

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

WYOMING NATIVE PLANT SOCIETY
Box 1471
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Minutes from Annual Meeting - The meeting was called to order by President Ann Aldrich on August 4, 1985, at Bridge Bay Campground in Yellowstone National Park. Members present included Ann Aldrich, Tom Wolf, Ellen Collins, Bob Lichvar, Bob Dorn, Erwin Evert, Ron Hartman, Ernie Nelson, Rob & Ruth Kirkpatrick, Michele Potkin, George Jones, Phil White, and Bern Hinckley. New officers were elected: Don Despain, President; Erwin Evert, Vice-President; Bob Dorn, Secretary-Treasurer; Ann Aldrich, Board Member (the carryover Board Member is Phil White).

Treasurer's report: old balance as of 7/25/84 was $314.06; deposits $174.55; expenses (typing, postage, duplicating, incorporation fee) $94.52; new balance $394.09.

Bob Dorn suggested that a scholarship be provided to a student working on the Wyoming native flora in the amount of $100 for gas or other expenses to be offered every year or every other year. A committee would be needed to evaluate applications. Dorn suggested no university faculty should be on the committee. Guidelines would be needed for evaluating applications. Applicants can be in taxonomy, ecology, physiology, mycology, range, or any other areas dealing with the native flora. Erwin Evert suggested that the community colleges be included. The application should be one or two pages explaining the project, objectives, etc. The evaluation committee was agreed to be the officers and board members. A motion was made to establish the scholarship and seconded. It passed without dissent. Notice will be put in the newsletter and sent to colleges.

Louis Williams sent in $30 for a lifetime membership. Since the society does not officially have a lifetime membership category, a discussion ensued on whether or not one was needed or desirable. An honorary membership category was also discussed. It was moved and seconded that no official lifetime membership category be established but that the Board decide whether or not to accept any applicants for lifetime membership. The motion passed and Louis Williams' application was accepted.

The 1986 annual meeting was scheduled for the Flaming Gorge area south of Rock Springs probably in late June.

It was agreed to have the Colorado Native Plant Society people produce our mailing list if desirable. Editor for the newsletter was discussed. Responsibilities are now loosely attached to the Secretary-Treasurer position. A suggestion was made to publish a membership list with addresses.

George Jones suggested that a winter meeting be held for persons doing research in Wyoming to be co-sponsored by the society and the University of Wyoming Botany Department. George will follow up on this. EC & RD

1985 Annual Meeting - The 1985 annual meeting was well attended. Don Despain acted as guide for the first day's field trip which emphasized the geological control of vegetation patterns in Yellowstone National Park. A few other topics surfaced as can be seen from the article by Phil White elsewhere in the newsletter. At one site an aquatic plant was found which still has us stumped as to its identity. It appears to be an Eleocharis. It was growing submerged in a warm water stream (about 80° F water). Could it be a tropical species?

The second day we visited Lewis Lake, Black Sand Geyser Basin, the Punch Bowl, and Yellowstone Lake at Pelican Creek. The rare Trautvetteria caroliniensis (False Bugbane) was seen at Lewis Lake. This species had been reported here in 1885 by Frank Tweedy. Erwin Evert rediscovered it in 1984 and led us to the spot. At Black Sand Geyser Basin we observed Drosera anglica (Sundew), the insect catching plant. Agrostis rossiae (Ross Bentgrass), the Yellowstone endemic, was seen at the Punch Bowl. Most of the participants departed at this point and by the time the Yellowstone Lake location was reached, only 3 were left. Here we found Abronia ammophila (Yellowstone Sand Verbena) and Tillaea aquatica (Pigmy Weed), which had been discovered at this location by Frank Tweedy in 1885 and C. C. Parry in 1873, respectively.

The third day was the hike into Shoshone Lake and the adjacent geyser basin. Phil White joined the three survivors. The hike turned out to be a bit over 8 miles one way instead of the 6 we had initially estimated. Although not as exciting as we were hoping, we did not come away disappointed, as Phil White has reported elsewhere in the newsletter.

Special thanks should go to Don Despain for making arrangements for our camping and guiding us on the first day's field trip. RD

Help - In going through the society files, I found we were missing Volume 2, Number 2 (1982) of the newsletter. If anyone has a copy of this issue, let me know so I can arrange to get it copied to place in the files. RD

Scholarship - As noted in the annual meeting minutes, a scholarship has been set up for students working on the native flora of Wyoming. No more than one scholarship will be awarded annually. The amount is $100. Interested students should forward a one or two page application to the society. The application should include student's name and address, school, year toward what degree, major professor or advisor, title of project, objectives of project, brief outline of methods, what the money is expected to be used for (i. e., gas, supplies, etc.), and any other information the student thinks will help the application (limit to two total pages). Deadline for applications is February 15. RD

Newsletter Contributions - If you have contributions for the newsletter, remember to type them single spaced with ½ inch margins on both sides. Use the newsletter format for titles and signatures. These can be sent in at any time. RD

Treasurer's Report - Balance as of August 4, 1985: $394.09; deposits $41.00; bounced dues check -$3.00; new balance as of October 15, 1985: $432.09. Paid memberships 27. RD

Membership List and Dues - There was a request to include a membership list with addresses in the newsletter. This list is planned for the next issue. If you have not paid your dues for this year, there is a black dot next to your name on the address label. Those not paid up will not receive another newsletter until dues are paid. Dues are $7.00 for the first year, $3.00 each year thereafter; students and those over age 65 half the preceeding rate. RD

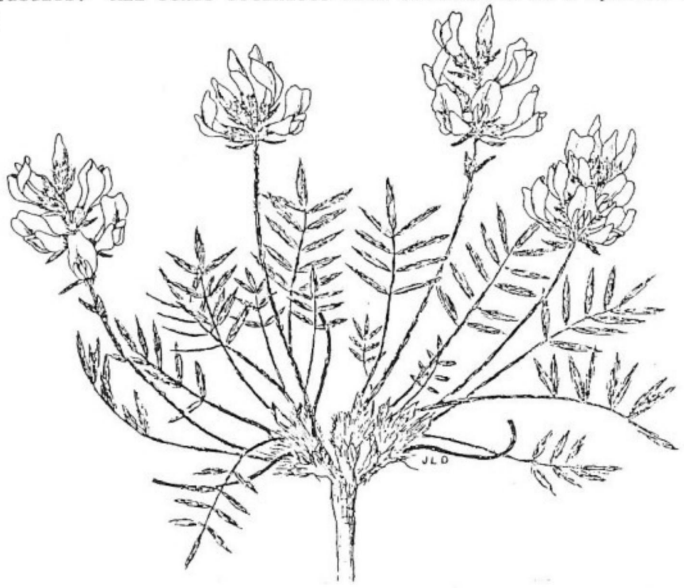
Botanical Novelties - The following two Wyoming endemics were collected by Thomas Nuttall on his trip across Wyoming in 1834. The second is our newsletter and letterhead banner.

Astragalus simplicifolius (Nutt.) Gray — Simple-leaved Milkvetch

This attractive mat-forming milkvetch produces cushions covered with bright pink-purple to lavender or whitish, pea-type flowers. It is known only from Natrona, Carbon, Fremont, and Campbell counties where it grows on exposed rocky ridges and slopes and flowers in the spring. The leaves are all basal and are reduced to linear phyllodia, which is quite rare among Wyoming's normally compound-leaved legumes. The plants are seldom over an inch or two high and the mats are from 3 or 4 inches in diameter to several feet in diameter. It was first collected by Thomas Nuttall in 1834 on "Summits of high hills of the Rocky Mountain range, towards the Sources of the Platte" probably in western Natrona County. It was described by him in Torrey and Gray's Flora of North America in 1838 in the genus Phaca, which is no longer recognized. Gray transferred it to Astragalus in 1864. This plant is an excellent example of the matted growth form which is adaptive to the rigorous wind-swept conditions in the high deserts of Wyoming. The genus Astragalus is the second largest genus in Wyoming with about 55 species, 3 of which are endemics. Carex is the largest with about 100 species, none of which are endemic.

Oxytropis nana Nutt. — Little Locoweed

This is another spring-flowering legume with a tight raceme of pink-purple flowers. The plants normally are about 8 inches high and grow on rocky slopes and ridges. The above Astragalus and this species sometimes grow together. Little Locoweed was first collected by Thomas Nuttall in 1834 on the "Plains of the Platte in the Rocky Mountain range" probably in either Converse or Natrona county. It was described by him in Torrey and Gray's Flora of North America in 1838. It is now known from Converse, Natrona, Carbon, and Fremont counties. Duane Isely recently placed six other taxa under it as varieties. All other botanists have considered it a species without varieties. RD



Oxytropis nana Nutt.

-Star-Tribune, Casper, Wyo. Saturday, Aug. 10, 1985

Survey shows Yellowstone beetle threat drops sharply

By PHILIP WHITE
Star-Tribune staff writer

YELLOWSTONE NATIONAL PARK — Mountain pine bark beetle activity that only four years ago threatened trees in nearly half of Yellowstone Park has now declined dramatically, according to a U.S. Forest Service survey.

And a park biologist believes that it may be recent unusually wet summers that contributed to the decline in beetle activity.

The number of acres of forest infested by the beetles has dropped by nearly 90 percent since 1981, according to biologist Don Despain.

Despain told botanists attending the recent Wyoming Native Plant Society meeting in Yellowstone that beetle-killed trees were evident in nearly half of the 2.2-million-acre park in 1981.

A U.S. Forest Service survey last summer found telltale red-needled trees in less than 5 percent of the park, Despain said.

A lodgepole pine typically shows red needles the summer after being infected by the tiny dark grey beetles known to scientists as *Dendroctonus ponderosae*. Despain said the beetles have probably played a part in Yellowstone's ecosystem for thousands of years.

The biggest jump in the current beetle infestation occurred after a very dry summer in 1978, Despain said. But abundant precipitation

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Beetles

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during the summers of 1982 and 1983 may be connected to a decline from 958,000 acres affected in 1982 to only 106,000 acres last year, he said.

"My hypothesis is that with sufficient rain the trees are healthier and can better produce defensive chemicals," Despain said. "Food produced by the trees goes first to support growth and reproduction. If the tree still has reserves after these needs are satisfied it is better able to defend against the insects."

Despain said a tree's best defense is simply the copious excretion of sap while an adult beetle is attempting to bore into a tree. "I suspect trees produce some toxic chemicals also, but this has not been studied sufficiently," he said.

Younger trees are generally better able to resist attacks than are large, old trees, research indicates.

Despain said the adult beetles emerge in August, fly to a nearby tree and mate. The female, less than one-quarter inch long, then attempts to bore through the bark. If the tree's sap does not prevent the intrusion, the beetle will deposit eggs in a vertical gallery.

The feeding of the larvae, combined with growth of the blue stain fungus which is brought into the tree by the beetle, can cause the death of the tree. The beetle larvae munch their galleries horizontally through the critical outer wood layer just beneath the bark of the tree. The outer wood layer contains vessels through which nutrients and moisture are carried.

If enough of the tree's vessels are blocked or severed, the tree dies.

The larvae enter the pupation stage in June and July before emerging for their short adult life.

Despain said a beetle infestation in Grand Teton National Park during the 1950s and 1960s entered southern Yellowstone before dying down. Then in the late 1970s a reinfestation began in southern and western Yellowstone.

From 171,000 acres affected in 1978, the number jumped to 431,000 in 1979 and to 821,000 in 1980. Only 2.83 inches of rain were recorded in Yellowstone during the summer of 1978 and only 4.41 inches the next year.

The infestation reached a peak of 965,000 acres in 1981.

"It got as far as the middle of the park and collapsed," Despain said. "Some of the collapse could be due to their having killed off many of the bigger, susceptible trees in the west. But they still had the whole eastern half of the park to move into."

Despain said there is no obvious reason why the collapse occurred where it did.

"But in the three years since 1981 none of our fire starts has done anything at all, which indicates an overall wetter climate. This corresponds to a rapid decline in the bark beetle and leads me to believe there may be a connection," he said.

Summer rainfall jumped to 5.77 inches in 1982 and to 6.06 inches in 1983. The figure for 1984 was 6.75 inches and Despain is awaiting results of this year's survey to see if beetle kills have declined further.

"Fortunately we have places like Yellowstone where these beetles are allowed to go through their cycle and can be studied without interference," he said.

Adder's tongue found near Old Faithful

OLD FAITHFUL — A species of adder's tongue, a plant related to the ferns, has been discovered for the first time in Wyoming.

Botanists attending the annual meeting of the Wyoming Native Plant Society in Yellowstone National Park found the plant in a geyser basin near Old Faithful.

The plant was identified as *Ophioglossum vulgatum*, a member of the adder's tongue family. Like ferns, it reproduces itself through spores rather than flowers and seeds.

Society members Erwin Evert, Robert Dorn and Robert Lichvar discovered the plant Monday. Evert said the particular species of adder's tongue has previously been collected in Montana and in a number of other states. It has also been found in Scandinavia, Europe and Russia.

EC = Ellen Collins
RD = Robert Dorn