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The Newsletter
of the Wyoming
Native Plant Society

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Mountain Lady's-slipper

by Walter Fertig

Mountain lady's-slipper (*Cypripedium montanum*) is one of the showiest wildflowers native to the state of Wyoming. Unfortunately, it is also one of the least common. The species is currently known from only four locations on the east slope of the Bighorn Mountains in Johnson and Sheridan counties. Most populations are found in Bighorn National Forest or adjacent state and private lands. One of these populations has not been relocated since 1900, while another was last seen in the mid-1950s.

The species has a wide distribution in North America, occurring from Alaska to central California and east to Alberta and Wyoming. It appears to be declining throughout its range, however, and was recently recommended as a candidate for potential listing as Threatened or Endangered by the US Fish and Wildlife Service. The main threats to the orchid are destruction of habitat and over-collection by orchid fanciers.

Mountain lady's-slippers can be recognized by their erect, sticky-hairy stems with numerous broad, clasping, alternate, oval leaves. The flowers are characterized by an inflated pouch-like white lip petal that superficially resembles a delicate slipper, accounting for its common name. Surrounding the slipper are four narrow, brownish-purple sepals and petals. These often are twisted or wavy. Below each flower is a single leaf-like bract. Flowering typically occurs from May to July, but plants remain recognizable into late summer.

The mountain lady's-slipper grows along shady, moist forested streams in the lower foothills of the mountains in Wyoming. It often occurs with yellow lady's-slipper (*Cypripedium calceolus* var. *pubescens*), another relatively uncommon orchid with a similar (although yellow-colored) lip petal.

Additional information is badly needed on the distribution, abundance, habitat, and life his-

tory of the mountain lady's-slipper in the state. This kind of information is extremely valuable in determining the kind of management and protection the plant might need.



Above: Mountain lady's-slipper by Jeanne R. Janish (Flora of the Pacific Northwest, Vol 5, 1969).

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Wyoming Native Plant Society



WNPS NEWS

Scholarship: The WNPS student research scholarship is available to any junior college, undergraduate, or graduate student studying the native flora of Wyoming. Applicants are now being sought for the 1995 scholarship. One to three scholarships will be awarded in the amount of \$100-\$300 dollars. Projects may deal with taxonomy, floristics, ecology, range management, physiology, mycology, or other botanical fields. Applications, including a brief description of the research project, are due to the Secretary by 20 February 1995. Winners will be chosen at the March 1995 Board meeting.

1995 Wyoming Rare Plant Workshop: The third annual Wyoming Rare Plant Workshop is slated for March 7-10, 1995 at the Holiday Inn in Riverton, Wyoming. The theme of this year's meeting will be plant protection policy issues and protection of plants in the context of ecosystem management. Discussion will also be held on the status of current or recommended candidate species for listing as Threatened, Endangered, or Sensitive, and training in rare plant identification. A discussion panel will feature representatives of the US Fish and Wildlife Service, US Forest Service, Bureau of Land Management, and National Park Service. At press time, it is also hoped that eminent botanist Robert Dorn will speak on phytogeographic relationships of Wyoming's flora and on willows.

This workshop is free to members of the Wyoming Native Plant Society and the public. For more information, contact the Secretary.

Elections: It's not too early to start thinking of candidates for the WNPS board. If you are interested in serving, or can suggest someone, please contact the Secretary by 1 March 1995.

New Members: Please welcome the following new members of WNPS: Oliver Grah (Logan, UT), Ann Humphrey and Phil Shepard (Ten Sleep), Marion Klaus (Sheridan), Anne Ladd (Laramie/Kelly), Steve Shelly (Missoula, MT), Jean Wood (Laramie/Colville, WA).

Treasurer's Report: Balance as of 18 December, 1994: General Fund \$515.93; 1994-95 Scholarship Fund \$ 216.00. Total Funds: \$731.93. WF

Attention WNPS Members: Your articles about Wyoming native plants or art work are welcome in the newsletter! Deadline for the March issue is 20 February 1995.

Note from the President

Our annual Wyoming Native Plant Society meeting in Teton Park last July was terrific - the wildflowers around

Two Ocean Lake were abundant and many were in full bloom, and although I could not stay for the second day, I heard the alpine tour was a great success. It is always a pleasure to see old friends and meet new WNPS members at these meetings. Many thanks to all who attended and a special thanks to the members who worked so hard to organize the activities! I look forward to seeing all of you at next year's meeting in my neck of the woods - the Red Desert.

One of the issues facing us in Wyoming is the effect of increasing demands on the land. Because of our wide open spaces in Wyoming, it is hard to imagine that we could be losing elements of our native flora, particularly the more rare species. It is estimated that we are losing approximately 2000 acres of native vegetation each year from public lands alone. Industrial use, exotic weed invasions, increased recreational use, and demands on the land by an increasing population all have subtle, yet far-reaching effects on native vegetation. It is therefore very important to all who cherish the natural resources we have in Wyoming to work towards conservation of species.

Although the federal government provides protection for federally designated rare species on public lands, the state of Wyoming does not have such a policy for rare plants on state-owned lands. Therefore, I would like to ask members of the Society to join me in seeking an agreement with State agencies to establish a rare plant list and a protection policy for use on state lands. Most state lands have not been inventoried and we know very little about what species we have, as well as those we may be losing as state lands are developed, sold, or exchanged. If you are interested in helping with this project, or any other issues, please contact me in care of the Society.

Barbara Amidon,

President, WNPS

Them Botanists

*Them botanists, ain't they funny
 Can't get 'em clean for love nor money
 Sluggin' thru the mud, muckin' thru the mire
 Out to find an orchid
 Like their pants was on fire!*

*Follow a botanist, take you for a ride!
 Go and find a flower and look inside
 "Look at that pistil!"
 "Stamens by the ton!"
 Pokin' at plant privy parts sure is fun!*

*How to be a botanist
 It would make you sick
 Go and lose your shoes
 Where the mud's real thick!*

Poem making the rounds in US Forest Service Region 1, kindly provided by Wayne Phillips of Lewis and Clark National Forest, Montana.



The Missouri Botanical Garden:

A Research Paradise

By Neil Snow

The Missouri Botanical Garden, located in St. Louis, is the oldest continuously operating public botanical garden in the United States. It was founded in 1859 by Henry Shaw, an immigrant who had made a fortune selling hardware in St. Louis to westward-bound travellers. After seeing Kew Gardens in England, he decided to open a similar garden in Missouri.

"MO", the herbarium acronym by which the Missouri Botanical Garden is affectionately called by botanists, grew slowly over the years. The collection originated with the purchase of the Bernhardt Herbarium of Germany by Dr. George Engelmann (of Engelmann spruce fame) in the 1850s. By the early part of this century the research journal *Annals of the Missouri Botanical Gardens* was being published. The research aspect of MO was bolstered by its long association with Washington University, which was founded about the same time. Shaw endowed the university with a School of Botany. Several botanists who took their doctoral degree from Washington University went on to distinguished careers at MO, including Julian Steyermark, Alwin Gentry, James Solomon, Peter Hoch, Paul Berry, Porter ("Pete") Lowry II, and David Neill. Wyoming's own Louis Williams helped launch his illustrious botanical career with a PhD from Washington University.

The growth of research at the Garden has been explosive since its current director, Dr. Peter Raven, took the reins in 1971. With 54 current PhDs and almost 100 technical and support staff, it is one of the most active botanical research institutions in the world. MO currently houses 4.4 million herbarium specimens and adds another 138,000 (give or take) specimens yearly. The number of publications originating at MO has increased, the latest being *Novon*, a journal devoted to newly described species. The Garden holds an annual "Fall Symposium" in which timely topics are examined by invited speakers.

The library contains over 116,000 volumes and has one of the better collections of old and rare botanical books. These older references are particularly important to the plant systematist, who must occasionally refer back to very old descriptions or illustrations to determine the correct application of a botanical name. The extraordinarily rich collection of books on natural history and botany assembled by Joseph and Neta Ewan is located in the Museum Building.

Because of its stature as a research institution and its firm commitment to fostering the development of plant sciences and conservation internationally, MO sees a steady stream of visiting researchers. The 400 visitors during a recent year at MO represented 30 countries! A large number hail from Latin America, where Garden field research has been particularly active.

Spanish has become, de facto, the second language around the herbarium. In recognition of MO's role in conservation, the Center for Plant Conservation recently relocated to the Garden from Massachusetts.

Research in plant systematics has become increasingly collaborative and international, and numerous large-scale research projects are coordinated at the Missouri Botanical Garden. Two recently published international projects are Volume 6 (monocots) of the *Flora Mesoamericana* (the first comprehensive regional flora of Central America published in Spanish) and Volume 17 of the *Flora of China*. The Garden is also active in Africa, where several curators and research staff travel constantly.

Of greatest interest to North American botanists, however, is the *Flora of North America* project, the first ever comprehensive accounting of plant species north of Mexico. This project, coordinated at MO, has the first two volumes in print, with more on the way shortly. The volumes will be of great value to botanists in local, state, federal, and private domains.

The knowledge that plants are the primary source of many medicinally useful compounds has led to an increase in "chemical prospecting". The Garden has a contract with the National Cancer Institute to provide samples of African plants for their screening program, a "shotgun" approach at finding medicinally active compounds. For a given species field collectors harvest portions of the roots, leaves, bark, flowers, and fruits, which are then analyzed separately in bulk. The Garden also collects plants for pharmaceutical screening for Monsanto Company, a St. Louis based chemical company.

Throughout its existence, however, the Missouri Botanical Garden has been best known by tourists and locals as a 79-acre garden in the heart of St. Louis, where they can enjoy a leisurely stroll while looking at some splendid gardens. The Japanese Garden and the Climatron (a geodesic greenhouse that houses tropical plants) are two of the favorite attractions for tourists. Missourians, many of whom still refer to the institution as "Shaw's Garden", are happy with the recently constructed Kemper Center for Home Gardening, which dispenses useful information to local gardeners.

I would encourage any Wyomingite with botanical interests to consider a visit to the Missouri Botanical Gardens. Those interested in a visit can contact the Missouri Botanical Garden at: PO Box 299, St. Louis, MO, 63166-0299 (phone: [314] 577-5100).

Neil Snow is a past president of WNPS and former scholarship winner. Since graduating with a Masters in Botany at UW, he has been working on a PhD at Washington University studying the systematics of the grass genus *Leptochloa*.



Botany Briefs

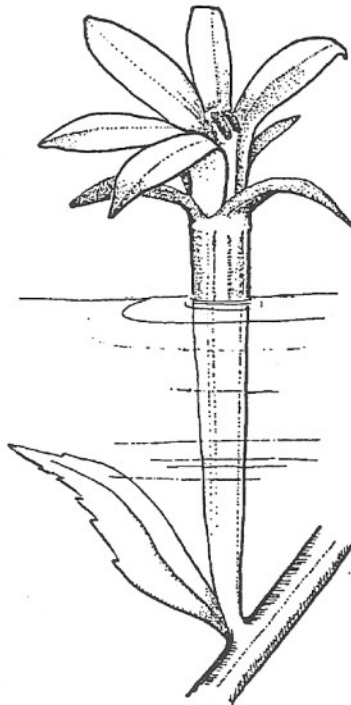
Botanical News from Wyoming and the Rocky Mountain Region

Howellia *aquatilis* listed as Threatened: This past July, the US Fish and Wildlife Service officially designated Howellia (*Howellia aquatilis*) as a Threatened species. Howellia is the first plant species found in Montana to be listed as Threatened or Endangered. In addition to Montana, it is also currently known from scattered locations in northern Idaho and Washington. Historical populations in California and Oregon are believed to have been extirpated.

Howellia is an annual aquatic plant with linear, submerged leaves and weak stems. It produces two types of flowers: small, white lobelia-like open flowers, and tiny, closed (cleistogamous) flowers borne under water. Recent studies in Montana have shown that germination of Howellia seeds is dependent on exposure to the atmosphere following seasonal drought. Population sizes may fluctuate greatly from year to year depending on the amount of rainfall. The species appears to be completely dependent on ephemeral pond habitats with shallow, peat-like or organic soils.

Potential habitat for Howellia may exist in the greater Yellowstone area in northwestern Wyoming. Botanists in this part of the state should keep a keen eye out for this unusual species. WF

Below: Detail of the flower of *Howellia aquatilis*, a monotypic genus in the Campanulaceae (harebell family) recently listed as a Threatened species in Montana. Illustration by Bonnie Heidel.



Cheyenne Botanic Gardens wins award: The Cheyenne Botanic Gardens, Wyoming's only public botanical garden, recently was selected to receive the Entrepreneurial American Leadership Award. The Garden is one of 16 community projects across the country selected for this award that is given only once every 10 years. The Cheyenne Garden was cited for its commitment to community service through its volunteer programs benefiting senior citizens, handicapped individuals, and youth at risk.

WF

Wyoming Rare Plant List Available: The Nature Conservancy's state natural heritage program, the Wyoming Natural Diversity Database (WYNDD), has released its most recent update of the publication "Wyoming Plant Species of Special Concern". The 1994 edition includes information on federal status, county distribution, occurrence by managed area, and biogeographic affinity for nearly 500 of Wyoming's rarest plant taxa. To receive a copy, contact WYNDD at 1604 Grand Ave., Laramie, WY 82070. Please remit \$1 to cover the cost of postage.

WF

New Wyoming Records of Parasitic Fungi in 1994: The following taxa of deuteromycetes, powdery mildews, and rust fungi were documented for the first time in Wyoming in 1994:

Deuteromycetes: *Ramularia psoraleae* on *Psoralidium tenuiflorum*.

Powdery Mildews: *Sphaerotheca* sp. (possibly *S. humuli*) on *Parrya nudicaulis* (naked-stemmed parrya), collected in the Wind River Range. *Erysiphe cichoracearum* on *Mentha spicata* (spearmint).

Rust fungi: *Puccinia subnitens* on *Isatis tinctoria* (dyer's woad). *Puccinia jonesii* on *Shoshonea pulvinata* (*shoshonea*) collected on Logan Mountain. *Puccinia similis* on *Artemisia porteri* (Porter's sagebrush) and *Artemisia scopulorum* (Rocky Mountain sagewort). *Puccinia menthae* on *Mentha piperita* (peppermint), probably a new race of the rust. *Pileolaria patycaurensis* on *Rhus trilobata* (skunkbush). JB

New Plant Species for Wyoming: During 1994, peripatetic botanist Robert Dorn documented the following plant species not previously known to occur in Wyoming:

Potentilla diversifolia var. *multisecta*: This variety of the widespread vari-leaf cinquefoil was discovered in canyon country of southern Sweetwater County. It most closely resembles *P. diversifolia* var. *perdissecta*, but differs in having greyish, straight-haired leaves, narrower leaflets, and a preference for drier, lower elevation habitats. Variety *multisecta* is a native taxon that is more widespread in Utah and Nevada.

Spergularia media: A native of Europe, this member of the pink family was discovered in Platte County in 1994. It resembles the common roadside weed red sandspurry (*S. rubra*) in having narrow leaves and 6-10 stamens, but can be differentiated by its



glabrous, white-petaled flowers and seeds with thin, wing-like margins.

Stenosiphon linifolius: This Great Plains native was discovered along a roadside in Goshen County in 1994. A member of the Evening primrose family (Onagraceae), *Stenosiphon* is characterized by white, 4-petaled flowers, an extremely narrow floral tube, nut-like fruits, and tall, erect, leafy stems to 10 feet tall. It is most likely to be confused with tall members of the genus *Gaura* from which it differs in several technical features of the corolla. *Stenosiphon* typically occurs on rocky prairie hillsides, roadsides, or stream bottoms on calcareous substrates.

Another new species for the state is *Scirpus saximontanus*, first collected in 1993 by B. Ernie Nelson, manager of the Rocky Mountain Herbarium. *S. saximontanus* is a tufted annual with round stems, reduced leaves, and a lateral-appearing inflorescence. Typically, the species occurs on clay soil in ditches and along shorelines. It is presently known only from Goshen County in Wyoming.

WF

Educational Program Available from the Colorado Native Plant Society: An introductory-level program, *Life in an Aspen Grove* takes a close look at aspen trees, the rich and varied habitat they create, and some of the many species that call the aspen woodlands home for all or part of the yearly cycle. Rather than focusing exclusively on one species, this presentation encourages the audience to think about the relationships between the various components in an ecosystem. The program includes 80 color slides depicting the varied plant and animal life in an aspen grove. A cassette tape contains the spoken narrative. The program is also available as a 27-minute videotape. Accompanying either version is a printed booklet that includes the narrative, an extended text containing additional details, and a glossary of terms used in the program.

For additional information, contact Dr. Miriam Denham, Chair of the Colorado Native Plant Society (CoNPS) Education Committee at (303) 442-1020 or write to: Aspen Program, CoNPS, PO Box 200, Ft. Collins, CO 80522-0200. CoNPS

Right: *Stenosiphon linifolius*. Note the narrow-tubed corolla and numerous floral buds above the flowers. Illustration by W. Fertig.





How to get there

Swift Creek RNA is located approximately 5 air miles east of Afton, Wyoming. From Afton, follow the Swift Creek Road (FS Road 10211) to the Periodic Spring picnic ground (a distance of about 6 road miles over a sedan-grade gravel road). At the parking area, follow the smaller upslope trail (above the graded road) for about 3/4 of a mile to the RNA's eastern boundary. This trail follows Swift Creek for most of its length upstream. The trail is open to use by horse parties and motorized two-wheel and over-the-snow vehicles.

Botanizing in the Swift Creek Research Natural Area

By Walter Fertig

Swift Creek is just one of many mountain streams draining the west slope of the Salt River Range in Lincoln County, Wyoming. What distinguishes Swift Creek from neighboring watersheds is its ecological integrity and tremendous biological richness. The valley includes a mosaic of over 30 coniferous forest, riparian, upland shrub, montane forb, and alpine vegetation types and provides habitat for nearly two dozen rare plant and animal species. In recognition of the area's biological values, Bridger-Teton National Forest is in the process of designating the middle stretches of the Swift Creek watershed as a Research Natural Area (RNA).

The RNA system is a little-known network of natural areas (usually on US Forest Service lands) that are managed in an undisturbed condition in order to provide reference areas for long-term studies on ecological processes. Such studies are invaluable in guiding land management activities on public lands. In addition, RNAs serve as repositories of biological diversity, protecting habitat of threatened and endangered species as well as "non-charismatic micro-fauna and flora". Swift Creek is one of nearly two dozen existing or proposed RNAs in Bighorn, Bridger-Teton, Medicine Bow, Shoshone, and Targhee National Forests in Wyoming.

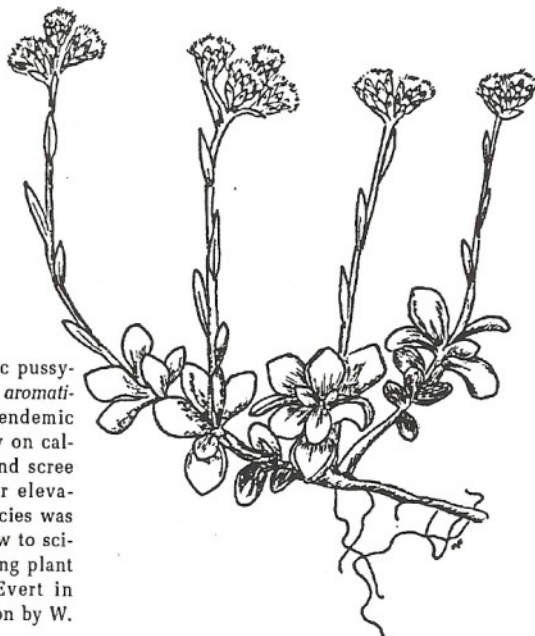
The diversity of plant communities within the Swift Creek watershed is the result of the interplay of

climate, soils, topography, and natural disturbances. Unlike the mountain ranges of central and southeastern Wyoming, the Salt River Range is characterized by uniform, moderately high monthly precipitation. As a result, the mountains support many plant species and communities adapted to more mesic environments. Soils within the watershed are derived from calcareous surficial deposits or glacial till and tend to be moderately deep and well-drained. These calcareous substrates support a number of uncommon plant species in the RNA. The steep topography and north-south orientation of many slopes influences the distribution of forest and meadow communities and contributes to the mosaic pattern of vegetation types in the Swift Creek watershed. Lastly, periodic natural disturbances, such as avalanches and fire, add to the vegetation diversity present in the RNA.

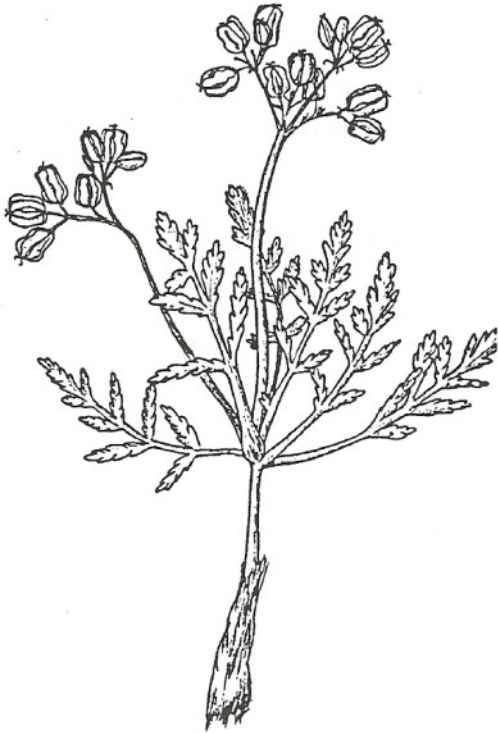
Nearly half of the RNA's 4170 acres are clothed by forests of Subalpine fir (*Abies lasiocarpa*) Engelmann spruce (*Picea engelmannii*) and Douglas-fir (*Pseudotsuga menziesii*). These forests are especially extensive in the northwestern portion of the RNA and in the V-shaped lower valley of Swift Creek. Steep, north-facing slopes typically have an understory dominated by tall shrubs such as Rocky Mountain maple (*Acer glabrum*), mountain-ash (*Sorbus scopulina*), blue huckleberry (*Vaccinium globulare*) and grouse whortleberry (*V. scoparium*). Common understory forbs include heart-leaf arnica (*Arnica cordifolia*), Engelmann's aster (*Aster engelmannii*), and sideflowered mitella (*Mitella stauropetala*). Forests on drier sites, especially those on south-facing slopes, may have a higher cover of Douglas-fir and a less diverse understory, predominated by mountain gooseberry (*Ribes montigenum*). Riparian woodlands are typically dominated by Engelmann spruce, although small patches of Booth willow (*Salix boothii*) are also present.

The central and southern parts of the RNA support a mosaic of woodland and herbaceous meadow vegetation. Meadows are typically dominated by a rich mix of tall forbs including fern-leaf lovage (*Ligusticum filicinum*), western larkspur (*Delphinium occidentale*), cow parsnip (*Heracleum lanatum*), blackhead (*Rudbeckia occidentalis*), nettleleaf horsemint (*Agastache urticifolia*) and viguiera (*Viguiera multiflora*). Dry, south-facing slopes may also support the arrowleaf balsamroot (*Balsamorhiza sagittata*)-Rocky Mountain sunflower (*Helianthella uniflora*) community type. Interspersed among this vegetation are areas of bare rock stripped of vegetation by avalanches.

A relatively minor component of the RNA are stands domi -



Right: Aromatic pussytoes (*Antennaria aromatica*), a regional endemic found primarily on calcareous talus and scree slopes at upper elevations. This species was described as new to science by Wyoming plant expert Erwin Evert in 1984. Illustration by W.



Above: *Cymopterus longipes*, a member of the umbel family (Apiaceae) characterized by wing-like projections on the fruit. This is one of over 230 species known (so far) from the Swift Creek watershed.

nated by Osterhout's sagebrush (*Artemisia spiciformis*). This regionally endemic sagebrush is morphologically intermediate between mountain big sagebrush (*A. tridentata* var. *vaseyana*) and silver sagebrush (*A. cana*) and is suspected to be of hybrid origin. It is recognized by its long, entire or three-lobed leaves and narrow inflorescence. Osterhout's sagebrush is currently known from fewer than a dozen sites in the state.

Several other state and regionally rare plant species occur in the RNA. Among these are two first records for Lincoln County: Bolander's sedge (*Carex deweyana* var. *bolanderi*) and western fescue (*Festuca occidentalis*) (both discovered by Joel Tuhy in initial surveys of the area in 1987). Boreal draba (*Draba borealis*) and Payson's bladderpod (*Lesquerella paysonii*), two species listed as Sensitive by Bridger-Teton National Forest, are suspected to occur in the RNA based on the presence of suitable calcareous habitats.

Once established as an RNA, the Swift Creek watershed will be managed to maintain its natural conditions and to protect its plant and wildlife values. The area is still available for low-impact recreation off of its trails. Other activities that are incompatible with the values of the RNA are not allowed, including logging, new roads, and in situ development of mineral resources (grazing may also be disallowed in RNAs; in the case of Swift Creek, the entire watershed has been closed to grazing since the 1960s).

Although Swift Creek may be off the beaten track of many of the state's plant enthusiasts, other RNAs and special management areas offer equal natural and botanical experiences. To find out more about RNAs in your area, contact your local Forest Service office.

Botanist's Bookshelf

Bitterroot by Jerry DeSanto. 1993. Lere Press, Babb, Montana. \$13.00 paperback. 120 pp.

It may seem out of the ordinary to devote an entire book to a single plant species, but as Jerry DeSanto shows, bitterroot is no ordinary plant. His new book *Bitterroot* is a celebration of the life history and lore of *Lewisia rediviva* and its close relatives. It goes well beyond the standard "picture book" treatment of plants to explore in depth the discovery, classification, etymology, uses, cultivation, and biology of the bitterroot. The author, a retired park ranger from Yellowstone and Glacier National Parks, exhibits great skill in presenting scientific information in a readable format.

Bitterroot is copiously illustrated with beautiful color photographs and outstanding reproductions of historical botanical illustrations. These alone make the book worth the price.

In an appendix DeSanto describes the ethnobotanical discoveries of the Lewis and Clark expedition and discusses their camp in Montana. These sections will be of great value to readers interested in natural foods and uses of plants as well as those with a bent for western history. Although geared to a Montana audience, *Bitterroot* makes a valuable addition to the library of any western botanist.

WF

The *Wyoming Native Plant Society*, established in 1981, is a non-profit organization dedicated to encouraging the appreciation and conservation of the native flora and plant communities of Wyoming. The Society promotes education and research on native plants of the state through its newsletter, field trips and annual student scholarship award. Membership is open to individuals, families, or organizations with an interest in Wyoming's flora. Members receive *Castilleja*, the Society's quarterly newsletter, and may take part in all of the Society's programs and projects, including the annual meeting/field trip held each summer. Dues are \$5.00 annually.

To join the Wyoming Native Plant Society, return the membership form below to:

Wyoming Native Plant Society
1604 Grand Ave.
Laramie, WY 82070

Wyoming Native Plant Society

Name: _____

Address: _____

- \$5.00 Regular membership
 \$15.00 Scholarship Supporting Member
(\$10.00 goes to annual scholarship fund)



WYOMING NATIVE
PLANT SOCIETY
1604 Grand Avenue
Laramie, WY 82070

The Botany 130 Songbook

By John "Barney" Baxter

This song is dedicated to the memory of Alexis Millardet, who invented the fungicide known as Bordeaux mixture (he got the idea while sitting in the waiting room of a Bordeaux bordello).

Downy Mildew

(Tune: Pretty Baby*)

*Everybody loves a fungus, that's why I'm in love with you,
Downy mildew,
Downy mildew,*

*And when I go out collecting, I'll be heading straight
to you,
In the chill dew,
In the chill dew,*

*Let me press you very tightly in my plant press of love,
You'll be mine, all mine!*

*You can stay in my herbarium forever and a day,
Downy mildew on the grapevine (yea, yea!)
Downy mildew on the grapevine!*

*This is a very old song, unknown to anyone under the age of 89. For those born since 1905, try the tune to "Swimming in your Ocean" from the latest album by the Crash Test Dummies.