday night's banquet (advance registration required) we will view digital photos from the various field trips, so remember to bring your camera and get that photo of a lifetime to share.

Special note: On Friday, July 5, from 1:00 to 5:00 pm we are offering a special agrostology class with Dr. Matt Lavin from 1:00-5:00 pm. You can download Matt's "Grasses of Montana" at <http://www.montana.edu/mlavin/herb/mtgrass.pdf>. Please let us know if you plan to attend this free workshop by filling in the appropriate line on your registration form. Participants can earn four professional development hours or other CEU's for professionals by taking the course. Bring your 10X hand lens and find out about the grasses of the area.

Camp Rotary is located along Belt Creek between Monarch and Neihart on U.S. Highway 89 in the Little Belt Mountains. Facilities include a new lodge for meeting and eating. There are separate bathhouses for men and women with flush toilets and showers. Tents can be pitched on-site, but cars must be left in the parking area. Parking is limited so consider carpooling. Dorm-style cabins with bunks are available on a first-come basis for \$5/person/night. Reserve your place early and bring your own bedding (mattresses are provided). Folks with trailers or large campers should consider staying at local campgrounds. The water at the camp is potable, so we will not be providing bottled water. Please remember, NO PETS!

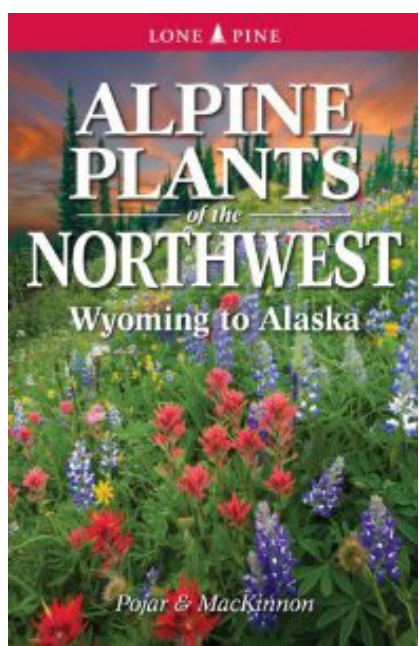
We hope to see you in July for A Little Botany in the Little Belts!



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## Botanist's Bookshelf

Submitted by Anne Garde, Clark Fork Chapter



Lately, Pete Lesica and I have been perusing “**Alpine Plants of the Northwest**,” by Jim Pojar and Andy MacKinnon, the most recent wildflower photo field guide from Lone Pine Publishing. Anyone familiar with Lone Pine’s field guides will know what to expect from this latest offering: lots of information on hundreds of plant species along with thousands of photos.

Pojar and MacKinnon’s work

has a generous introduction with a good treatment of alpine natural history. Like the other Lone Pine Guides, the plants are organized by growth form first (trees, shrubs, wildflowers, graminoids and ferns and allies). Within these sections, the plants are placed by family, rather than by color. There is a color key included for the wildflowers, with tiny photos of each white flower, each pink one etc., and page numbers to direct readers to the information.

“Alpine Plants of the Northwest” contains an exciting wealth of information about each plant, including meanings of scientific names; descriptions of leaves, flowers, fruit and bark; habitat; edibility; and similar species. There are western North America range maps for each species that make it obvious at a glance which are in Montana and which are not. The book also offers a bonus in the form of natural history sidebars on intriguing topics like buzz pollination, flowers as parabolic heaters and the usefulness of hair on plants. There are thousands of photos and line drawings. Photos are small but are of the entire plant, which can help in identification. There are even keys to genera and species. Pete says the book is like a flora with photographs instead of a simple guide for the uninitiated.

On the down side, at 528 pages “Alpine Plants” is not a book I want to lug up a trail, especially since, according to the range maps, so many of the plants occur outside Montana. Also, as Peter noted, some of the species listed don’t even come close to the alpine in Montana (for example, *Kelseya uniflora* and *Petrophytum caespitosum*). There’s a conversion table somewhere in the introduction, but descriptions use metric measurements without English

equivalents. While it’s wonderful to have so many photos, many are too small to be useful. Finally, although many botanists might enjoy the scientific organization of the book, I prefer a field guide with the flowers organized by color.

I’m happy to include “Alpine Plants of the Northwest” in my collection of flower guides, but I won’t be taking it along on any high country hikes. It’ll be in the tent, back at camp, where I’ll page through it eagerly for more facts about the plants I identified on the trail using color-coded guides like Kimball and Lesica’s “Wildflowers of Glacier National Park and Surrounding Areas”— or maybe I’ll use Shannon and Pete themselves!

Speaking of Kimball and Lesica, don’t miss a chance to look at their new publication “**Trees and Flowering Shrubs of Glacier National Park and Surrounding Areas.**” If this is your year to concentrate on learning trees and shrubs in addition to crawling around looking down at little wildflowers, this slim volume will fit easily in your daypack and assist you in your effort.

The tree section covers every tree species in the park. Shannon Kimball’s lucid text describes the growth form of each tree, as well as the bark, cones or catkins, leaves or needles, and pests and diseases. Peter Lesica’s beautiful photos enhance the text with large photos of the tree and smaller ones of the bark, the needles and cones or leaves and catkins. The color in the photos is accurate and clear; the contrast is sharp. With the focus on Glacier Park and surrounding areas, each tree species receives ample attention with two pages a piece. In addition, a fascinating special chapter describes the pests and diseases impacting forests in the Rockies. Another gives an introduction to willow characteristics as an aid in identifying species in that difficult family.

The shrubs are organized by flower color and include a description of each species as well as its habitat, edibility and traditional uses. The photos are mostly of the leaves and flowers, but in places include berries and the full shrub, and even gall mites and the like.

Shannon and Peter have come up with another beautiful and useful field guide for travelers in the Park. It will be in my pack this summer for sure. I can’t wait to figure out some of the plants I ordinarily overlook!



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# Late Bloomer: Trailblazing 18th Century Woman Botanist Finally Honored with Namesake

by Ferris Jabr, reprinted from Scientific American, January 5, 2012

In the 18th century, not yet 30 years old, she became the first woman to travel around the world. Along the way she helped collect thousands of plant specimens, some of which were new species. And she did it all dressed as a man.

In her own lifetime, French botanist Jeanne Baret fought for recognition of her contributions to science. Now, University of Utah botanist Eric Tepe has named a newly identified relative of the potato after Baret—the first species to bear her name.

Tepe learned of Baret in December 2011, while listening to an NPR interview with Glynis Ridley, who recently published a biography of the intrepid cross-dressing plantswoman. In the interview, Ridley mentioned that despite Baret's discoveries she has never been honored with a botanical namesake. Tepe realized he could do something to change that.

In 2010, while analyzing dried and pressed plants at an herbarium in Cincinnati, Ohio, Tepe noticed that some vines from Peru labeled *Solanum chimborazense* had larger flowers and more variably sized leaves than typical *Solanum chimborazense*, which is generally found in a small region of Ecuador. *Solanum* is a large and diverse genus of plants that includes the potato, tomato and eggplant. On a field expedition to Peru in October, Tepe found the same vines he had studied in the herbarium growing in the wild. Genetic analysis confirmed that the vines belonged to a species distinct from *Solanum chimborazense* and the other members of the *Solanum* genus. Evidently, the preserved specimens in Ohio had been mislabeled. Every new species needs a name and, after hearing the NPR interview, Tepe settled on *Solanum baretiae*. Tepe, his colleague Lynn Bohs and Ridley published a paper on the new species in the January issue of *PhytoKeys*.

Baret nearly received the same distinction more than 200 years ago. She was the housekeeper and lover of naturalist Philibert Commerson, who was asked to join French admiral and explorer Louis Antoine de Bougainville's expedition around the world. At the time, a royal ordinance forbade women from traveling on naval ships. So the lovers decided to disguise Baret as a man and sneak her aboard as Commerson's assistant. Jeanne Baret took the somewhat uninspired nom de plume of "Jean" Baret and probably bound her breasts and wore baggy clothes to conceal her figure.

But there was only so much privacy aboard the ship. Eventually the crewmen outed Baret as a woman. In her new biography, Ridley proposes that the crewmen raped Baret upon revealing her identity. Baret and Commerson left the expedition in Mauritius, where the ill Commerson died. After marrying an officer in the French army, Baret made her way back to France, claimed her part of Commerson's will and earned a pension for her work on Bougainville's expedition. Perhaps the expedition's most famous discovery is the popular bougainvillea vine, which adorns many a trellis and fence around the world today.

Before he died, Commerson noted in his journals that he intended to name a plant he discovered on Madagascar Baretia. But it turned out that other explorers had already discovered and named the same species. The plant Commerson chose as Baret's namesake is known today as *Turraea*. Individual *Turraea* plants typically have leaves of diverse shapes and sizes—as do individual *Solanum baretiae* plants. On a single *Solanum baretiae* plant, for example, one can find simple leaves with one main leaf body and more complex leaves made of seven smaller leaflets. *Solanum baretiae* also blooms in flowers of different colors, usually white or violet. Since the new species is so variable in appearance, Tepe thought it was a fitting tribute to a woman who disguised herself as a man in the name of science.

"Every explorer risks something, but few of the most famous botanical explorers experienced as much danger and hardship as Baret," Tepe says. "I thought she deserved something for her contribution to botany and her bravery."



"Jean" Baret. Photo by Leemage/Getty Images/ Universal Images Gr at NPR.org

Ferris Jabr is an associate editor focusing on neuroscience and psychology.





## Keep Your Eye on the Eyebrow

By Jane Horton, Kelsey Chapter

There is a lovely plant that nestles in among the lichen-covered stones of open hillsides and out on the plains of shortgrass prairies. I'm talking about blue grama grass, a member of the Family Poaceae otherwise known as *Bouteloua gracilis*. You can find it from Maine to California and central Canada south into Mexico.

What you likely notice first is the "eyebrow" flower of this grass. Yes, grasses DO have flowers, and for blue grama the flower is an excellent identifying feature. Each of the little bristles on each "eyebrow" is a floret, so you can see the grass will produce many seeds in a good year. The grass blades, or leaves, of blue grama are not as showy as the flower, but still are good as an identifying feature—usually a bit curled and low to the ground.

Blue grama is known as "sod-forming" grass, and the sod is where all the action takes place from the plant's point of view. What this means is the majority of the plant is at or below the surface of the soil. The roots, developing from short rhizomes, mass at the subsurface to a depth of around two and a half feet, but have been found reaching down as far as five or six feet! Just think, a plant that has leaves only inches high, but is absolutely enormous underground.

Plant roots are a fabulous tool for maintaining environmental integrity as a result of their positive effects on soil. Roots have soil-binding abilities and assist with soil formation. Roots also slow down runoff in spring and in heavy storms by holding the soil with the sod. They also keep dust from blowing and help prevent siltation of our waters in the same way. Diverse plant neighbors are a good thing and thoughtful management of our land's resources keeps the complexity of plants, soils and animals in balance. Look for combinations of needle and thread grass, bluebunch wheatgrass, sagebrush and native wildflowers as potential native plant community neighbors for blue grama in its range here in Montana.

Blue grama is such a small specimen, you might wonder who needs this tiny plant? It doesn't offer much cover for wildlife or livestock, but there are plenty of nooks and crannies for insects, the other wildlife. And there are many large grazing mammals that prefer blue grama grass when it greens up in summer, and on into autumn. Buffalo and domestic sheep often seek it out. And don't forget that smaller mammals, birds and some insects, like ants, eat blue grama seeds.

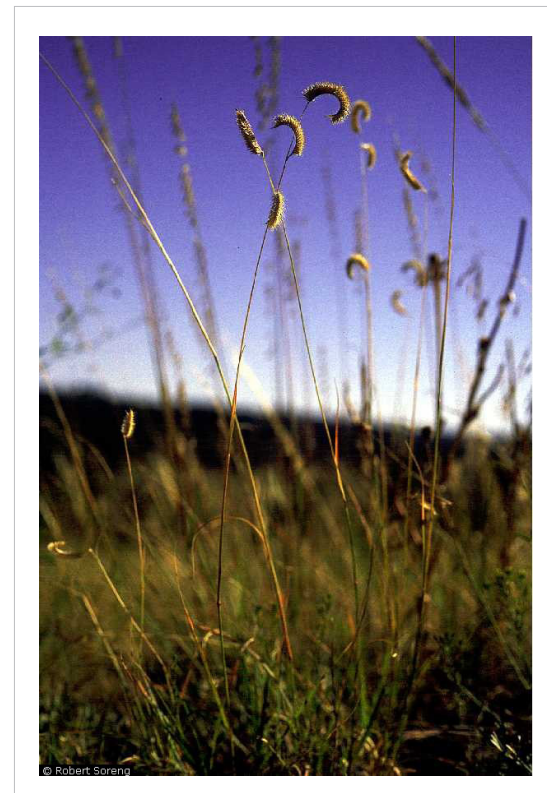
Seeds are not the primary way this plant continues to establish. Rhizomes can grow away from the main plant, through the upper soil, and then produce new grass stems and roots. Plants that establish from seedlings are very tender and require good moisture conditions. Germination is a high-risk venture and a majority of seeds do not make it. But, with some tender loving care, we can get blue grama to establish in our rock gardens and, once there, we will have a very hardy native plant incorporated into the community.

Blue grama was documented by many early explorers. *Bouteloua gracilis* is a long-term native plant of our Montana landscape, and maintaining it in a healthy and balanced plant community will help keep our soil and water in stable condition.

Jane Horton has a doctorate in Range Science and works as a Vegetation Biologist with Montana FWP. This article originally appeared in the Helena Independent Record in 2001.



*Bouteloua gracilis*. USDA-NRCS PLANTS Database / Hitchcock, A.S. (rev. A. Chase). 1950. Manual of the grasses of the United States.



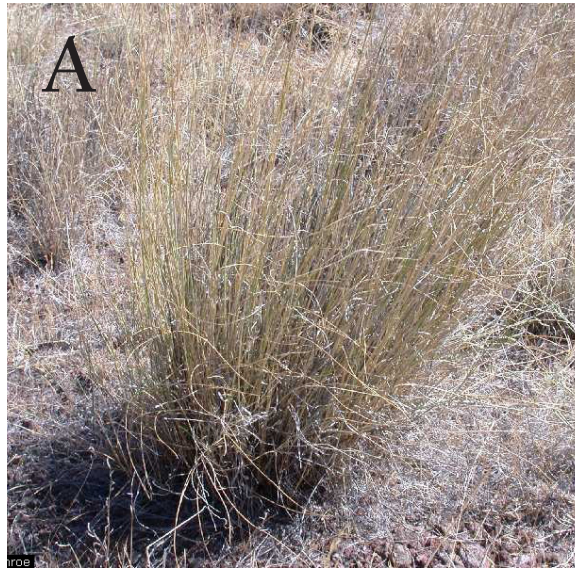
*Bouteloua gracilis*. Photo by Robert Soreng @ USDA-NRCS PLANTS Database



## Poaceae Prep

Need to brush up on your grass identification skills? The Kelsey Chapter has a special agrostology workshop planned for this year's Annual Meeting. Matt Lavin, MSU Herbarium Curator, Plant Sciences Professor, Agrostology Instructor, and MNPS member will teach the workshop, assisted by Steve Cooper.

To polish your grass-ID skills, take a look at the photos here. How many can you identify?



Gary A. Monroe



Loren St. John



Cassandra Skinner



Cassandra Skinner



Photo by Patrick J. Alexander

All photos courtesy of USDA-NRCS PLANTS Database

A: Bluebunch wheatgrass (*Pseudoroegneria spicata*); B: Indian Ricegrass (*Achnatherum hymenoides*); C: Basin Wildrye (*Leymus cinereus*); D: Prairie Junegrass (*Koeleria cristata*).



## MNPS Chapters & the Areas They Serve

CALYPSO CHAPTER - Beaverhead, Madison, Deer Lodge, and Silver Bow Counties; southwestern Montana  
 CLARK FORK CHAPTER - Lake, Mineral, Missoula, Powell, and Ravalli Counties  
 FLATHEAD CHAPTER - Flathead and Lake Counties plus Glacier National Park  
 KELSEY CHAPTER - Lewis & Clark, Jefferson, and Broadwater Counties  
 MAKA FLORA CHAPTER - Richland, Roosevelt, McCone, Sheridan, and Daniels Counties  
 VALLEY OF FLOWERS CHAPTER - Gallatin, Park, and Sweet Grass Counties plus Yellowstone National Park

All MNPS chapters welcome members from areas other than those indicated. We've listed counties just to give you some idea of what part of the state is served by each chapter. Watch for meeting announcements in your local newspaper. Ten paid members are required for a chapter to be eligible for acceptance in MNPS.

Your mailing label tells you the following:

CHAPTER AFFILIATION: CAL=Calyпсо; CF=Clark Fork; F=Flathead; K=Kelsey; MF= Maka Flora; VOF=Valley of Flowers

YEAR YOUR MEMBERSHIP EXPIRES: Memberships expire in February of the year listed on your mailing label.

**Use this form to join MNPS only if you are a first-time member!** To renew a membership, please wait for your yellow renewal card in the mail. **Moving? Please notify us promptly of address changes at [mtnativeplantmembership@gmail.com](mailto:mtnativeplantmembership@gmail.com).**

Membership in 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 October each year will expire the following February; those processed after November 1 will expire in February of the year after. Membership renewal notices are mailed to each member in January. Please renew your membership before the summer issue of *Kelsey* so your name is not dropped from our mailing list. Your continued support is crucial to the conservation of native plants in Montana. THANK YOU!

## MONTANA NATIVE PLANT SOCIETY MEMBERSHIP

Name (please print) \_\_\_\_\_ E-mail \_\_\_\_\_

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Delivery preference \_\_\_\_\_ paper copy by mail \_\_\_\_\_ digital copy by email

*You will receive membership acknowledgement by email, as well as a pdf of the most recent Kelsey. Future newsletter issues will arrive according to your preference indicated above.*

**JOIN OR RENEW ONLINE at  
[www.mtnativeplants.org](http://www.mtnativeplants.org)**

or by mail at  
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 P.O. Box 8783  
 Missoula, MT 59807-8783

| Membership Level         | Dues w/affiliation  | Dues w/o affiliation |
|--------------------------|---------------------|----------------------|
| Individual               | \$20                | \$15                 |
| Family                   | \$25                | \$20                 |
| Business/Organization    | \$40                | \$35                 |
| Living Lightly           | \$15                | \$15                 |
| Lifetime (one-time pymt) | \$300 per household | -----                |

*Canadian subscribers please add \$4.00 to cover mailing costs. Additional donations may be specified for a particular project or the general fund.*



## About Montana Native Plant Society

The Montana Native Plant Society (MNPS) is a 501(c)(3) not-for-profit corporation chartered for the purpose of preserving, conserving, and studying the native plants and plant communities of Montana, and educating the public about the value of our native flora. Contributions to MNPS are tax deductible, and may be designated for a specific project or chapter, for the Small Grants fund, or the general operating fund.

Your yearly membership fee includes a subscription to *Kelsey*, the quarterly newsletter of MNPS. We welcome your articles, field trip reports, book review, or anything that relates to native plants or the Society. Please include a line or two of "bio" information with each article. Drawings should be in black ink or a good quality photocopy. All items should be typed, saved in Microsoft Word or rich text format (rtf), and sent electronically to: carokurtz@gmail.com or mailed to Kelsey Editor, 645 Beverly Avenue, Missoula, MT, 59801.

Changes of address, inquiries about membership, and general correspondence should be sent to MNPS Membership, 398 Jeffers Road, Ennis, MT 59729. 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 native plants or the interests of MNPS members.

The deadline for each issue is Fall–September 10; Winter–December 10; Spring–March 10; Field Trip Guide–April 10; Summer–June 10. Please send web items to our webmaster concurrent with these dates.

If you want extra copies of *Kelsey* for friends or family, call the Newsletter Editor or email: carokurtz@gmail.com. No part of this publication may be reprinted without the consent of MNPS. Reprint requests should be directed to the Newsletter Editor.

Visit our website at: [www.mtnativeplants.org](http://www.mtnativeplants.org) or contact our webmaster Bob Person at: [thepersons@mcn.net](mailto:thepersons@mcn.net)

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Moving? Please let us know at [mtnativeplantmembership@gmail.com](mailto:mtnativeplantmembership@gmail.com)

## Montana Native Plant Society

*Membership Chair*

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