

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

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Treasurer's Report: Previous balance: $359.34 (3:4 Newsletter mistakenly reported a balance of $359.00)
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1985 Annual Meeting: Two proposals for our 1985 annual meeting are Flaming Gorge Area and Yellowstone. The following information on the Flaming Gorge country is presented in the hope of convincing everyone that it is time to explore the sandstone canyons/rims and basins of the southwestern desert area of Wyoming. This area provides the opportunity to see and collect endemics, near endemics, and species at the northern edge of their distribution.

Species and communities of interest are:

Forsellesia meionandra -- only known location in Wyoming is in the Flaming Gorge Area. Descriptive data is needed to fully describe the community in which this species occurs.

Penstemon acaulis (mat penstemon) - Known from gravel deposits in northern Utah and southwestern Wyoming.

Astragalus proimanthus (mat astragalus) - Known from ridge just north of the Henry's Fork River.

Ceanothus martinii - Found extensively in Colorado, Utah, Nevada, and Arizona. Its location in Wyoming may mark the northern most extension of its range.

Thelesperma pubescens - Known from cobble areas of Hickey and Sage Creek Mountain; described in 1984 by Bob Dorn (Great Basin Naturalist 43:4).

Draba juniperina - endemic to juniper woodlands, restricted in Wyoming to the southwest corner of the state.

Additional species of interest are found in the following communities, which are unique to this part of Wyoming:

Desert cottonwood riparian community - Located in the Little Firehole Canyon, which bisects the juniper woodlands in the area. The steep-sided canyon appears to be in pre-settlement condition (Bob Lichvar 1984), with sexually reproducing cottonwoods and a unique assemblage of understory shrubs. The northern most location of Forsellesia meionandra is nearby, associated with Brickellia microphylla and the more common Sarcobatus vermiculatus.

Pinyon-Juniper Woodlands - Richards Gap and Wildhorse Basin are believed to be the best representative stands of the pinyon-juniper woodlands in Wyoming. Several taxa belonging to the Great Basin Flora, such as Pinus edulis, Eriogonum corymbosum, Philadelphus microphyllus, Balsamorhiza hispidula, Galium coloradoense, Aster arenosus, Ephedra viridis, and Draba juniperina, are found here.

On the west side of the Gorge, one re-enters Wyoming through Linwood Canyon, a sandstone uplift area dominated by Utah juniper and little leaf mahogany. Both Bob Dorn and Bob Lichvar have explored the area extensively. Another site possibly worth visiting is the Abies concolor-Abies lasiocarpa-Populus tremuloides community on Pine Mountain. I propose that the weekends of June 14-16 or 21-23 be considered for our annual meeting. Please let me know your preference or indicate alternative suggestions prior to April 1. AA

Flora of the Medicine Bow Mountains: The Medicine Bow Mountains in southeast Wyoming have been collected extensively by Aven Nelson, C.L. Porter, and others and is the site of many ecological studies, particularly above treeline, by D.H. Knight, W.D. Billings, L.C. Bliss, H.A. Mooney, R.F. Daubenmire, and their students. Also, field taxonomy classes have been taught in the area for many years by faculty members of the University of Wyoming.

During the summer of 1973, and intermittently during subsequent summers, floristic work was done in the area. These collections, along with the ones housed in the Rocky Mountain Herbarium and the U.S. Forest Service Herbarium, provide the data base for the geographical and altitudinal distribution along with habitat information for the flora.

As a result of this study, the known flora was increased by 86 species. A number of taxa, Asplenium viride, Pellaea breweri, Lycopodium annotinum, and Spiraea betulifolia, were found in the southern part of the state for the first time and the colorful little orchid, Calypso bulbosa, was first collected in the range, although it is frequent and had been found in the Laramie Range and Sierra Madre years before.

Descriptions are provided in the flora for 80 families and 320 genera along with keys and notes on abundance and habitat preference for 867 species. If a species is represented by more than one infraspecific taxon, the varieties and/or subspecies are briefly characterized in the species notes. Synonyms are listed and common name or names are included for most of the species. An attempt has been made to minimize the use of technical terminology to make this treatment more understandable to the nonprofessional. A glossary is provided. Copies of the flora are available for $13 from B.E. Nelson, Rocky Mountain Herbarium, 3165 University Station, Laramie, WY 82071. BEN

What's Happening in the Black Hills (?): The Wyoming portion of the Black Hills was collected intensively the last two summers (1983 and 1984) by the staff of the Rocky Mountain Herbarium. The study area was defined as lying within and inclucing the Mowry formation, the outermost pine ridge of the Black Hills uplift. It includes parts of Black Hills National Forest and Thunder Basin National Grassland, but the major portion is privately owned (curious pigs, cows, sheep, horses and cowboys occasionally interrupted the routine of collecting). Facilities for pressing and drying were provided by the National Park Service at Devils Tower and the U.S. Forest Service in Custer, SD. Although a good many specimens await identification, the expected trends are already showing: some rare species are not-so-rare, state records with South Dakota affinities have appeared, and the known flora of Crook and Weston Counties has grown tremendously.

The Hogback Plateau, an area of sandstone pine ridges and intervening grasslands, yielded a number of collections of taxa previously represented by only a few specimens in the RM, including Asclepias stenophylla, Leersia oryzoides, Panicum wilcoxianum, Stipa spartea, and Solanum triflorum. Lactuca canadensis, Geum canadense, Potentilla recta, and Calystegia sepium turned up in oak-boxelder thickets (favored cud-chewing spots), and reservoir mud yielded Boisduvalia glabella and Bacopa rotundifolia (a state record to Ernie Nelson's credit). Ammania coccinea was first collected in Wyoming (barely) on the Mowry pine ridge near Dewey, SD, and the Devils Tower Trading Post made its contribution to science with Apera (Agrostis) interrupta, a weed in the family garden.

Interesting collections from higher elevations include yet another Wyoming record from Dugout Gulch, Carex eburnea, found on a sandy south-facing slope with pines. Ron Hartman turned up one more Carex (intumescens) at the north end of the Bear Lodge Mountains. Elymus innovatus, Melica subulata, and Lemna trisulca were collected a number of times, and the infamous Outhouse Selaginella (S. rupestris) was found growing southeast of Elk Mountain (second collection for the state). Aquilegia brevistyla was discovered along Stockade Beaver Creek near the state line, and in a final, valiant, mid-September effort, Ernie Nelson stumbled upon Lycopodium obscurum as he fell off a road bank near Cook Lake in the Bear Lodge Mountains. HJM

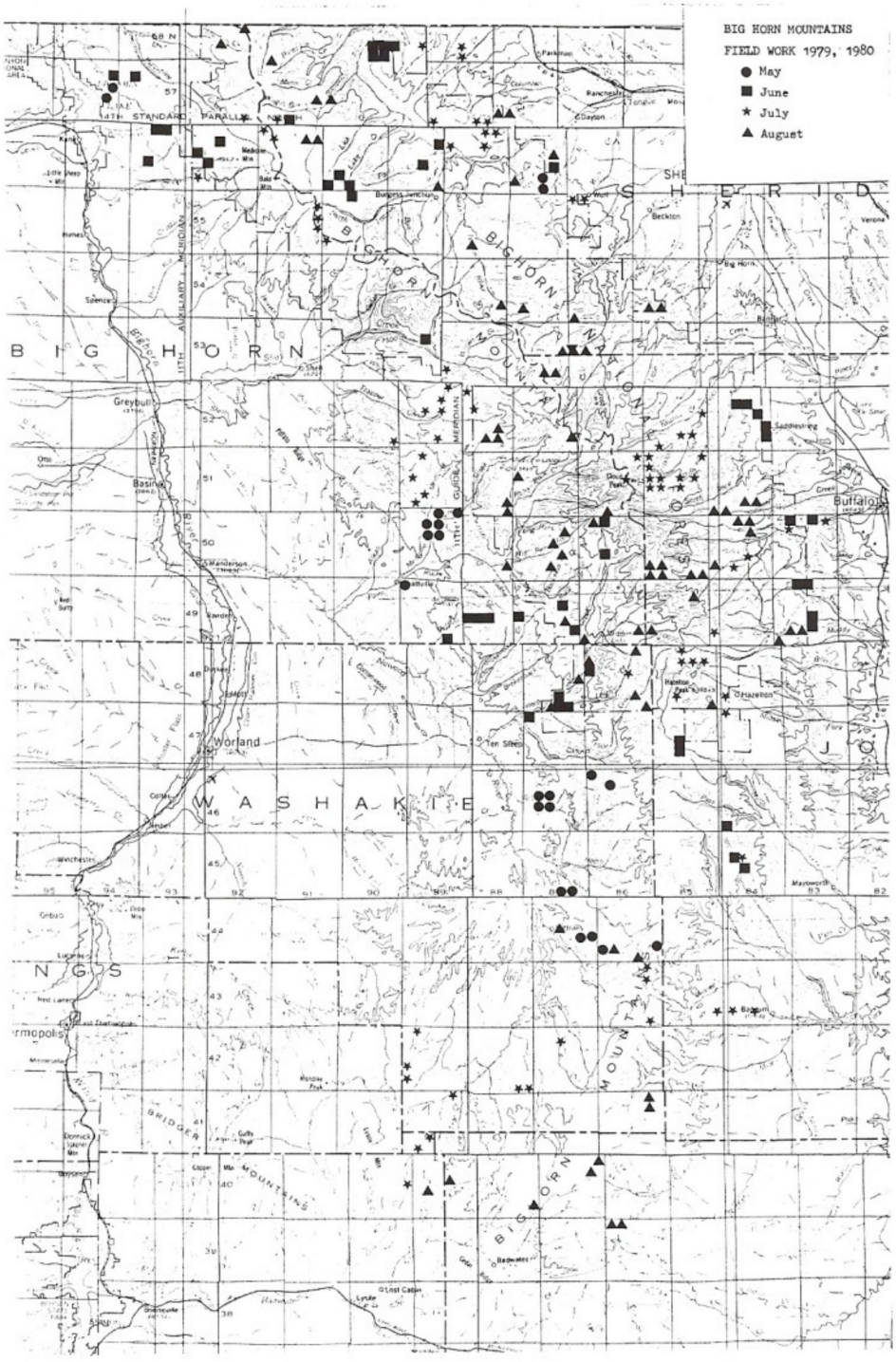
Checklist of the Flora of the Bighorn Mountains: The Bighorn Mountains, located midway across the northern third of Wyoming, is a crescent-shaped range with a maximum elevation of 13,175 feet. To the northwest it is isolated from the Pryor Mountains (Montana) by the Bighorn River Canyon, while to the southwest, it is separated by a depression from the Bridger Mountains. Knowledge of the flora of the range has accumulated over the years through the efforts of numerous collectors, one of the first of whom was Frank Tweedy who visited briefly the Little Goose Creek drainage in 1893. Despite past efforts, the vast areas of the range have remained unexplored botanically.

During the summers of 1979 and 1980, intensive fieldwork was pursued throughout the Bighorns by B.E. Nelson, R.L. Hartman, Keith H. Dueholm, Gael Fonken, and Ann Odasz. In excess of 8,000 collections were obtained which, along with earlier ones housed in the Rocky Mountain Herbarium and the U.S. Forest Service Herbarium, provide a fairly detailed data base concerning geographical and altitudinal distribution of the flora.

Four species, Aquilegia jonesii, Erigeron allocotus, Penstemon caryi, and Sullivantia hapemanii, previously considered to be rare or endangered were found often to be fairly common although restricted to specific habitats. One umbel which was found throughout the southern half of the range is undescribed. It is being named in honor of Dr. Louis O. Williams, a distinguished student of tropical American floras, who contributed substantially to our knowledge of the flora of northwestern Wyoming early in his botanical career. The article will appear in the first issue of Brittonia for 1985. In addition to this novelty, Aster mollis, Erigeron allocotus, Pedicularis contorta var. ctenophora, and Penstemon caryi appear to be endemic to the Bighorns and peripheral areas. Other species of interest include Astragalus jejunus, Erigeron humilis, Mertensia arizonica var. leonardii, Musineon vaginatum, Papaver kluanense, Townsendia spathulata, and T. nuttallii.

Interesting distributional patterns include: 49 species found in the mountains of NW and SE Wyoming are not in the Bighorns; 40 species in NW Wyoming and the Bighorns are not in the mountains of SE Wyoming; and 17 species in the Bighorns are not known to occur elsewhere in the state.

The checklist includes 1022 species or 1119 taxa, with subspecies, varieties, and forms, an increase of 46 percent in the number of species previously documented. Additional selective collecting is warranted, especially in the Cloud Peak Wilderness Area. This was demonstrated by Erwin Evert, who obtained 18 taxa, mostly sedges and rushes, new to the range during a brief visit in 1982. The checklist is available for $1.00 (to cover costs of reproduction and mailing) from B.E. Nelson, Rocky Mountain Herbarium, 3165 University Station, Laramie, WY 82071. Included in this newsletter is a map showing recent collecting localities. This should be useful to individuals who wish to pursue further fieldwork in the Bighorns. BEN, RLH



Botanical Novelties: Aven Nelson was born in southeastern Iowa in 1859. He attended Normal School in Kirksville, Missouri, and graduated in 1883. When the University of Wyoming was organized, he was hired as one of the six faculty, supposedly to the chair of English. He arrived in Laramie in July of 1887 when the first building was only two-thirds completed. When it was discovered that two English professors had been hired, President Hoyt asked Nelson what he would like to teach if he could not be Professor of English. Nelson indicated an interest in natural history and he had listened to six lectures on plant life while at the Normal School. So he was appointed Professor of Biology. Nelson published his first scientific paper in 1891 on the 15 non-grass species of plants growing wild at the University farm (U. Wyo. Agr. Exp. Sta. Bull. No. 1). He took a year's leave of absence from the

University to attend Harvard where he obtained an M. A. degree in 1892, specializing in morphology and physiology of plants and animals. While at Harvard, Burt C. Buffum, the University Horticulturist, collected about 300 specimens of Wyoming plants, mostly forage plants, to exhibit at the Chicago World's Fair of 1893. Later that year the University President suggested that Nelson was responsible for taking care of these neglected specimens. Thus began the Rocky Mountain Herbarium and Nelson's start in systematic botany. The name of the herbarium was officially designated by the Board of Trustees in 1899. From the founding and for many years thereafter no financial support was forthcoming from the University for the herbarium or for field work. The supplies and field expenses were provided by exchanging or selling duplicate specimens to other institutions or individuals throughout the world. The day to day work with the herbarium was on Nelson's personal time before and after regular University hours. During these early years Nelson tried many times to obtain an appointment elsewhere where advancement in botany would have more support. Research was not expected nor encouraged in the early University of Wyoming . A full-time teaching load was. In 1902 Nelson published An Analytical Key to Some of the Common Flowering Plants of the Rocky Mountain Region. In 1904 he received a Doctor of Science degree from the University of Denver. His published papers served as the dissertation. Nelson was asked by John Coulter to revise Coulter's 1885 Manual of the Botany of the Rocky Mountain Region. This revision was really a new work. Nelson was forced to rethink the matter of what constitutes a species for practical purposes. The outcome was reduction to synonymy of 1788 species names including many of his own. The New Manual of Botany of the Central Rocky Mountains appeared in 1909 and was well received by most botanists, who were now becoming concerned with the excessive splitting of species that was taking place. In an attempt to gain more popular support for botany, Nelson published a Spring Flora of the Intermountain States in 1912. Nelson was appointed President of the University of Wyoming in 1917 and served until 1922 when he asked to be returned to the headship of the Botany Department. He stepped down as Botany Department head in 1931 at the age of 71 but still retained the position of Curator of the Herbarium until 1942 when he retired at the age of 83. The Curator position was taken over by C. L. Porter. In 1935 Nelson was elected President of the Botanical Society of America. He was the first interior westerner to hold that position. He initiated the formation of the American Society of Plant Taxonomists and was its first President in 1936. He published his last scientific paper in 1945 and died in 1952 at age 93. Once when M. L. Fernald suggested that Nelson needed to go back East to study specimens before describing new species and offered an invitation to come to the Gray Herbarium, Nelson replied, "I wish it were possible for me to accept it at once and to spend much time within the walls of the Gray Herbarium . . . . One cannot always do as he would, but must do as he can."

References: Nelson, R. A. 1944. Dr. Aven Nelson. Univ. Wyo. Publ. XI:2-8.
Williams, R. L. 1984. Aven Nelson of Wyoming. Colorado Associated Univ. Press. 407pp.

The latter reference is highly recommeded. It not only provides a biography of Aven Nelson, but is a brief history of systematic botany from about 1895 to 1945 and a history of the University of Wyoming and the politics of the State of Wyoming at that time.

This concludes the series on early plant collectors in Wyoming. The two major sources of material for this series were:

Ewan, J. 1950. Rocky Mountain naturalists. Univ. Denver Press.
McKelvey, S. D. 1955. Botanical exploration of the trans-Mississippi West 1790-1850. The Arnold Arboretum, Jamaica Plain, Mass.

We are now open to suggestions for another series under Botanical Novelties. Send your suggestions or desires to the Society. RDD

Quote to Note: "What is a weed? A plant whose virtues have not yet been discovered."
Ralph Waldo Emerson in Fortune of the Republic

HELP! Does anyone have access to a word processor that can be used to produce the WNPS' mailing list? Our dinosaur here at the Heritage Program office won't xerox the labels. Please let me know if you can help. EC

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