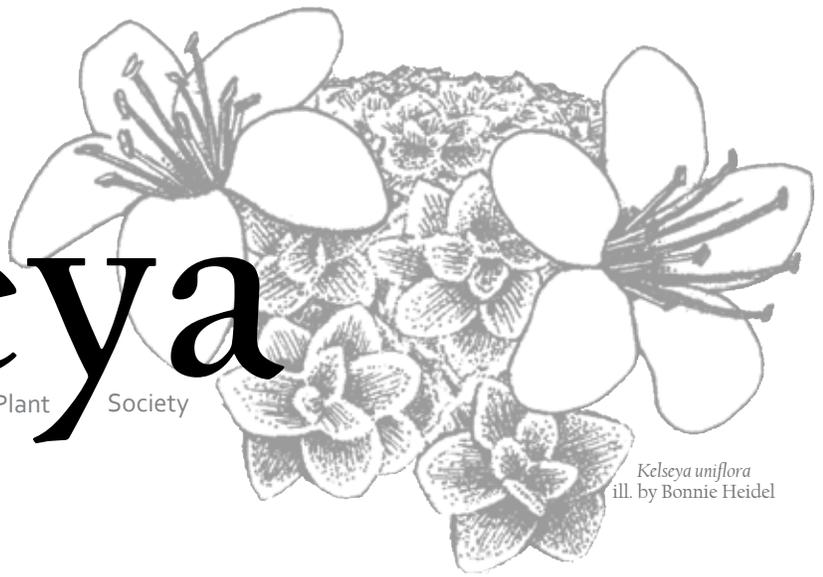


Kelseya

Newsletter of the Montana Native Plant Society



Kelseya uniflora
ill. by Bonnie Heidel

Trillium ovatum in Western Montana Implications for Conservation

by Tarn Ream

[This is an updated version of an article that originally appeared in the Summer 2004 issue of *Kelseya*. Tarn recently defended her Master's thesis on the history of *Trillium* in Montana, so we thought it fitting to reprint a documentation of some of her work. —Ed.]

Those of you who walk along the forested streams and seeps of western Montana in the spring are likely to encounter the white-flowering herbaceous perennial *Trillium ovatum*. *Trillium*, a name that refers to three leaves and three petals, has many common names including Wake-robin, because it blooms early in the spring, and Bethroot (Birthroot), in reference to traditional medicinal use of the rhizome by Native Americans for childbirth. There are many species of trillium in North America, but only Western Trillium, *Trillium ovatum* (ovatum describes its egg-shaped leaves), occurs in Montana.

Trilliums mature slowly and live a long time. One plant was aged at more than 72 years! Their life starts with a two-year germination cycle—the first year a root grows, the second year a cotyledon sprouts. For several years the plant has only one leaf, then graduates to a three-leaf juvenile stage. In Montana, trillium takes at least 19 years to reach its three-leaf reproductive (flowering) stage! Plants do not reproduce clonally—recruitment of offspring is exclusively dependent upon sexual reproduction. Another interesting aspect of trillium biology is the regression of flowering reproductive plants to a nonflowering (and therefore nonreproductive) state from year to year.

Insects play important roles in the trillium's life cycle. Plants are self-incompatible, and cross-pollination by insects is necessary for seed production. Trillium flowers do not produce nectar, although several insects, such as



Trillium Ovatum. Lindsey Koepke @ USDA-NRCS PLANTS Database

beetles and bees, forage for their pollen. Seed dispersal is also dependent on insects—each seed bears a conspicuous, yellow food-body, called an elaiosome, which is attractive to ants and yellow jackets. The insects transport seeds to their nests, eat the oily food-body and discard the seeds in their “dump,” which is a well-fertilized, safe site for germination.

Random events can have a large impact on trillium's reproductive effort—these events vary in timing, causal agent, and magnitude. Trillium in Montana are often the

Continued on page 3

Chapter Events

Calypso Chapter

Saturday, 7/16: Botany by Canoe

The Calypso Chapter invites all MNPS members for a weekend of botany and canoeing with Thomas J. Elpel, author of "Botany in a Day" and founder of the Jefferson River Canoe Trail (www.jeffersonriver.org). The organization is a chapter of the Lewis & Clark Trail Heritage Foundation. JRCT is sponsoring a public canoe float on the Jefferson River on Saturday, 7/16, followed by a potluck and optional overnight camping. Those who are interested can join or continue on downriver with Tom on 7/17 for additional paddling, botanizing and foraging. Bring your own canoe if you can; Tom may have extra canoes to loan out at no charge. Registration required. Info: Tom at thomasjelpel@gmail.com.

Saturday, 8/6, 9:00 a.m. Alpine Ecology Field Trip
Join University of Montana/Western Prof. Wendy Ridenour on a hike to the summit of Mt. Baldy. Meet at the Dillon Comfort Inn parking lot, in front of the entrance. Bring a lunch, several layers of clothing and a rain jacket. We will carpool to the trailhead. Info: Wendy at wendy.ridenour@gmail.com.

Saturday, 8/20, 9:00 a.m. Big Sheep Creek Field Trip
Learn your grasses and visit a beautiful area in southwest Montana. This is a long drive but well worth it! Rich Proddgers will lead exploration of the area and help participants learn the major grass species. We'll also look for the alkali primrose. This will be a full day, so bring a lunch and dress appropriately in layers, including rain gear. Meet to carpool at the Dillon Comfort Inn parking lot, in front of the entrance. You can drive your own car if you wish to stop in Dell for dinner on the return trip. Info: Rich at bighornenv@bresnan.net.

Clark Fork Chapter

Thursday, October 13, 7:30 p.m. Elaine Sutherland has been studying Montana's forests for the U.S. Forest Service over the past two decades. Now she has a story to tell: How Surprising Complexities in Historical Fire Patterns Shaped Today's Forests. Rm Log Gallagher Business Bldg, UM Campus.

Flathead Chapter

Monthly meetings are held the third Wednesday of the month at 540 Nucleus Ave., Columbia Falls. Programs start at 7:00 pm unless otherwise noted. Members are invited to attend the 5:30 general meetings beforehand to discuss and plan chapter activities and business. Feel free to bring a sack supper.



Tuesdays, 6/21-8/23: Volunteer Opportunity at Glacier National Park Nursery. Help with seeding, transplanting, weeding and cleaning, or work on a particular research or experimental project. Bring a sack lunch, your favorite work gloves and clothes that can tolerate dirt. Drop in and work an hour or stay the entire day. Meet at the Native Plant Nursery, Glacier National Park. Info: Joyce at 888-7817.

July 9-11 (Dates approximate): Pseudo Scorpion Hunt.
Ed Clebsch, emeritus professor of botany and ecology from the University of Tennessee, Knoxville, will be visiting our area in early July to collect pseudo scorpions (small = 1.5-12.5 mm, arachnids) from the forest floor in old growth western red cedar stands for a colleague in Australia. With proper permits, he plans to collect on the Swan Lake Ranger District on Flathead National Forest, Trail of the Cedars in Glacier National Park and on to Libby, Spar Lake and the Ross Creek Giant Cedars. He is hoping some members of the MNPS will join him for part of a day or more of this interesting project. Contact Ed for a final schedule at: eclebsch@utk.edu, (865) 856-3350 (H) or (865) 254-3587(C).

Thursday, 7/28, 10:00 a.m. Glacier National Park Weed Blitz
Join other citizens in removing invasive plants from priority sites in Glacier National Park. 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; registration required. If there is sufficient interest, a second date may be set. Info: 888-7986.

If you would like to lead a field trip in the Flathead area this summer, contact Shannon Kimball, 257-0664, and we will help with publicity.

Kelsey Chapter

For information about Kelsey Chapter programs and events call Kathy at 449-6586.

Maka Flora Chapter

For information about upcoming Chapter events, call Beth Madden at 789-7266.

Valley of Flowers Chapter

Saturday, July 30. *Note that the date for this trip is July 30, not June 30, as given in the Field Trip Guide.* Near Bozeman, location to be announced depending on what's blooming where, led by Matt Lavin, MSU professor of Plant Science and Plant Pathology and longtime MNPS member.

Saturday, August ? (date TBA) A Visit to the MSU Horticulture Farm to see work in progress on natives being grown for seed.

first plants to emerge once the snowpack melts, which increases the risk of predation and exposure to extreme weather conditions. Simultaneously, fewer potential pollinators are available at that time. Deer or invertebrate herbivory and late snowfall and/or hailstorms play major roles in damage to flowering plants in Montana. Once a plant makes it to the blooming phase, it still needs to be pollinated and set fruit. Plants that experience disease, aborting flowers, and early senescence (due to unknown environmental and/or biotic factors) will not form capsules or produce viable seed. Of the capsules that do form there is also a suite of factors that can disturb seed release or dispersal, such as disease, elaiosome robbers, and seed herbivory by mice (which kills the seed). Herbivory by deer plays a large role in the reproductive cycle of trillium in western Montana—which is harmful to short-term and long-term reproductive effort when the flower, along with the rest of the plant, is snipped in the spring. However, when deer eat the seed capsules, they act as important long-distance dispersers of seed.

Western Trillium is sensitive to disturbance, particularly in the harsh Montana conditions. Removal of the medicinal rhizomes for commercial use is often skewed toward less common large, reproductive-age plants. There is concern that market-driven, unsustainable harvest of medicinal plant species, such as *Trillium ovatum*, could decimate populations in a very short time. I began a documentation and research project in the spring of 2001, in order to help in conservation of what Klaus Lackschewitz referred to as “perhaps the most elegant spring wildflower in our area.”

Conservation of a plant population requires an understanding of the dynamic aspects of the population in its environment. Demographic monitoring can be used to assess if populations are maintaining themselves under current conditions. The demographic structure of a population—the distribution of individuals in each stage class (juvenile, nonreproductive, and reproductive)—can give clues to the status of a population. Trillium populations that I am studying have a slow growth rate, about 4% per year, with low recruitment of new plants and low mortality of established plants. Reproductive plants comprise a low percentage of the total population, and are significantly older and larger than the juvenile plants, which represent the majority in these populations. Additionally, approximately 27% of the reproductive plants regress to a nonflowering state in any given year. Fruit set, seed production, and seed density show extreme year-to-year variation, and tend to be low when considering population sizes. This life-history profile is similar to other herbaceous forest perennials that depend on survival, slow individual growth, and low mortality of mature plants (rather than fecundity and recruitment) to maintain stable population sizes. Disturbance of this delicate balance, in the forms of harvest, habitat destruction, introduction of alien/invasive species, or climate change, could have

a significant impact on these long-lived populations. Documenting the demographic structure and population dynamics of *Trillium ovatum* in Western Montana will provide critical information for conservation planning and sustainable use of this species.

I would like to thank the Montana Native Plant Society for the support of this project through the Small Grants Program in 2002 and 2003.

Tarn Ream just received a Masters in Interdisciplinary Studies from the University of Montana. She will continue her yearly Trillium census until who knows when, and hopes that her work helps the development of management strategies for conservation of this fascinating plant.



Life cycle of *Trillium Ovatum*.

Sketches by Tempe Regan, arranged by Marlene Hutchins



MNPS Small Grants: Finding a Home for Native Plants on Agricultural Lands

By Gina Raicovich



The new native garden at the PEAS farm. Photo by Gina Raicovich

On a spring day in 2009, I stood in an unused plot of the Garden City Harvest/University of Montana's Environmental Studies Program's PEAS Farm, with the farm's manager Joshua Slotnick. Although the area bordered the agricultural fields, it was too rocky to use for production and harbored a strong population of quack grass and agricultural weeds. Together we began to build a vision of assembling a native plant community that would complement the farm ecologically, enrich the farm's educational programs and offer a space for visitors and workers to experience the special attributes of the native plants of our region. I was offered the opportunity to design and implement this project, an experience which has taught me not just about native plants, but about the challenges and rewards of integrating native plants into our working landscapes.

Incorporating native plants into an agricultural system is commonly promoted as a form of conservation agriculture. Conservation agriculture employs management strategies that aim to soften the ecological boundaries of our farms, ranches, orchards and other working lands. Creating perennial native plant communities in strips within agricultural fields and around their borders can provide soil stability and attract pollinator communities

while bolstering native habitats. The challenge rests in balancing the needs and resources of the land manager with the effort and resources needed to establish native plants in disturbed sites. Every farm has a unique history of land use and every farmer has his or her own goals and vision for the future of their land. I have learned that it is essential to consider all of these factors.

The Land: The PEAS Farm sits on a bench above Rattlesnake Creek and although its boundary is not more than 50 yards from the water's edge, it rests above the riparian zone. Ecologically, it might have been characterized as inter-mountain prairie prior to disturbance. Because the soil is fertile, the land has been farmed for generations. While soil tests confirmed the soil's rich nutrient levels in our planting area, the quack grass and weeds tell the story of its history of disturbance. Our goal was to assemble a native plant population that would create a pocket of native habitat and bolster the farm's pollinator population.

The People: The PEAS (Program in Ecological Agriculture and Society) Farm is jointly run by Garden City Harvest and the Environmental Studies department of the University of Montana. This 10-acre organic farm serves as an outdoor classroom for college students, at-risk youth and volunteers to learn about an



ecologically sustainable approach to agriculture. College students who commit to a semester or summer-long educational internship have an opportunity to build community with their peers through experiencing the challenges and rewards of cultivating food. In addition, the PEAS farm runs a CSA share program and makes food donations to the Missoula Food Bank, homeless shelters, senior citizen centers, and other agencies. Any Missoulian can experience the farm by volunteering and taking home a few veggies for their efforts. In essence, while the local community supports the farm, the farm also supports the community.

Joshua and I wanted to create a space that would be engaging and interesting for visitors and an enjoyable resting place for the farm's workers. Educationally, it should continue to define and broaden the concept of ecological agriculture. Logistically, with the farm's many ongoing programs and plentiful production, it was important that the project be low maintenance, both now and in the future.

Because we needed a design concept that was low maintenance, this project was not necessarily going to take the shape of a traditional garden. At the same time, it did not conform to the restrictions of a restoration project because we had a bias for certain species that did not allow us to mimic reference sites along Rattlesnake Creek. For instance, we needed a plant community that would not require aggressive weeding to thrive, so we focused on planting trees and shrubs. We were also interested in engaging more than 3,000 children and student visitors, so we chose plants that provided edible berries and those with unique uses by native and early peoples. That being said, we knew that over the long-term, the ecosystem would naturally select for itself the species that best belonged. Our goal was to simply set the space on a trajectory towards a community that would provide ecological benefit, compliment the farm and become an educational tool.

As a graduate student new to Montana and new to the native plant communities of the west, the task of balancing these discrete needs was initially overwhelming. I found inspiration while hiking in the woods, where I began to learn to identify Montana's native plants, notice where they lived and when they bloomed. As I compiled lists and notes and collected trees, shrubs, forbs and grasses, the design began to take shape. Student and community volunteers helped to weed the site, spread out a thick blanket of mulch, and dig in the border to help keep the quack grass at bay. To create areas of focus we built three mounds that showcased medicinal plants, prairie grasses, forbs and plants specially adapted to dry landscapes. These

landscaped mounds were surrounded with a diverse community of trees, shrubs and ground covers. A serpentine trail takes visitors to a stump circle surrounded with edible berry shrubs and a mason bee box, which will help encourage growth of the pollinator community. This fall, the site will be completed with interpretive signs and information. In the coming years, as the site fills in with growth, the hope is that we have created another patch of native plants within the city limits to educate the public, bolster native populations of plants and insects, and share a vision with others of the opportunity for native plants to complement our working lands. In addition, as I observe the successes and shortcomings of my design choices, my understanding of Montana's native plants and their potential role in agricultural systems deepens.

This project would not have been possible without the support of the Montana Native Plant Society's Small Grants program,* Marilyn Marler, the University of Montana's Conservation Greenhouse, and enthusiastic volunteers from the University of Montana. To all involved, our deepest thanks in helping to create a space that will further enrich our community.

**Gina was awarded a MNPS Small Grant in the winter of 2010.*



Volunteers help prepare the planting site. Photo by Gina Raicovich

Garden City Harvest is a non-profit organization whose mission is to build community through agriculture by growing produce with and for people with low-incomes, offering education and training in ecologically conscious agriculture, and using their sites for the personal restoration of youth and adults. Visit www.gardencityharvest.org to find out more.

Our good friend, native plant enthusiast and author, Dee Strickler, passed away on March 12th. He was 83. Dee was one of the Flathead Chapter's most kind-hearted and generous members. He will be deeply missed. Please enjoy the following piece composed by his wife, Claire, and a short essay about Dee by Terry Divoky. —Shannon Kimball

A TALE OF TWO PERIPATETIC PENSTEMANIACS

By Claire Strickler

Life with Dee Strickler was always an adventure! By turns I have been a plywood worker's wife, an orchardist's and sheep breeder's wife, an assistant-to-full professor's wife, a graduate student's wife, a finger joint business owner's wife, a builder's wife and lastly, a botanist/author's wife, which is the way most of you know me. It sounds as though I had as many marriages as Liz Taylor, but through all those roles I was married to one man, for nearly 58 years.

Dee was mostly a self-taught botanist, although he took botany courses at Washington State and Syracuse for his first two degrees in Forestry. The "Dr." on some of his books was not a degree in Botany as many assumed but a Doctorate of Forestry from Duke University. As he wrote in the dedication to "*Wayside Wildflowers of the Pacific Northwest*," "I couldn't make a fisherwoman of her, so she made a flower lover of me." He took my hobby much farther than I ever could have. He started taking pictures on hikes with our two sons and their Boy Scout troop in the Blue Mountains of Washington and Oregon, so that we could identify the flowers later. At the end of his "builder" phase he began to explore the possibility of a book on Montana wildflowers. "Not a big enough market," was the verdict of Falcon Press in Helena. They advised him to self-publish, for a larger share of the profits, but one big book was too expensive, so he started with a small one, "*Prairie Wildflowers*," expanding it to include the northern Rockies as far south as northern Colorado. Profits from that book paid for the next one, and so on. By the time that he was working on "*Wayside*," he was going to such interesting places in the Pacific Northwest that I retired from my job as principal of a Christian School and went with him. I especially enjoyed the trips to the Oregon and Washington coasts, since Montana's major defect is that it doesn't border an ocean.

Dee preferred to stay in motels rather than camping in a tent or a camper. We often found ourselves in very small towns at the end of the day, close to where he wanted to catch the early morning light on the flowers. At one such

motel I became nervous when I saw a big hole in the screen door, but it was the only one in town, so we rented a room. When I sat down on the only chair in the room, it broke under me! We discovered the mattress was quite concave when we both rolled to the center at bedtime. We didn't get much sleep that night, but the shot of *Iliamna rivularis* (Globe Mallow) with the Pryor Mountains in the background the next morning was worth it.

Photographing all the penstemons in the Pacific Northwest for book five became a treasure hunt. Dee put 60,000 miles on his pickup to photograph all 83 species and sub-species. It took four years because some of those years were drought years and certain penstemons didn't bloom. Other times, he would be directed to an area by a herbaria and university experts, only to discover upon arrival that he was too early or too late for the bloom. So on July 2, 1996, we set out to photograph the 10 rare, elusive species he needed for his last book. It was the most memorable of the trips we took together. I had become adept at spotting penstemons growing on the sides of the road at 65 m.p.h. by then. Sometimes they turned out to be lupines, but often there would be penstemons in the near vicinity.

Our first stop on that trip was the University of Montana's wildflower garden, where he photographed *Penstemon diphyllus*. We then headed to the lookout at Pittsburg Saddle where he captured *P. elegantulus*. On July 4, in the Columbia Gorge he found *P. richardsonii* var. *richardsonii*, and on Oregon 35, *P. serrulatus*. By now, we were high fiving each other and exulting in our discoveries. Two in one day! On July 5 at Crater Lake, we located *P. davidsonii* var. *davidsonii* and at the Rough and Ready Botanical Wayside, *P. roezlii*. More celebration! In Josephine County on July 6, we found *P. anguineus*, the Siskiyou penstemon, and then headed to southern Idaho.

Our next stop, on July 8, was the Goose Creek drainage to find *P. idahoensis*, which grows only in that area. Dee had visited it for three years in a row, with no luck. We drove back and forth along that creek, getting out at likely spots with no success. Desperate, we finally stopped at an outcrop of volcanic tuff beside the road. Dee scrambled up a cliff and searched the plateau at the top while I walked

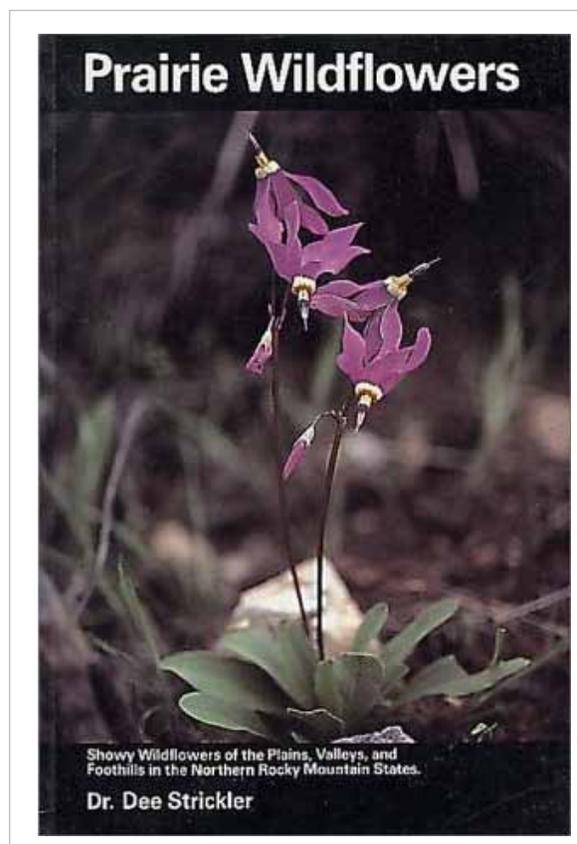


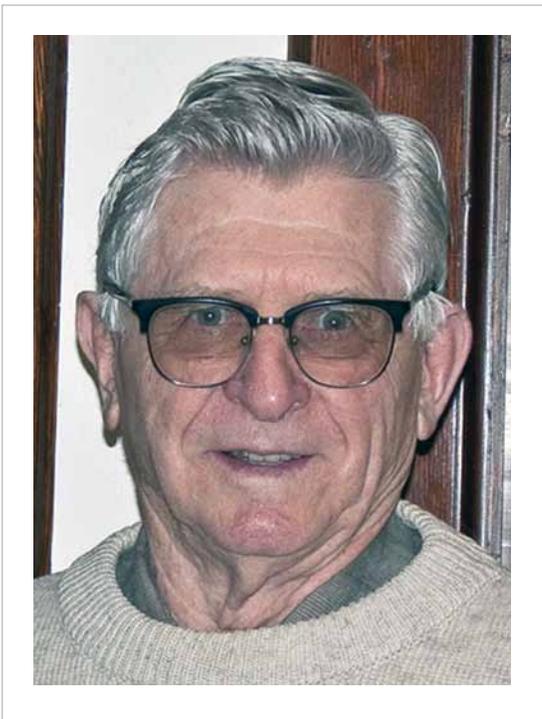
along the road. A rancher on an ATV was moving his cattle from one pasture to the other and stopped, asking me what I was doing. When I told him we were looking for wildflowers, he launched into a hostile diatribe about some government employee who had told him he had an endangered plant on his land. He expected that the Feds would probably stop him from using that area to graze his cattle. He said, "I haven't been able to find it, but if you do, will you come tell me where it is?" He pointed to his house up the road. I smiled innocently, but didn't promise. I continued walking up and down past the tuff ledge which was about five feet high, with no way to reach its top from the road. Suddenly, I spotted what I thought was a penstemon. Dee appeared at the top of the cliff, and I called to him. He scrambled down to the top of the ledge and declared it *P. idahoensis*! There were only three open blossoms on that one plant, but he was able to get its picture. We then discovered many more plants, none in bloom. In fact some of the plants were on tuff that had sloughed down into the road a few feet from where the rancher had driven! Needless to say, like the wise men leaving Herod, we "departed into our own country another way."

The next day on a forest service road off ID 21 we found *P. attenuatus* var. *militaris*. Later that day, I was searching near a road by the north fork of the Boise River, while Dee searched the woods. A car with three men in it stopped and one asked brusquely "What are you doing on my land?" I replied that I was just looking around, which they didn't like. I started moving toward the car, so they drove on, luckily before they saw Dee with his camera. He had found *P. laxus*! That was our tenth and last penstemon! We were very happy that he now had the pictures he needed, and I was even happier that we were leaving that part of southern Idaho, where nature lovers were not appreciated!

Dee labored over his descriptions in the winter, when Montana's cold and snow require an indoor activity. He was a bit restless in winter when he no longer had books to do, but by then, driving miles and miles for one flower had lost its appeal. He'd say "Been there and done that." whenever people asked about his next book. Nevertheless, he always described his years of traveling around the Pacific Northwest as "FUN!" and I feel privileged to have traveled with him, wherever our shared love of wildflowers took us.

Dee Strickler was a full professor at Washington State University, and the author of five very popular books: "Prairie Wildflowers," "Forest Wildflowers," "Alpine Wildflowers," "Wayside Wildflowers of the Pacific Northwest" and "Northwest Penstemons."





Memories of Dee Strickler

by Terry Divoky

Penstemons and Dee... there isn't another flower that reminds me so much of him. Dee introduced me to that crazy word *penstemaniacs* and to the beauty, variety and fun of growing these amazing plants.

I attended my first native plant party on a warm, sunny, early summer day in the early '90s. Hosted by Dee and his wife, Claire, in their flower-filled backyard, I saw more penstemon species and colors than I ever imagined ... blue, purple, yellow, white, pink, baby blue, red. I'd never thought much about gardening with native plants but here was a yard filled with them! I was fascinated by the idea that a person could have "wildflowers" in their yard and watch them germinate and grow in the spring, bloom in the summer, go to seed in the fall, and show their winter form in the snow.

I was just beginning to learn how to identify flowers. All I knew about penstemons was that if a flower was blue and looked like a snapdragon it might be a penstemon. My level of observation wasn't keen enough to notice subtle differences in leaves and flower structure. Over the years Dee shared his knowledge about native plants, and penstemons in particular, with me. He gave me little brown envelopes

scribbled on the outside with a penstemon's botanical name (that seemed so exotic and wonderful to me) and directions on how he had grown the plant. Opening the envelope I'd find tiny seeds which turned into amazing plants.

Dee and Claire would check out my booth at Farmer's Market and purchase a penstemon I had grown or we'd discuss germination techniques or seed gathering. They were always so complimentary about my plants, they made me feel proud of what I was doing. Seeing them approach my booth I'd get excited about the upcoming visit.

My dogged-eared copy of *Northwest Penstemons* (by Dee) was available for Farmer's Market customers to use. It was replaced by Dee with several new copies but I still favor my dirty, old, water-stained copy signed by Dee.

I will greatly miss Dee's kind words and penstemon conversation, but the many species of penstemon now growing in my yard will remind me of Dee's generosity and kindness. Maybe some warm, sunny, early summer day I will host my own native plant gathering in his honor.

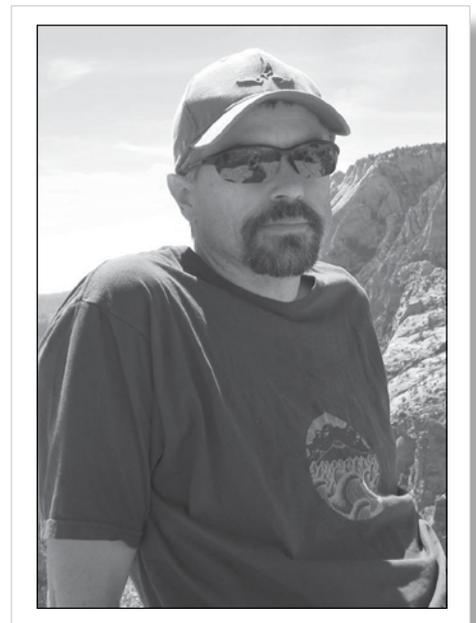
President's Platform

My wife Becca and I planted our vegetable garden last weekend. Digging, raking, setting up irrigation, planting, and all the things that go into a garden. A long day, and some sore muscles. The next day, we went for a hike in the foothills of the Rocky Mountain Front. We were greeted by lush grass and wildflowers all around - with all the recent rain, everything was fresh and vibrant. Quite a treat, especially considering that no effort on our part was required

That's one of the cool things about our native plants - they are adapted to the conditions Montana gives them, and so take care of themselves. While poor management or invasive weeds can take their toll, given a chance our native plants just thrive.

If we can keep up the weeding and watering, our garden work will pay off with some fresh food to eat. But no matter what we do or don't do, out beyond the garden the natives will be there. It will be a great summer!

~ Dave Hanna



Important Plant Areas Update

By Peter Lesica

Montana has three new Important Plant Areas (IPAs). Last winter, Montana Native Plant Society members submitted four nominations, and three of these were approved by the species-based IPA Committee in February. The fourth nomination, The Powderville Road-Hell Creek Formation area, was delayed pending further inventory work this summer. Montana IPAs are described on the MNPS website, [www.mtnativeplants.org/Important Plant Areas](http://www.mtnativeplants.org/ImportantPlantAreas).

Big Sheep Creek Basin is a high, sparsely-populated valley in extreme southwest Montana. The IPA encompasses 83 square miles of calcareous wetlands and riparian areas in a mosaic of sagebrush steppe, which include public land managed by the U.S. Forest Service and the Bureau of Land Management as well as private property. It is home to Montana's only known population of *Primula alcalina* (alkali primrose) and one of only six populations in the world. Two other globally rare species, *Carex idahoensis* (Idaho sedge) and *Eriogonum soliceps* (Railroad Canyon buckwheat) also grow in the IPA, as well as ten other species of plants considered rare in the state. After a lengthy discussion, the IPA Committee decided that MNPS will not disclose the exact location of this IPA to the public because of the private land involved.

The Centennial Sandhills IPA is found at over 6,500 feet in the Centennial Valley of southwest Montana. The site is a system of sandhills that developed when Red Rock Lakes were dry and strong prevailing winds moved sand from lake bottoms and deposited it as low hills adjacent to the shore. The Centennial Sandhills are thought to be the highest sandhills north of Colorado. The open sand of the Centennial Sandhills provide habitat for four species considered rare in Montana: *Cryptantha fendleri* (Fendler's cat's-eye), *Astragalus ceramicus* var. *apus* (Idaho painted milkvetch), *Elymus flavescens* (yellow wildrye), and *Oenothera pallida* ssp. *idahoensis* (Idaho pale evening primrose). All but the first of these species occur nowhere else in Montana. Late-seral vegetation is sagebrush steppe. The Centennial Sandhills IPA encompasses about four square miles of public land administered by the Bureau of Land Management and the U.S. Fish and Wildlife Service (Red Rock Lakes National Wildlife Refuge) and private land owned by The Nature Conservancy.

St. Mary Peak in the Bitterroot Range south of Missoula has long been a destination for botanists because of the interesting plants and the presence of a trail to the lookout tower on the alpine summit. The St. Mary Peak IPA provides habitat for three species endemic to the Bitterroot Range and considered globally rare: *Physaria humilis* (Bitterroot bladderpod), *Penstemon flavescens* (yellow beardtongue), and *Draba daviesiae* (Bitterroot draba). There is also a population of *Nodobryoria subdivergens*, a globally rare lichen. St. Mary Peak is also the only known Montana location for two mosses, *Dicranum acutifolium* and *Grimmia incurva*. The large number of visitors each year constitutes a threat to the sensitive alpine habitat. The St. Mary Peak IPA is about half alpine turf and fellfield and half subalpine forest. It encompasses approximately three square miles within the Selway-Bitterroot Wilderness Area.



Primula alcalina. Photo by J. Salix.



Centennial Sandhills. Photo by Peter Lesica.



Physaria humilis. Photo by Kelly Chadwick.



News & Notes

Valley of Flowers Chapter Events, October 2010 - April 2011

by Anne Banks

Tuesday evening meeting topics ranged from "Surprising Findings from County Extension Agents and Sobering Results," "New Plant Invaders Early Detection/ Rapid Response Network," to "White Bark Pine in the Greater Yellowstone," and "Wildflowers of the Northern Mojave."

The March and April programs focused on selection and development of plant materials for use in our area. **Phytoremediation in Montana:** Westscape Nursery in Belgrade has developed a select group of native plants for use in restoring salt-impacted land damaged by coal bed methane development in eastern Montana and Wyoming. **Native Grasses, Forbs and Shrubs for Conservation on the Northern Plains:** The Bridger Plant Materials Center has selected and released over 30 of these species for conservation use.

The season wound up with the annual knapweed pull on the Kagy Blvd. road cut in Bozeman. We're excited to report that we are definitely making progress in eliminating knapweed from this area: half a dozen people could fill only one garbage bag with this noxious weed.

Camas Cliff Climb: May 21st, 2011

by Judy Hutchins with Peter Lesica



Peter Lesica identifies plants on the Camas Cliff Climb. Photo by Judy Hutchins.

On May 21st, Peter Lesica led a small, enthusiastic group on an interesting rocky scramble near the mouth of the Thompson River and up the base of KooKooSint Ridge (both named for famed explorer David Thompson). The purpose of this early-season hike was to check out flowering plants growing in crevices in south- and west-facing rock bands.

Multitudes of plants were blooming despite the long, cool spring, and we did not have to walk far to ogle all sorts of pretty little flowers. The abundance of camas in coniferous forests and on cliffs was a surprise to those from Missoula. Another treat was the discovery of Marshall's saxifrage (*Saxifraga marshallii*), until now known only from the Bitterroot and adjacent ranges in Montana.

Great views of a full Thompson River, the Clark Fork River Valley, and scenic rocky cliffs added to the outing. And ticks did not ambush us until the very end as we were heading down the hill towards the rigs (none of which exploded this year).



Climbers take a break to admire flowering plants. Photo by Judy Hutchins.

Welcome New Members

The Montana Native Plant Society welcomes the following new members:

Flathead Chapter

Kate Hunt and Todd Johnson

Clark Fork Chapter

Clare Beelman, Mary Belograidic, Bill Caras, Clancy Cone, Julie Devlin, Kim Kiernam, Shar Lukom, Paula Parcheta, Sukey Pfirman, Tim Strand and Linda L. Pilsworth

Valley of Flowers Chapter

Darci Stewart

Kelsey Chapter

Eliza Frazer

Eastern State-At-Large

Darla Bruner, Hansel Hallman and Northwest Management, Inc.



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 mnpmembership@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 _____

Address _____ City/State/Zip _____

Phone _____ Chapter Affiliation (optional) _____

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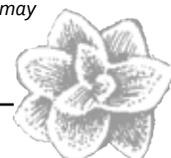
You will receive membership acknowledgement by email, as well as a pdf of the most recent Kelsey. Future newsletter issues will arrive according to your preference indicated above.

**JOIN OR RENEW ONLINE at
www.mtnativeplants.org**

or by mail at
 Montana Native Plant Society
 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 or contact our webmaster Bob Person at: thepersons@mcn.net

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Montana Native Plant Society

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