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American Penstemon Society grant proposals due May 31

INPS 2011 Annual Meeting at City of Rocks National Reserve and Castle Rock State Park. June 24–26

2011 Native Plant Conservation Initiative grants: pre-proposals due June 20

Pulling Together Initiative invasive plant control grants: pre-proposals due July 15

2012 INPS Calendar Photo Contest entry deadline July 31



IDAHO NATIVE PLANT SOCIETY

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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.

A tribute to Richard T. "Dick" Bingham (1918–2010)

A founding member of the White Pine Chapter, Idaho Native Plant Society

From Richard Bingham's obituary and White Pine Chapter archives, compiled and edited by Dennis Ferguson and Nancy Miller

Richard T. "Dick" Bingham of Juliaetta died Saturday, December 18, 2010 in Moscow at the age of 92. He was born March 1, 1918 in New York City. He attended grade school and high school in New Jersey, leaving there in September of 1936 to attend the University of Idaho in Moscow. He graduated in 1940 with a BS in Forestry and continued in graduate school in 1941-42 to attain the Degree of Master of Sciences in Forest Pathology.

In October of 1942 Dick volunteered for the Marine Corps and was entered in an Officer's Candidate Unit at Quantico, VA. He remained in the Corps through the Mariana Islands Campaign and was honorably discharged in January of 1946.

He commenced Forestry Research in Spokane, WA in 1946, and almost all of his research was concerned with controlling the White Pine Blister Rust Disease. From 1950-75, mostly while stationed at the Forest Service Forestry Science Laboratory at Moscow, he pioneered in white pine tree breeding toward genetic control of the Blister Rust Disease. Here he worked closely with Forest Service and other scientists throughout the United States and the World. Early research results were promising and he was selected for the US Department of Agriculture Superior Service Award. In 1974 his entire research unit received a similar award. Dick authored or co-authored over 40 scientific publications on blister rust, white pine silviculture, white pine rust resistance, and local flora and plant checklists. Two annotated checklists of relevance still to those who find their recreation in Hells Canyon or the Seven Devils are the Guide to the Common Plants of the Seven Devils Mountains (authored by Richard T. Bingham and Clyde J. Miller) and Guide to the Common Plants of Hells Canyon (Richard T. Bingham and Douglass M. Henderson). Both booklets are out of print, however they have both been digitized and you can access them from the Documents links on the White Pine Chapter's web site: (www.whitepineinps.org/WPCheck.html)

Probably Dick's most cherished honor was his selection as the 1984 Honor Alumnus of the University of Idaho, College of Forestry, Wildlife and Range Sciences. Continued on p.4

IDAHO NATIVE PLANT SOCIETY

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Greetings from the Secretary & Treasurer

Dear Idaho Native Plant Society Members:

By the time this second issue under our new editor is printed, mailed out and posted online, we hope spring will be well underway. Despite the rainy, snowy weather that continues to make its presence known, spring flowers are beginning to appear all over the state. On the Palouse, we can find one-inch tall glacier lilies, expanding buds on our native shrubs, and plants such as Oregon Sunshine starting to fill out.

By the time you read this issue, our chapters will have celebrated most of their Native Plant Appreciation Week events—although some chapters will extend this celebration a little longer. This issue lists a number of spring and early summer field trips and workshops to entice you, and the web site and chapter newsletters will have more.

INPS is not only a worthwhile organization to belong to. It is made up of a fun group of people who come from many different backgrounds and occupations who share a passion for Idaho's native plants and unique habitats. We welcome a number of new chapter officers and hope you will help them plan a successful summer of field trips and meetings.

We invite all of our members to consider getting more actively involved with INPS. In February 2010, INPS President Wendy Velman wrote about the challenges she was facing getting members to volunteer as state officers and committee members. Many she asked had too many other commitments; many others had served already as INPS officers or committee members. Still now, in March 2011, we continue to have an urgent need for volunteers to come forward and to offer their expertise, their leadership, and their energy. Vacancies at the state level include the critical offices of President and Vice President. Without a full complement of officers and committee members, those who are in office must either work longer and harder, or we must sacrifice important aspects of the INPS mission.

A list of Standing and Adhoc committees along with information about the committees and their responsibilities, and volunteers needed, is posted on the INPS web site (www.idahonativeplants.org/news/BoardofDirectors_Committees.pdf). Please check out the lists of vacant offices or unfilled committee positions. Let us know where your interests lie and where you think you can help INPS grow and fulfill its important mission. If you have questions, contact either one of us or your chapter president. We look forward to hearing from you!

We encourage you also to consider contributing to the next Sage Notes (the next deadline is August 1). Whether it is an article that may be of interest to other members, photographs, artwork, poetry, book reviews, or a write-up of one of your chapter events, please share your native plant knowledge and interests with us all.

We look forward to seeing many of you at the 2011 INPS Annual Meeting at City of Rocks National Reserve and Castle Rocks State Park on June 24-26, 2011. We guarantee it will be a great gathering!

Nancy Miller & Jody Hull
INPS Secretary and Treasurer

INPS State News

Idaho Native Plant Appreciation Week

Governor C. L. 'Butch' Otter has proclaimed the week of April 24-30 as Native Plant Appreciation Week in Idaho. The official proclamation is posted on the INPS state website. We look forward to hearing about your chapter's events. Please send photos and brief reports for the next Sage Notes.

Funds for Education, Research, and Inventory Grants still needed!

The deadline for submitting 2011 ERIG proposals has passed and the proposals that were submitted are being reviewed.

The ERIG program has in the past relied on funding from various sources particularly proceeds from Rare Plant Conferences, Native Flora Workshops and private donations. As there will not be a Rare Plant Conference this year, INPS will depend more on private donations to fund the 2011 grant program.

Can you, your business, or your employer make a contribution? Do you know of other potential donors who would be willing to help INPS fund these worthwhile ERIG 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

Did YOU renew?

Dues for renewing INPS members were due on April 1. Have you paid yours? If not, please send a check with a membership form to chapter treasurer or to INPS Treasurer. A printable form is linked to the "Join INPS" page on the INPS web site: www.idahonativeplants.org/inps/JoinInps.aspx

INPS Annual State Meeting Reminder: don't forget to register soon!

June 24-26: INPS State Annual Meeting, City of Rocks National Reserve and Castle Rocks State Park near Almo, Idaho. For more information see announcements on the INPS state web site. A reservation form was included in the December and March issues of Sage Notes, both of which are linked on the Sage Notes page of the INPS web site. Please register soon if you plan to attend!

Did You Know?

Beginning in 1843, City of Rocks was a landmark for emigrants on the California Trail. At the height of emigration, in 1852, some 52,000 people passed through City of Rocks on the way to California gold-fields. Today, City of Rocks National Reserve protects over 6 miles of this historic trail, so load up your wagon and check head on over. Who says we can't mix a little with our botanical forays?



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 [sage-editor at idahonativeplants dot org](mailto:sage-editor@idahonativeplants.org).

Submission guidelines are posted on the INPS web site: www.idahonativeplants.org/news/Newsletters.aspx. Please provide a phone number and/or e-mail 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, and full page = \$25. Personal ads = \$2. 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

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Dick Bingham
1918-2010

Dick organized a group of people interested in native plants. Following a 1989 visit from Susan Bernartus of the Pahove Chapter, a recent graduate of the University of Idaho, this group became the White Pine Chapter of Idaho Native Plant Society. Dick was the chapter's first president and In January 1989 he gave the first presentation to a chapter meeting at the University of Idaho Life Sciences building. The program was a slide-lecture on the 'Flora of the Seven Devils.'

Dick co-led the chapter's first field trip to Skyline Drive (Mary Minerva McCroskey State Park) with Ray Boyd. He was to co-lead a number of other field trips over the years. Many members still remember the weekend campouts Dick led to Seven Devils in July 1990, August 1993 (with Clyde Miller), and August 1997.

Dick remained active in the White Pine Chapter for many years, and was still a member at the time of his death in December. We shall miss his humor and the sparkle in his eyes when he talked about his favorite topics, especially native plants.

Dick Bingham remembered by friends, co-workers, and White Pine Chapter members

Ray Hoff, charter member of White Pine Chapter and retired forest geneticist. Ray worked with Dick in the area of Forest Genetics.

"Dick Bingham was the man of the hour for forest genetics in the northern Rocky Mountains. As a 'blister ruster' (one who worked on white pine blister rust), he started out with the Blister Rust Group. This group determined the severity of infection of each tree in a stand.



Above: Richard Bingham inspecting white pine seedlings for blister rust infection. (Spokane, early 1950s) Photo courtesy of Dennis Ferguson.

"Very soon Dick, along with his partner Tony Squillace, realized that there were trees with no cankers and they suspected that the trees were genetically resistant to blister rust. The Washington Office Blister Rust Control staff agreed and funded a trial test. The test was positive. Then the Washington Office funded a project to produce blister rust resistant western white pine.

"With lots of help from the Blister Rust Group, over 400 resistant candidate trees were found throughout the northern Rocky Mountains. These candidate trees were crossed with four pollen parents from

which cones were collected. Seeds were extracted and sown in specially prepared nursery beds and infected with blister rust when the seedlings were two years old. Resistant individuals from the most resistant parents were chosen for seed orchards.

"Besides these two parent crosses, Dick and his group made grafts of many of the parent trees to make sure the genes were saved. Many of the grafted trees were planted on forest land to further test rust resistance in natural environments.

“Finally, cooperation of state, federal and university people at University of Idaho, University of Montana, and Washington State University was established. Probably the most important partner was the University of Idaho, which provided land for a gene bank on the Idaho/Washington border. The University of Idaho also provided land for a forest genetics center, which later became the site for the U.S. Forest Service’s Rocky Mountain Research Station laboratory. Dick’s relationship with industry was a two-way street, not only in finding candidate trees but also in making grafts and crosses, and collecting cones.

“He had lots of energy, planning ability, and drive for this research; indeed, maybe too much drive. I remember one tree in particular. The tree was about 100 feet tall and Dick climbed the tree to put “flower” bags on branches near the top of the tree, including a bag on a branch from the third whorl down. I was next up that tree to pollinate the “flowers”. Believe me, it is downright scary to be nearly 100 feet above the ground, reaching out to the end of a branch that is attached to a small diameter tree top. I added pollen to all the bags except the one on the third whorl. So I told Dick ‘Okay, you win.’

“I feel very fortunate to have worked with Dick. I learned a lot, did a lot, and had a lot of fun doing it. I thank Dick Bingham for the experience.”



Above: Dick Bingham carrying shovels for dignitaries at the ground breaking ceremony for the USFS lab in Moscow. (1962) Photo courtesy of Dennis Ferguson

Marjory Stage, long-time White Pine member, related that she always remembered the twinkle in Dick’s eyes and the smile on his face. At times Albert (her husband and White Pine Chapter president for several years aided considerably by Marjory) came home chuckling about the adventures and misadventures of Bingham and his boat. A few others reported on these escapades as well.

Fred Johnson, retired University of Idaho professor, had more to add on Dick’s boating misadventures.

“Dick Bingham was a mentor of mine starting in the early 50s (that’s 1950s, you know!) I spent a great deal of time in the field with Dick and always learned something with each trip.

“When Dick retired he bought a jet boat—he named it the *Old Forester*. One May, Ed and Nora Tisdale, Doug Henderson, Chuck Wellner, and my wife Jinny and I were camped at Granite Creek on the Snake after a great ride in. All of us were working on different projects. Dick pulled the boat onto shore one afternoon after a long day; we enjoyed a few cold beers out of the creek and a great dinner—Dick being the main cook.

“He jumped up and headed for the river, muttering to himself. He had forgotten to anchor



Right: Dick Bingham with He Devil Peak and Sheep Lake in the background. The photo was taken by Jean Brammer on Goat Pass Trail in late July 1987.

the boat off shore because in the evening the water came up—which it had and the water flowed over the transom and was up to the dashboard when we got there.

“Next morning he hitched a ride on a passing USFS jet boat patrol and went back to Grangeville for equipment. He returned the next day with 2 giant come-alongs, yards of heavy chain, and various other accoutrements. We had spent a bit of time cutting birch trunks into 8 foot lengths to act as rollers. Well—you cannot believe how heavy that boat was—we could not budge it.

“Happily, the *Idaho Queen* came by and responded to our waving arms. The long, heavy chain was brought into play, and the huge jet boat hauled us off the shore to where we could bail *Old Forester* out. Two days later Dick and another bloke from the USFS had the boat running, but we knew not for how long. So he loaded the plant presses and the ladies into the boat and slowly headed for Pittsburg Landing. Meanwhile the rest of us took to shanks mare to hit the trail. We were about half way to Pittsburg Landing when he spotted us—*Old Forester* was running pretty well! We loaded in and headed for the trucks. We often kidded Dick about this boating escapade.”

Pam Brunsfeld, of the UI Stillinger Herbarium was the first White Pine Chapter secretary. She added the following about working with Dick and forming the chapter:

“Dick had a passion for floristics, was an accomplished botanist. If a person was lucky enough to be asked to accompany him on a botanical excursion they knew it would be filled with adventure. He would take faculty members and graduate students into Hells Canyon on his jet boat to help him with his *Flora of Hells Canyon*. On one excursion he took his boat through the class IV Wild Sheep Rapids scaring the occupants to near-death. The next morning Dick went to check on his boat and found it had sunk to the bottom of the Snake River. He had hit a rock during his wild driving. Members of

this excursion had a very long hike back to Pittsburg Landing.

“After the establishment of the Idaho Native Plant Society and the Pahove Chapter, Dick decided the Moscow area needed a chapter. He worked tirelessly to get the White Pine chapter established, talking me into the secretary’s position to take care of the pre-computer written correspondence.

“Dick left his specimens and collection of botanical books to the University of Idaho Stillinger Herbarium, which he always supported. “

Sonja Lewis, White Pine Chapter member and former chapter president:

‘Exuberant and warmly friendly—that was Dick Bingham. Chuck Wellner, usually rather serious, couldn’t stop smiling when with Dick.

“Dick’s stories about his adventures piloting his flatboat in Hells Canyon were not to be missed. Nor was his big vegetable garden from which he provided friends and neighbors with delicious new varieties.”

Above: McCroskey Park (Skyline Drive) field trip group, May 1994. Photo by



Back row (l to r): Fred Johnson, Jake (Yaghoub) Ebrahimi with Rossin, Becky Snorggrass, four unidentified adults and two children, Ray Boyd, Clyde Miller, Michael Mancuso, Dick Bingham, Chuck Wellner. Front row left to right: Christine Lorraine Ebrahimi, John Brunsfeld, Pam Brunsfeld, Steve Brunsfeld with Nicholas, Sonja Lewis, Veralee Jones, Loring Jones



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Domestication of native plants for sustainable landscaping

Stephen Love and Thomas Salaiz

Aberdeen R & E Center, University of Idaho

In March 2011, I gave a talk at the Native Plant Summit in Boise.
This article is a summary of the information I presented.

—Stephen Love

Use of non-adapted plant materials in home and commercial landscapes creates situations that require heavy use of non-renewable resources... This research is designed to increase the availability of plants that can be used to create attractive and sustainable landscapes...

Aquilegia (above) & *Penstemon* species (below) have great horticultural potential.
Photos: Jane Rohling



In 2005, researchers at the University of Idaho Aberdeen Research & Extension (R & E) Center initiated a project with specific objectives to domesticate and commercialize native plants for applications in home and business landscaping. In the six years hence, hundreds of native plant species have been collected and evaluated. The most promising plants are currently being prepared for introduction into commerce. This article is a clarification and progress report of the domestication research.

Current situation

Use of non-adapted plant materials in home and commercial landscapes creates situations that require heavy use of non-renewable resources. In order to keep such landscapes healthy, intensive management is required, including frequent applications of water, fertilizers, and pesticides. In modern vernacular, this means that many contemporary landscapes are unsustainable. This research is designed to increase the availability of plants that can be used to create attractive and sustainable landscapes, while maintaining the beauty, comfort, and benefits of traditional landscaping styles.

Horticultural constraints

Native species are often produced and sold as seed or transplants for purposes of revegetation, restoration, and reclamation. These plants are used to supplement and enhance existing, natural populations. Within the realm of restoration activities, research has shown that it is best if native species are collected near the locale of intended establishment and manipulated so as to retain genetic diversity. This process is critical for maximizing survival and long-term adaptation in a natural ecosystem. In contrast, plants intended for horticultural use do not benefit from the ecological adaptation and survival that comes through population variability. To provide an acceptable product, horticultural plants must be uniform, consistent, and predictable. Consequently, widespread use of native plants in Idaho landscapes will come only when available materials meet minimum expectations for appearance, performance, attractiveness, and uniformity.

Operational philosophy

One of the important considerations when working with native plants is the necessity of defining “native” within the scope of the projected work. The lack of a universal, functional definition for native plants is evidence that no single designation is adequate for every situation. How native plants are characterized has geographical and ecological implications. In some cases, in order to maintain genetic integrity, a local definition of native is essential. In other cases, native may take on a regional or even national scope.

Horticultural constraints largely dictate the operational philosophy of a native plant domestication program. Successful development of a diverse plant palette requires the availabil-

ity of a large number of native species. These species must also provide exceptional appearance and performance characteristics that are rare in the plant world. Consequently, access to a wide range of species and accessions within species is necessary if success is to be predictable. For these reasons, the operational philosophy—in other words what is to be considered native—for the Aberdeen domestication project has been defined as all plant species found in the states of the Intermountain West. This philosophy strikes a balance between the need for diverse plant material required to meet horticultural expectations and the necessity of acquiring plants that are derived from climates and ecological sites similar to our own.

RESEARCH PROCEDURES

The process of domesticating native plants can take one of many strategic paths, from simple selection of superior types to complex breeding procedures. A simple selection process has the advantage of decreasing the costs and increasing the number of species that can be handled. This strategy has the additional advantage of preserving most of the genetic traits for which native plants are sought. For these reasons, a simple selection procedure comprised of harvesting and replanting seed only from the best plants was adopted for this research project.

The selection process, although straightforward in concept, has many steps and procedures. The plants must be collected and imported into the program, successfully propagated, established in the field, evaluated for horticultural performance, and selections made for further propagation and evaluation. Ultimately, the best species and accessions must be increased and introduced into commerce.

Collection: A single collected sample of a species is termed an “accession.” Most accessions are collected from the wild in the form of a small amount of seed. Many of the plant species under evaluation at Aberdeen were collected personally within the state of Idaho between 2005 and 2010. Major collection efforts were directed at the Owyhee Mountains in southwestern Idaho, the Seven Devils of central Idaho (Figure 1.), the south-central Pioneer Mountains, and the Bear River Range in the southeast. Minor collection endeavors were conducted in other areas of Idaho including the Beaverhead Mountains, southern Sawtooth National Forest, Bitterroot Mountains, and northern Snake River Plain. Additional collections were made on public lands in all six adjacent states. Finally, seed was purchased from professional collectors who concentrate their efforts on the intermountain states. This material forms the basis for domestication and improvement research.

Propagation and establishment: It was decided at the beginning of the project that greenhouse and field growing procedures should be a part of selection criteria. An assumption was made that native plant species that do not respond well to handling and transplanting will not be acceptable for horticultural production. Consequently, no unusual efforts were made to enhance survival during production and establishment. If plants were unable to survive and thrive through routine handling, they were discarded. The one procedural exception was meeting cold requirements through stratification. This is one procedure plant producers are willing to tolerate.

Propagation and establishment procedures are completed each year for materials collected the prior summer. Following collection, seed is cleaned and stored over the winter under dry, indoor ambient conditions. In late winter, seed is placed into cold stratification for 4-12 weeks (if needed). Seed is planted into trays and allowed to germinate. Once emerged seedlings reach the two- to five-leaf stage, they are



Figure 1: Tony McCammon, Stephen Love, and Phillip Waltman on a native plant collection excursion into the Seven Devils region of central Idaho.

All photos submitted by Stephen Love except the columbine and penstemon photos on the facing page by Jane Rohling.

transplanted into pots or cone flats.

In late May or early June, all plants are transplanted to the field where they were irrigated routinely until firmly established (Figure 2). All handling and transplanting procedures were designed to mimic typical nursery propagation practices.



Figure 2: Tom Salaiz and Dustin Workman transplanting native grasses into evaluation plots on the Aberdeen R & E Center.

Evaluation: All native plant species are grown and maintained in a field with minimal supplemental water (up to 4 applications of 1.5 inches each during the heat of summer) and without additions of fertilizers or pesticides. Copious notes on horticultural performance are completed beginning when the plants come through their first winter in the field plots. Information gathered includes hardiness, adaptation to climate and soils, attractiveness, bloom habit, longevity, and ease of propagation.

Selection: A negative selection strategy is employed. In other words, all plants that do not meet predetermined standards are dug up and destroyed. Superior plants are retained and used for seed production. Seed collected from superior plants are used to complete at least one additional cycle of establishment and selection in order to fix desirable traits. If at that point plants show value and are reasonably uniform, they are placed into seed increase

blocks for production of commercial seed.

Seed Production and commercialization: Two incremental seed increases are required to produce sufficient seed for commercial exploitation. The first increase is called “breeder seed” and is completed by the researchers at Aberdeen. The second increase is called “foundation” and will be completed by an industry partner. The University of Idaho is currently drafting an agreement with Conservation Seeding and Restoration of Kimberly, Idaho to increase seed, develop markets, and sell native plants derived from this research.

RESEARCH RESULTS

To date, approximately 1,730 native plant accessions, representing about 650 species, have been collected and brought to the Aberdeen R & E Center. Slightly less than half, or approximately 800 accessions, have been successfully germinated and established in the field. By the summer of 2010, selection had eliminated many accessions, leaving about 500 (300 species).

The first definitive result from this domestication project is confirmation that there is selectable variability for horticultural characteristics within and between accessions of the same species. This proved to be the case for the vast majority of species evaluated. There is observable and extreme variability within most species for hardiness, adaptability, attractiveness, bloom time, resistance to pests and diseases, and many other important horticultural traits. This variability is illustrated in pictures of *Rhus trilobata* shown in Figure 3.

Figure 3. Illustration of selectable variation in native plants: (A) a dense, upright form of oak-leaf sumac (*Rhus trilobata*) and (B) a horizontal weeping form.

Figure 3 (A)



Figure 3 (B)



The second usable result is identification of specific species—and plants within those species—that have high potential for horticultural exploitation. Over the completed four years of evaluation, more than 200 species have demonstrated sufficient value to be considered for commercialization. Many of these plants will require additional cycles of selection to stabilize their superior traits, but the value is evident. Genera of plants that contain species worth pursuing include:

Penstemon: The penstemons are well-known for their natural beauty. Virtually all evaluated species of penstemons (approximately 150, so far) have shown significant horticultural potential. Value of some accessions is reduced by expression of limited longevity, short bloom period, lack of winter hardiness, and adaptation to alkaline soils. However there are many superior forms from which to select. Some of the best penstemons observed to date include: *Penstemon ambiguus*, *P. barbatus*, *P. cardinalis*, *P. confertus*, *P. humilis*, *P. labrosus*, *P. linarioides*, *P. montanus*, *P. ovatus*, *P. platyphyllus*, *P. pinifolius*, *P. rostriflorus*, *P. strictus*, *P. venustus*, and *P. whippleanus*.

Eriogonum: The buckwheat family contains a diverse group of species that have proven surprisingly attractive and easy to propagate. It is appropriate to conclude that this is one of the most potentially valuable and universally ignored genera of native plants with respect to landscaping potential. Some of the most attractive buckweats have been derived from these species: *Eriogonum brevicaulis*, *E. compositum*, *E. corymbosum*, *E. heracleoides*, *E. jamesii*, *E. niveum*, *E. ovalifolium*, *E. strictum*, and *E. umbellatum*. This last species is remarkably variable with many botanical varieties that express unique horticultural traits.

Aquilegia: Columbines are often considered to be moisture and shade-loving plants. Many of the native species have shown themselves to be very drought tolerant and also perform well in full sun. This adds to their value for sustainable landscapes. Some of the best species in the plots at Aberdeen include: *Aquilegia chrysantha*, *A. desertorum*, *A. formosa*, and *A. scopulorum*.

Agastache: The mint family is a gold mine for unique and attractive landscape plants. Three hyssop species with high evaluation scores are *Agastache cusickii*, *A. cana*, and *A. rupestris*. Other mint species that have superior value come from the genera *Monarda*, and *Monardella*.

Salvia: Both *Salvia dorrii* and *Salvia pachyphylla* are woody shrubs of the mint family that produce outstanding landscape specimens. *Salvia azurea* is an herbaceous species that produces late fall flowers with a striking blue color.

The aster/sunflower family is a rich resource for landscape-worthy plants. Species that have proven their worth include: *Aster coloradoensis*, *Aster speciosus*, *Gaillardia aristata*, *Gaillardia spathulata*, *Erigeron glaucus*, *Hymenoxys acaulis*, and *Townsendia incana*.

Many native grasses show great ornamental potential. Some of the best evaluated to date include: *Deschampsia caespitosa*, *Festuca idahoensis*, *Poa*

Over the completed four years of evaluation, more than 200 species have demonstrated sufficient value to be considered for commercialization.



Figure 4. Beebalm (*Monarda menthaefolia*), one of the species in the mint family with superior landscaping potential.

The ultimate goal of this project is to make attractive, hardy native plants available to anyone desiring to design and install sustainable landscapes.



secunda, and *Sporobolus wrightii*.

Some of the best shrubs tested include, *Artemisia frigida*, *Amelanchier alnifolia*, *Chamaebatiaria millefolium*, *Clematis columbiana*, *Philadelphus lewisii*, and *Rhus trilobata*.

The list of superior native plants with landscaping potential is far too extensive to include in this article. Suffice it to say that the potential for future introductions of valuable plants is virtually unlimited.

One additional element of native plant domestication that has not been previously addressed is the selection of turf-type native grasses for use in planting lawns. Many native grasses have characteristics that make them candidates for turf applications. However, none have been successfully exploited so far. We have chosen to explore the development of turf-type Idaho fescue. After the first year of evaluation, it appears as though selection within this species will create good potential for a native lawn grass.

The ultimate goal of this project is to make attractive, hardy native plants available to anyone desiring to design and install sustainable landscapes. We have learned that the plant material in the form of native species is definitely amenable to commercial development. Now the challenge is to get them into commercial channels. Seed production of the first wave of plant materials is scheduled for the summer of 2011. Within a year or two, native plant connoisseurs can look to Conservation Seeding and Restoration to begin selling significant quantities of beautiful, hardy, sustainable, native plants that have been developed specifically for use in home and commercial landscapes.

Figure 5. Giant sacaton (*Sporobolus wrightii*) is one of the few tall native grasses with ornamental value.

Pulling Together Initiative Grants available for invasive plant control projects

The Pulling Together Initiative seeks proposals that will help control invasive plant species, mostly through the work of public/private partnerships such as Cooperative Weed Management Areas. PTI applications are accepted from private non-profit (501)(c) organizations, federally recognized Tribal governments, local, county, and state government agencies, and from field staff of federal government agencies. Individuals and for-profit businesses are not eligible to receive PTI grants, but are encouraged to work with eligible applicants to develop and submit applications to PTI. Applications must provide a 1:1 non-federal match for their grant request.

Pre-proposal deadline is July 15th. Details are available online at:

www.nfwf.org/AM/template.cfm?section=charter_programs_list&template=/CM/Content-Display.cfm&ContentID=19753

Looking for a little high elevation adventure this summer?

Last year, a few volunteers from the Idaho Master Naturalists (IMN) helped Jessie Thiel with plant identification in mule deer use sites as part of a graduate cooperative project with Idaho State University and Idaho Fish and Game. This year, Jessie has extended an invitation for some hands-on research experience to the Idaho Native Plant Society.

Volunteers with plant identification skills and the ability to “go where the deer go” are needed.

During the first part of the project (between June 1–20th), Jessie will be capturing and collaring up to 50 neonate mule deer fawns—near Stanley, ID. The second portion of the project, **from July 7–July 31st**, will involve collecting fecal material and classifying vegetation eaten by the maternal deer. This is where YOU come in, if you're interested, available, and up to the challenge! You must be able to work long hours (5 a.m.–10 p.m. during capture and 8 a.m.–8 p.m. for vegetation work) in the elements (rain, sleet, or snow) and many days will involve climbing in steep terrain.

Volunteers have to get themselves to Stanley where Jessie has a Fish and Game cabin and trailers set-up for people to stay in. You may opt to bring your own tent or trailer. Food will be provided and volunteer cooks are also needed for anyone that might be interested in just that portion of the adventure.

Interested? Contact Jessie for further details and instructions at [thiejes2 at isu dot edu](mailto:thiejes2@isu.edu) or 208-709-6803.

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Male calliope hummingbird
on golden currant.
Photo by Gerry Queen

Photography is a useful tool and a creative outlet for many INPS members. Photographs are a valuable resource we can share with each other.

To facilitate sharing, INPS has set up two Flickr groups for use by our members and colleagues:

Idaho Native Plants
(www.flickr.com/groups/idaho_native_plants/)

Idaho Native Plant Society
(www.flickr.com/groups/1492892@N21/)

Flickr? Isn't that a bird?

While you can find flickers (and a lot of other birds) on Flickr, the Flickr we want to talk about is a web site. Most of you have probably heard of Flickr, but if you aren't using it yet, here are a few reasons you might want to start...

The use of digital cameras by nearly everyone has resulted in an incredible number of photographs available now on the internet. In addition to posting to numerous social media sites and e-mailing photographs to friends and relatives, many photographers share their photos (and videos) by posting them on photo storage web sites. Flickr, one better-known of these web sites, hosts well over 6 billion images and is used by photographers world-wide.

Photographers who want to upload their photographs to Flickr must first set up an account. There are two types: a free account which allows one to upload 300 MB of photos each calendar month, and a subscription or "pro" account which allows an unlimited number of photos to be uploaded for an annual fee (currently \$24.95).

By tagging photos with keywords, photographers make their photos available for search by anyone using Flickr. There are, of course, optional privacy settings and copyright controls restricting who may view your images and how/if they may be used. Go to www.flickr.com/help/faq/ to read some of the FAQs, and we encourage you to also visit Flickr's blog (blog.flickr.net/en)—it's a treasure trove of interesting images and information.

Nancy Miller provided the following introduction for those of you who would like to learn more about Flickr, how she uses the site, and how Flickr can benefit you as a photographer, INPS, and others with an interest in native plants.

Nancy Miller on Flickr and INPS

I use Flickr in numerous ways. Here are a few examples:

- In my own account, I can arrange photos in sets or collections and photos can also be linked to multiple groups. For example a photo of a native orchid on our property might be linked to the Northwest Native Orchids, Idaho Native Plants, Orchids of the World, or a group associated with a particular genus, etc. I recently uploaded tagged photos of *Orobanche* taken in Idaho, Wyoming and Montana. I linked some of them to the Idaho Native Plants group, some to the Wyoming Native Plants group, and all to the *Orobanchaceae* group.
- The best bird photos from our Costa Rica trip are in a set in my account where my family, friends and traveling companions can see them, and because the photos are tagged with the bird's common and scientific name, and location (all searchable), so can a researcher or student whom I've never met. I've linked some of the photos to the Neotropical Birds group administered by the Cornell Laboratory of Ornithology and I could also link each photo to Birds of the World and many other groups. I linked a photo I took on our Texas trip of a yellow-faced grassquit—a rare bird—to the eBird Rarity Photos group. *Since February 19 it has been viewed by 500 people!*
- I also use Flickr as a tool for research. Flickr facilitates world-wide image-sharing within any subject matter. Tagging photos with keywords

enables others to locate and view them. If I'm going to travel, I can search for photos others have taken of my destination. When I return, I may want to see photographs others have uploaded of a blue-crowned motmot to see the variation in various Central American and Caribbean countries. *(Wow! There were 1245 other photos tagged with that keyword the day I checked!)*

- I find Flickr a great place to look for reference photos of a specific plant, even when I'm just trying to identify a plant. Our INPS Flickr group instructions ask photographers to tag images with common names, and if possible the scientific names and the county where the photo was shot.
- Flickr has become the storage web site of choice for many web users and bloggers. My daughter-in-law is a blogger and one of my Flickr contacts so I can see all the photos she uploads. Local birders, also among my Flickr contacts, post photos of newly-arrived migrants, inspiring me to get out and photograph the birds in our area.



Show off your photos...Share your adventures!

By sharing our high quality plant photos with the Idaho Native Plants group (www.flickr.com/groups/idaho-native-plants/) we will create a fantastic resource for anyone studying or researching the native plants of Idaho. As members take photos at chapter meetings, field trips, annual meetings, etc., we can upload them to our own accounts and link them to the Idaho Native Plant Society Group: www.flickr.com/groups/1492892@N21/. These groups will give our Society a database of images which can serve many purposes: a historical archive, a source for Sage Notes, a publicity resource, or simply a sharing opportunity.

If you join Flickr, or are already a member, and you have photos of Idaho native plants to post, please link them to the Idaho Native Plants Flickr group. I have linked a few photos already and more will be added soon. A few photos from White Pine chapter and 2010 Annual Meeting have been linked to the Idaho Native Plant Society group. You don't need a Flickr account to look at the photos in either group, so take a look!

Please consider sharing your photos on Flickr. You can help make the INPS Flickr groups valuable resources for our members and others interested in native plants in Idaho. Of course if you are willing to let us use your photos in Sage Notes or other INPS projects or publications you'll be credited for them.

If you have questions about Flickr in general or about the INPS Flickr groups feel free to contact Nancy Miller at nmiller@moscow.com.



Top and center photos: Porcupine in hawthorn and red-breasted nuthatch in hawthorn: Nancy Miller. See more of Nancy's photos at www.flickr.com/photos/31703394@N08/

Bottom photo: Syrphid on grasswidow (*Olsynium douglasii*): Gerry Queener. See more of Gerry's photos: at www.flickr.com/photos/beebear19/

FUN FUNGI FACTS &

by Janet Bala and Sue Braastad

The Sah-Wah-Be and Upper Snake chapters recently welcomed Michael Piep, President (and founder) of the Bridgerland Mushroom Society and Cache Chapter president of the Utah Native Plant Society, to share with us his love and knowledge of fungi. We were able to experience an arm-chair field trip because of all the examples of fungi that he had displayed at our respective meetings.

Mushrooms are everywhere, including the sagebrush steppe. There are likely over 9000 species of fungi in the Intermountain Region, many of them microscopic. Among their many jobs on earth, mushrooms are decomposers, parasites, soil stabilizers, and nitrogen fixers. They have important mycorrhizal relationships with other plants and symbiotic relationships with algae in lichens.

Here are some fun facts about fungi include Michael shared with us:

- The idea of Santa Claus' flying reindeer may have been originated by someone who was under the influence of mushrooms with psychosomatic/addictive characteristics.
- When you cook morels, do not breathe over the cooking mushrooms as these mushrooms have volatile toxins that cook out.
- Not all fungi are "nice." Some, like *Trichophyton* and *Epidermophyton* which cause athlete's foot, are real troublemakers. Still others, including many *Amanita*, *Cortinarius*, and *Galarina* species, are very poisonous, even deadly.
- There are interesting non-food uses for some fungi. For example, the spores of *Lycoperdon pyriforme*, a puff ball, can be used as baby powder and for treating wounds, thanks in part to the anti-bacterial compounds they produce.

Below: Michael Piep, shows Tony Grove a large, *Boletus edulis*, a choice edible mushroom. Some members of this confusing genus are not edible, so get to know them well before collecting them for the table. Photo by Janet Bala



In his "day job," Michael Piep is Assistant Curator of the Intermountain Herbarium at Utah State University in Logan. In this role he teaches many classes and workshops, ranging from introductions to mushroom and plant identification to winter botany and native plant propagation. He is a co-editor of *Flora of North America* (FNA) Vol. 24-25, and *Manual of Grasses for North America* and contributes to many botanical publications and Utah Public Radio's "Wild About Utah" program. He is currently studying *Brachypodium* of North America, aquatic plants of Utah and surrounding areas; and the genus *Flammulina* (*Physalacriaceae* fungi).



Right: Several species in the genus *Pleurotus* are edible and referred to as "oyster mushrooms" because of their smell and taste. Photo by Michael Piep

ODDBALL PUFFBALLS

Puffballs are oddballs. They aren't shaped like typical mushrooms. Instead of a central column topped off with a more-or-less flattened cap, a puffball is typically a spherical or ovoid mass that, in some species, may be larger than a watermelon. Pear-shaped puffballs (*Lycoperdon pyriforme*), which are widely distributed across North America, typically grow on old logs or well-rotted lumber. Their white, thread-like hyphae produce small tan-colored buttons. These grow into three-inch spheres that may or may not have short stalks.

When spring rains come the 'mycelium' awakens. This subterranean network of root-like structures, when conditions are ripe, quickly forms the distinctive above-ground reproductive structure we know as the mushroom.

The mycelium, formed from tiny white thread-like hyphae, is the vegetative stage of the puffball. It is usually hidden in a dark place where it secretes enzymes that decompose wood and other organic material. A very large mycelium can spread for hundreds of square feet just beneath the surface of the forest floor. Under ideal conditions, dozens of mushrooms can pop up overnight.

Early on, a puffball's sphere is filled with white, fleshy material that is edible, but its color soon changes to olive-green and then brown as spores are produced internally. Eventually, the rubbery outside covering dries out and either disintegrates or forms a small apical opening. When a mature fungus is bumped, a clouds of spore is blown out through this hole, hence the name "puffball."

Even a small puffball can produce millions of spores, each of which has the potential to germinate and form a new hyphal thread that, over time, divides and multiplies into a much larger mycelium. During the winter, look for pear-shaped puffballs on fallen logs. They'll probably be dark brown in color, and filled with mature spores that will magically spew forth if you tap gently on the side of the fungus.

An interesting side note about the pear puffball is the origin of its scientific name, *Lycoperdon pyriforme*. The name "*pyriforme*" comes from Latin words meaning "pear" and "shaped." Given the common name, this is not a surprising epithet. But "*Lycoperdon*" comes from the words for "wolf" and "to break wind." Maybe the latter is a play on words in that puffballs release their spores in a flatulent sort of way.



Left: Pear-shaped puffballs, which are widely distributed across North America, typically grow on old logs or well-rotted lumber. Photo by [Bill Hilton Jr.](#)



The Ray J. Davis Herbarium in the Idaho Museum of Natural History in Pocatello has a giant puffball, *Calvatia gigantea*, that weighed 25 lbs. when it was collected in 1977! The photo above shows this specimen broken in two pieces. Photo by Janet Bala

The puffball information on this page and this photo are from the Hilton Pond Center, York, SC (www.hiltonpond.org/ThisWeek011208.htm), Bill Hilton Jr., Executive Director.*

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: Lois Rohay
Treasurer: Steve Paulsen

PAHOVE CHAPTER

P.O. Box 9451
Boise, ID 83707
[Pahove dot chapter at gmail dot com](mailto:Pahove.dot.chapter@gmail.com)

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

SAH-WAH-BE CHAPTER

146 South 17th Ave.
Pocatello, ID 83201

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

CALYPSO CHAPTER

When: Meetings are the first Wednesday of March, April, May and October. Field trips are scheduled during the spring, summer, and fall. This chapter does not meet from November to February.

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

Mailing address: INPS Calypso Chapter, Derek Antonelli, 821 W. Mustang Ave., Hayden, ID 83835

April 6 at 7:00 p.m. Informal gathering at Bistro Restaurant, 1710 N 4th Street, Coeur d'Alene, ID. Order from the menu, pay-as-you-go. Contact Karen Williams to be added to the reservation list.

April 16 (Sat.): Tubbs Hill field trip
Meet at 10 a.m., 11th street parking lot.

May 4: Flower photography program by chapter member Herta Long. She will share some of her beautiful photos of spring and summer flowers. Meet at 7:00 p.m. Idaho Fish and Game office at 2875 W Kathleen Ave, Coeur d'Alene, ID.

May 7 (Sat.): Q'emiln Trails field trip
Meet at 10 a.m., Post Falls Park, across the bridge on Spokane Street. Potluck follows at Asbell's home. Rainy day alternate is May 14, 2011.

June 11 (Sat.): Lower Pack River field trip, 8:00 a.m. Meet the carpool behind the Walgreens at 335 W Appleway, Coeur d'Alene, ID

July (Sat.) Latour Creek field trip
Date and time to be determined.

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: No meetings for remainder of the spring/summer season. Monthly meetings resume in September 2011 at the Idaho Botanical Garden.

Where: Usually at the MK Nature Center Auditorium. Monthly meeting dates and topics are emailed and posted on the INPS website.

Contact: Visit the website for more information: www.idahonativeplants.org, or contact Susan at [susan dot ziebarth at idfg dot idaho dot gov](mailto:susan.dot.ziebarth@idfg.idaho.gov).

UPCOMING EVENTS

April 29-30: In celebration of Native Plant Appreciation week, the Pahove Chapter will be having its **annual Spring Native Plant Sale**.

"Member's Only" sale: Friday, April 29th, 5-7 p.m.

Public sale: Saturday, April 30th, 10am-1 p.m.

Where: MK Nature Center, 600 S. Walnut, Boise.

May 4: Wildflower walks at the Foothills Learning Center.

May 5 and 12: Wildflower walks at the Idaho Botanical Garden. Check the Garden's web site for details.

June 4: Leslie Gulch hike: Celebrate National Trails Day in support of the Owyhee Canyonlands Campaign by hiking the canyons of Leslie Gulch. For more information please visit the [Pahove Chapter tab](#) on the Idaho Native Plant Society web site.

June 9-12: A botany field trip into the West Little Owyhee River!

Join supporters of Oregon's Owyhee Canyonlands Campaign, the Native Plant Society of Oregon, and the Idaho Native Plant Society for a four-day botanical adventure!

A group of aspiring, professional and retired botanists are getting together for three days and three nights to explore this remote stretch of Wild and Scenic River canyon in search of rare and sensitive plant species.

We plan to establish a base camp at

Anderson Crossing and venture both up and down-canyon and into the neighboring playas in search of species like Owyhee sage (*Artemisia papposa*), Owyhee River stickseed (*Hackelia ophiobi*) and Shockley's lvesia (*Ivesia schockleyi*). No prior botany experience required!

Self supported camping gear and some experience in the backcountry is needed—car camping is an option.

Space is limited, so please contact the Oregon Owyhee Canyonlands Coordinator Chris Hansen at 541-709-1576 or [chansen at onda dot org](mailto:chansen@onda.com) to reserve your spot today.

June 24-26: Join a Botanical Foray with Dr. Mansfield of the College of Idaho and others interested in botanizing. Details to be announced.

June 29 and 30: A Brassicaceae workshop instructed by Ihsan Al-Shehbaz and hosted at the College of Idaho. Registration details will be posted on the web site. E-mail Karen Colson at [trilliumkc at gmail dot com](mailto:trilliumkc@gmail.com) to be put on the mailing list.

The Pahove Chapter of the Idaho Native Plant Society, the College of Idaho, Boise State University, and the Idaho Bureau of Land Management offer professional and amateur botanists in our region opportunities to enhance their plant identification skills through hands-on workshops.

These workshops, which include lab and field instruction, teach participants about the taxonomy, ecology, and life history of different plant groups. These are amazing opportunities to learn directly from the species experts themselves! Past plant ID workshops (a 2008 *Juncus* workshop at the College of Idaho and a 2009 *Carex* workshop at Boise State University) were extremely popular. Both were taught by knowledgeable and engaging instructors.

RECENT ACTIVITIES

March 10: "Plants and Peshmerga, Botanizing in Iraqi Kurdistan"
Barbara Ertter provided us with a glimpse of life and botanizing in the

Middle East. She talked about the land, the politics, the culture, and "the joys and challenges of chasing plants in a region far removed from Idaho, but sharing much of the same habitats."

April 9: Michael Wiegand from Habiscapes shared his knowledge of how to incorporate indigenous plantings into your yard or business to benefit your home as well as the creatures that call the Treasure Valley their home. Michael created Habiscapes in 2002 to share his experiences on how to create sustainable and natural landscapes

April 7: Plant Keying Workshop
The last of 3 workshops held by Don Mansfield to identify plants from the 2010 Idaho Botanical Foray to the Yankee Fork.

April 23: Polecat Gulch wildflower hike led by Michael Mancuso Polecat Gulch trailhead.

SAH-WAH-BE CHAPTER

Meetings: Nonmembers welcome.

When: All classroom meetings are held at 7:00 p.m.

Where: Plant Science (PLSC) Bldg 69, ISU, Pocatello, classroom 114

Contact: For more information call 208-716-0218

UPCOMING EVENTS

May 2: Invasive Plants: A classroom meeting in the Plant Sciences Building at ISU focused on when and in what areas noxious weeds will appear. We were taught how to know the difference between "regular" weeds and state-recognized noxious weeds. Information was given about specific noxious weeds found in southeastern Idaho, including what steps to take when they are spotted. We also will have field trips during the summer demonstrating the localities and occurrences of invasive plants.

Future field trips: The field trip schedule will appear on the [INPS website](http://www.inps.org).

INPS CHAPTERS

UPPER SNAKE CHAPTER

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

WHITE PINE CHAPTER

PO Box 8481
Moscow, ID 83843
[whitepine dot chapter at gmail dot com](mailto:whitepine.chapter@gmail.com)

President: James Riser
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Secretary: Pat Fuerst
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Landscaping & Restoration
Plants: Juanita Lichthardt
Newsletter: Michele Leavitt
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Website: 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



This budding beauty is a broad-fruited or purple-eyed mariposa (*Calochortus nitidus*), a very rare lily from the Palouse prairie remnants. Photo by Gerry Queens

INPS Chapter News



The delicate rosette of scarlet gilia (*Ipomopsis aggregata*) has already emerged from the warming soil. It won't be long before it's brilliant red-orange flowers grace Idaho's meadows and forests. Photo above by Jane Rohling, photo below by Nancy Miller.



RECENT ACTIVITIES

March 7: Mushroom Mania: "Do you know where they are hiding?"

This presentation by Michael Piep, Assistant Curator of the Intermountain Herbarium at Utah State University in Logan, was Sah-Wah-Be's best-attended classroom meeting with 64 people learning about fungi. One of the more interesting facts presented is that at certain times of the year the diet of deer is 90% fungi. Many fungi grow underground and a good many others are difficult to find. See also the related article on on fungi and mushrooms on p.16 of this Sage Notes issue.

April 4: Annual Meeting The dinner and business meeting were held at El Jacalito restaurant. Melinda Walker was elected as the new Sah-Wah-Be president. We were lucky to keep the rest of the board members in their offices. We had a fun time reviewing the past year's field trips and classroom meetings and listing the places we would like to go for field trips this year.

April 23: Portneuf Valley

Environmental Fair: This annual Fair features a multitude of local organizations and businesses promoting environmental awareness. Many members of our chapter interacted with the public throughout the day, talking about Sah-Wah-Be's field trips and how to learn about native plants. To the adults we gave away small native plants with information on how to grow them. We helped children put soil in peat pots and plant a sunflower seed in the soil.

April 24-30: Native Plant

Appreciation Week: Sah-Wah-Be submitted two articles to the local newspaper commemorating this week. We also hosted a field trip to see the spring flowers and enjoyed treats after the walk.

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@gmail.com

UPCOMING EVENTS

April 20: Invasive weeds Mitch Whitmill and Trich Van Wagner from the Jefferson County Weed Department will talk about invasive weeds—their impacts on native plants and how to controlling them.

May 16: Botany 101 Klara Varga will be teaching this "class" so we better know the basics of plant identification!

RECENT ACTIVITIES

January 19: Habitat restoration on Midway Island Gene Weller from BYU kept us entertained and interested as he talked about restoring habitat. For about an hour on a cold January night we were transported to the South Pacific. We learned about the restoration on Midway Island with native plants for the benefit of Laysan ducks, an endangered species.

February 16: Plant domestication project Steve Love from the University of Idaho gave a presentation on this interesting topic.

March 8: Annual Chapter meeting

Michael Piep from the University of Southern Utah will spoke about mushrooms. (Note: this is not the usual day of the month for our meetings.)

WHITE PINE CHAPTER

Meetings: During the spring and fall, meetings are held once a month. Field trips occur regularly whenever the weather allows. For information about upcoming chapter meetings, presentations, field trips, and site tours, visit our chapter web site at www.whitepineinps.org.

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

UPCOMING EVENTS

May 5 (Thurs., 7:00 p.m.): Native Plant Appreciation Week event Using Palouse Area Native Shrubs in your Garden's Landscape Design. This presentation by Nancy Miller will discuss

native shrubs from this area which are very useful in the garden. Flowering and fruiting, hardiness, availability, use by birds, butterflies, insects, and other wildlife will be among the topics discussed.

Where: Fiske Room, 1912 Center, 412 East Third Street, Moscow, Idaho (between Adams and Van Buren).

Late June, early July (Date and time to be set depending on weather): Morris Creek (Perkins) Cedar Grove and Giant Cedar Tree field trip, near Elk River, Idaho to be led by Pam Brunsfeld. The Morris Creek Cedar Grove is a magnificent grove of *Thuja plicata* with *Taxus brevifolia* understory. We'll walk a pleasant 1/2 mile loop trail through trees measuring up to eight feet across. We will then travel several miles to view the "Giant Cedar," the largest tree in North America east of the Cascade-Sierra crest. The tree, 18 feet in diameter, is thought to be around 3000 years old. The trip will wrap up with a stop for wonderful huckleberry ice cream at the Elk River Lodge. r

RECENT ACTIVITIES

April 14 (Thurs., 7:00 p.m.): Rare and Disjunct Plants of the Clearwater Basin Juanita Lichthardt, former White Pine chapter president and frequent field trip leader, is a plant ecologist with the Natural Heritage Program. She reported on Rare and Disjunct Plants of the Clearwater Basin. Natural Heritage Program area maps and plant photos were used in the discussion as well as the time of flowering and the conservation policies required to protect these plants in their unique environment. Read more about Juanita's program on p.22.

WOOD RIVER CHAPTER

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



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2011 Native Plant Conservation Initiative grants

The National Fish and Wildlife Foundation (NFWF) is soliciting proposals for the 2011 Native Plant Conservation Initiative (NPCI) grants cycle. The NPCI grant program is conducted in cooperation with the Plant Conservation Alliance (PCA), a partnership between the Foundation, ten federal agencies, and more than 275 non-governmental organizations. PCA provides a framework and strategy for linking resources and expertise in developing a coordinated national approach to the conservation of native plants.

Since 1995, the NPCI grant program has funded multi-stakeholder projects that focus on the conservation of native plants and pollinators under any of the following 6 focal areas: conservation, education, restoration, research, sustainability, and data linkages. In 2011, NPCI is particularly interested in projects that focus on and benefit eastern North American early successional habitat, prairie coteau grasslands, sky islands grasslands, deserts, Gunnison sage-grouse, southeastern grasslands (especially longleaf pine forest), seabirds, shortgrass prairie, and Colorado River fishes.

The deadline for pre-proposals is June 30, 2011. See www.nps.gov/plants/nfwf/ for more information about the grant programs including the full request for proposals.

Rare & unique flora of North Idaho river canyons

Program report by Nancy Miller

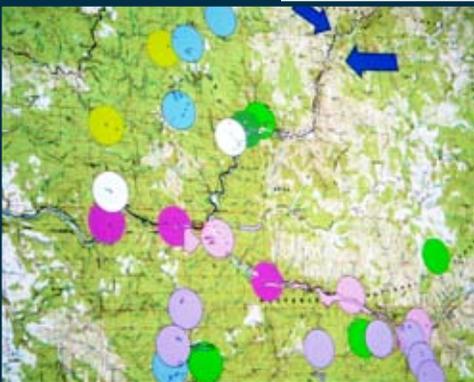


Juanita Lichthardt highlighted some of the interesting plants found in north Idaho's rugged river canyons for the White Pine Chapter. Historical anecdotes, photos and maps from Idaho's Natural Heritage Program's databases illustrated her excellent presentation.

On April 14, 2011 Juanita Lichthardt gave a slide presentation to a packed house of White Pine Chapter members and guests on some of the rare and unique flora of north Idaho's river canyons. The Coeur d'Alene, St. Joe, North Fork of the Clearwater, Selway and Lochsa Rivers serve as refugia for many species of unique flora and rare coastal disjuncts due to their warmer, moister climates and often isolated locations. Her presentation dealt with some of the rarest species in the core refugia. Some, such as western starflower (*Trientalis borealis subsp. Latifolia*), are abundant in the few places in Idaho where they exist; others, such as phantom orchid (*Cephalanthera austiniiae*), can be found in more widespread locations but only a few plants may be found in each place.

It was in 1900 that James Leiburg, while on a horseback trip along the Lochsa, recognized that the Pacific dogwood that he was seeing was the same species that occurred west of the Cascades. Although this Idaho population of *Cornus nuttallii* has decreased in size over this century due to the non-native fungal disease anthracnose, it seems to be making a small comeback as cankers heal over and new shoots grow from roots. It normally blooms in mid- to late May along the Lochsa. It was primarily Dr. Fred Johnson of University of Idaho and his students over the years whose work helped determine the extent and varieties of many of these coastal disjuncts. Others have since added to this data base.

Juanita showed photos of the rarest species and maps representing the site information stored in databases of Idaho's Natural Heritage Program (formerly the Conservation Data Center). Some of the data came from early herbaria records, some from more recent individual discoveries. A longer article will be forthcoming dealing with the other rare plants Juanita discussed and crediting some of the other individuals who have contributed greatly to this knowledge base.



Did You Know?

City of Rocks National Reserve and Castle Rocks State Park boast the largest pinyon pine forest in Idaho, as well as Idaho's state champion pinyon. Unlike most pine species, the **singleleaf pinyon pine's** needles are attached individually to the twig, hence its species name *mono* (meaning single or one) and *phyla* (meaning leaf). In addition to being very attractive, pinyon pines provide food and shelter for wildlife, such as the pinyon jay and many small rodents. Native Americans of the Great Basin and Colorado Plateau have long valued the pine nut for its high oil and fat content and excellent taste.



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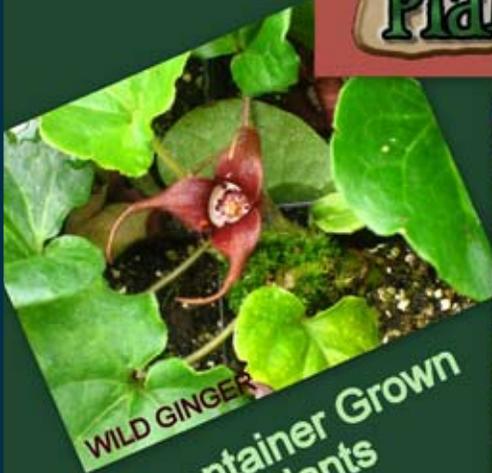
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