



Oxytropis nana Nutt., a Wyoming endemic collected by Thomas Nuttall on his journey across Wyoming in 1834

WYOMING NATIVE PLANT SOCIETY

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Treasurer's Report - Balance as of February 15, 1987: \$519.98; deposits \$74.00; disbursements: newsletter printing \$8.27, stamps \$22.00, scholarship \$100.00; new balance as of May 15, 1987: \$463.71. RD

Board Meeting On Scholarship and Other Matters - The Board met in March in Laramie to consider the application for our scholarship and two applications for life membership. The only applicant for the scholarship was Neil Snow, a masters degree student in botany at the University of Wyoming working under Ron Hartman. The Board unanimously voted to award the scholarship to Neil. Neil's project is entitled "A Floristic Survey of the Headwaters of the Yellowstone River and Surrounding Areas." This area includes the southeast corner of Yellowstone Park and adjacent National Forests. Most of the area is roadless so is virtually uncollected. Some collecting was done by the Jones Expedition in 1873 and casual collecting by more recent collectors has been mostly limited to the fringes of the area. This is perhaps the most remote and botanically unknown area of the state.

The applications for life membership were submitted by Louis Williams for his wife Terua and for Ragnhild Solheim, both of whom began collecting plants in Wyoming in the 1930's. The Board unanimously approved both applications. Louis also noted that our bank balance was "a bit anemic" for our scholarship and suggested that the membership be solicited for special contributions toward the scholarship. He thought that a scholarship of \$1000 would be a modest one. At present it is \$100. Anyone wishing to contribute toward a special scholarship fund can do so by sending donations to the Secretary-Treasurer clearly indicating what it is for. All contributions will be acknowledged (privately, if desired). RD

Annual Meeting - The annual meeting for 1987 will be held July 18 and 19 in the Laramie Range between Laramie and Cheyenne. We will meet at 8:30 AM on Saturday, July 18, at the Interstate 80 rest area on the summit about 9 miles southeast of Laramie, otherwise known as the Lincoln Monument. Gather at the west end of the parking lot right under the Lincoln Monument. For late-comers, our first stop will be at the Blair Picnic Ground (see map). Camp sites are available in Tie City, Pole Creek, or Yellow Pine campgrounds north and east of the meeting place. Yellow Pine is probably the best. You can also camp in undeveloped sites throughout the forest. Arrive early, if possible, as the area is likely to be crowded that weekend. The tentative schedule follows. Saturday: business meeting at Blair Picnic Ground; visit site for rare ferns and look at southern Rocky Mountain species including Polypodium vulgare, Asplenium trichomanes, Asplenium septentrionale, Selaginella underwoodii, Jamesia americana, Heuchera bracteata, and probably others; stop at bog to see Salix serissima, Salix candida, Hedysarum alpinum, and others; hike above Granite Springs Reservoir to see Selaginella mutica and Bahia dissecta; hike below Crystal Reservoir to see Notholaena fendleri. Other species we will be watching for are Geranium fremontii, Senecio fendleri, Cryptantha virgata, Eriogonum jamesii, and Harbouria trachyleura. Bring along a lunch and water. Sunday: Tour Rocky Mountain Herbarium in Laramie at 10:00 AM (Aven Nelson Building, 3rd floor); optional trip to Medicine Bow Mountains. RD

Hardwood Harvest in Wyoming: For many years I've been making fine furniture from an assortment of domestic and exotic hardwoods. I've even gone as far as buying whole trees in Pennsylvania and having them cut to my specifications. To add interest to many of my pieces, I use unusual or rare hardwoods for pulls, knobs, etc. which I thought didn't exist in Wyoming. During my travels over the years I've wondered about certain species of trees and what their wood might look like. Last year while doing field work in western Wyoming, I returned to a location where years ago I saw a large Curled Leaf Mountain Mahogany (Cercocarpus ledifolius). This tree was ca. 25 feet tall with a trunk that was 5 foot long and 4½ inches in diameter. As I chopped at the base of the trunk my ax bounced as if I was chopping hard rubber. The handle even began to lightly sting from the hardness of the tree. Getting my prize back to the trunk wasn't easy either, the 5 foot trunk turned out to be very heavy. Before I slabbed out two pieces of lumber two inches thick I counted the growth rings. To my surprise this small tree was ca. 150 years old. The wood is very hard and dense like ebony wood. This winter I dried one of the pieces in my shop near the woodstove and made pulls and slides for a showcase cabinet. The rich reddish-brown mahogany color was just the right touch to match the Swedish maple cabinet I was building (my two pieces of wood even had a beautiful fiddleback grain). According to Dorn's booklet (The Wyoming Landscape, 1986) this tree would have probably been a sapling when Nuttall and Townsend crossed the Bear River near Sage Junction in July of 1834, not far from where I got the tree. RWL

Dues - If you have a large black dot by your name on the mailing label, then your dues are due by the annual meeting: initial membership \$7.00, renewals \$3.00; students and persons 65 or over half the preceding rates. RD

Election of Officers - Our nominees for officers are: President - Phil White; Vice-President - Ernie Nelson; Secretary-Treasurer - Robert Dorn, Robert Lichvar; Board Member - Erwin Evert, Neil Snow. If you wish to nominate (and/or vote) for someone else, submit the name(s) to the Secretary-Treasurer at least a week before the annual meeting. Mail votes are accepted before the meeting. Vote for one person for each office. Hollis Marriott is the carryover Board Member. RD

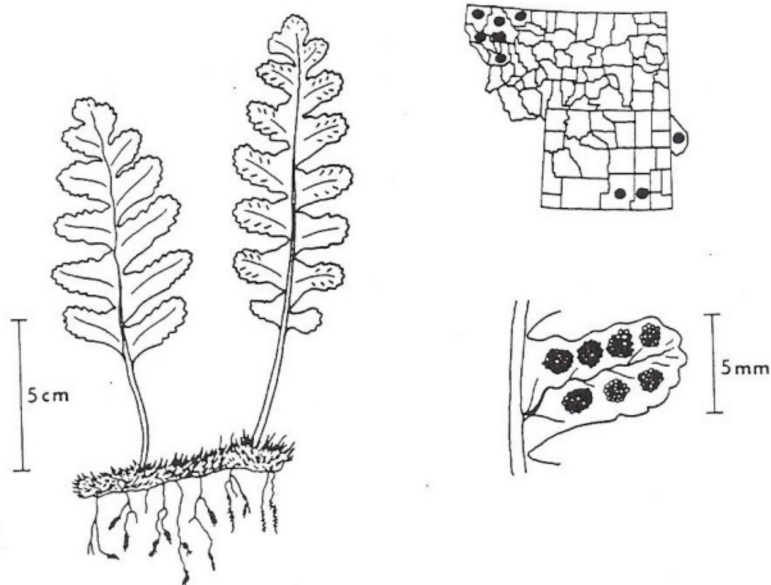
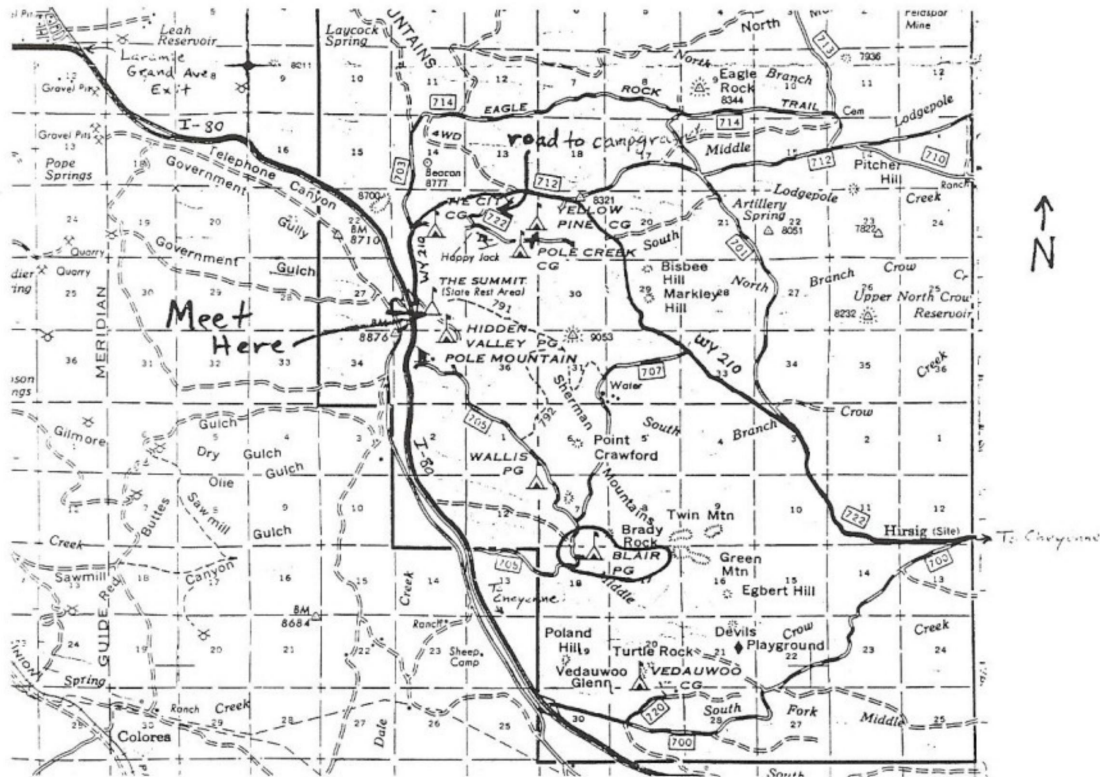


Figure 54. *Polypodium vulgare*

Drawing by Jane Dorn.

Botanical Novelties

Aster mollis Rydberg

Soft Aster

This member of the sunflower family was first collected by Frank Tweedy in the Big Horn Mountains in 1899. It was described by Per Axel Rydberg in 1901. In 1917, Rydberg placed it in synonymy under Aster jessicae, a species of Washington and adjacent Idaho. There it remained until Almut Jones of the University of Illinois discovered a population in the Big Horns in 1980 and subsequently determined that A. jessicae and A. mollis were not the same species. The plant is perennial and averages about a foot high. It usually has many long, soft hairs, especially on the petioles and peduncles. The flower heads are moderately numerous in a broad, open inflorescence and each is about an inch across. The ray flowers are blue or purplish. It is known from Big Horn, Sheridan, and Washakie counties in the Big Horns and also from one location in Sublette County. It grows in mountain meadows.

Penstemon paysoniorum Keck

Paysons' Penstemon or Beardtongue

This member of the figwort family was apparently first collected by Aven Nelson near LeRoy in Uinta County in 1898. It was next collected by George Osterhout, a lumber yard owner from Windsor, Colorado, and friend of Aven Nelson. He found it east of Evanston on June 28, 1922. About a week later it was collected by Edwin & Lois Payson, after whom it was named. It was described by David Keck but not until 1947. The plant is perennial and averages about 8 inches high. The leaves are narrow and the blue or purplish flowers average about 3/4 inch long. It is known from Fremont, Natrona, Sweetwater, Uinta, and Lincoln counties where it grows on barren desert hills. RD

Historical Vegetation of Wyoming - One of the oldest vascular plants, Psilophyton wyomingense, grew in northwest Wyoming during the Devonian Period about 375 million years ago. In the succeeding Mississippian Period the entire state was submerged in a tropical sea. The sea receded in the Triassic Period about 200 million years ago. The shoreline vegetation included a tree-like Equisetum (horsetail) and a number of cycads (primitive seed plants related to pines). Dinosaurs were the dominant animals of the time. In the Cretaceous Period about 100 million years ago the flowering plants made their appearance. These were primarily subtropical species including the genera Sabalites (palm), Cinnamomum (cinnamon), Sassafras, Liquidambar (sweet gum), and Magnolia. Most of our coal deposits began to be formed from these plant remains. The uplift of the Rocky Mountains (except the Teton Range) began late in this period. Birds and mammals became conspicuous during the Paleocene Epoch about 60 million years ago. By the Oligocene Epoch about 30 million years ago, the uplift was sufficient to cut off the warm, moist Pacific air. The cooling and drying east of the mountains caused the subtropical vegetation to be replaced by temperate deciduous forest. With still drier conditions, the forest was replaced by grassland in some areas. In the Miocene Epoch about 25 million years ago, the southern Cascades began to uplift resulting in still more cooling and drying. The northern conifer forest began to displace the deciduous forest. In the Pliocene Epoch about 10 million years ago, the Rocky Mountains probably reached their present height except for the Teton Range which just started to uplift at that time. The northern Cascades began to uplift as well completing the barrier between Wyoming and the Pacific. With the resulting much cooler and drier climate, the deciduous forest largely retreated east and was replaced by grassland and coniferous forest. In southwest Wyoming the grassland that was already there began to be replaced by desert vegetation. Alpine plants began to appear on the mountain tops as conditions became too severe for trees. The Pleistocene ice age began around 3 million years ago and persisted off and on until about 10,000 years ago. In Wyoming, there were only mountain glaciers, which covered most of the northwest corner of the state and portions of the other higher mountains. Tundra reached as low as the Laramie Basin during this time. Coniferous trees likely followed the lower drainages, and grassland probably dominated the remaining ice-free area. Large grazing animals present about 11,000 years ago included a species each of horse, camel, large bison, and elk. The former three became extinct around 7,000 years ago although the bison survived as a smaller species. Sagebrush began to encroach probably around 10,000 years ago. During the last 10,000 years there have been relatively minor cycles of warming and cooling with little change in the vegetation.

The present vegetation belongs to four major floras superimposed on at least three others which were more dominant here in the past. The Alpine Flora occurs above timberline, the Rocky Mountain Forest Flora dominates the wooded portion of the mountains, the Great Basin Flora is found in the lower basins of the western two-thirds of the state, and the Great Plains Flora occupies the eastern third of the state outside the mountains. The Black Hills of northeast Wyoming have significant remnants of the Eastern Deciduous Forest Flora and the Boreal Forest Flora. The Pacific Northwest Flora can be detected in extreme northwest Wyoming, and a few species from this flora can still be found in southern Wyoming and northern Colorado. A number of southern Rocky Mountain species occur in Wyoming almost exclusively in the Laramie Range. A few of these can be found in the Sierra Madre Mountains as well. RD

Recent Publication - Anyone interested in what Wyoming looked like prior to settlement may wish to obtain the booklet "The Wyoming Landscape, 1805-1878" compiled by Robert Dorn from 118 accounts by early travelers in Wyoming during that period. This 94 page booklet describes both vegetation and wildlife and is available from Mountain West Publishing, Box 1471, Cheyenne, WY 82003. Cost is \$6.25 postpaid. Wyoming residents add appropriate sales tax for your county (3%-16¢, 4%-21¢, 5%-26¢). RD

Herbarium expansion won't take space

One of the University of Wyoming's major research units, the Rocky Mountain Herbarium (RMH), will soon expand without taking up additional space.

With the help of a \$238,859 grant from the National Science Foundation, the RMH will acquire the latest in high-density, mobile storage systems to achieve continued preservation of currently held plant specimens and make room for new specimen acquisitions well into the next century.

Installation will be accomplished within 10 days or two weeks in mid-May.

"Until the NSF grant was approved, we faced the prospect of saturated storage capacity within two years along with increasing potential for damage to priceless specimens, some dating from the 1890s," says Ronald L. Hartman, associate professor of botany and RMH curator.

The new storage system, manufactured by Spacesaver Corp. of Ft. Atkinson, Wis., accommodates whole rows of specimen cases on wheeled carriages mounted on a precision track system. Rows of cases are compressed to form solid

"blocks" without static access aisles, achieving increased storage capacity by utilizing floor space area traditionally given over to access aisles.

An entire row of storage cases, or as many rows as necessary, can be easily moved with a manually cranked gear system to open an aisle along any row of cases in which needed specimens are located.

Hartman estimates the Spacesaver system will increase RMH storage by 50 percent. The solid block configuration of the system at rest also provides for improved security and protection from dust, water leaks, insects or other hazards. Floor sensors block all carriage movement if one researcher should attempt to move carriages that would close an already occupied aisle.

"The herbarium currently has more than 543,000 specimens pressed, dried and mounted for research purposes," Hartman says. "Additionally, there is a backlog of 60-70,000 specimens awaiting preparation. The NSF funding will provide for purchase of 100 additional specimen cases and salary money for part-time assistance to deal with

this backlog, as well as the system needed to create room for the specimen backlog and new acquisitions at the rate of about 10,000 annually."

The RMH got its start with 300 specimens collected in 1892 by B.C. Buffum, one of UW's original faculty members. Aven Nelson, another pioneering early-day UW botanist, was active in the department for about 50 years, and the herbarium grew to nearly 200,000 specimens during his long tenure.

In 1978, the RMH received the 50,000 specimens of regional fungi collected by William G. Solheim, another of UW's distinguished botanists, and was accorded an indefinite loan of the U.S. Forest Service Herbarium's 125,000 specimens in 1982.

An important national resource, the RMH now ranks in size 17th among the more than 1,200 American herbaria. It has the world's largest collection of vascular plants and parasitic fungi of the Rocky Mountain region, is a hub of reference, research and specimen exchange activity and performs a unique variety of service and instructional functions. Hartman has been curator since 1977.

As a result of putting in this system, the herbarium may not be available for use until around mid June.

Contributors This Issue - RD = Robert Dorn, RWL = Robert W. Lichvar.

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