

In this issue

Christ's paintbrush research.....	p.1
Secretary & Treasurer's greetings.....	p.2
INPS State News.....	p.3
2012 Annual Meeting in North Idaho.....	p.7
ISU's Ray J. Davis Herbarium.....	p.10
25th Idaho Rare Plant Conference.....	p.14
Native plant landscaping in N. Idaho.....	p.18
Getting to know the mustard family.....	p.19
INPS Chapter News.....	p.20
Freezeout Saddle field trip.....	p.24
Membership form.....	p.25

Dates to remember

January 1:
2012 Membership renewals due.

March 31: Deadline to submit 2012 ERIG proposals.

April 28–May 5:
NPAW

June 22–24: INPS Annual Meeting in North Idaho



IDAHO NATIVE PLANT SOCIETY

December 2011
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Articles contributed to Sage Notes reflect the views of the authors and are not an official position of the Idaho Native Plant Society.



Researchers find an unusual hybrid origin in a rare plant

Written and photographed by Cindy Salo and Danielle Clay

A colorful wildflower called Christ's paintbrush is found only one place in the world—atop a southern Idaho mountain in an area only slightly larger than the Boise State University campus. The plant, whose scientific name is *Castilleja christii*, is not only rare, it also has a remarkable origin. Botanists first began noticing plants that did not seem to be typical Christ's paintbrush a number of years ago. Now, Boise State University graduate student Danielle Clay has found that the species developed from an unusual type of hybrid cross between two common species of paintbrush.

Christ's paintbrush (Christ's rhymes with mists) has been named a candidate for listing under the Endangered Species Act. This research project received grant monies from the U.S. Fish and Wildlife Service, the agency responsible for managing threatened and endangered plants. Clay also wrote several grants to procure additional funding, and was awarded grant monies from Boise State University, the Northwest Scientific Association, and the Education, Research and Inventory Grant from the Idaho Native Plant Society. Clay, who is completing an M.S. in biology, is working under the direction of biology professor Jim Smith.

"It's been really rewarding to work on this project, which has combined both field work in the mountains and laboratory studies here at Boise State," said Clay. "My hope is that this research will help scientists and land managers better identify and understand the threats to the plant's survival and how to mitigate them."

Two other species of paintbrush share the subalpine meadows and sagebrush stands near the top of 9,000 foot Mount Harrison, located south of Burley. The yellow-orange flower heads of Christ's paintbrush contrast with the reds of the more common paintbrushes, *Castilleja miniata* (scarlet paintbrush) and *Castilleja linariifolia* (Wyoming paintbrush). The presence of other paintbrushes, which did not seem to belong to any of the three species, caught Smith's eye. The plants appeared to be intermediate among the species, with flower heads ranging from yellow through red. He suspected that these plants might be hybrids, as paintbrush species often cross with each other.

"Hybridization is a concern with rare plants because it can dilute their unique genomes to the point of extinction," Smith said, an expert in plant molecular systematics who has several current grants from the National Science Foundation for his research. "Initially, we were concerned that

(Above) Beautiful yellow Christ's paintbrush flowers and some of their equally-gorgeous red relatives share this hillside with penstemons.

Photo by Danielle Clay

Continued on p.4

IDAHO NATIVE PLANT SOCIETY

Address: P.O. Box 9451,
Boise, ID 83707

Email:
info3@idahonativeplants.org

Web site:
www.idahonativeplants.org

INPS BOARD MEMBERS

President: LaMar Orton
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Secretary: Nancy Miller
Treasurer: Jody Hull
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chair:** Chris Colson (Pahove)

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Derek Antonelli (Calypso)

Membership chair (interim):
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ERIG chair:
Janet Bala (Sawabi)

Newsletter editor:
Jane Rohling (Pahove)

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Nancy Miller (White Pine)

2011 Photo contest chair:
Linda Johnson (Sawabi)

2012 Calendar chair:
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Nominating chair: Vacant
(Help us find candidates for
INPS officer positions.)

Rare Plant Conference chair:
Beth Corbin (Pahove)

Editor's note: I apologize for the delay in getting this issue of Sage Notes out to you. My old computers both demanded to be replaced this month and the transition hasn't been easy. My new computer systems—and my sanity—should be fully functional by January. Thanks for your patience!

Jane

Greetings from the Secretary & Treasurer

Dear Idaho Native Plant Society Members:

We would like to welcome you as you read this winter edition of Sage Notes, the official newsletter of the Idaho Native Plant Society. In many areas of Idaho fall has been long and spectacular in color. We hope you have had many opportunities to enjoy the out-of-doors. Winter is making its presence known in many areas of the nation, and winter in Idaho cannot be far behind.

We want to first let you know that our wishes have been granted! Two very talented people have accepted the President and Vice President positions and thus joined the Board of Directors, which is composed of the officers and chapter presidents primarily.

LaMar Orton has agreed to serve as President through the end of this presidential term—the next election for the office of President will take place in June of 2013. He is a member of Loasa chapter. His biographical information is published in this issue. We are excited to add LaMar's planning and organizational skills as well as his experience in growing native and xeriscape plants in his Twin Falls nursery/garden to our Board.

Juanita Lichthardt will serve as Vice President. This position has been vacant for some time and the next election for it will be in June of 2012. Juanita lives in Moscow. She has served as president of the Montana Native Plant Society, and as president, treasurer and newsletter editor for the White Pine Chapter of INPS. She has also served on the editorial committee for Sage Notes. She has worked as a plant ecologist for the Idaho Natural Heritage Program for 20 yrs. She is an excellent botanist who has worked in many areas of the state in many capacities and her expertise will be greatly appreciated by the board.

The 25th Rare Plant Conference, organized by Pahove chapter, was very successful. Many people were instrumental in organizing this informative and productive event, but several people must be commended—especially Beth Corbin for her efforts to bring this event about and in coordinating the various conference events, and Lynn Kinter for sharing her expertise in monitoring the status of rare plants. Congratulations to all who volunteered their efforts so that the rest of us could concentrate on assessing the status of the rare plants selected for discussion. Thanks to Michael Mancuso as well for leading the field trips to see and hear about Aase's onion, Mulford's milkvetch, and slickspot peppergass. The status reports for 2009 have been posted on the state website and the 2011 results are expected to be posted soon. If you haven't already done so, we hope you'll consider attending a future state-wide INPS event (the Annual Meeting, Rare Plant Conference, or Native Flora Workshop).

After an unexpected delay in getting the 2012 calendars through the printing process, all chapters should have received calendars to sell to members and contacts. These are produced not only to raise money for chapter and state activities, but also to educate the public about our organization and Idaho's native plants, and to highlight the work of many of our best photographers. Thanks to all of those who contributed photos to the INPS Photo Contest, to the judges, to the designers and to each of you who either bought a calendar or helped sell calendars for your chapter. Calendars may also be ordered on the state website: www.idahonativeplants.org.

With the end of the year fast approaching, it's that time again—time to renew your INPS membership. If you haven't renewed your membership yet, please take time to do so now. A form is included in this issue or you may renew with your chapter treasurer. And as you enjoy the many winter activities that Idaho is known for, don't forget to take (and share) photos of native plants in their winter garb and the wintery scenery.

Nancy Miller & Jody Hull

INPS Secretary and Treasurer

INPS State News

Introducing LaMar N. Orton, our new INPS President

As a young teenager, I used to roam the hills and canyons near my parents' farm outside of Buhl, Idaho with binoculars in hand and a bird book stuck in the back of my pants. In addition to my interest in birds, I admired the wildflowers in the area, once bringing home a cactus with a pink flower to my mother. After graduating from Buhl High School and attending two years of college, I lived in Guatemala, El Salvador, and Austria for church and school related activities.

After returning to the USA, I finished my college degree then entered the military. My wife Rosalie and I spent almost three years living in Okinawa, Japan while I was in the military. After the military experience, I returned to school to work on a master's degree. In 1974 I started working for the city of Twin Falls and was the City Planner until I retired in 2005.

Rosalie and I have five children (all boys) all of whom are married and have children of their own. We have seventeen grandchildren. Rosalie was a first grade teacher until she retired in 2005.

Rosalie and I own a five-acre botanic garden with all drought tolerant plants. We call our garden Plantasia Cactus Gardens. Although we have many cacti in the garden, we also have numerous other drought-tolerant plants from many different countries and especially from southwestern U.S. We also have a large collection of plants including some 30 species and varieties of buckwheats native to Idaho.

Although I have no formal training in botany, I have learned a lot of Latin over the years and am getting a little more adept with plant keys. Rosalie and I have enjoyed our membership and participation in the meetings, field trips and other activities of the Loasa Chapter of INPS.

2012 Education, Research, & Inventory Grant proposals

NOTE: This information can also be found on the state website.

The Idaho Native Plant Society (INPS) is soliciting proposals for its Education, Research, and Inventory Grant (ERIG) program. Grants of up to \$1,000 will be awarded in 2012 to support projects that contribute to the appreciation, conservation, or knowledge of Idaho's native flora or vegetation. The purpose of the ERIG program is to stimulate and lend support to educational, research, and conservation activities that promote an appreciation for native plants and plant communities in Idaho. The ERIG committee encourages you to submit a proposal if you have a project that may qualify. The deadline for submitting proposals is March 31, 2012.

Grant guidelines: The ERIG program is intended to support **direct project costs**. Grant proposals should not include expenses for salary and personal benefits, the purchase of personal equipment, or other expenses not essential to the project. (Complete downloadable 2012 ERIG guidelines are available on the state INPS web site in PDF format: <http://idahonativeplants.org/erig/Announcement%20for%202012%20ERIG.pdf>)

Here are some examples of costs the grant **may** cover:

- ✿ **Direct costs:** travel, meals, and lodging for the project.
- ✿ **Supply and service expenses** used for the sole purpose of the project (e.g.: film, photocopying, phone, lab materials)
- ✿ **Printing costs:** for public outreach material or research publications.

SAGE NOTES, the newsletter of the Idaho Native Plant Society, is published in February, May, September, and December.

Current and recent past issues of Sage Notes are posted in full color online at www.idahonativeplants.org/news/Newsletters.aspx along with a searchable index of 2006-2010 issues. We are scanning and uploading older issues as time allows.

Submissions: Members and non-members may submit material for publication. Relevant articles, essays, poetry, news and 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.

Submission guidelines are posted on the INPS web site: www.idahonativeplants.org/news/Newsletters.aspx. Please provide a phone number and/or email address with your submission. **Submission deadlines are January 8, April 1, August 1, and November 1.**

Advertising: Advertisements help reach environmentally-minded, native-plant-loving customers and help support INPS. Prices: 1/8 page = \$5, 1/4 page = \$8, 1/2 page = \$15. Submit ads to the editor electronically (as JPEG, TIFF, PSD, or PDF files). Send payment to: Sage Notes Ads, P.O. Box 9451, Boise ID, 83707

Sage Notes editor:
Jane Rohling, sage-editor@idahonativeplants.org
Phone: (208) 938-3529

continued on page 6

Danielle Clay in the lab studying interesting hybridization in *Castilleja christii*.

Photo: Cindy Salo



Christ's paintbrush may be crossing with the other species to produce the more variable plants. But in the end we found something far more interesting."

To determine the relationship among the plants, Clay examined their physical characteristics (morphology), conducted genetic studies on specimens she collected at the remote mountain site, and looked for ecological differences among the paintbrushes. Her morphological study involved measuring the structure of each specimen, such as the length and width of the leaves and flower parts, and then analyzing the overall differences among the species. This quantified how similar or different the paintbrush species were in terms of their physical appearance.

Previous researchers found that the "waxy" gene, which is involved in the production of starch in plants, can be used to distinguish among species of paintbrush. Clay located portions of this gene that contained unique molecular sequences in each of the three species. This let her identify any individual to species, including samples from all three paintbrush species and the suspected hybrids.

Clay was surprised to find that individuals identified in the field as Christ's paintbrush and those suspected of being hybrids all contained genes from both of the two more common paintbrush species, *C. miniata* and *C. linariifolia*. This indicated that the suspected hybrids, with their wide range of colors, are actually Christ's paintbrush and that this species originated as a hybrid between the two common paintbrushes. No one had suspected that Christ's paintbrush itself may be the result of hybridization because its physical appearance is so different from the other two species.

In addition to displaying more variable colors than the parental species, the flowers on Christ's paintbrush are shaped differently than are other paintbrush species. Clay also found that these plants have a unique type of hair on their stems and leaves that is not present in *C. miniata* or *C. linariifolia*.

Clay's ecological study provided further insight into this rare species. For example, Christ's paintbrush grows in different plant communities than the parental species on Mount Harrison. This indicates that Christ's paintbrush is adapted to different soils and growing conditions, Clay explained.

Clay and Smith's work highlights the complex role of hybridization in biodiversity. While it can reduce biodiversity by overwhelming the genomes of rare plants, it can also increase biodiversity through the creation of new species.

Although Clay and Smith now understand the unusual origin of Christ's paintbrush, they are still uncertain about its future. Threats to the species include competition from weedy plants and disturbance from road building and recreation on Mount Harrison. Global climate change poses additional threats to Christ's paintbrush, whose only home is the highest north-facing slopes of the mountain. This constrained area prevents it from migrating upslope to cooler areas as temperatures warm.

Clay is completing her M.S. degree this fall, after spending her summer monitoring rare plants for the state of Idaho. "This was a unique opportunity to study a rare plant growing in a limited geographical area and with an unusual origin," Clay said of her research on Christ's paintbrush. "I hope that this work will help scientists understand genetics and speciation in other rare plants."



(Left) Danielle surrounded by research specimens. It's days like this a botanist lives for, isn't it?

Photo: Eric Johnson

NOTE: Janelle Brown at BSU edited the piece and gave us permission to reuse it. A version of this article is posted online at Boise State University's Division of Research and Economic Development: <http://www.boisestate.edu/research/>



(Above) Danielle Clay pressing specimens in the field.

Photo: Eric Johnson

(Left) Castilleja miniata (scarlet paintbrush)

Photo: Eric Johnson

INPS State News

2012 ERIG Proposals continued from page 3

ERIG NEEDS YOUR SUPPORT!

The ERIG program relies on funding from various sources, particularly proceeds from Rare Plant Conferences, Native Flora Workshops and private donations.

With less funding from the 2011 Rare Plant Conference, INPS will need to rely more on private donations to support the grant program.

Your contributions are very welcome and would allow INPS to continue funding great projects.

Tax deductible donations can be sent to:

ERIG Program, INPS
P.O. Box 9451
Boise, Idaho 83707

Checks should be made out to INPS. Please be sure to specify that your donation is to be used for ERIG projects.

Thank you for your help!

Janet Bala
ERIG Committee Chair

- ❖ **Application procedure and requirements:** Proposals should contain the following information:
 1. **Project title**
 2. **Contact information:** name, address, phone number, organization/affiliation, and email (if available).
 3. **Project description:** outline the project objectives, methods, and final product. Explain how the project will benefit the appreciation, conservation, or knowledge of Idaho's native flora or vegetation. Describe how project success will be evaluated.
 4. **Itemized budget:** outline an overall project budget, including the amount you are requesting (up to \$1,000), as well as other funding sources.
 5. **Timeline:** please provide a timeline for completion of all major tasks associated with the project, including presentation of the results.

Project proposals must pertain to native plants of Idaho. The total amount of money available for the ERIG program in 2012 still needs to be determined. Please limit grant requests to a maximum of \$1,000, and be aware that less may be awarded due to INPS budget constraints and the number of applications submitted. Successful applicants will be required to submit a final report to the INPS documenting project accomplishments and a summary of the project to be published in the INPS newsletter, *Sage Notes*. We encourage applicants to become an INPS member if they are not already so, however, membership is not a prerequisite to apply for, or receive an ERIG.

Please submit proposals by email to Janet Bala at [balajane at isu dot edu](mailto:balajane@isu.edu) or by post to:

Idaho Native Plant Society
ATTN: ERIG Committee Chair
P.O. Box 9451, Boise, ID 83707

Get your 2012 INPS Calendars now!

2012 INPS Calendars cost \$10 and can be purchased now from chapter presidents or their designees, the INPS state website (www.idahonativeplants.org), or at these locations while supplies last:

Boise: Morrison-Knudson Nature Center
Moscow: University of Idaho Herbarium
Pocatello: Idaho State University's Idaho Museum of Natural History

Both the chapters and the state organization benefit from the sale of the calendars. The calendars are also an excellent way to introduce others to the native plants and habitats of Idaho. Please support the Society both by buying a calendar and by introducing them to others. These colorful calendars make great Christmas gifts!

Although it hasn't been decided yet whether or not INPS will produce a 2013 calendar, we encourage photographers to keep looking for opportunities to photograph native plants and habitats for use in calendars, brochures, or *Sage Notes*. Fall and winter photographs were under-represented in this year's judging, so bundle up and shoot some great photos during the coming months!



2012 INPS Annual Meeting in North Idaho

The 2012 INPS Annual Meeting will be hosted by the Calypso Chapter from June 22–24.

Article and photos provided by Derek Antonelli, Calypso Chapter

The 2012 annual meeting of the Idaho Native Plant Society will be hosted by the Calypso Chapter from Coeur d'Alene on June 22–24, 2012. We've selected the Clark Fork Drift Yard where the Clark Fork River meets Lake Pend Oreille between the cities of Clark Fork and Hope, east of Sandpoint, as the location.

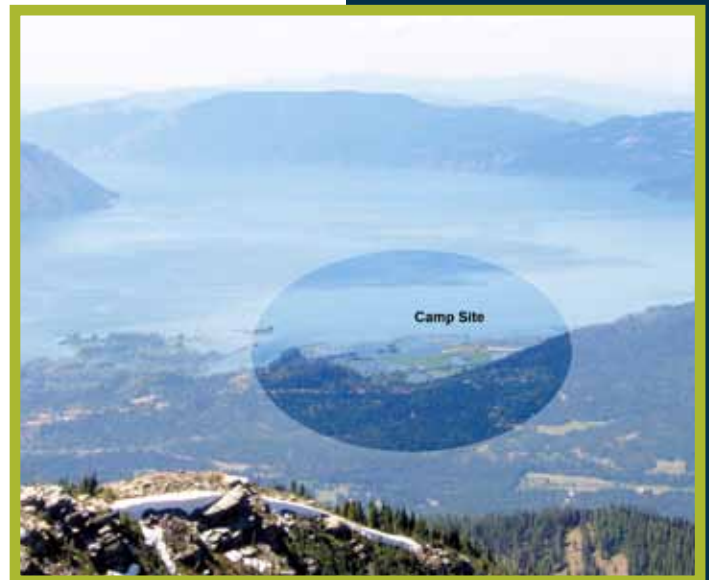
Theme of the Gathering

The focus of the gathering will be the restoration and protection of natural habitats. In particular, we will be looking at efforts to restore the natural function of river deltas on Lake Pend Oreille that were damaged or destroyed by the construction of the Albeni Falls Dam on the Pend Oreille River. We will learn about efforts to protect the spectacular area in the Cabinet Mountains north of Clark Fork through the proposed Scotchman Peaks Wilderness Area.

Camp Site

The Clark Fork River drains a section of the Rocky Mountains that extends all the way to Butte, Montana. This large river is the main source of water for Lake Pend Oreille. The delta where the river enters the lake encompasses thousands of acres. Idaho Department of Fish and Game (IDFG) manages much of the public land on the Clark Fork delta. The U.S. Army Corps of Engineers (USACE) manages areas within the delta that are critical for navigation. The Clark Fork Drift Yard is one such area. The USACE has installed a series of booms in the channels of the Clark Fork River to intercept the large woody debris drifting down the river before it enters Lake Pend Oreille and becomes a hazard to boating. The booms direct the drifting woody debris into this area where it is deposited, hence the name "drift yard."

IDFG has established a campground on a side channel of the Clark Fork River near the Clark Fork Drift Yard that is available to the public free of charge. It is a primitive campground with room for our entire group to camp together. The campground does not have a water source so the Calypso Chapter will provide water. We will also supplement the toilet at the site with additional portable toilets and we will need to pack out our own garbage. There is no electricity at the site. The site has a very nice boat ramp and a large gravel parking area for parking boat trailers and other vehicles. The Clark Fork River Delta is an excellent area for kayaks, canoes, and small boats. Larger boats can easily access the main lake from the boat launch.



View of Lake Pend Oreille and the Clark Fork Drift Yard Campground (the highlighted area at the margin of the lake) from Scotchman Peak.

Photo by Derek Antonelli

Annual Meeting

The annual meeting will be held Saturday evening at an indoor facility in a nearby community. The exact facility has not yet been determined. The meeting will start by addressing the business of the Idaho Native Plant Society. Following the formal business portion of the meeting we will have two presentations.

In keeping with the theme of the gathering, Kathy Cousins of the Idaho Department of Fish and Game will give the main presentation. She will describe efforts to restore the Pack River Delta. The Pack River drains a portion of the Selkirk Mountains and flows into the north end of Lake Pend Oreille. The construction of the Albeni Falls Dam on the Pend Oreille River that flows out of Lake Pend Oreille raised the level of the



(Above) Aerial view of the Pack River Delta Restoration Project area. During the restoration eight islands were constructed within the delta along with numerous structures to control water flow and increase sediment deposition. The islands increased the wetland areas within the delta by 24 acres. Increased sediment deposition should further increase wetlands available to wildlife.

(Right) This mountain goat has a great view of Lake Pend Oreille from the 7,009-foot summit of Scotchman Peak, but the photographer seems to have caught his attention!

Photo by Derek Antonelli

lake during the summer and inundated the wetlands of the Pack River Delta. As a result, the wetlands drowned, leaving only mud flats during the winter when the lake level is drawn down. The project Kathy managed constructed eight islands in the delta and installed a series of structures to help trap sediments moved down the Pack River. The islands were planted with nearly 50 species of native woody and herbaceous plants. Kathy will describe how the lessons learned from the Pack River Delta Restoration Project will be applied to restoration efforts of the much larger Clark Fork River Delta.

The Friends of Scotchman Peaks Wilderness (FSPW) will provide an additional presentation on their efforts to protect one of the last, and largest, wild areas in the Idaho/Montana border area. The Scotchman Peaks Roadless Area consists of 88,000 acres that is rugged, scenic, and biologically diverse. FSPW conducts education, outreach, and stewardship activities on behalf of the Scotchman Peaks area. They are working to achieve congressional Wilderness designation for the Scotchman Peaks area for the benefit and enjoyment of current and future generations. Specifics about the Scotchman Peaks area can be found on the FSPW website at www.scotchmanpeaks.org. Also, check out the show "[Native Plants of the Scotchmans](#)" on YouTube.

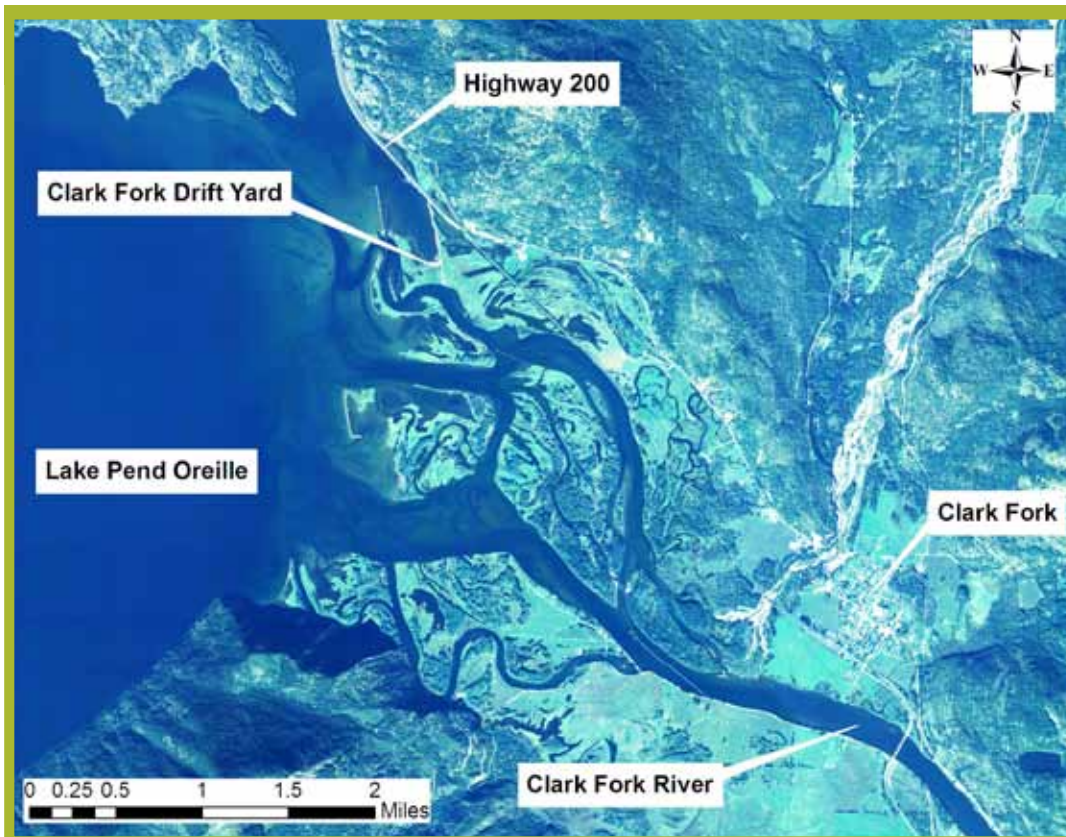
Activities

Check-in for the annual meeting will occur during Friday afternoon, June 22. After you have checked in and set up your camp, you will have an opportunity to choose from several options. You can explore the surrounding wetlands. We will attempt to have hip waders available for your use during these explorations. Guides will help you interpret what you are seeing. You can kayak, canoe, boat, or fish on your own within the Clark Fork River Delta. You can catch up with old friends and make new friends within the Society at the group camp site. Friday evening we will have a social gathering and potluck for all who want to participate.

The main activity on Saturday, June 23, will consist of a half-day hike up Morris Creek into the Scotchman Peaks area and a half-day tour of the Pack River Delta Restoration. The Morris Creek hike is a beautiful walk of about two miles one way along the creek with a modest gain in elevation. The vegetation found along the trail is a good representation of native plants found in the moist northern Idaho western hemlock/western red cedar forests. I hiked this trail this August and counted over 100 different species of plants. The return leg will be back down the same trail so you'll have an opportunity to see anything you might have missed on the way up.

During the tour of the Pack River Delta Restoration, you will be boated to one or more of the newly-constructed islands. You will have an opportunity to observe first hand what worked and what didn't work during the restoration effort. You can look at the native plant plantings accomplished by over 100 volunteers. Depending on the sizes of the groups interested in participating in these two activities, we may need to split the group into two halves and rotate between activities.





Aerial view of the Clark Fork River Delta. The delta occupies about 3,000 acres. Many acres have been lost every year to erosion since the construction of the Albeni Falls Dam. The campsite for the annual meeting is located near the Clark Fork Drift Yard.

Photo by Derek Antonelli

An alternate activity for Saturday is an all-day hike to the top of Scotchman Peak I. This is a very rigorous hike. It is only four miles one way but very steep. There is a 3,700-foot gain in elevation. If you can make the summit, the view is spectacular. The Scotchman Peaks Roadless Area is being managed as wilderness by the U.S. Forest Service so there are limits on group size on trails in the area. This restriction may impact our hikes. As a result, we will determine who is selected for a particular hike on a first-come first-serve basis. So, please make your desires known to us early!

Saturday evening we will have a dinner followed by our annual meeting and presentations. We are still in the planning process for the dinner. The meal may be at the same location or separate from the meeting and presentation location. We will endeavor to keep the cost of the meal as reasonable as possible.

There are possibilities for activities on Sunday, June 24. IDFG places a 72-hour limit on camping at its sites. This means if you arrive on Friday you don't have to depart until Monday. The Ross Creek Cedar Grove is located on the edge of the proposed Scotchman Peak Wilderness in Montana. It is only about 45 miles from the camp site. The grove has massive old growth red cedar trees. If enough people are interested in seeing the grove, we could organize a field trip or individuals could make the trip on their own.

Contact Information

We have not finalized the costs of the Saturday evening meal and have not yet developed a registration form for the annual meeting. We hope to do so soon. If you plan on attending the annual meeting, please send me your email address or other contact information. We will send you a copy of the registration form as soon as it is available. If you could also let me know what your activity preferences are, it will help in the planning process. I can be contacted at [antonelli8 at frontier dot com](mailto:antonelli8@frontierdotcom) or 821 W Mustang Ave, Hayden, ID 83835.

Watch for additional details, registration forms, and web links to pertinent information in upcoming issues of *Sage Notes* and on the [INPS state website](#).

Registration form and detailed schedules will be posted on the INPS state website and will also be included in upcoming editions of *Sage Notes*. You may also contact Derek Antonelli for more information at [antonelli8 at frontier dot com](mailto:antonelli8@frontierdotcom) or 821 W Mustang Ave, Hayden, ID 83835.

ISU's Ray J. Davis Herbarium

By Janet Bala, Collection Manager and Rick Williams, Curator
All photos courtesy Ray J. Davis Herbarium



(Above) Botany Professor Ray J. Davis established the herbarium in 1931. Davis taught at U of I from 1930–1965.

The Ray J. Davis Herbarium is part of the Idaho Museum of Natural History (IMNH), located on the campus of Idaho State University in Pocatello. As part of the official state museum of natural history, our mission is to “actively nurture an understanding of and delight in Idaho’s natural and cultural heritage; and acquire, preserve, study, interpret and display natural and cultural objects for Idaho residents, visitors and the world’s community of students and scholars.” The herbarium plays a key role in research, education, and public exhibits at the IMNH. The public gallery currently displays an exhibit on the flora of the current and paleo-climate vegetation zones of SE Idaho, and another on making herbarium specimens. With our entrance adjacent to the gallery, the herbarium is definitely in the public eye as a prominent feature of the museum.

HISTORY

The herbarium was established in 1931 by Ray J. Davis, professor of botany at what was then the University of Idaho Southern Branch. Davis systematically collected specimens from throughout Idaho each summer, culminating in the publication of *Flora of Idaho* in 1952 (now out of print). During Davis’ tenure the collection grew to over 35,000 specimens. In the article “Ray J. Davis—Life History” (*Journal of the Idaho Academy of Science, Vol.28, No.2, 1992*), the prologue of Davis’ autobiography reads as follows: “Was I a typical schoolteacher? I don’t know. I do know that I had a good life teaching. Of course, I had my times of frustration and disappointment. Forty-three years in the classroom and laboratories have brought their rewards. Maybe not in money, but in other ways that money can’t buy. I fondly remember a tow-headed, slender Boy Scout at camp one summer that I interested in flowers. I followed him through high school, taught him in college, collected plants with him on trips, saw him with pleasure when he received his doctoral degree and now I see him as one of the world’s recognized great botanists.” That boy was Arthur Cronquist.



(Above) Dr. Karl Holte, shown teaching a keying class, became the herbarium’s curator in 1965.

In 1965, Dr. Karl Holte became curator. He and his students built the collection to over 60,000 specimens through their many floristic surveys of Idaho. A well known botanist, teacher and conservationist, Dr. Holte retired in 1997, but continues to actively serve as Curator Emeritus of the herbarium. From Dr. Holte’s retirement until 2008 the herbarium saw limited activity. The one thing that was started in 2003 and continues today is the “Friday Key Class” led by Karl Holte and volunteer Dick Anderson. This class was first organized to help some students who wanted to learn to key grasses. From there it became a class for students as well as the general public to learn how to key plants in general. Many graduate students have learned how to key plants from Karl’s class for their graduate work. Also from this class, Dr. Holte and two of his colleagues, Wyoming BLM botanist Jim

Glennon, and retired chemistry professor Dr. Bruce Ronald, rewrote the grass key for the *Flora of Idaho* with the new *Flora of North America*’s names. This key will soon be published through the Idaho Museum of Natural History.

In 2008, Dr. Rick Williams, faculty member of the Dept. of Biological Sciences was appointed Director of Life Sciences and Curator of Botany at IMNH. Dr. Williams’ research in pollination biology at the Rocky Mountain Biological Laboratory in Colorado allows him to collect alpine species to add to the herbarium each summer. Janet Bala, M.S. was

Idaho State University's Ray J. Davis Herbarium

hired as full-time collection manager in 2009 and oversees all the life sciences collections, particularly the herbarium, at the IMNH. She coordinates and supervises all the activities of the many student assistants and volunteers, as well as designs museum exhibits and teaches many visiting school groups to the museum.

COLLECTIONS

The herbarium has over 70,000 specimens of vascular plants and more than 3,000 specimens of lichens, bryophytes and fungi. Two of the type specimens in the collection are *Hackelia davisii* and *Cirsium davisii*, species discovered by and named in honor of Ray J. Davis. Specimens from Idaho and the surrounding western states make up the bulk of the collection. There is also representative and comparative material from throughout the United States and some foreign material. The emphasis of the collection is the flora of Idaho, particularly southeastern Idaho.

We currently add about 1000 specimens per year to the collection. The majority of new material accessioned into the collection is from students, volunteers and museum scientists. Many steps are involved between collection in the field and placing a specimen in the herbarium. This past October, we added an exhibit to the public gallery, *From Field to Folder: Making a Herbarium Specimen* explaining the steps involved in making a collection.

Additional specimens are acquired from public gifts and donations, repository agreements with state and federal agencies, and exchanges with other herbaria. Exchange programs disseminate duplicate specimens to other institutions with an interest in particular taxa or geographic areas. These duplicates can serve as insurance should a collection be lost to fire or other disaster. The Davis Herbarium has an active exchange program with many herbaria in the region as well as large international herbaria such as Kew, Harvard, and especially the New York Botanical Garden.

LOCATION

The herbarium has had a number of homes around the university before becoming part of the Idaho Museum of Natural History. The herbarium started in Dr. Davis' laboratory in the chemistry building with two used mammal cabinets. It was moved a number of times when space issues and/or a new curator facilitated it. The Herbarium finally found a permanent home during the spring of 2010 when it became part of the Idaho Museum of Natural History's collections and moved to the first floor of the museum building where it is currently located. We really enjoy our new space and hope that we won't be moving anytime soon. We have a climate- and light-controlled collections area and a spacious workroom with windows and a view of the campus Hutchison Quad.

CURRENT ACTIVITIES

The herbarium has been an active participant in the Consortium of Intermountain Herbaria and more recently the Consortium of Pacific Northwest Herbaria. Both groups are actively involved in digitizing herbarium collections of their respective geographic areas and making the data and images available online (www.intermountainbiota.org, www.pnwherbaria.org). The herbarium has been supported by the University and Museum to purchase the equipment to image and database our collection, and we actively pursue federal funding to make our collections more readily available to researchers and the public. A major goal of the Idaho Museum of Natural History is the creation of a "Virtual Repository and Museum," in which the herbarium will play a key role.



(Above) Dr. Rick Williams researching pollination biology in Queen Basin, CO.

(Below) Janet Bala, the herbarium's collection manager, coordinates the activities of students and volunteers, designs museum exhibits, and introduces visiting school groups to the facility.



Idaho State University's Ray J. Davis Herbarium

STAFF

The herbarium staff includes, Dr. Rick Williams, Curator of Botany; Life Sciences Division Head ([willcha2 at isu dot edu](mailto:willcha2@isu.edu)/282-2948); Janet Bala, Life Science Collections Manager ([balajane at isu dot edu](mailto:balajane@isu.edu)/282-2815); Dr. Karl Holte, Curator Emeritus; collections assistants Ashelee Rasmussen, Paige Rogers, and Kayla Tillotson; museum volunteers Dick Anderson, Pam Reschke; and various students from the flora classes. Our most important task at this time is reorganizing the collection using the APGIII (Angiosperm Phylogeny Group) system and barcoding, imaging and databasing the collection. At present about 25,000 specimens have been barcoded and cataloged, and about 4,000 have been imaged.

OUTREACH

Sawabi Chapter, INPS: The herbarium and staff take an active role in the Sawabi Chapter of INPS. Because the herbarium is part of Idaho State University, we are able to provide a meeting room for the Sawabi Chapter at no charge. The staff also actively participates in leading field trips and giving presentations at monthly meetings.

Volunteer Opportunities: Two of our volunteers, Dick Anderson and Pam Reschke spend more than 400 hours per year in the herbarium. Special thanks go out to them for their extraordinary efforts! If you live in the Pocatello/Idaho Falls area and would like to learn more about the native plants of Idaho, the herbarium is always looking for volunteers to help in the curation of our collection. We have a very large backlog (>10,000 specimens) in need of sorting, mounting, labeling, and filing. A well-mounted specimen is a work of art and this task appeals to those with an artistic bent. Much of the collection still remains to be entered into the database and imaged. Databasing is a good way to be exposed to many plant specimens and hone your identification skills. We are in the process of developing an online resource for identification, distribution mapping, and information about Idaho plants. Volunteers with web design experience will be especially useful as we "go online."

Idaho Botanical Foray: The Ray J. Davis Herbarium will be hosting the Fifth Annual Idaho Botanical Foray in 2012. New collections are always needed in herbaria to better understand taxonomies and distributions. If you love to learn more about Idaho's native plants and enjoy camping stay tuned for details on the location and date.

For more information on Ray J. Davis Herbarium please visit: <http://imnh.isu.edu>



(Above) An exhibit at the herbarium explains the process of collecting plants and making herbarium specimens.

(Below) Volunteer Dick Anderson assists with the important work of digitizing the herbarium's specimens.



(Right) The Herbarium's Plant Gallery exhibit.



Idaho State University's Ray J. Davis Herbarium



(Above) The Ray J. Davis Herbarium staff would love to show you around their facility. The staff includes: (starting in the back from left to right) Dick Anderson, Pam Reschke, Janet Bala, Rick Williams, (front left to right) Paige Rogers, Ashelee Rasmussen and Kayla Tillotson

(Below left) Paige Rogers and Ashelee Rasmussen pressing plants on a cold morning at the 2011 Botanical Foray.

(Below right) Back in the Herbarium, Ashlee organizes the specimens collected.



The 25th Idaho Rare Plant Conference



(Above) Botanists roll up their sleeves and get down to work at the RPC.

Photo by
Janice Hill

(Below) Charlie Waag explains the geology of the Boise Foothills.

Photo by
Nancy Miller



By Lynn Kinter, Pahove Chapter

For the 25th year, the Idaho Native Plant Society has sponsored a successful Rare Plant Conference! This year's conference, organized by the Pahove Chapter, was held October 19–20 at the Idaho State Office of the Bureau of Land Management (BLM) in Boise.

BLM botanist Beth Corbin directed events on the first day, focusing on conservation status rankings of Idaho's rare plants. New to this

year's ranking process was a trial run with NatureServe's Rank Calculator. Published in 2009, the calculator uses 10 factors related to rarity, trend and threats to assess the conservation status of a particular species or variety on a scale of 1 to 5—from "critically imperiled" to "demonstrably secure."

To begin the ranking session, BLM state botanist Roger Rosentreter welcomed us and outlined logistics. Rosentreter was the sole attendee who had participated in all 25 rare plant conferences in Idaho! Corbin and Idaho Fish and Game botanist Lynn Kinter discussed the basics of status ranks and the ranking process, then attendees worked together to rank two species. *Sedum valens* (Salmon River sedum) was presented by Curtis Bjork, a consulting botanist and lichenologist who discovered this Idaho endemic. Our group ranked the sedum S1S2—intermediate between "critically imperiled" and "imperiled"—due to a very limited range and some threats. *Pinus albicaulis* (whitebark pine) was presented by Dana Perkins, BLM ecologist, and was ranked S3—"vulnerable"—due to very high threats and recent population declines in this species.

During the afternoon session, conference attendees separated into two groups: North Idaho, led by LeAnn Abell, BLM, and South Idaho, led by Don Mansfield, College of Idaho.

Collectively, the groups ranked 14 plants, including newly-described species, such as *Lomatium bentonitum* (Succor Creek lomatium) presented by Don Mansfield, and *Lomatium brunsfeldianum* (Brunsfeld's lomatium) named in honor of the late Steve Brunsfeld and presented by Pam Brunsfeld, University of Idaho. There were also new state records, such as *Githopsis specularioides* (common bluecup) discovered by Rich Merkel of the U.S. Forest Service, and taxa for which significant new information is now available, such as *Sanicula marilandica* (black snake-root) presented by Derek Antonelli, Calypso Chapter. Detailed ranking results will be posted on the INPS website soon. Results of the 2009 conference, along with the complete INPS Rare Plant List, are currently available online.

On the second day of the conference, Michael Mancuso, of Mancuso Botanical Services, led a field trip on rare plant conservation in the Boise Foothills. We started the tour at Camel's Back Reserve, where Mancuso discussed *Astragalus mulfordiae* (Mulford's milkvetch), which we saw along the trail, and *Allium aaseae* (Aase's onion). Carol Prentice, College of Idaho, provided historical information on Isabel Mulford, who was the first PhD student at Washington University in St. Louis, and Hannah Aase, who was a faculty member at Washington

State University in Pullman.

At the top of Camel's Back, Charlie Waag, Professor Emeritus at Boise State University, explained the unique geology of the foothills. Camel's Back and many other hills on the Boise Front are comprised of unconsolidated sands that were deposited underwater in ancient Lake

Idaho. Some features, such as Table Rock, are more consolidated due to minerals from ancient hot springs. Waag noted that the Snake River Plain is dropping over time due to faults on both sides and is technically termed a 'graben' (German for 'grave'), like the Rhine River in Europe.

Our group then travelled to Hartley Road, north of Eagle, and met with Matt Schmasow, a graduate student at Boise State University who is conducting research on the diet of Owyhee harvester ants. He is investigating which types of seeds are collected by these granivores, and what proportion of their collections are *Lepidium papilliferum* (slickspot peppergrass)—a species federally listed as "threatened." Schmasow has seen the ants focus on peppergrass seeds during a particular phase of seed-ripening, and has observed them travelling along "trunk trails"—primary chemically marked trails—that lead directly to mature peppergrass plants.

Our third tour site was the Sand-capped Knob Area of Critical Environmental Concern (ACEC), also near Eagle, where we walked to one of several sand lenses that support *Allium aaseae* (Aase's onion). Pat Hess, BLM biology technician and BSU student, described the natural history of the plant and recent conservation efforts by BLM. Employees and volunteers have hand-weeded *Bromus tectorum* (cheatgrass) and other non-native species from the site. They have also removed garbage that had been dumped there over the years.

At the conclusion of the field trip, participants lingered on the sandy hillside to converse and enjoy the sunny autumn day. We had several opportunities to socialize throughout the event. We kicked off the conference with an evening social in the Hemingway Room of The Reef—a downtown restaurant. Wednesday evening, we met at the MK Nature Center for a tasty potluck organized by Caroline Morris, Pahove Chapter. Overall, the conference attendees, who numbered about 70, were very glad for a chance to visit with friends and colleagues from around the state and to learn more about Idaho's rare plants.



*In the Eagle foothills, BSU grad student Matt Schmasow discusses his research on which types of seeds harvester ants collect and what proportion of them are *Lepidium papilliferum* (slickspot peppergrass).*

Photo by Dick Anderson.



Consortium of Pacific Northwest Herbaria

At the 2011 Rare Plant Conference, Dave Tank, the director of the Stillinger Herbarium at University of Idaho, briefly described an exciting online database of herbarium records.

The Consortium of Pacific Northwest Herbaria has compiled a searchable database of nearly 1.7 million specimen records from 53 member herbaria in Idaho, Alaska, British Columbia, Montana, Oregon, Washington, and Yukon Territory.

The database can be searched and compiled in several ways, and it includes photos for >118,000 specimens. For more information, visit the website:

www.pnwherbaria.org/

(Far left) An anthill in the Eagle foothills is home to harvester ants.

Photo by Nancy Miller

(Left) Rosette of slickspot peppergrass.

Photo by Dick Anderson

Plants ranked at the 2011 Rare Plant Conference

NOTE: Typically state ranks (S) were assigned; global ranks (G) were assigned for four taxa.

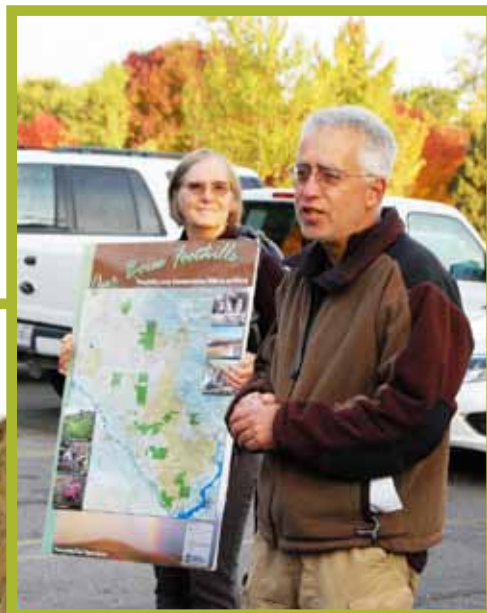
Species or variety	Common name	Rank	Leader
<i>Allium aaseae</i>	Aase's onion	S2S3	Susan Filkins
<i>Asplenium trichomanes</i>	maidenhair spleenwort	S1	Derek Antonelli
<i>Astragalus asotinensis</i>	Asotin milkvetch	G1, S1	Curtis Björk
<i>Astragalus cusickii</i> v. <i>packardiae</i>	Packard's milkvetch	S1	Mike Mancuso
<i>Cleomella plocasperma</i>	alkali cleomella	S1	Holly Beck
<i>Douglasia conservatorum</i>	Bloom Peak douglasia	G1, S1	Curtis Björk
<i>Githopsis specularioides</i>	common bluecup	S1	Rich Merkel
<i>Lomatium bentonitum</i>	Succor Creek lomatium	G1, S1	Don Mansfield
<i>Lomatium brunsfeldianum</i>	Brunsfeld's lomatium	S1	Pam Brunsfeld
<i>Orobanche pinorum</i>	pine broomrape	S2	Rich Merkel
<i>Paronychia sessiliflora</i>	low nailwort	S1	Michael Mancuso
<i>Pinus albicaulis</i>	whitebark pine	S3	Dana Perkins
<i>Pyrrocoma linearis</i>	thinleaf goldenhead	S3	Curtis Björk
<i>Sanicula marilandica</i>	black snake-root	S3	Derek Antonelli
<i>Sedum valens</i>	Salmon River sedum	G1G2, S1S2	Curtis Björk
<i>Thalictrum dasycarpum</i>	purple meadow-rue	S1	Derek Antonelli

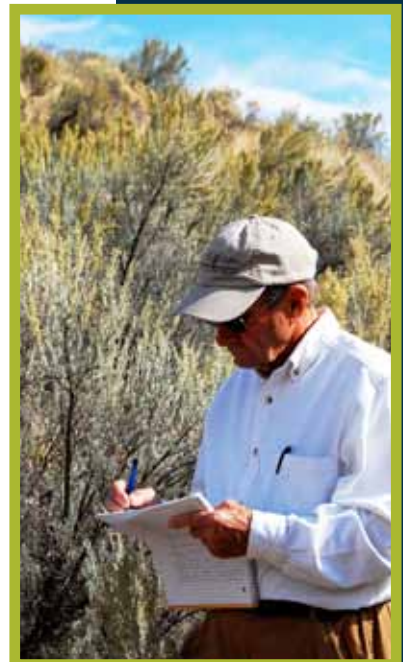
(Right) Michael Mancuso talks with the group about Boise Foothills conservation.

Photo by Nancy Miller

(Below) A bevy of botanists hikes to the top of the Camel's Back in the Boise Foothills.

Photo by Dick Anderson





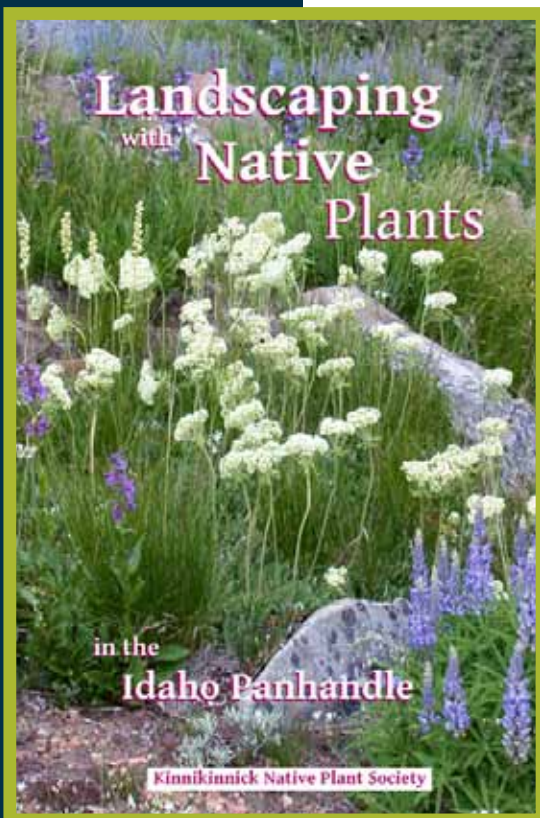
The Rare Plant Conference is an excellent opportunity for botanists from Idaho and adjacent states to get to know each other better while evaluating the status of rare plants and discussing their conservation.

*Photos by
Dick Anderson,
Janice Hill, and
Nancy Miller*

Landscaping with Native Plants in the Idaho Panhandle

The following is summarized from information received from Carol Jenkins of the Kinnikinnick Native Plant Society in a letter to the INPS ERIG committee and from an article originally published in the Bonner City Daily Bee on 10/19/2011.

Authors and project coordinators of an exciting new one-of-a-kind book, "Landscaping with Native Plants in the Idaho Panhandle," were on hand for the debut of the book at the KNPS meeting October 22 and at a Bonner County book store.



The Kinnikinnick Native Plant Society's book is an excellent resource for Bonner County and the North Idaho region on successfully using native plants for landscaping, land restoration, watershed protection. The use of indigenous plants is also a great way to preserve our regional identity and take advantage of the unique characteristics of plants that have evolved in this environment.

Copies of the book have been donated to local and regional libraries, agencies and nurseries so this resource will be available to a wide audience.

Twelve volunteers dedicated two years to writing the 236-page full-color book. The original scope was to provide specific information about native plants suitable for incorporation into existing gardens or for establishing new landscapes. Nearly all the photos are from local photographers.

Several lists, such as fire-resistant and deer-resistant plants, and lists of plants by color, light and moisture requirements were added so readers can easily choose plants for specific applications. Plants which are in the North Idaho Native Plant Arboretum in Sandpoint's Lakeview Park are identified in the book along with their Arboretum location.

Grants for the development of the book came from the Equinox Fund at Inland Northwest Community Foundation and from the Idaho Native Plant Society's ERIG program, as well as contributions from the Kinnikinnick Native Plant Society and individual donors.

Information about the book and how to purchase it is available on the Kinnikinnick Native Plant Society website: www.nativeplantsociety.org.

Book Review by Nancy Miller

Much of the material in the book is applicable to gardeners and restoration ecologists in all of northern Idaho, not just the most northerly counties. In addition to a complete index which includes both scientific and common names, each listed plant has one or more photographs, a brief description of the plant and its habitat, and its landscape use. Many of the photographs are by INPS member Marilyn George. Trees, shrubs, flowering plants, ferns and vines, groundcovers, grasses, sedges and rushes are included. Considerable information is provided on native plants in general, landscaping with natives, soils, and sources of natives. Many lists are provided including listing by habitat type, shade-sun preference, wildlife attraction, deer- and fire-resistance, invasive characteristics, fragrance, and specific color.

I have not read the book completely but I can see that I will recommend this book as a reference for those interested in working with native plants in their own gardens. The book can be purchased at Sandpoint locations listed on the [Kinnikinnick Native Plant Society's website](http://www.kinnikinnicknativeplantsociety.org). The list price is \$19.95.

Getting to Know the Mustard Family

A Summary of the 2011 *Brassicaceae* Workshop

By Karen Colson, US Fish and Wildlife Service

The *Brassicaceae* (mustard) family is a large family, renowned for its formidable nature when it comes to identifying its members. And true to all big, gregarious families, it is full of intriguing characters, each with its own distinct characteristics. From the bashful and unassuming *Idahoia scapigera* (scalepod) to the glamorous *Stanleya confertiflora* (biennial princesplume); from the rare and discriminating *Lepidium papilliferum* (slickspot peppergrass) to the undiscerning drifter *Sisymbrium altissimum* (tall tumbledustard); and from the likable *Brassica oleracea* (cabbage) to the odious and unapologetic *Cardaria draba* (whiteweed), the *Brassicaceae* family is an assorted and complex assemblage!

To help make sense of this sizeable and, at times, intimidating family, the Pahove Chapter of the Idaho Native Plant Society and the College of Idaho offered a fun and informative *Brassicaceae* Workshop. Held on June 29-30, 2011 at the College of Idaho, this workshop provided over 25 botanists from Idaho, Oregon, Washington, and Montana a unique opportunity to learn directly from Dr. Ihsan A. Al-Shehbaz, a world-renowned *Brassicaceae* expert.

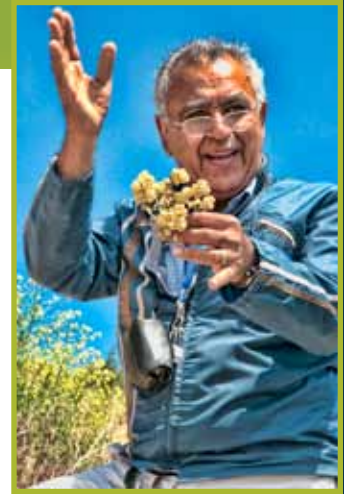
The indoor lab session on the first day of the workshop offered a comprehensive overview of the *Brassicaceae* family, followed by practical hands-on training and individual assistance keying out fresh plant material. On the second day, participants learned to identify species in the field, enjoying the extra treat of unseasonably cool Idaho weather.

Participants thoroughly enjoyed the event and appreciated Ihsan's personal and straightforward approach. Ihsan helped participants get better acquainted with the mustard family and all of its interesting and "colorful" members, making plants of this once intimidating family much more approachable.

Workshops like this provide great opportunities for friends and colleagues in the botanical community to reconnect with one another, and to "botanize" in new locations. Jennifer Whipple, who traveled from Yellowstone National Park to join the workshop, commented that "It was wonderful meeting Ihsan, seeing old and new friends, and finally seeing the famous Leslie Gulch and Succor Creek Ash!"

We are extremely grateful to Ihsan for taking the time out of his busy schedule to travel to Idaho and share his incredible wealth of knowledge with us. We would also like to recognize the considerable time and effort that Don Mansfield and Juanita SosaManzo put into hosting and helping coordinate this event. Thanks go to the Pahove Chapter, for financial support and commitment to these workshops which helps keep them affordable. Many thanks also go to Barbara Ertter, Cyndi Coulter, Betsaida Chavez, Laura Barbour and Emma George for their assistance.

As always, we'd like to extend a special thank-you to all of the participants. Your energy and excitement this year was incredible. We'll see you all, and hopefully some new faces too, at our 2012 plant identification workshop, where we will befriend another animated plant family!



Workshop participants had the opportunity to learn directly from Dr. Ihsan A. Al-Shehbaz, a world-renowned *Brassicaceae* expert.

Photo by Jennifer Whipple, NPS



Trips to Succor Creek (above) and Leslie Gulch (left) in eastern Oregon gave everyone a chance to practice identifying *Brassicaceae* in the field.

Photos by Jane Rohling



INPS Chapter News

INPS CHAPTERS

CALYPSO CHAPTER

821 W. Mustang Ave.
Hayden, ID 83835

President: Derek Antonelli
Vice President: Vacant
Secretary: Karen Williams
Treasurer: Janet Benoit
Newsletter: Vacant

LOASA CHAPTER

340 E 520 N.
Shoshone, ID 83352

President: Kelvin Jones
Vice President: LaMar Orton
Secretary/Treasurer:
Lois Rohay

PAHOVE CHAPTER

P.O. Box 9451
Boise, ID 83707
Pahove.chapter@gmail.com

President: Karie Pappani
Vice Pres.: Elaine Walker
Secretary: Susan Ziebarth
Treasurer: Caroline Morris
Conservation: Chris Colson
Members at Large:
Cyndi Coulter, Karen Colson, Chris Colson,
Jody Hull

SAWABI CHAPTER

146 South 17th Ave.
Pocatello, ID 83201

President: Ardys Holte
Vice Pres.: Bob & Chris McCoy
Secretary: Barbara Nicholls
Treasurer: Cathy Frischmann
News to members: Linda Johnson
Chapter News: Ardys Holte
Web site: Catalina Steckbauer
Hospitality chair: Pauline Havens
Conservation/Education chair: Janet Bala
Members-at-large: Mel Nicholls, Karl Holte, Dick Anderson, Judy Minshall

CALYPSO CHAPTER

When: Our next three Calypso Chapter meetings will be held at 7:00 PM on the first Wednesdays of March (3/7), April (4/4), and May (5/2). The March meeting will be a planning meeting.

Field trips are scheduled during the spring, summer, and fall. We do not meet from November to February.

Where: Conference room of Idaho Department Fish and Game, 2885 W. Kathleen Ave., Coeur d'Alene, ID 83815

Contact: Derek Antonelli for more information: [antonelli8 at frontier dot com](mailto:antonelli8@frontierdot.com)

RECENT ACTIVITIES

April 6: At a dinner meeting held at a local restaurant members and guests participated in an informal presentation on collecting, pressing and drying wild plants given by member Karen Williams. Karen stressed using proper ethics when collecting plants as well as abiding by government regulations and obtaining permission from private property owners. Taking good field notes, as well as tagging and labeling procedures were discussed. Herta Long demonstrated the use of her plant press with some early wildflower specimens she had collected. She also brought a pressed false mitrewort plant (*Tiarella unifoliata*) that she had pressed in 1980 which was still in good condition. The group also enjoyed viewing a 100 year old pressed plant specimen book brought by Susan Lee. Instructions for constructing a plant press as well as using a microwave to speed up the drying process were made available to the group. A good resource for pressing and drying plants is the Utah State University Intermountain Herbarium's web site: herbarium.usu.edu/k-12/collecting/specimens.htm.

April 30: Several members attended the Arbor Day celebration and volunteered to lead interested hikers on the Tubb's Hill Trail along Coeur d'Alene Lake. Attendees were rewarded for braving the inclement weather with bundles of free evergreen trees.

May 4: Our spirits, soggy from the long wet spring, were indeed lifted as we

were treated to a beautiful wildflower photography show by member and local photographer Herta Long. The informative and beautifully-rendered slide show was compiled by Derek Antonelli. Comments were welcomed and added to the interesting nature of the program. We learned much about each plant including common and scientific name, habitat, plant description and other facts about each flower. Herta noted that photography had taught her to appreciate the beauty of even the smallest of the flowers as they could easily be overlooked and were oftentimes the most spectacular. An ongoing chapter project is a full digitization of Herta's native wildflower slides for the education and enjoyment of the public.

Our 2011 field trip season: An interesting array of hikes included Q'emiln Trails, Pack River Delta and Trout Creek, with a side trip to the Sandpoint Arboretum, Fern Falls, and Crystal Lake.

LOASA CHAPTER

All INPS 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

Contact: Kelvin Jones at (208) 886-7051 for more information

PAHOVE CHAPTER

When: Monthly meeting dates and topics are emailed and posted on the Idaho Native Plant Society website.

When: Most meetings are held at the MK Nature Center Auditorium.

Contact: For more information about Pahove Chapter activities visit the website: www.idahonativeplants.org or contact KariePappani, [pahove.chapter.president at gmail dot com](mailto:pahove.chapter.president@gmail.com).

RECENT ACTIVITIES

October 11: "The Hungry Hundred Miles" Kerry McClay shared his adventure backpacking and foraging from Boise to Redfish Lake. Six young men and a dog embarked on this journey. We learned of his trip route, preparation, choice of plant species to consume, and stories of challenges along the way.

September 16: Pizza Party and Officer Election

Newly-elected Pahove Chapter officers are Karie Pappani (President), Elaine Walker (Vice President), Caroline Morris (Treasurer), and Susan Ziebarth (Secretary). Members at Large include Cyndi Coulter, Karen Colson, Chris Colson, and Jody Hull.

We would like to welcome Caroline Morris as our new treasurer. She has been instrumental in providing snacks and she also helps with set up/take down at our meetings. Here is some more about our newest board member:

"I'm a retired lawyer and longtime ornamental gardener. INPS is a wonderful resource for learning about Idaho's native plants, most of which are new to me. I moved to the Boise area 18 months ago from Washington, DC and plan never again to live in a humid climate."

Caroline praised the September meeting's scrumptious pizza party held in the Idaho Botanical Garden's wooded picnic area, featuring officer election, many new faces, 50 quail scurrying nearby and an exquisite sunset.

November 10: We heard from two members of our chapter, Elaine and Alayne. Elaine is a Master Gardener and Master Naturalist. Among her volunteer duties, she writes a weekly Master Gardener column for the Idaho Statesman. Elaine gave us some insight into the ins-and-outs of writing a gardening column.

Alayne, creator/director of Horses for Clean Water, an award winning, internationally acclaimed environmental education program, introduced us to her work. As an educator and photojournalist she has worked with

horses and livestock owners for over 20 years teaching manure composting, pasture management, mud and dust control, water conservation, chemical use reduction and wildlife enhancement. She teaches and travels throughout North America and writes for horse publications.

December 8: The Pahove Chapter's annual Holiday Party was held at the Old Spaghetti Factory in Boise. We enjoyed a great meal and a wild plant-themed white elephant gift exchange hosted by none other than Salmon Claus.

SAWABI CHAPTER

Meetings: We welcome the public to our chapter's informative programs.

When: First Monday of each month, October through March, 7:00 p.m.

Where: Pond Student Union Building, Room 308, ISU Campus, Pocatello.

Contact: For more information call 208-716-0218.

New Sawabi president: Our chapter president, Melinda Walker, moved to Corvallis, OR, this fall. Ardys Holte graciously agreed to serve as interim president until next April's elections.

Sawabi tee-shirts, showing an artistic rendition of glacier lily (*Erythronium grandiflorum*), desert or Indian paintbrush (*Castilleja angustifolia*), curl-leaf mountain mahogany (*Cercocarpus ledifolius*) and sawabi (big sagebrush, *Artemisia tridentata*), are still available for \$10 (plus postage). The design, printed on sage green 100% preshrunk cotton shirts, is 11" high x 9" wide. To order, contact Cathy Frischmann at 208-406-4559.

UPCOMING EVENTS

January 9, 2012: "Breathtaking Alaska," by Bob and Chris McCoy.

INPS CHAPTERS

UPPER SNAKE CHAPTER

President: Sue Braastad
Vice President: Rose Lehman
Secretary: Alan Crockett
Treasurer: Dave Godfrey

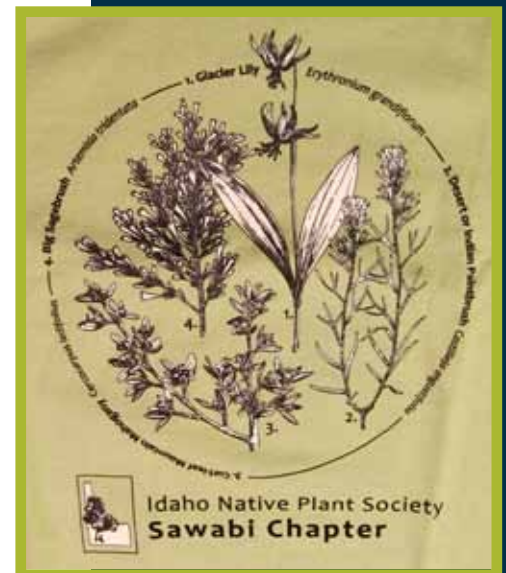
WHITE PINE CHAPTER

PO Box 8481
Moscow, ID 83843
whitepine.chapter@gmail.com

President: James Riser
Vice President: VACANT
Secretary: Pat Fuerst
Treasurer: Elisabeth Brackney
Past President: Helen Yost
Landscaping & Restoration
Plants: Juanita Lichthardt
Publicity Chair: VACANT
Web: Nancy Miller, Patricia Hine
www.whitepineinps.org

WOOD RIVER CHAPTER

P.O. Box 3093
Hailey, ID 83333
President: Carol Blackburn
Vice President: VACANT
Secretary: VACANT
Treasurer: VACANT



Sawabi Chapter t-shirts
are available for sale.

INPS Chapter News



(Above) Upper Snake Chapter activities included a fall hike on Elk Creek.

Photo by Sue Braastad

(Below) Heidi Albano of the Sagebrush Steppe Regional Land Trust spoke to the Upper Snake Chapter in October.

Photo by Sue Braastad



February 6, 2012: "Pioneer Mountains Wildflowers" by Stephen and Monaquita Love.

March 5, 2012: "Road trip to Alaska and Back," by Joe and Sherry Campbell.

RECENT ACTIVITIES

Sawabi chapter's field trip season was capped with a walk through the fall foliage of Goodenough Canyon Nature Trail on a gloriously sunny day in late September, followed by a potluck chili feed. We enjoyed the fall-blooming big sagebrush, rabbitbrush, asters, and the colored leaves on the maples, chokecherry, elderberry and others. Many plants whose blossoms we enjoyed this summer were now drying and dispersing their fruits and seeds for next year's growing season.

October 3: Travelogue by Cathy McPherson on the wonders of South Africa and the Victoria Falls area of Zambia.

November 7: "High Altitude Wildflowers of Colorado and Research at the Rocky Mountain Biological Lab," by Dr. C. F. Rick Williams.

December 11: Cathy and Pete Frischmann hosted our holiday party and potluck in their home.

characteristics of the plants and flowers. Located southeast of Swan Valley and east of Idaho Falls in eastern Idaho along Hwy 26, Palisades is a high-altitude reservoir and part of the Greater Yellowstone ecosystem.

Enjoying bright red bigtooth maple and other fall colors in the Palisades.

October 10: Several members of the society got together to make field plant presses. We made 2 sizes, 8 1/2" X 11" and 5" X 7". These will be used as gifts and sold as a fundraiser.

October 19: Heidi Albano from the Sagebrush Steppe Regional Land Trust introduced us to the mission and mechanics of the Land Trust.

November 16: Bob Anderl presented a program on plant photography.

WHITE PINE CHAPTER

Meetings: During the spring and fall, meetings are held once a month. Field trips occur regularly whenever the weather allows. Please check the chapter website for events which may be scheduled or have details finalized after this issue is printed: www.whitepineinps.org or e-mail the chapter officers at whitepine.chapter@gmail.com.

Contact: James Riser at [jriserii at aol dot com](mailto:jriserii@aol.com) or Helen Yost at [helen.yost at hotmail dot com](mailto:helen.yost@hotmail.com) or White Pine Chapter, PO Box 8481, Moscow, ID 83843.

UPCOMING EVENTS

January 12, 2012, Thursday, 7:30 p.m., Neill Library, Pullman, WA. First Detector program for recognizing pests. Karen Ward will speak on invasives at this joint meeting of Palouse Prairie Foundation and INPS White Pine chapter. She is a Plant Pathologist working as plant pest diagnostician at WSU in Pullman. As part of her job she offers "First Detector" training sessions to teach people how to recognize invasive species including insects, weeds, plant pathogens, mollusks, etc.

UPPER SNAKE CHAPTER

When: Meetings are usually held the 3rd Wednesday of the month at 7:00 p.m. Field Trips are scheduled in the spring and summer.

Where: Idaho Fish and Game office in Idaho Falls

Contact: Sue Braastad, [jscbraastad at gmail dot com](mailto:jscbraastad@gmail.com)

RECENT EVENTS

September 24: Field trip to the Alpine/Palisades Reservoir area. Rose Lehman led a large group of Upper Snake INPS and Wyoming NPS members and others up the Elk Creek trail to enjoy the fall foliage and observe the late-season

January & February 2012, 6:30–8:30 p.m. Dates to be announced. Additional UI Stlinger Herbarium keying work parties will be held. Check the White Pine website or contact the Herbarium for additional details.

February 23, 2012. 7:00 p.m. 1912 Center: James Riser, recent research on milkweeds. See White Pine chapter website for final details.

March 2012: Date and speaker to be announced.

April 18, 2012, Wednesday, 7:30 p.m. 1912 Center, Great Room, 412 East Third St., Moscow (between Adams and Van Buren): **“Landscaping with Native Plants with Wildlife in Mind.”** This will be a joint meeting of Palouse Audubon and INPS White Pine Chapter.

RECENT EVENTS

The White Pine Chapter thanks those who planned and led the activities this year. Your time and efforts are very much appreciated. For an archive of events held during the year please see the INPS White Pine website: www.whitepineinps.org.

August 20: Field Trip to Freezeout Saddle area east of Clarkia (see Nancy Miller's write-up on page 24)

October 25-26: The Palouse Prairie Restoration Roundtable followed a successful tour of Restoration projects held in June. The organizers were Brenda Erhardt and Trish Heekin of the Latah Soil and Water Conservation District. The event was co-sponsored by the Palouse Prairie Foundation and INPS White Pine Chapter.

November 3: UI Stlinger Herbarium hosted a keying work party to continue keying the many specimens obtained during the 4th annual Idaho Botanical Foray held in June into the foothills of the Seven Devils and Cuddy Mountains of East Central Idaho.

December 8: UI Stlinger Herbarium hosted another work party to continue keying the many specimens obtained during the 4th annual Idaho Botanical Foray held in June into the foothills of the Seven Devils and Cuddy Mountains of east Central Idaho.

WOOD RIVER CHAPTER

Contact: Carol Blackburn at blackburncr1@yahoo.com for information on activities and gatherings.



(Above) The White Pine Chapter's August 20 outing to Freezeout Saddle was full of surprises, including this late-blooming kitten's ear (Calochortus elegans).

Photo by Nancy Miller



(Above and left) White Pine Chapter members didn't let a few ups and downs slow them down during their August field trip to Freezeout Saddle.

Photo by Nancy Miller



This colorful caterpillar, dwarf alpine lupine (*Lupinus lyallii*), and bees working dark pink mountain-heather (*Phyllodoce empetriformis*) were among the highlights of the Freezeout Saddle outing.

Photos by
Nancy Miller



Field trip to Freezeout Saddle Saturday August 20, 2011

By Nancy Miller, White Pine Chapter

Gerry Queener, who was expected to lead the trip to Freezeout Saddle, was unfortunately unable to lead due to illness. Fortunately several of the group had been to the area before so we were able to proceed with the field trip, but we sorely missed Gerry's knowledge of the plants of the area. Terry Gray especially helped with the logistics of getting to Freezeout, and James Riser provided the botanical expertise.

From Clarkia, Idaho we took FS 301, heading into the mountains to the east on very dusty roads. Our first botanical stop was at Mountain Springs—we walked a short way to the springs where we found a number of species blooming—Orange agoseris (*Agoseris aurantiaca*), Northwestern twayblade (*Listera caurina*), Lewis's monkeyflower (*Mimulus lewisii*), rein orchids, Heart-leaved pyrola (*Pyrola asarifolia*), and Showy Jacob's ladder (*Polemonium pulcherrimum*). An unexpected treat was found rising 5 feet out of the slow moving water and blooming in the deepest shade—*Corydalis caseana* var. *hastata* which is on the state rare species watch list. This was the second field trip which provided the opportunity to see this special plant. Several interesting caterpillars captured the group's attention as well.

Our next stop was to admire and photograph the magnificent panoramic views at White Rock before heading up the ridge. Dwarf alpine lupines (*Lupinus lyallii*) only two inches high bloomed along the side of the road in very inhospitable looking soil. Except for a few individual plants, beargrass (*Xerophyllum tenax*) was mostly finished blooming. Sulphur buckwheat (*Eriogonum umbellatum*), another cream-colored buckwheat with leafy bracts (*Eriogonum* sp.), and native western hawkweed (*Hieracium albertinum*) were at their prime at this 6500' elevation as was alpine knotweed (*Polygonum phytolaccifolium*). We were unable to walk into one area we have visited before because of the snowdrifts. At the saddle along the trail were many *Corallorrhiza mentensia* under hemlock trees, western bistort (*Polygonum bistortoides*), and *Castilleja miniata*. At this late date we did not expect to find spring beauty (*Claytonia lanceolata*), kitten ears (*Calochortus elegans*) and buttercups (*Ranunculus* sp.) blooming but they were just blooming due to the short growing season.

We also spent some time at a hemlock and alpine fir grove reminiscent of a Tolkien scene—few flowers were blooming in the shade of the magnificent trees, but we found more Jacob's ladder, mountain arnica (*Arnica latifolia*), and bees working dark pink mountain-heather (*Phyllodoce empetriformis*).

A number of butterflies were photographed as well. They were especially cooperative on blooming flowers. Among them were Melissa blue (*Lycaeides melissa*), greenish blue (*Plebejust saepiolus*), Acmon blue (*Plebejus acmon*), and Chryxus arctic (*Oeneis chryxus*).

INPS 2011 Photo Contest

There were many excellent entries in our photo contest than we could use in the INPS 2012 calendar. We thought you might want to see a few of them.



Mountain hemlock (*Tsuga mertensiana*), Hemlock Butte north of Elk River ~Mike Hays

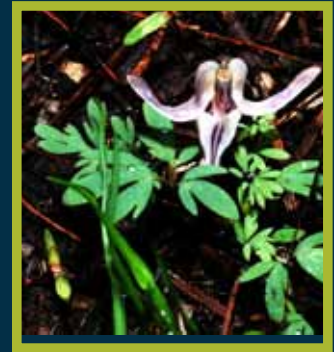


Caterpillar on Gardner's yampah (*Perideridia gairdneri*), Weiser ~Ann DeBolt



American bittern (*Botaurus lentiginosus*), Camas ~Carol Martin

Vase flower (*Clematis hirsutissima* Pursh) and Oregon grape (*Berberis repens* Lindl), Thorn Creek (31 mi. NE of Boise) ~Jutta Linhart



Longhorn steer's head (*Dicentra uniflora*), Kellog ~Dick Anderson

Idaho beardtongue (*Penstemon idahoensis*), Cassia County, south of Oakley ~Jutta Linhart



Arrowleaf balsamroot (*Balsamorhiza sagittata*), City of Rocks National Reserve ~Nancy Miller

“Interpretation is an art which combines many arts...” *Freeman Tilden*

**Jane Rohling
Communication Arts**

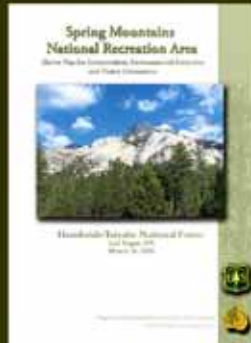


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“Through interpretation, understanding; through understanding, appreciation; through appreciation, protection.” *National Park Service Administrative Manual*



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INPS Annual Dues & Membership Renewal Form

It is that time of year again—time to renew your INPS membership! If you have not already done so, please send this form, along with your check, to the address below or to your chapter treasurer.

2012 Annual Membership Categories & Dues

Check one	Category	Annual dues
<input type="checkbox"/>	Patron*	\$100+
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* Memberships in these categories are allocated two votes when they represent a household.

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- Sawabi (Pocatello)
- Upper Snake (Idaho Falls)
- White Pine (Moscow)
- Wood River (Ketchum-Sun Valley)
- None.

NOTE: Those who do not live near a chapter are encouraged to join. We can put you in touch with other members in your area, and can coordinate with you on any state level activities you may wish to be involved in.

Please send this form along with your check payable to:

INPS Treasurer, PO Box 9451, Boise D 83707.

You may also print this form from our website: www.idahonativeplants.org

**The printing of Sage Notes is the biggest expense for INPS. In order to reduce this expense, we offer members with adequate internet service the option to view Sage Notes electronically rather than receive a printed copy. An email is sent to announce that Sage Notes is available online. Members can continue to receive printed copies, or may choose to receive both printed and electronic copies.

The Idaho Native Plant Society (INPS), incorporated since 1977, under the laws of the State of Idaho, is dedicated to promoting interest in native plants and plant communities and to collecting and sharing information on all phases of the botany of native plants in Idaho, including educating the public to the values of the native flora and its habitats.

In keeping with our mission, it is the intent of the INPS to educate its membership and the public about current conservation issues that affect Idaho's native flora and habitats. More information about INPS is available on our web site: www.idahonativeplants.org

Membership is open to anyone interested in our native flora. Dues are payable annually in December for the coming year. New or renewing members can submit dues to your chapter treasurer.



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*Best wishes for
fantastic botanical
adventures in 2012!*

*Rose hips and aspen in
Minnetonka Canyon*

Jane Rohling