

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

WYOMING NATIVE PLANT SOCIETY

1603 Capitol Ave. #325
Cheyenne, WY 82001
307-634-9629

WYOMING NATIVE PLANT SOCIETY NEWSLETTER, Vol. 3 #3 May 1984

DUES RENEWAL TIME: The 1984-85 WNPS dues are due when you submit your ballot for new officers. The cost is $3.00 annually. The dues can also be paid at the annual meeting before the votes are counted. RWL

Treasurer's Report: The balance as of the last newsletter was $360.00. Deposits=$17.00; cost of newsletter 3(2)=$31.24 and $3.00 to State of Wyoming for non-profit corporation tax; new balance=$352.76. New menbers include New York Botanical Garden and Ramona Osburn from Jacksonville, Oregon. VW

Prelimimary Classification of Wyoming Plant Communities: The "Preliminary Classification of Wyoming Plant Communities" has been published by the Wyoming Natural Heritage Program/ The Nature Conservancy. The classification is based primarily on published literature and original field work. It is a preliminary document because most of the communities have not been field checked. As further field work is completed, new communities will undoubtedly have to be added and others deleted. The bibliography that provides the basis for this document is: Collins, E.I. 1984. A bibliography of Wyoming plant communities. Prairie Naturalist 16 (1): 25-38. Copies of both can be obtained from the WNHP, 1603 Capitol Ave. #325, Cheyenne, WY 82001 for $2.25 (duplication and postage costs). Make checks payable to WY Natural Heritage Program. EC

1983 Field Work: Ellen Collins and Bob Lichvar, under the auspices of Dennis Knight at the University of Wyoming Botany Dept., did an initial inventory and checklist of the vascular flora of Big Horn Canyon National Recreation Area (BCNRA). This area is located at the northern terminus of the Big Horn Mts. on the Wyoming-Montana state border. Approximately 1,750 collections in triplicate were made from throughout the area. Specimens were identified in our Cheyenne office and then some collections were checked at the Rocky Mountain Herbarium. Later, specimens were checked and annotated by E. Nelson and R. Hartman for proper identification.

A total of 73 families of vascular plants are found, with 320 genera and 656 taxa of specific or subspecific rank. It is our intent to submit this checklist for publication so it will be available at a later date. There is, however, a report that has been submitted to the BCNRA that could be xeroxed and used until the checklist is published. Please contact R. Lichvar if you're interested.

Just to mention in passing - a few names of some interesting taxa from the area: Penstemon caryi, Sullivantia hapemanii, Musineon vaginatum, Townsendia spathulata, Ligusticum porteri, Logfia arvensis, Eritrichium howardii, Rorippa calycina, Polystichum lonchitis, Erigeron allocotus, Cryptantha cana, Triodanis leptocarpa, Lilium philadelphicum, Juglans cinerea, Celtis occidentalis, and Smilax herbacea. RWL

Notes on Some Plants Occurring in the Beartooths II. This time we shall discuss the remaining rare or otherwise interesting mostly non-arctic-alpine species that occur on or near the Beartooth Plateau. It should be a real challenge to locate all of these species this summer on our annual field trip.

Three of Wyoming's rarest grasses, Poa lettermannii, Agrostis borealis, and Helictotrichon hookeri have been collected on the Beartooth Plateau and in very few other places in the state. Poa lettermanii, one of the smallest bluegrasses, is seldom collected in Wyoming or for that matter, in any other part of its range. This species is found in alpine areas in the western cordillera from British Columbia south to California, Nevada, Utah, and Colorado. Poa lettermanii was first collected from the plateau by P. Johnson in 1960. This western American endemic is known in Wyoming also from the Wind River Range and from a recent collection in the Big Horns. Agrostis borealis, a widespread arctic-alpine species, is scarce in Wyoming and is known from only three or four collections: a 1955 A. Cronquist collection from the MT side of the plateau, one from Pat O'Hara Peak in the Absarokas, a recent one from the Big Horns, and a report by A. Beetle (1971) of its occurrence in the Medicine Bow Range. Distinguishing characters of this seldom collected species are the open panicle, obsolete palea, panicles forking below the middle, and awned lemma. Helictotrichon hookeri was first collected from the plateau by P. Johnson in 1960. This native perennial oat grass is known from the Dead Indian Hill area just south of the plateau and it occurs rather abundantly above 10,000 feet on the open rolling expanses of Carter Mt. south of Cody. Strictly speaking, this is not an alpine species but rather a species of the plains, and ranges from Alaska south and east to Minnesota and New Mexico. Finding these three grasses on the plateau this summer should be a real challenge.

Two interesting composites, one odiferous and conspicuous and the other just the

opposite, are found on the plateau. These two are Hulsea algida and Erigeron humilis. Hulsea algida is a plant of usually high elevation rock slides and talus. It is intensely glandular and once collected its overpowering if not sickening odor is not easily forgotten. This showy western cordilleran species ranges from California north and east across Washington and Oregon south to southwestern Montana and northwestern Wyoming. The Absarokas are the southern terminus of its somewhat peculiar range. H. algida was apparently first collected from the plateau by R. Scott in 1965. Much earlier collections from around the turn of the century exist from Yellowstone Park and the Absarokas. Erigeron humilis was first collected by J. Beaman and K. Stone in 1957 from Beartooth Butte presumably while searching for Townsendia species. This specimen, Beaman & Stone 1584 deposited at NY, was initially misidentified as E. melanocephalus, a southern, Rocky Mountain alpine endemic, but was later (1958) correctly identified as E. humilis by A. Cronquist. It appears that in addition to the Big Horn collections of L. Lofgren and my several collections from the Absarokas during the last few years, thought to be the only other occurrences in the state, this tiny arctic-alpine Erigeron is, not surprisingly, found also in the Beartooths. Hopefully, we will be able to relocate this species this summer among the limestone crags of Beartooth Butte.

Three members of the Cyperaceae that plateau visitors should be aware of are the two Kobresias, K. bellardi and K. macrocarpa, and the seldom collected Carex nelsonii. These three species were first collected from the plateau by P. Johnson in 1960. Both Kobresia species have wide ranging arctic-alpine distributions while Carex nelsonii is apparently a middle and southern Rocky Mountain alpine endemic ranging from northwestern Wyoming south to Utah and Colorado. Carex nelsonii has been collected in the state only from the plateau and from the Medicine Bow Range. K. bellardii occurs in addition to the plateau in the Absarokas, where it is most abundant in the state, in the Wind Rivers, and in the Big Horns where last summer I found it very sparingly in the Lost Twin Lakes area. K. macrocarpa is found in the state only in the Beartooths and in the Absarokas. Both Kobresia species are much more abundant in Colorado particularily K. bellardii, a dominant species which forms a series of distinctive and extensive alpine turf community types there. All three of these interesting members of the Cyperaceae can be seen growing together right along the Beartooth Highway and should be readily observable this summer provided the flocks of Ovis aries don't get ther first. Johnson and Billings in 1962 speculated that the reason for the low abundance of K. bellardii on the plateau was due to the presence of a smut which infected about 15% of the plants seen in 1960. My experience with Kobresia in Wyoming indicates that where domesticated sheep are grazed (Beartooth, Big Horns, Carter Mtn.), Kobresia is scarce or nonexistent. The low abundance of K. bellardii on the plateau is probably due rather to sheep than to smut.

Saxifraga chrysantha, collected for the first time on the plateau by P. Johnson in 1960 and collected from the Medicine Bow over fifty years ago by E. and L. Payson, is certainly one of Wyoming's rarest plants. This seldom collected species is rather commonly encountered in the Colorado alpine, where I have seen it in some abundance near the summit of Mt. Elbert, and ranges from southwestern Montana south to New Mexico. The possibility exists that this entity is conspecific with the curcumpolar arctic-alpine S. serpyllifolia. This diminutive saxifrage should be searched for in open, rocky alpine areas throughout Wyoming.

Draba pectinipila and D. nivalis var. brevicauda are two species found in the state only on the alpine slopes and rock crevices of Clay and Beartooth Buttes. Both were described by R. Rollins from material collected in 1951 from these locations. D. pectinipila a Rocky Mountain alpine endemic, is also found in Colorado and British Columbia while var. brevicauda of the wide ranging arctic-alpine D. nivalis is apparently endemic to Clay and Beartooth Buttes in northwestern Wyoming. The Beartooth Plateau harbors 12 of the 15 alpine Drabas currently listed from the state, only D. crassa, D. fladnizensis, and D. ventosa not having been collected. As Rollins remarked over 30 years ago, the Beartooth Plateau, particularily Clay Butte, is indeed "a real mecca for anyone interested in the genus Draba."

Finally, we should be aware of three interesting southwestern Montana and/or northwestern Wyoming endemics that occur on or near the plateau. These three are Castilleja nivea, Antennaria aromatica, and Shoshonea pulvinata. C. nivea was first collected by F.W. Pennell from the Montana end of the plateau "during driving squalls of snow" in 1938; this is the type locality the "bleak northern exposure" on the south side of Rock Creek at 9,000-9,700 feet. The first Wyoming collection from the plateau was by M. Ownbey in 1948. Pennell & Ownbey described this unusual Castilleja in 1950. The first Wyoming collection was that of P. Koch from Hoodoo Peak in Yellowstone Park in 1897. This species is characteristically found in loose, often unstable soil usually near or above timberline but is found as low as 6,000 feet on limestone on the north side of Sheep Mt. west of Cody. This unique yellowflowered Castilleja with its snowy-tomentose inflorescence and shaggy-villous galea has been found as far south as the Kerwin area in the Absarokas. Antennaria aromatica, which I have recently described, is also a southwestern Montana - northwestern Wyoming endemic. The type locality of this species is also from Carbon Co., Montana along the highway near the head of Quad Creek at 9,500 feet. This uniquely aromatic Antennaria is usually found on limestone, the type locality being an exception. A. aromatica was apparently first collected from the Montana end of the plateau in 1955 by A. Cronquist with a mixture of A. alpina and A. umbrinella. G.L. Stebbins and R. Bayer being aware of this collection revisited this locality in 1980, specifically looking for this Antennaria and found it. In the same year, unaware of any

previous collections, I collected the same undescribed Antennaria from Sheep Mt. west of Cody and later in the year (August), collected it in the same area along Quad Creek where Stebbins and Bayer had been a month before! This summer, we shall visit the type locality of this most recently described Antennaria.

The recently described Shoshonea pulvinata, I discovered growing on Rattlesnake Mt. west of Cody in 1979. This unique unbellifer is known from several localities in Park Co. - all on limestone - and has recently been found by R. Lichvar on limestone formations in Fremont Co. It has not yet been found in Montana or north of the Clarks Fork River in Wyoming. The possibility exists that S. pulvinata might occur on the limestone outcroppings along the lower reaches of the Beartooth fault block north of the Clarks Fork River and on north into Montana. We shall try to visit this summer the type locality of S. pulvinata on Rattlesnake Mt. and observe it along with the other interesting calciphiles that it associates with in this impressive rock garden. EFE

REFERENCES

Beetle, A. 1971. Grasses of Wyoming. Research Journ. 39 Agri. Expt. Stat. University of Wyoming, Laramie.

Clark, T. W. and R. D. Dorn, Eds. 1981. Rare and Endangered Vascular Plants and Vertebrates of Wyoming. Jackson, Wyoming.

Evert, E. F. 1982. Noteworthy Collections—Wyoming. Madrono 29(2): 124-125.

Evert, E. F. 1984. A New Species of Antennaria (Asteraceae) from Wyoming and Montana. Madrono 31(2): 109-112.

Evert, E.F. and L. Constance 1982. Shoshonea pulvinata, A New Genus and Species of Umbelliferae from Wyoming. Syst. Bot. 7(4): 471-475.

Hermann, F. J. 1956. Range Extensions in Northwestern Plants. Rhodora 58: 278-281.

Johnson, P. L. 1962. The Occurrence of New Arctic-Alpine Species in the Beartooth Mountains, Wyoming-Montana. Madrono 16: 229-233.

Johnson, P. L. and W. D. Billings. 1962. The Alpine Vegetation of the Beartooth Plateau in Relation to Cryopedogenic Processess and Patterns. Ecol. Monog. 32(2): 105-135.

Lichvar, R. W. 1983. Evaluation of Draba oligosperma, D. pectinipila, and D. juniperina Complex (Cruciferae). Great Basin Nat. 43(3): 441-444.

Lichvar, R. W. et. al. 1983. New Records for the Vascular Flora of Wyoming and Montana. Great Basin Nat. 43(4): 739-740.

Pennell, F. W. and M. Ownbey 1950. Castilleja nivea, Snowy Paint-Brush (Scrophulariaceae), a New Species from the Northern Rocky Mountains. Not. Nat. Acad. Nat. Sci. Phil. 227: 2-3.

Rollins, R. C. 1953. Draba on Clay Butte Wyoming. Rhodora 55: 229-235.

Scott, R. W. 1966. The Alpine Flora of Northwestern Wyoming. Unpublished Master's Thesis. University of Wyoming, Laramie.

Botanical Novelties: Marcus E. Jones was one of the more outspoken botanists of the period from 1880 to about 1930. He was born in Ohio in 1852 and came West in 1878 where he collected in Colorado in that year. He probably collected in Wyoming along the railroad in 1879 on his way to Salt Lake City. He did extensive collecting in the Great Basin from 1880 to 1923 where he discovered many new species. His main contribution was a Revision of the North American Species of Astragalus, 1923. He published his own journal, Contributions to Western Botany, where he frequently wrote scathing remarks about other botanists of that time. He died at the age of 82 when

his old Ford collided with another in San Bernardino while returning from a collecting trip in 1934. He maintained that "All botanists are fools; it is only a degree of difference between them."

Frank Tweedy was a topographic engineer with the U. S. Geological Survey and was singly responsible for the last major Survey contribution to Wyoming botany. He collected plants as a sideline while doing survey work. His collections were from the Yellowstone Park area in 1884-85, the Teton Forest in 1897, the Buffalo-Sheridan area in 1899, and the Encampment area in the early 1900's. He wrote the first Flora of Yellowstone National Park in 1886. A number of his discoveries were named after him: Erigeron tweedyi, Gilia tweedyi, Salix tweedyi, Plantago tweedyi, Juncus tweedyi, and others. RDD

ANNUAL MEETING AND FIELD EXCURSIONS-BEARTOOTH AND ABSAROKA MOUNTAINS, AUG. 10-12 (13) 1984

The annual WNPS meeting and camping place will be on the Beartooth Plateau, Park Co., Wyoming (T57N R105W S11 NE¼) elev. 9,660 ft. in the Shoshone National Forest along a small road (not shown on maps but marked with a USFS white arrow at junction with 212) about 0.3 mi. ne of Hwy 212; this road is 1.5 mi. e of Island Lake Campground and 0.2 mi. w of Long Lake outlet (Canyon Creek bridge). This is an undeveloped high altitude camping spot and visitors are urged to dress appropriately and bring supplies for 2 days primitive camping and marching!

SCHEDULE:

Aug. 10 (Friday	5PM-12AM Participants will assemble and setup camp
Aug. 11 (Saturday)	7AM Business Meeting 8AM Visit Sawtooth Fen-palsa 12PM Visit type localities of Antennaria aromatica and Castilleja nivea 2PM Visit Wymont Peak-Head of Wyoming Creek area and observe Juncus, Carex, Kobresia, Phippsia, Koenigia, Eriophorum, etc. 7PM Return to camp
Aug. 12 (Sunday)	8AM Visit Clay Butte and Beartooth Butte to observe Draba, Parrya, Erigeron humilis, etc. 1PM Leave Beartooth Plateau and head for Rattlesnake Mt. to observe Shoshonea pulvinata, Kelseya uniflora, Aquilegia jonesii, Eritrichium howardii, etc.
Aug. 13 (Monday) OPTIONAL	Visit Buttress Mt. 40 mi. w of Cody on an all day (8mi.) hike to see some of WY's rarest plants including Carex incurviformis, Ranunculus verecundus, Antennaria flagellaris, and Erigeron humilis. EFE



1984-1985 BALLOT FOR WNPS

PRESIDENT
Ann Aldrich_____
Dave Martin_____

VICE PRESIDENT
Ernie Nelson_____
Tom Wolf_____

SECRETARY/TREASURER
Rober Lichvar_____
Ellen Collins_____

BOARD MEMBERS (Pick Two)
Don Despain_____
Phil White_____
Mark Stromberg_____