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SAGE NOTES

IDAHO NATIVE PLANT SOCIETY NEWSLETTER

PAHOVE

VOL. IX NO. 3 FEBRUARY-MARCH 1986

PAHOVE ACTIVITIES CALENDAR

February 20: Caldwell meeting at 7:30 pm in the herbarium, Boone Science Hall, College of Idaho. The program will be on the life of Isabel Mulford, early day Idaho botanist, by Carol Prentice.

March 20: Boise meeting at 7:30 pm in Room 218, Science Education Bldg., Boise State University. The program, by Dotty Douglas, will be on her botanical adventures in the Yukon.

April 5: Saturday field trip to the Snake River, north of Weiser. Meet at 8:30 at Perkins Restaurant, State St. and Glenwood for Boise carpooling. Contact Trip Leader Steve Caicco at 334-3402 for more details.

April 17: Caldwell meeting at 7:30 pm in the herbarium, Boone Science Hall, College of Idaho. Chris Davidson will discuss future plans for the new Idaho Botanical Gardens.

April 19: Saturday work day at the Idaho Botanical Gardens. Meet at 10:00 am above the old prison site with work clothes, lunch and handtools (shovel, rake, or tilling fork). Also bring plants that can be transplanted if you have them. Best entry is by way of Goodman Street off Warm Springs Ave. Call Chris Davidson at 343-8649 for more details.

May 3: Saturday field trip to an oolitic limestone site south of Bruneau. Meet at 8:30 am at Grant's Truck Stop on Hwy 180. Contact Trip Leader Roger Rosentretter at 334-1734 for more details.

May 17: Saturday field trip to the Mores Creek area north of Boise. More details on this trip will be given in the next newsletter.

IDAHO BOTANICAL GARDEN NEWS

The Idaho Botanical Garden, after completing its first year of development, has made great progress." This was a critical time for the Gardens, and we are well on our way," said Director Chris Davidson. Beginning last spring, a 60 HP motor and pump was installed on the State's 800 ft. well and 1800 feet of six inch pipe was layed to a storage reservoir. The reservoir and pump are protected by a six foot chain link fence, topped by barbed wire. Altogether, 2438 feet of six, four, and two inch pipe were layed to various locations in the Gardens.

The Japanese Garden area, which received the most of the landscaping efforts, is a small example of things to come. Here a meandering pool with a basalt rock wall was constructed, 4500 sq. ft. of sod was layed, a fifteen ton sandstone block shaped like the State of Idaho was erected, and 414 plants were set out. The plants included Japanese maples, bristlecone pines, katsura trees, sugar maples, and many other shrubs and perennials. Most of this was done in time for the Garden's dedication in September.

These accomplishments were possible by sizable money contributions and many donations of plants, equipment usage, and labor. The Gardens received $48,500 in contributions, with a total donation value of just under $110,000 during 1985. Two university students were employed under contract from April to the end of August, however, much more time was donated.

Last fall, a two-bedroom bungalow was offered as a donation, and will be moved on the site this coming spring. It will provide space for committee work, a director's office, storage of records, and a meeting place for small groups.

The Gardens now have about 110 members, including fourteen sustaining and seven life. "We are very grateful for the support given us this past year," said Davidson, "and we extend an invitation to continue along with us and watch what happens in 1986."

BOTANICAL BOOK REVIEWS by Cindy Hohenleitner

COMMON FOSSIL PLANTS OF WESTERN NORTH AMERICA. William D. Tidwell, Brigham Young University Press, Provo, UT. 1975. (Cost is $7.95)

Tidwell attempts to identify fossil plants that any collector, amateur or professional will likely encounter and to explain the relationship of the fossil plant to the plants of today. Eight pages of color plates show typical collections of common fossils, while pencil drawings aid in classification.

Tidwell describes various methods of fossil plant preservation, discusses the classification of prehistoric plants, and explains how fossil plants are named. An index map to fossil plant localities includes two collecting sites in Idaho. Other charts give the relative age and types of fossil flora that can be found at all sites.

GARDENING WITH NATIVE PLANTS OF THE PACIFIC NORTHWEST. Arthur R. Kruckeberg, University of Washington Press, Seattle, WA. 1982. (Cost is $24.95)

THE NEW WILD FLOWERS AND HOW TO GROW THEM. Edwin F. Steffek, Timber Press, Beaverton, OR. 1983. (Sponsored by the New England Wild Flower Society, the cost is $17.95)

The two books above are full of information on what types of plants do well under cultivated conditions, where to find these plants, and how to use and care for them in landscaping. Kruckeberg has a large section on gardening with native shrubs and trees.

Although both authors promote the use of natives in landscaping, both are ecology minded. Steffek is particularly careful to point out endangered species and that simply moving natives to safer locations doesn't necessarily increase populations. Instead, he encourages propagation by seed, division, stem and root cuttings, etc., so that already established native plants are not destroyed.

WILDFLOWER CLASS TO BE OFFERED

A class on Idaho wildflowers to be offered through Boise Community Schools is scheduled to start in mid-March and run for six weeks this spring. Dick Lingenfelter will teach the class at Borah High, however, the scheduling is not firm at this time. Watch for the Community Schools schedule or call Dick at 344-7742.

IDAHO NATURAL AREAS by Bob Moseley

Malm Gulch

Malm Gulch, 14 miles up the Salmon River from Challis, has long been recognized for its geologic and paleontologic significance, and in 1969 was recommended as a potential National Natural Landmark. More recently, the ecological significance of Malm Gulch was recognized by the Idaho Natural Areas Coordinating Committee, which recommended that a portion of it be designated as a research natural area.

Located on Public Lands administered by the Salmon District, Bureau of Land Management, Malm Gulch lies in one of the driest sections of Idaho, receiving only seven inches of precipitation annually. No permanent water sources exist and the stream channel is filled only by an occasional flash flood. The major substrate in Malm Gulch consists of fine grained, buff-colored volcanic ash.

The hot, dry climate combined with sparse ground cover on unstable ash slopes creates a stark landscape, the feeling of which dominates the senses of those who enter Malm Gulch for the first time. Salmon River wildrye (*Elymus ambiguus var. salmonis*), a bunchgrass, is the predominant cover of hillsides while shadscale (*Atriplex confertifolia*) is prevalent in the valley bottom.

The principal biological feature of Malm Gulch is the high concentration of disjunct and endemic plant species. Most of the disjunct species are more common in the Great Basin while the endemic species, collectively referred to as Challis endemics, are for the most part restricted to the Salmon River canyon centered around Challis. These species include:

Endemics	Disjuncts
Thelypodium repandum	*Eatonella nivea*
Oxytropis besseyi var. salmonensis	*Enceliopsis nudicaulis*
Astragalus amblytropis	*Malacothrix torreyi*
Astragalus aquilonius	*Oenothera scapoidea*
Cryptantha salmonensis	*Langloisia setosissima var. punctata*
Elymus ambiguus var. salmonis	*Penstemon nitidus var. polyphyllus*
Eriogonum verrucosum sp. nov.	
Hymenopappus filifolius var. idahoensis	

Other interesting plants include *Astragalus platytropis* and a pale-flowered form of the widespread locoweed, *Astragalus calycosus*. Another Challis endemic, *Chrysothamnus parryi var. salmonensis*, has not yet been collected in Malm Gulch but has a high probability of occurring there.

Today, the flora of Malm Gulch is in sharp contrast to what occurred there during the Eocene Epoch, approximately 55 million years ago. Fossil sites abound in Malm Gulch and have been studied by paleobotanists from the Univeristy of Idaho.

Vegetation represented by these fossils appears to have been a mixed conifer-deciduous hardwood forest. A conifer overstory composed of dawn redwood (*Metasequoia*), redwood (*Sequoia*), falselarch (*Pseudolarix*), and yellow cedar (*Chamaecyparis*) towered over an understory of deciduous broad-leaved trees such as walnut (*Juglans*), hickory (*Carya*), hophornbeam

(*Ostrya*), and horsechestnut (*Aesculus*). Present-day forests that most closely resemble this extinct Malm Gulch forest occur in the mountains of central China. Remnants of this moist forest, consisting of several petrified redwood stumps still standing as they grew, are located near the head of the drainage.

The BLM recognizes that Malm Gulch is an area of environmental concern and has moved to protect its outstanding features by fencing petrified trees to prevent pilfering, and closing the entire drainage to livestock grazing and motorized vehicles. Visitors must park at the fence near the mouth of the drainage, just off of Highway 75, and wander through the unique environs of Malm Gulch on foot. Peak flowering, which coincides with the "monsoon" season around Challis, occurs in late May and early June.

THE SCROUNGERS NOTEBOOK By Pat Packard

***ARCTOSTAPHYLOS UVA-URSI* (L.) Spreng. Kinnikinnick. Bearberry.**

North of the Snake in open spots in the Ponderosa and Douglas fir zones, or sometimes even higher, this trailing evergreen plant covers sunny banks. The bark is red brown and shreddy, the leaves dark green, oval and leathery, less than an inch long. Cheerful red, slightly flattened berries are scattered along the branches. Nothing else in our flora can be confused with this.

The leaves have been assayed at 6-7% tannin as well as the glycosides arbutin, methyl arbutin and ericolin, a crystalline substance of resinous character called ursone, gallic and ellagic acids, probably syrcetin, and a yellow coloring principal resembling quercetin (Grieve & Leyel, 1931).

The tannic acid content makes it a good astringent, useful in treating diarrhea and tanning hides. It has long been used as a diuretic and in treating urinary tract disorders by both Indians and settlers. Gibbons (1966) says certain consituents of the bearberry react with chemicals normally found in urine to form hydroquinone in quantities to be a potent germicide in cysctitis, nephritis or urethritis. In some individuals the urine will turn bright green. Since the leaves are often mentioned as having possibilities for tea making, this might take some unsuspecting individuals by surprise.

This was one of the ingredients of Indian smoking mixtures, as indicated by the name kinnikinnick, usually used with red osier dogwood. It apparently has a narcotic effect and is strongest in the winter.

The berries are available until late winter-early spring, although they are seldom abundant. They are dry, mealy, and have little flavor other than a tendency to tan your tongue. Cooking removes the astringency but does little to help the flavor. They would be best added to stews or something with flavor.

The quercetin-like molecule should have possibilities as a dye. Berries produce a pale brown tinged pink on wool.

The plant itself is used horticulturally to some extent. It is an attractive ground cover or planter box plant, but the leaves turn dark red-bronze in the winter at lower altitudes. It is a little difficult to root, but if you have a liking for natives, it's worth the effort.

Botany is the art of insulting plants in Latin and Greek...

WILBUR D. MAY ARBORETUM by Nancy Shaw

Wilbur May, the son of David May, a German immigrant who built the May Department Stores Company from a retail business he started in a tent in Leadville, Colorado, settled in Reno, Nevada, in 1936. A rancher, businessman, adventurer, collector, and philanthropist, he established and operated the Double Diamond Ranch, known for its prize-winning black angus cattle. As a continuation of his local philanthropic tradition and concern for children, Reno's Children's Animal Feature, the May Museum, and the Wilbur D. May Arboretum were established in his memory by the May Foundation.

Development of the Arboretum on a 30 acre site in Rancho San Rafael Regional Park, just north of the University of Nevada-Reno, is under the direction of Dr. Edgar F. Kleiner and follows a master plan completed in 1984. A topographically varied area, the park encompasses portions of Evans Creek, a large associated wetlands, and bordering pasturelands. Designed to provide public service and cultural opportunities for a broad range of Nevada citizens, display the aesthetic beauty of the plant world, provide educational and interpretive programs, and conduct research trials for selection of plants for specific landscaping purposes, "The Garden where the Sierra Nevada Meets the Great Basin " now supports over 500 native and introduced species.

Phase I of the ten phase development program, covering slightly more than three acres, was completed in 1985. It includes a colorful entrance garden, a residential demonstration garden for various energy conservation techniques, a garden of miniature and old fashioned roses, and view garden of the Evans Creek wetlands. Another interpretive garden features landscaping to provide cover, food, and water for song birds. Landscaping ideas with minimal water and maintenance requirements demonstrating irrigation and mulching methods, and plants for very dry, dry, and moderate water regimes are displayed in the xeriscape. Bank and erosion control plantings of grass/forb mixes installed with the cooperation of the Soil Conservation Service on all steep banks are being monitored and evaluated.

The Sierra Nevada/Great Basin Nature Garden interprets the transition between the Sierra Nevada and the Great Basin. Organized into plant community groups ranging from Ponderosa Pine-White Fir Forests to the Salt Desert Shrub Zone, the Fritz Went Interpretive Trail winds its way through the Native Garden and provides information about each of the communities via reader boards.

Further information, Arboretum Membership forms, and Donate a Tree Program forms may be obtained by contacting the May Arboretum, 1502 Washington Street, Reno, Nevada 89503.

Information for this article was provided by Joe P. Howard, Arboretum Horticulturist, for the Wilbur D. May Arboretum.

INPS MEMBERSHIP LIST

A new membership list is being prepared and will accompany the April issue of Sage Notes. To ensure your name being on the list, and that you continue to receive the newsletter, be sure your dues are up to date. Dues are still only $6.00. Mail those checks to our return address.

ABOUT OUR IDAHO NATIVE PLANT SOCIETY

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Pat Packard, Bob Steele, Nancy Shaw, Dotty Douglas, and Bob Parenti.

Lay Representatives

Freda Younger and Jerry Wood.

Newsletter Editor Joe Duft
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Membership in the Society is open to all interested in our native flora. Dues are $6.00 per year on an anniversary month/year basis. Send dues and all correspondence to I.N.P.S., Box 9451, Boise, ID 83707.

Red dots beside dues dates indicate that your dues have expired. You will receive only two issues after expiration.

DUE DATE FOR COPY MATERIALS FOR NEXT (APRIL) NEWSLETTER IS MARCH 20.

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