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Sage Notes

Newsletter of the Idaho Native Plant Society • Promoting Interest in Idaho's Native Flora

Idaho's Intriguing Orchids

By Lynn Kinter, Idaho Natural Heritage Program, Idaho Department of Fish and Game

I often picture orchids in tropical rain forests where they grow as epiphytes hanging from trees. But none of the 28 orchid species found in Idaho (Table 1) are epiphytes. They are all terrestrial—that is, they grow in soil, and typically occur in moist habitats, such as deep woods, bogs, springs, or river floodplains.

The Orchid family is tremendously diverse with more than 25,000 species worldwide—more than any other plant family (though some researchers argue that the Aster family has more). Its members are found in all reaches of the globe except Antarctica, and are renowned for their extravagant blooms. Orchid flowers typically have three sepals and two petals that look similar (sometimes called 'tepals'). A larger third petal—a 'labellum' or 'lip', is highly modified into a landing platform, hood, boot, tube, or other unusual shape in an elaborate design to channel insects so that they will receive and transfer pollen.

Idaho orchids that I think have the wildest flowers are fairy slipper (Calypso bulbosa) in bright pink and lavender, and the lady slippers (Cypripedium fasciculatum, C. montanum, and C. parviflorum) with maroon tepals and a balloon-like slipper of green, white, or yellow, respectively. Idaho's tallest orchid, the stream orchid (Epipactis gigantea), has intriguing blooms of green, pink, and peach. Most of the remaining Idaho orchids, including twayblades (Neottia, Listera), rein orchids (Piperia), bog orchids (Platanthera, Habenaria), and ladies-tresses (Spiranthes), have small white or green flowers arranged in handsome racemes and spikes.

Western rattlesnake plantain (Goodyera oblongifolia) is one of my favorites because of its interesting evergreen leaves. It has a rosette of dark green oval blades, each covered with a net of white veins. These net-veined leaves are unusual among orchids—most have parallel-veined leaves, as do other monocots like lilies and grasses.

Coralroot orchids (Corallorhiza) have neither leaves nor roots! They have only pale tan or yellowish stems and flowers, and short, hard coral-like rhizomes. Without leaves or chlorophyll, members of this genus obtain carbon through specialized fungi in the soil. Yellow coralroot (C. trifida) has some chlorophyll and can fix some of its own carbon through photosynthesis. The phantom orchid (Cephalanthera austiniae), with ghostly white stems and flowers, is also parasitic.

To attract pollinators, orchids produce a tremendous range of scents, from spicy to citrusy to stinky. Perhaps the most famous orchid scent is vanilla, which is used in perfumery and cooking and made from the seed pods of Vanilla planifolia, a native of Mexico and Central America.

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Announcements

Intermountain Native Plant Summit - VIII

General sessions for the Intermountain Native Plant Summit - VIII are scheduled for Tuesday and Wednesday, November 1-2, 2016. In addition, a plant material workshop is scheduled for Wednesday and Thursday, November 2-3, 2016. The Summit will be held at Boise State University, Student Union Building, in Boise, Idaho. The event is jointly sponsored by the Boise State University Department of Biological Sciences and the USDA-Agricultural Research Service, Logan, Utah. All portions of the event are open to the public and free of charge. There is no registration fee, but advance pre-registration is preferred.

Please e-mail dakota.ray[at]ars.usda.gov by Friday, October 21, 2016, to pre-register. Please enter "INPS" in the subject line. You must state if you wish to attend the plant material workshop. Seating may be limited. First come, first serve. Please include: name(s), mailing address, business, non-profit organization, university, or government affiliation, city, state, zip code, and phone.

2017 INPS Annual Meeting

Preliminary planning is underway for the 2017 Idaho Native Plant Society Annual Meeting. The meeting is scheduled for July 14-17, 2017. It will be hosted by the Loasa Chapter and will be based out of the Living Waters Ranch, located four miles west of Challis, in Custer County, Idaho. Living Waters Ranch will provide dinner Friday and Saturday nights, and we plan to have speakers both nights as well.

We are looking for field trip leaders. Possible field trip destinations include Railroad Ridge, Bay Horse Lake, Chilly Slough, Malm Gulch, Road Creek, and Herd Creek. Please contact Bill Bridges (bridgesbill34[at]yahoo.com) if you can lead a field trip.

Everyone will need to make their own reservations with the Living Waters Ranch. There are many accomodation options available.

- Tents $12/day
- RV $15/day; RV with full Hook up $18/day
- Bunk House $14/day
- Motel rooms - 2 twin beds $48/day
- Chalets - 2 or 3 bedrooms with kitchen $110/day
- Mini Lodges - 8 bedrooms each with 2 twins or a queen and private bath, large kitchen, $66 per room 5 room minimum

Contact: Living Waters Ranch, P.O. Box 1190, Challis, ID 83226
Phone: (208) 879-2888
Email: lwrinc[at]custertel.net
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Among Idaho orchids, fairy slipper has a vanilla scent, and the fragrant white rein orchid, or scentbottle, (Piperia dilatata/Platanthera dilatata) is known for its clove-like aroma.

Native Americans have long treated ailments with orchids, including scentbottle for joint and muscle aches, fairy slipper for epilepsy, and lesser roundleaved orchid (Platanthera orbiculata) for blisters. The underground corms of Alaska rein orchid (Piperia unalascensis) have been eaten like baked potatoes, but I don't recommend this as our orchids are too scarce for broad-scale harvest.

The INPS rare plant list includes seven orchid species (Table 1), though bluntleaved orchid (Platanthera obtusata) is categorized as Review. Creamy ladies-tresses (Spiranthes porrifolia) is known from only a single site in the state, located on Craig Mountain in Nez Perce County. Ute ladies-tresses (Spiranthes diluvialis) is listed as Threatened by the U.S. Fish and Wildlife Service, and is the only Idaho orchid classified under the Endangered Species Act. Its distribution range includes portions of the Henry's Fork and South Fork of the Snake River in eastern Idaho. None of Idaho's orchid species are known to be endemic to the state.

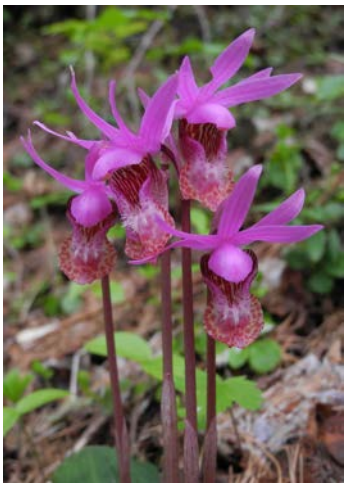
There are three orchid species that I think might be present in northern Idaho, but have not been documented yet. Longbract frog orchid (Coeloglossum viride) is known from northwest Montana and northcentral Washington. Roundleaf orchid (Galaeris rotundifolia /Platanthera rotundifolia) is known from northwest Wyoming and northwest Montana. Lesser rattlesnake plantain (Goodyera repens) is known from northwest and central Montana.

No orchids are invasive in Idaho, and relatively few are invasive anywhere in North America. This may be because orchids are notoriously finicky about their habitats. Also, their seeds must find compatible fungi soon after dispersal because they are tiny and lack food stores. Orchid seeds are the smallest in the world—much smaller than poppy or mustard seeds.

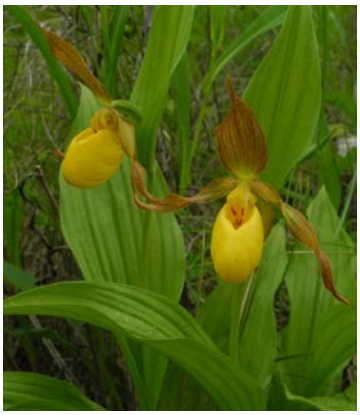
With their unique natural history and exotic beauty, Idaho's orchids are indeed an intriguing group. •

Orchids of Idaho

Calypso bulbosa	fairy slipper
Cephalanthera austiniae	phantom orchid
Corallorhiza maculata	summer coralroot
Corallorhiza mertensiana	Pacific coralroot
Corallorhiza striata	hooded coralroot
Corallorhiza trifida	yellow coralroot
Corallorhiza wisteriana	spring coralroot
Cypripedium fasciculatum	clustered lady's slipper
Cypripedium montanum	mountain lady's slipper
Cypripedium parviflorum	lesser yellow lady's slipper
Epipactis gigantea	stream orchid
Goodyera oblongifolia	western rattlesnake plantain
Neottia borealis	northern twayblade
Neottia caurina	northwestern twayblade
Neottia convallarioides	broadlipped twayblade
Neottia cordata	heartleaf twayblade
Piperia dilatata	scentbottle
Piperia elegans	elegant piperia
Piperia elongata	denseflower rein orchid
Piperia unalascensis	Alaska rein orchid
Platanthera aquilonis	northern green orchid
Platanthera huronensis	Huron green orchid
Platanthera obtusata	bluntleaved orchid
Platanthera orbiculata	lesser roundleaved orchid
Platanthera stricta	slender bog orchid
Spiranthes diluvialis	Ute ladies-tresses
Spiranthes porrifolia	creamy ladies-tresses
Spiranthes romanzoffiana	hooded ladies-tresses



Fairy slipper (Calypso bulbosa). Photo by James Riser.



Lesser yellow lady's slipper (Cypripedium parviflorum). Photo by James Riser.

Table 1. Idaho is home to 28 orchid species, according to John Kartesz, Biota of North America Program (2016). The seven species on INPS's Rare Plant List are shown in bold.

2016 ERIG Program Awards

The INPS Education, Research and Inventory Grant (ERIG) Program for 2016 awarded a total of $3,725 to nine recipients. This exceptionally large amount would not have been feasible without extra donations made by many INPS members to the program and a gift of $725 from the 2016 Idaho Rare Plant Conference. I would also like to acknowledge and thank the great team of committee members, Rose Lehman, Pam Reschke, Sonja Lewis, and Derrick Antonelli for their conscientious efforts to ensure the ERIG program supports well-thought-out projects that help promote native plants across the state, educate people of all ages, and advance native plant research and conservation.

The nine recipients and their projects are as follows, summarized from their grant applications:

BUGS Native Plant Garden

Submitted by Leslie Freeman and Erin Guerricabeitia, Executive Director for the Boise Urban Garden School

The Boise Urban Garden School (BUGS) is a specialized, comprehensive, inquiry-based education organization that utilizes an organic garden as the foundation for a unique learning environment. It uses hands-on activities that teach students the science behind gardening, and how to grow healthy foods and create healthy meals, and how to be environmental stewards. The objective of the project is to expand the native plant garden to include more sagebrush-steppe plants, higher elevation plants, and edible native plants. Students will gain an appreciation of native flora through immersive learning, writing, art, and hands-on garden activities. They will learn about the importance of native vegetation for local fauna, particularly gaining an appreciation for how much wildlife, from insects to mammals, depend upon this vegetation. They will also gain a better understanding of its cultural importance as food and medicine sources for humans. Writing and art assignments will demonstrate knowledge and appreciation of Idaho's native flora. By gaining an appreciation of Idaho native plants, youth will be more likely to take stewardship actions to conserve those plants in the future. At least six lesson plans centered on the native plants garden that incorporate science, writing and art will be shared with INPS members. The money received from ERIG will be used to buy native plants.

Camas Pollinator Garden

Submitted by Tim Reynolds, Friends of Camas National Wildlife Refuge Inc., and Sue Braastad, Upper Snake Chapter Idaho Master Naturalists and INPS member

The goal of the Camas Pollinator Garden is to replace nearly two acres of low-value, non-native, and high-maintenance habitat within the Camas National Wildlife Refuge with a vibrant and water efficient garden designed specifically to attract pollinator species. The garden will transform a lackluster and uninspiring area of the Refuge into an attractive, interesting, and ecologically relevant showcase for pollinators, coincident with environmental education and public enjoyment. Money received from ERIG will be used to purchase native plants and seed.

Carol's Wildflower Garden–An Educational Display of Native Flora

Submitted by Kat Vanden Heuvel, Executive Director, Sawtooth Botanical Garden

The Sawtooth Botanical Garden is a small nonprofit public garden, and includes Carol's Wildflower Garden; a native plant garden started 11 years ago and named after long-time INPS member Carol Blackburn. Many native plants in the garden are flourishing, but some are being replaced by invasive weedy species. The intent of the grant is to improve Carol's Wildflower Garden with mature plantings that can out-compete these invasive weeds. Money received from ERIG will be used to purchase gallon size native plants.

Council Pond Butterfly and Moth Garden

Submitted by Leslie Freeman and Murray Dalgleish, Council School District

In partnership with community volunteers and Idaho Department of Fish and Game, the Council School District recently restored habitat around a 1-acre pond near their school to create an outdoor classroom area. The grant will support the planting of native plants to attract moths and butterflies needed to enhance student educational opportunities such as wildlife monitoring, and learning about native plants and the species that are dependent upon them. The District wants to plant western white pines because they are the state tree and associated with the western white pine butterfly moth. Aspen are host trees for butterfly species like mourning cloaks, swallowtails and viceroys and will be planted to also provide needed shade in the pond area. In addition, students will collect native plant seed and cuttings to propagate butterfly and moth host and nectar plant species in the school's native plants greenhouse to supplement the native planting areas. Interpretive native plant signs will be also installed to help educate the entire

community about native plants that occur in the Council area. Money received from the ERIG program will be used to purchase native trees.

Insect Herbivores and Trait Evolution in Mimulus guttatus

Submitted by Michael C. Rotter, Graduate Fellow, Northern Arizona University

Michael's research focuses on the interplay between generalist and specialist herbivores and the ability of those herbivores to maintain defense traits in populations of Mimulus guttatus (common monkeyflower) after introductions to non-native habitats (i.e., eastern North America and the United Kingdom). Specifically, his research investigates whether herbivory in a non-native region is sufficient for plants to maintain defenses against specialist herbivores where introduced in Mimulus guttatus populations. This project will contribute significant information on the ecology of M. guttatus in Idaho. Sampling across the state in varied habitats will provide details regarding the distribution of M. guttatus and its ecological and evolutionary relationship with natural herbivores. The money received from ERIG will support travel to Idaho to survey M. guttatus.

Lucky Peak Nursery Monarch and Native Bee Garden

Submitted by Kay Beall, USFS Boise National Forest, and Clark Fleege, Lucky Peak Nursery Manager

To create a native plant garden area adjacent to the U.S. Forest Service Lucky Peak Nursery that will support monarch butterflies (as well as other Idaho natives such as fritillaries, skippers, swallowtails, and blues) and native bees. The area would also serve as a demonstration garden and would be incorporated into ongoing environmental education programs hosted by the Nursery, located a few miles east of Boise. The money received from ERIG will help purchase native plants and/or seeds.

Native Sagebrush-Steppe Restoration at Deer Flat National Wildlife Refuge

Submitted by Robert C. Christensen, President, FDFWR and Wendy Irwin, Volunteer Coordinator

The Friends of Deer Flat Wildlife Refuge (FDFWR) are planning to restore native vegetation on a 3-acre plot near the Deer Flat National Wildlife Refuge Visitor Center. The objective of the project is to improve vegetation biodiversity, create better pollinator habitat, and improve public awareness of native plant communities. Money received from ERIG will help pay for the cost of a custom native seed mix and containerized sagebrush seedlings.

Raptor Ridge Habitat Restoration Project

Submitted by Tate Mason, Education Coordinator, The Peregrine Fund's World Center for Birds of Prey

In 2007, the Peregrine Fund started a habitat restoration project to replant big sagebrush and rabbitbrush into areas of The World Center for Birds of Prey that had been overtaken by invasive weed species such as cheatgrass, tumble mustard, and Russian thistle. With success in the initial project phase, the restoration footprint has been expanded to include an area of the property known as Raptor Ridge. The focus has been to establish a native shrub species over-story. Continued habitat restoration will include development of educational signage, too. Money received from ERIG will help purchase native forbs, bunchgrasses, and other flowering plants currently absent from the area.

Sage International School Wetland

Submitted by Kristin Gnojewski, Middle School Science Teacher, Sage International School

The Sage International School in Boise would like to create a diverse learning landscape for students K-12. The objective of the grant will be to complete a native wetland habitat on school grounds. The wetland would provide a convenient location for students to learn to identify, appreciate, and study native plants and associated pollinator species. This portion of the outdoor class space is part of a larger project that includes an outdoor classroom, vegetable garden, native plant garden, and barefoot pathway. The project is a collaboration between Sage students, parents, and faculty. In addition, employees from the U.S. Fish and Wildlife Service and the Bureau of Land Management have been instrumental in developing the wetland and in selecting appropriate native plants. The money received from ERIG will be used to purchase native plants.

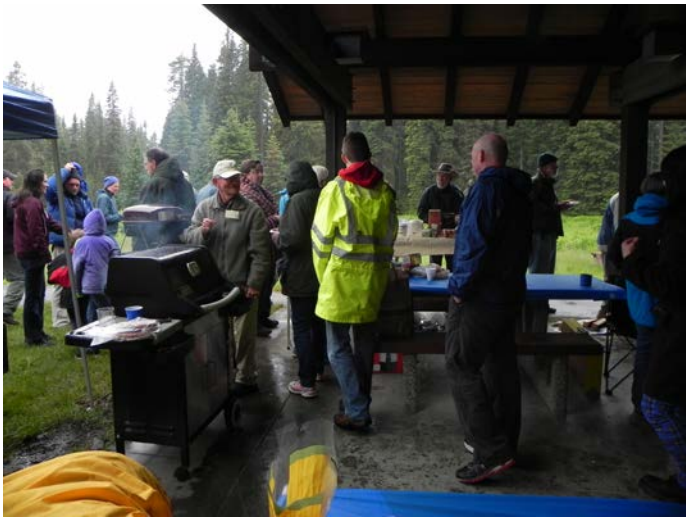
You can donate to the ERIG Program using PayPal, or you can make a donation to INPS by sending a check to: INPS attention: ERIG Program, P.O. Box 9451, Boise, Idaho, 83707. ERIG donations are tax deductible. Your donations to this program allow us to award additional funds to grantees or increase the number of grantees in a year. Undertaking new initiatives while supporting our existing programs depends on the investments our members and friends make in INPS and its goals in promoting conservation and education. Please consider making a donation! Thank you for your help!

— Janet Bala, ERIG Committee Chair, balajane[at]isu.edu

From Refugia to Ridgetops - 2016 INPS Annual Meeting Report

By Nancy Miller, Sonja Lewis, Judy Ferguson, and Pamela Pavek, White Pine Chapter

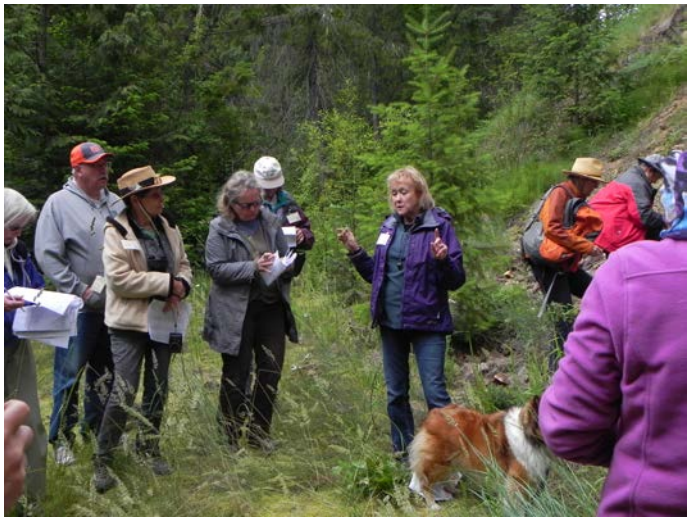
The 2016 INPS Annual Meeting hosted by the White Pine Chapter was held June 10-13, 2016. The four-day gathering of over 92 INPS members and guests took place at the Fish Creek Campground and Group Use Camp and the Fish Creek Pavilion on Mt. Idaho, located 8 miles south of Grangeville, Idaho. In addition, at least seven children and teenagers joined in the fun. The Grangeville area was chosen due to its central location in north-central Idaho, both for our field trips and for easy access for folks travelling from northern and southern Idaho. Our chapter especially would like to thank all of those who attended and enthusiastically participated in the events and field trips. We had a great group of field trip leaders and event coordinators. The meeting provided plenty of opportunities for both botanizing and socializing with old and new friends.



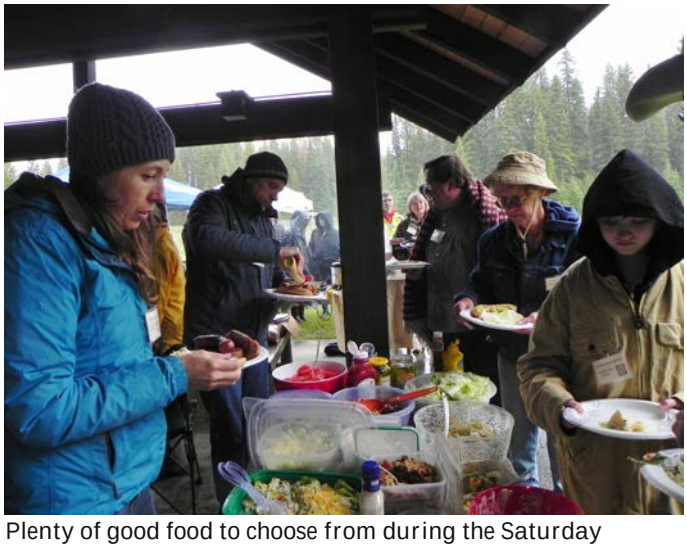
Reid Miller at the BBQ on the first evening's potluck dinner. Photo by Sonja Lewis.

The Fish Creek Campground was nearly full when the organizers first arrived, but when some vacancies arose these sites were able to accommodate registrants who had large campers and/or trailers. As planned, those tenting or with smaller campers or vans stayed at the more primitive Fish Creek Group Use Camp just 1.5 miles away. A number of participants also took advantage of Grangeville's RV parks and motels. Our evening gatherings were held at the Fish Creek Pavilion, which turned out to be well-adapted to the events and the inclement weather which threatened, but never spoiled the meeting.

Although some of us arrived at the campgrounds on Thursday in preparation for four days of activities, most participants registered for the Annual Meeting on Friday, June 10. The weather was cool (some would even say 'cold'). Fog began rolling in mid-day and there was light rainfall. We were grateful for the pavilion at the main campground and for the canopies which were provided and set up by chapter volunteers. Various small groups headed off to botanize trails near the campgrounds after registering. We all came together in the evening for a chapter-hosted barbecue and potluck. Reid Miller brought a grill and did the honors of grilling sausages and veggie burgers for the group. Lots of very tasty salads and desserts were provided by all of the attendees. Down vests and jackets and warm hats were very much in evidence at dinner. Dry tents and trailers and warm sleeping bags were sought out early after dinner, although a few campfires captivated and warmed folks for a while. There was even a little gloating by those who had made reservations to stay in Grangeville motels. Several attendees had stories of encounters with large animals on their way to



Pam Brunsfeld leading the discussion during the Canyon Creek field trip. Photo by Sonja Lewis.



Plenty of good food to choose from during the Saturday evening dinner. Photo by Sonja Lewis.

the meeting. One family had to stop quickly as a cougar ran across the road in front of them less than a mile from the campground. Pamela Brunsfeld and Jim Huggins had scouted a field trip earlier on Friday. Returning to their car near the Lochsa River they discovered a sow bear and cub between them and their car which delayed their arrival at camp.

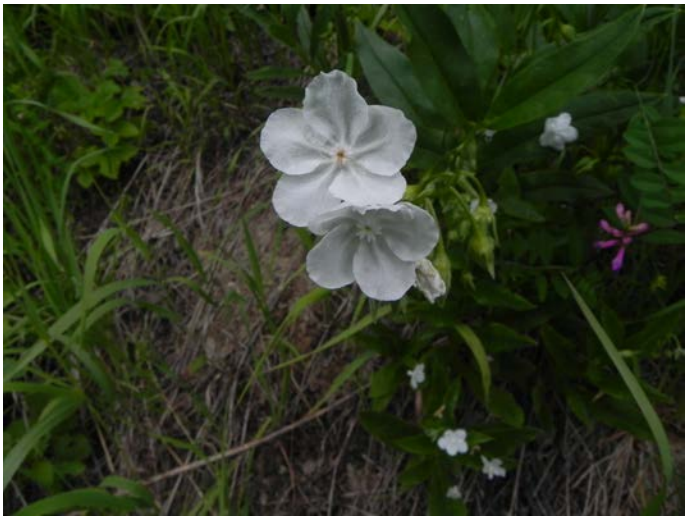
As the title 'From Refugia to Ridgetops' indicated, field trips were designed to explore several types of habitats along the area's rivers and high ridges. The Lochsa and Selway River canyons east of Grangeville serve as refugia for disjunct populations of plant species that are otherwise largely restricted to temperate environments in western Washington and Oregon. Other draws were the extensive grasslands and associated forbs found on the canyon breaks west of Grangeville in areas with spectacular views of both the Snake and Salmon River drainages. Because of the elevation extremes from river canyon bottoms to high ridgetops, the schedule of field trips provided great opportunities to see a wide variety of vegetation types, from western red-cedar (Thuja plicata) and grand fir (Abies grandis) forest groves to extensive grasslands.

Saturday morning field trips began early. It was definitely a day for wearing multiple layers. Field trip leaders were encouraged to have their groups back to Fish Creek Meadow campground in time for the evening activities. Prior to Saturday's dinner, Pam Brunsfeld started us off with a talk on the populations of disjunct plant species of the Clearwater region and the theories surrounding their existence. She also discussed research done by Priscilla Wegars relative to the Japanese Internment camp at Canyon Creek on the Lochsa River. Ms. Wegars' book, As Rugged as the Terrain, documents the lives of the men and the work they did during the last two years of World War II—especially working on the construction of Highway 12 and firefighting. Most were U.S. residents, but non-citizens when war broke out, and came from many parts of the country. Caterers from Grangeville's The Gallery restaurant provided a much appreciated warm and tasty meal following the presentations.

Drs. Penny Morgan and Steve Bunting were the keynote speakers for the Saturday evening gathering. They did a marvelous job of sharing their wildland fire expertise with the audience. Wildfire is and always has been a natural part of virtually every western ecosystem. However, humans have changed the fire intervals in many ecosystems. In forests, fire suppression the last one hundred years allowed huge fuel loads to build up, often leading to wildfires burning hotter and more extensively than in the past. In the case of our arid western shrublands, the introduction of exotic annual grasses has led to more frequent and often hotter fires that are likely changing our beautiful sagebrush shrublands forever.

Adaianthum pedatum (maidenhair fern). Photo by Nancy Miller.

INPS President Steve Love probably set a record for the shortest Annual Meeting membership meeting in our memory. He announced the recent board election of Tony McCammon as INPS Vice President (previously vacant) and Karen Getusky as INPS Treasurer, replacing Elaine Walker who resigned earlier in the year. It was announced that the 2017 Annual Meeting would likely be held in the Challis region and hosted by the Loasa Chapter.



Dasynotus daubenmirei. Photo by Sonja Lewis.

Field trip to Canyon Creek and the Dasynotus daubenmirei site: This full day trip was offered both Saturday (led by Pam Brunsfeld with Kristen Pekas) and Sunday (led by Nan Vance with Derek Antonelli). Canyon Creek is a tributary of the Lochsa River which meets Highway 12 about 7 miles east of Lowell. Like all Lochsa tributaries, Canyon Creek descends a V-shaped canyon

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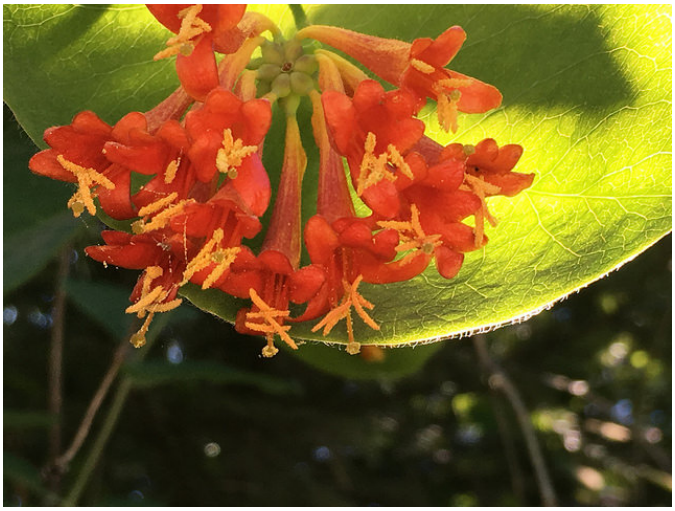
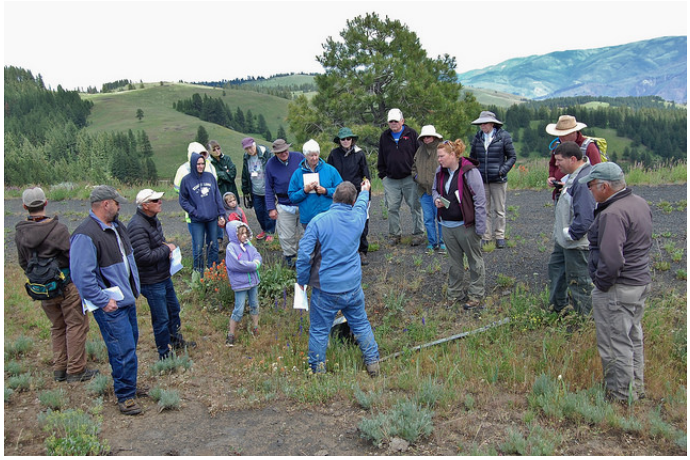
with steep slopes on either side. However, an easy trail follows the creek bottom. The group hiked the first mile on the trail, past vertical outcrop rock gardens blanketed with mosses and ferns. On the side of the creek opposite the trail, there were lush, old growth western red-cedar, and above the trail, open shrub fields where conifers have not regained a hold after early twentieth-century fires. A diversity of moist-forest forbs, ferns and mosses lined the trail, especially in the nooks and crannies of the rock face. The small flat area where we parked, where an alluvial fan formed at the mouth of the creek, was once the site of a World War II internment camp. Japanese men living here helped to construct Highway 12. Sonja Lewis provided the following commentary after participating on Saturday's field trip.

The sun dried the thick foliage of Canyon Creek. The history, rushing creek, and promise of lush vegetation had us enthralled, from expert photographers to hiking



Lonicera ciliosa. Photo by Nancy Miller.

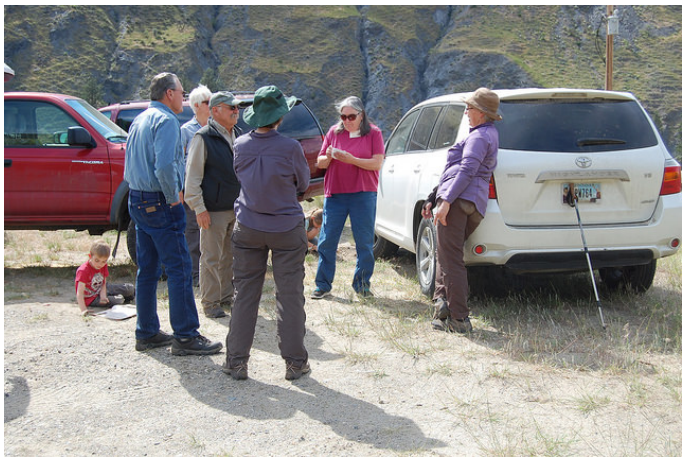
spouses and kids. Rocky south-facing cliffs offered substrate for pinkfairies (Clarkia pulchella), and as the canyon narrowed, were lined with mosses and many species of ferns, including maidenhair fern (Adiantum pedatum), lady-fern (Athyrium filix-femina), brittle bladderfern (Cystopteris fragilis), oak-fern (Gymnocarpium dryopteris), western swordfern (Polystichum munitum). We also saw bracken fern (Pteridium aquilinum) at home in harsher habitats. We enjoyed the blooms and fruits of plants such as tall bluebells (Mertensia paniculata), pioneer violet (Viola glabella), orange honeysuckle (Lonicera ciliosa), thimbleberry (Rubus parviflorus), cascara (Rhamnus purshiana), gray alder (Alnus incana), and twisted-stalk (Streptopus amplexifolius), with slender kinked stalks causing its fruits to dance above us.



Mike Hays (back turned in photo) with the group at Cow Creek Saddle area field trip. Photo by Nancy Miller.

After lunch the Canyon Creek group returned via Highway 12 to Syringa and then drove north on Smith Creek Road towards Smith Creek Saddle. Daubenmire's dasynotus (Dasynotus daubenmirei), an Idaho endemic which occurs in only a few locations was blooming, giving a once-in-a-lifetime view to most of us. Some folks also got to see small populations of another Idaho endemic, Constance's bittercress (Cardamine constancei), as well as varied-leaf collomia (Collomia heterophylla), a coastal disjunct species. Because of the report of bears, we explored the area less than originally planned.

Field trip to Mud Springs Ridge, Cow Creek Saddle and Lucile Caves RNA/ACEC: This was another full day excursion. It was offered both Saturday and Sunday. Both Mike Hays on Saturday and Todd Ott and Kristen Pekas on Sunday provided excellent guiding and plant identification in areas everyone described in superlatives. From Grangeville, the group drove south on Highway 95, leaving the highway just south of Lucile on Cow Creek Road. Proceeding up the canyon to the ridge and then along the ridge road, we reached Mud Springs Ridge at approximately 5300 feet elevation. This area



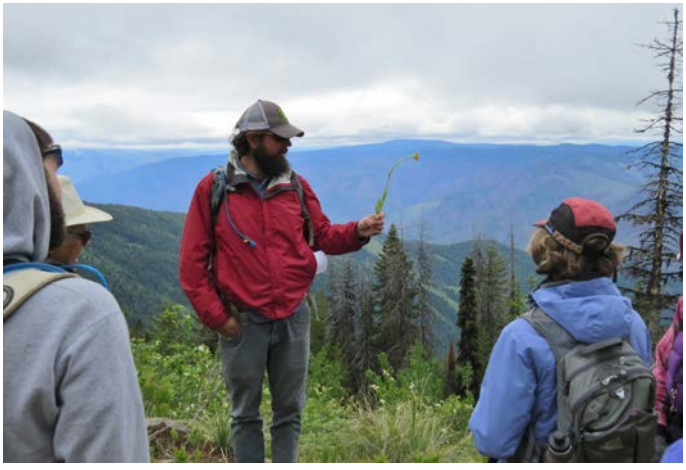
Judy Ferguson with the group at the Lucile Caves trailhead. Photo by Nancy Miller.

between the Salmon and Snake Rivers is known as the 'island' and offered incredible views of the canyon breaks enjoyed by all and photographed extensively. At Mud Springs Ridge we hiked a mile or so through a shrubby, slightly forested area before reaching our fescue-dominated grassland destination.

We observed many native grass species, including Idaho fescue (Festuca idahoensis), western fescue (Festuca occidentalis), prairie junegrass (Koeleria cristata), Alaska oniongrass (Melica subulata), one-spike danthonia (Danthonia unispicata), and bluebunch wheatgrass (Pseudoroegneria spicata). In addition to the grasses, the forb display was incredible and included two species of phacelia and lupine and multiple species of penstemon and lomatium. Species of Indian paintbrush, shooting stars, calochortus, and delphinium also abounded. Vegetative individuals of the rare Spalding's catchfly (Silene spaldingii) were found in the fescue grassland, but unfortunately for us this species blooms later in the summer. From Mud Springs we backtracked along the ridge to Cow Creek Saddle for more botanizing and spectacular views. Most impressive at the saddle was a rocky area covered with flowering Columbia lewisia (Lewisia columbiana). A new plant for many of us was slim larkspur (Delphinium depauperatum) that grew lushly in a culvert area. It was obvious from our brief visit that one should really plan to visit these areas at least four times during the spring/summer to capture the incredible diversity and changing blooms throughout the seasons.

When we returned to Highway 95 we stopped at Lucille Caves RNA/ACEC. Some folks hiked to the cave, but we were short on time so most of us opted to stop at the population of giant helleborine (Epipactus gigantea) with its greenish-pink flowers looking lush alongside the extremely dry trail.

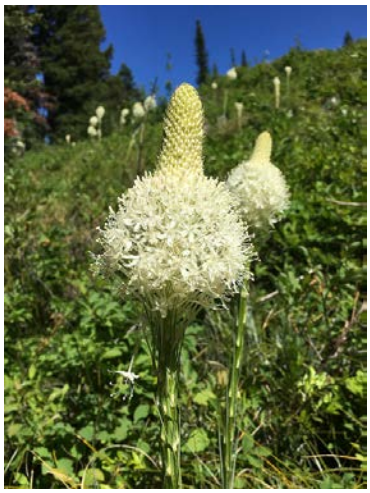
Field trip to Coolwater Ridge: This was a full day trip designed for those who wanted a longer hike at a higher elevation (6000 feet) with great wildflowers and views. It was a trip that almost didn't happen. The week before the field trip an announcement said the access road would be closed to vehicles because of logging activities related to a 2014 wildfire. Negotiations ensued – we got a key to the locked gate. Our thanks to Nan Vance for helping resolve this bump in the road. Also during the week before the meeting, Mike Hays informed us of new snow on the ridge—we might not be able to do the trip. Fortunately, we were able to make it happen. The group carpooled to the Lowell area and then up the graded Coolwater Road to the ridge. Hiking along the ridge area we enjoyed the views and incredible flora. Pamela Pavek, White Pine treasurer, was our reporter on the scene.



David Tank at Coolwater Ridge field trip. Photo by Sonja Lewis.

Epipactis gigantea. Photo by Nancy Miller.

The day started out cloudy and cool, with most participants wearing every layer they brought with them. There were a few mutterings about perhaps being too early in the season—the snow had just melted off a few weeks before and there might not be much to see. But we found numerous treasures, including catkins of Scouler's willow (Salix scouleriana), the strange forms of newly-emerged western meadowrue (Thalictrum occidentale), and the unique blooms of evergreen kittentails (Synthyris platycarpa), a rare Idaho County endemic. We were also mesmerized by sightings of common beargrass (Xerophyllum tenax) just starting to bloom, lady fern, two subspecies of coiled lousewort (Pedicularis contorta var. ctenophora and P. contorta var. rubicunda), elegant cat's ear (Calochortus elegans), and dew glistening on the soft fuzzy leaves of western hawkweed (Hieracium scouleri ssp. albertinum). The views on the ridge were impress-



Xerophyllum tenax. Photo by Nancy Miller.

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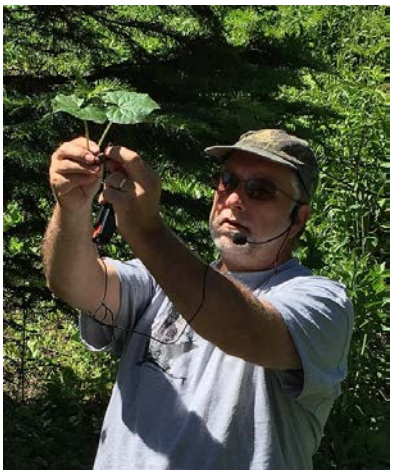
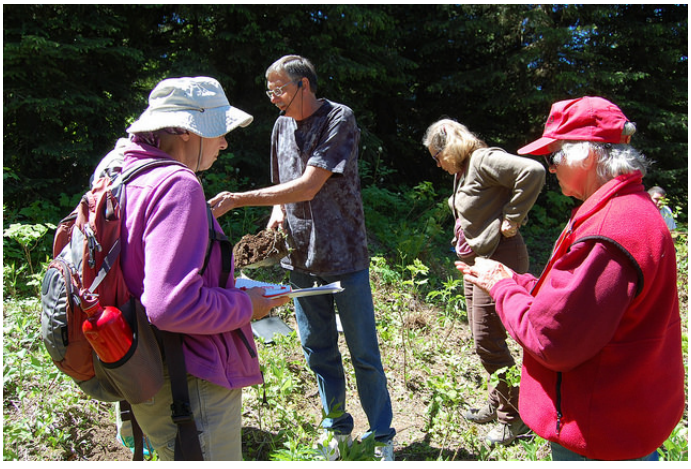


Mike Hays with Asarum caudatum during the Grand Fir Mosaic field trip. Photo by Nancy Miller.

ive—perhaps some of the best in all of the Clearwater National Forest, but it was hard to keep our eyes off the ground, surrounded by these interesting plants. By early afternoon the sun emerged and warmed us all just as everyone was looking for a place to sit and have lunch. The chance to hike up to the fire lookout at the ridge summit was one of the allures of this trip. However, our pace was slowed by continuous discovery and no one made it to the lookout. The knowledge of our guides Dave Tank and Derek Antonelli was impressive and satiated everyone's curiosity.

Field trip for the Grand Fir Mosaic: This trip was offered on Sunday only and led by Dennis Ferguson and Mike Hays. After a brief stop at Kooskia, our route wandered along forest roads south of and roughly paralleling the Middle Fork Clearwater River, eventually ending on the Swiftwater Road which drops down to the Selway River Road close to Lowell. The upper watershed of Clear Creek and the area surrounding Lookout Butte were our main destinations. At one of our stopping points on Lookout Butte (5869 feet elevation) we had great views of the Grand Fir Mosaic from a distance when looking towards the Gospel Hump area. From his years of research in this area, Dennis was able to provide an excellent description of the Grand Fir Mosaic ecosystem and provide justification for what seems on the surface to be a habitat anomaly found primarily in Idaho and Oregon. Among coniferous forests of grand fir, western redcedar, and Pacific yew (Taxus brevifolia) we viewed large openings in the canopy where no conifers grew, or regrew, especially after logging. These openings or glades were dominated by bracken fern and western coneflower (Rudbeckia occidentalis), with the soil type primarily volcanic ash-cap and the elevation roughly 4500-5500 feet. According to Dennis, pocket gophers also contribute to poor reforestation because they are sufficient in number to eat new seedlings and the roots of larger seedlings. Bracken fern and western coneflower both colonize new openings in the forest quite quickly. Both also release phytotoxins (allelopathy) which inhibit the growth of other species that help produce a monoculture habitat. Dennis and others have published extensively on their Grand Fir Mosaic research and some of these papers can be found on the web if you wish more information.



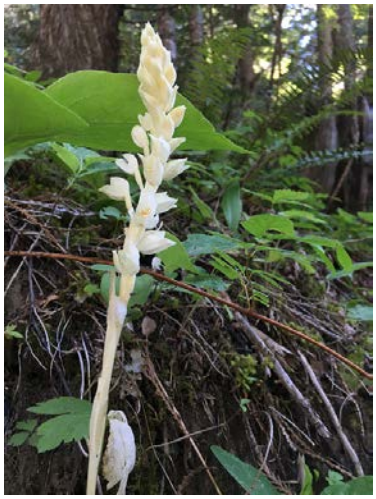
Dennis Ferguson with part of the group during the Grand Fir Mosaic field trip. Photo by Nancy Miller.

Clematis columbiana. Photo by Nancy Miller.

In this moist coniferous habitat there are a number of disjunct plant species of interest. Although many disjuncts in the Clearwater refugia area are found nearer the rivers, we were able to see both Oregon bluebells (Mertensia bella) and Pacific dogwood (Cornus nuttallii) at these higher elevations. The dogwood had finished blooming so we missed the creamy white blooms (bracts) which light up the forest. Instead, the dried petal-like bracts could be seen clinging to the fruiting clusters. The center of each bloom had contained a cluster of many, very small, greenish flowers, now in the process of transforming into bright red fruits. Several short hikes highlighted many other forest species such as asarum, maianthemum, trillium, clematis, coptis, beargrass, huckleberries, bunchberry, glacier lily, mertensia, viola, and sedges.

From Lookout Butte we returned to the Selway River, stopping for several botanizing opportunities along the

way. Of course Constance's bittercress was on everyone's wish list. We also found phantom orchid (Cephanthera austinae) and clustered lady slipper (Cypripedium fasciculatum) along a road cut. Incredible stands of wild hollyhock (Iliamma rivularis) on both sides of the road impressed everyone—on one side incorporated into a view of the Selway River far below us, and on the other views of the Johnson's Bar fire damage.



Cephanthera austinae. Photo by Nancy Miller.

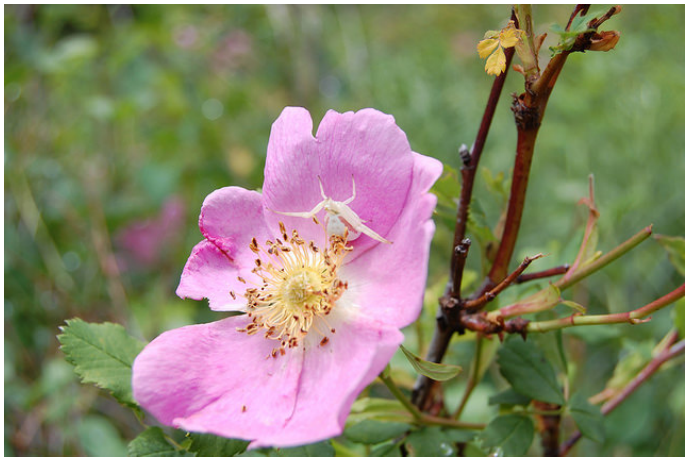
Field trip along the Salmon-Grangeville Road: As others headed back to work or other commitments on Monday, a smaller, but just as enthusiastic group accompanied Mike Hays investigating some of the varied habitats south of Fish Creek Campground along the Salmon-Grangeville Road. Our first stop several miles down the road was a 'bald' or 'scab' area which at first didn't seem to have much of a floral display. Mike told us the moisture and temperature regimes at the site were a bit unusual. A hot, dry scab that is seasonally saturated within a generally cold grand fir forest (with lots of subalpine fir and Engelmann spruce) presents a diverse set of ecological factors operating at the same time and place. A pond, though artificial, added additional habitat in the area.

We were in for a surprise. Once Mike got started, he showed us a rich diversity of forb, grass, and sedge species. Many were naturally very small plants, so some photos show more fingers than flowers and really don't do justice to the plants. Others species were probably shorter than in other habitats due to the open nature of the site. This site had quite a few species which we didn't see or identify on other field trips.

We then drove further south on the Salmon-Grangeville Road, enjoying a brief lunch break before walking a short distance to the Tollgate Meadow wetlands. Part of the area was fenced and covered with California false corn-lily (Veratrum californicum), American bistort (Polygonum bistortoides), and globe penstemon (Penstemon globosus). We followed Mike through the wetland looking for other special plants. Jeffrey's shooting star (Dodecatheon jeffreyi) and several Platanthera orchids were sheltered among the various species of sedge and horsetail. We looked carefully for elephant head lousewort (Pedicularis groenlandica), but only found plants whose blooms were not yet open.

At the end of Monday's field trip, some trip participants were already packed and ready to return home. The rest of us went back to check the campsites and loaded the trailers with tables, barbecue, canopies, food supplies, etc. It was a good thing we were able to head home, as the next day we received word of 'snow' at Fish Creek Campground! We left feeling confident most participants enjoyed this brief stay in north-central Idaho and had added to their appreciation of the wealth and diversity of native plants in the state.

Our special thanks again especially to Mike Hays, but also to all the field trip leaders who gave their time and shared their expertise, and to the White Pine and Calypso Chapter volunteers who generously gave their time planning and with other tasks to ensure the meeting's success. The INPS Annual Meeting webpage will have photo albums from the field trips, species lists, and other documents: https://idahonativeplants.org/statewide-annual-meeting/ •



Rose woodsii with crab spider. Photo by Nancy Miller.

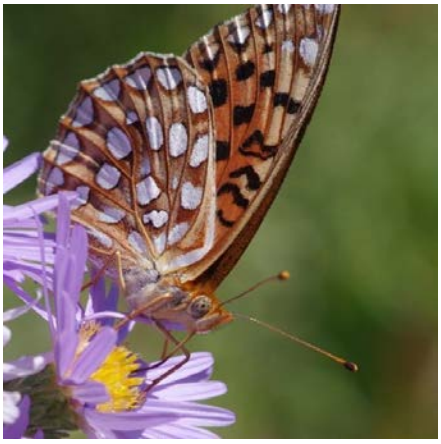
Synthyris platycarpa, Coolwater Ridge field trip. Photo by Mark Pavek.

Jessica's Aster - A Magnet for Pollinator Insects

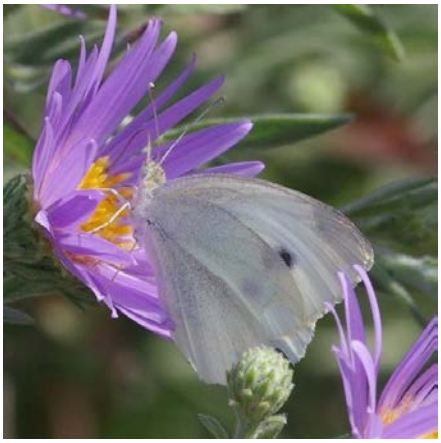
By Nancy Miller, White Pine Chapter, Photos by Gerry Queener

Jessica's aster (Symphyotrichum jessicae, formerly Aster jessicae) is a stout, rhizomatous perennial with clusters of light lavender flower heads atop stems up to 4 feet tall. The broadly lance-shaped leaves appear grayish due to a soft pubescence. Endemic to the Palouse Region of eastern Washington and adjacent Idaho, most populations of Jessica's aster are limited to small-sized patches. It is of conservation concern in both states, although it was formerly probably fairly common across the Palouse before industrialized agriculture arrived.

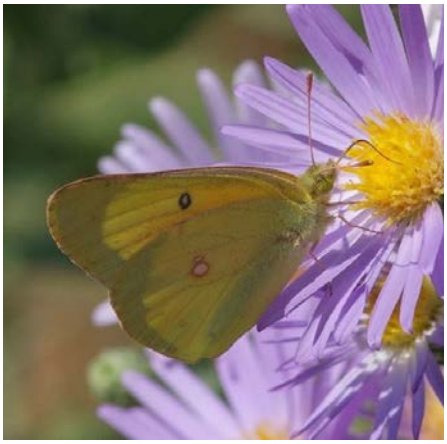
Jessica's aster is currently being grown in a number of ornamental and wild gardens in the Palouse area. Plants can become very robust if placed in a favorable location. When blooming in late August and September it is a magnet for various pollinator insects which use it as a food source. On a warm late summer day, multi-stemmed plants may have six to eight pollinator species present at once, often with several individuals of each species. The following photos provide a sampling of these insect visitors. •



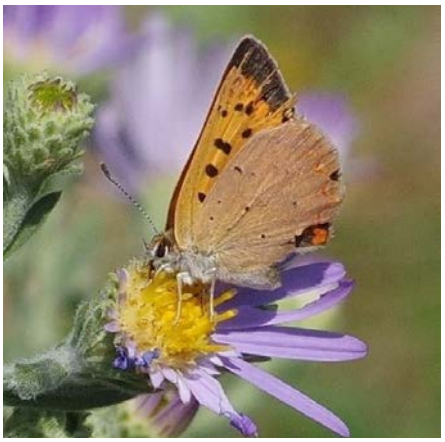
Callippe Butterfly



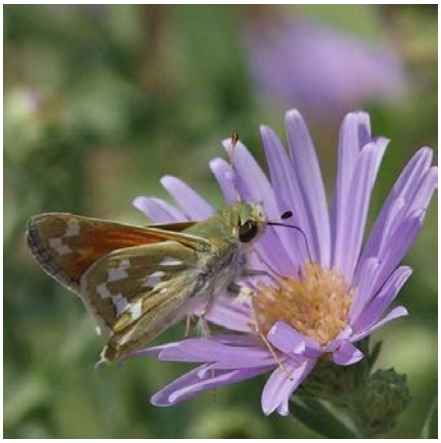
Cabbage White Butterfly



Orange Sulphur Butterfly

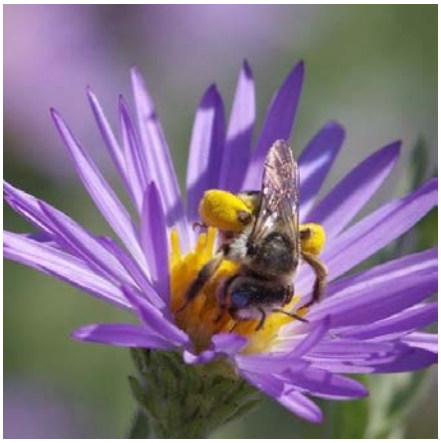


Purplish Copper Butterfly



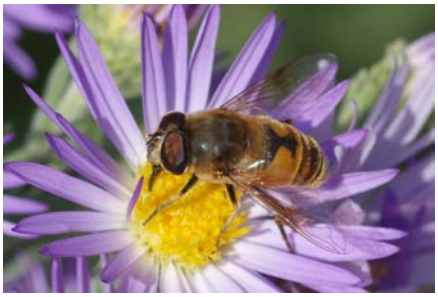
Jubba Skipper

Bumble Bee



Bee loading pollen

Thread-waist wasp



Syrphid Fly

Idaho Mystery Plant

This photo was taken by A. Scott Earle (deceased) in the mountains of central Idaho. What is your guess for this plant? The answer will be revealed in the next edition of Sage Notes.

The Idaho Mystery Plant in the June 2016 issue was candystick (Allotropa virgata), a species in the heath family that lacks chlorophyll and obtains nutrients from other plant species through a fungal intermediate. Candystick is found in deep humus in coniferous forests, and in Idaho typically occurs in mature lodgepole pine forests in the montane zone. Its distribution extends from British Columbia southward into California in the Coast, Sierra Nevada, and Cascade mountain ranges; with disjunct populations in Idaho and western Montana.

Have an Idaho Mystery Plant to share? Send it in to the editor: sage-editor[at]idahonativeplants.org. — Michael Mancuso

INPS Chapter News

CALYPSO CHAPTER

When: Meetings are held the first Wednesdays of March, April, May and October at 7:00 p.m. Field trips take place during the spring, summer, and early fall months.
Where: Meetings are held in the conference room of Idaho Department of Fish and Game, 2885 W. Kathleen Ave., Coeur d'Alene.
Contact: Derek Antonelli, antonelli8[at]frontier.com
Upcoming events:
October 5: Growing North Idaho native plants - by Bob Wilson of Cedar Mountain Perennials in Athol.
November 1: A meeting of the North Idaho Rare Plant Working Group will be held in Moscow at 9:30 am.

LOASA CHAPTER

All members and the public are welcome to attend chapter events.
When: Meetings are held the third Thursday of each month.
Where: Taylor Building, Room 258, College of Southern Idaho, Twin Falls.
Contact: Bill Bridges, bridgesbill34[at]yahoo.com

PAHOVE CHAPTER

When: Meetings are held on the second Tuesday of each month from September–April at 7:00 p.m. Dates and times are occasionally subject to change. Upcoming meeting information is sent to members via postcard and/or email. Events are also posted on the Pahove Chapter page of the INPS website: http://idahonativeplants.org/pahove/
Where: MK Nature Center, 600 S. Walnut Street, Boise.
Contact: For more information about Pahove Chapter activities please visit the Pahove Chapter page of the INPS website or contact chapter president Karie Pappani at pahove.chapter.president[at]gmail.com
Upcoming events:
October 11: LaMar and Rosalie Orton will give a talk about Plantasia Cactus Gardens/ Orton Botanical Garden.
November 8: David Giblin of the University of Washington herbarium will provide an overview of a project to revise and update the original "Flora of the Pacific Northwest" - the classic technical reference for vascular plants of the region, originally published over 40 years ago.
December 13: Presentation by Barbara Ertter and Michael Mancuso is scheduled; topic TBA.
January 10: Joanne Michael will give a talk about her trip to Isle Royale National Park and the botany workshops she attended during her visit.
February: Presentation by Diane Jones of Draggin' Wing Farm in Boise is scheduled; topic TBA.

SAWABI CHAPER

The public is always invited to Sawabi events.
Contact: Karl Holte at plantprof[at]live.com, (208) 241-8358
Sawabi Chapter schedules two or more field trips each month during the summer and early fall seasons. We invite all interested people, members or not, to join us on these outings. For trips scheduled on a Monday, arrange carpooling by meeting at 6:00 p.m. at the bison sculpture in front of the Idaho Museum of Natural History, on the Idaho State University campus; or meet at 6:30 p.m. at the trip site. The time and meeting location for Saturday field trips will vary with the destination. For specific information, contact Karl Holte, (208) 241-8358, or plantprof[at]live.com

UPPER SNAKE CHAPTER

The Upper Snake Chapter is currently inactive.
Contact: Rose Lehman, jojorose[at]cableone.net
If anyone is interested in reviving the chapter, they are welcome to contact Rose.

WHITE PINE CHAPTER

When: Meetings are held once a month at 7:00 p.m. except during the summer. Field trips occur most any month. Please check the chapter website at www.whitepineinps.org for events which may be scheduled or finalized after *Sage Notes* is printed; or email the chapter officers at whitepine.chapter[at]gmail.com
Where: Great Room of the 1912 Building, 412 East Third St., Moscow (between Adams and Van Buren).
Contact: INPS, White Pine Chapter, PO Box 8481, Moscow, ID 83843 or whitepine.chapter[at]gmail.com
Upcoming events:
September 25: Tour of University of Idaho's main Arboretum and Botanical Garden located at 1200 W. Palouse River Dr., Moscow, Idaho, from 1:00 p.m.-3:30 p.m. The tour will be guided by Paul Warnick, Horticulturist, UI Arboretums & Botanical Garden. The arboretum and botanical garden complex are open to the public at no charge. Parking is at the red barn. We are hoping for early fall colors from the trees, shrubs, forbs and grasses! Western North America is well represented, with a special section for Idaho native trees and shrubs (the shrubs planted by White Pine INPS in

the 1990s). A special treat will be seeing the Ray Boyd aspen grove planted several years ago. Ray was one of the founders of the White Pine Chapter, and he arranged for the addition of these aspens, brought in from the mountains of southeastern Idaho. General information about the arboretum and botanical garden is available at http://webpages.uidaho.edu/arboretum/; with a map at http://webpages.uidaho.edu/arboretum/pdf/ArboretumMapColor.pdf

WOOD RIVER CHAPTER

When: Meetings are held various weekday evenings beginning at 7:00 p.m.

Where: Meetings are held at the Sawtooth Botanical Garden, located three miles south of Ketchum, on Highway 75 and Gimlet Road.

Contact: Cynthia Langlois at cplangloisACRP[at]msn.com for information about field trips and presentations. Also, check the Sawtooth Botanical Garden website: https://sbgarden.org/ for updates on presentations.

CLASSIFIED AD

Original oak plant press, hand crafted by Jerry Cross as written up in Dec. 2014 issue of Sage Notes, Vol 36(3). 18"x 13", very lightly used. Best offer. Contact: B. Billings (208) 336-4105 or bbhikerb8[at]gmail.com

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Submissions: Members and non-members may submit material for publication. Relevant articles, essays, poetry, news, announcements, photographs and artwork are welcome. Authors, artists and photographers retain copyright to their work and are credited in *Sage Notes.* Send all submissions electronically to the editor at the link below. Please provide a phone number and/or email address with your submission. Submission deadlines are January 8, April 1, August 1 and November 1.

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Editor: Michael Mancuso, sage-editor[at]idahonativeplants.org