



*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 October 10, 1987: \$671.16; deposits: dues \$42.00, scholarship donations \$15.00; disbursements: newsletter printing \$14.55, stamps \$22.00; new balance as of February 15, 1988: \$691.61. RD

**Annual Scholarship** - One application was received for the scholarship. The Board will likely be acting on this in the next month.

**1988 Annual Meeting** - The annual meeting is scheduled for July 16 and 17 in the Sierra Madre Mountains between Baggs and Encampment. Details will appear in the next newsletter, probably in May. RD

**Election** - Nominations or volunteers are needed by the next newsletter for President, Vice-President, Secretary-Treasurer, and Board Member.

### Botanical Novelties

#### *Lesquerella fremontii* Rollins & Shaw

#### Fremont Bladderpod

This member of the mustard family was first collected by C. J. Bayer on May 18, 1911, in the Washakie National Forest (east slope of Wind River Mts.). In May of 1936, Roger DeLand collected it near Lander. H. Dwight Ripley and Rupert Barneby then collected it near Atlantic City in 1947. It was described by Reed Rollins and Elizabeth Shaw in 1973. The plants have somewhat sprawling stems to about 6 inches long with yellow flowers about 1/2 inch across. The subglobose to ellipsoid fruits are borne on recurved pedicels. It grows on rocky limestone slopes mostly in the southern Wind River Mountains in Fremont County. It flowers in the spring.

#### *Trifolium barnebyi* (Isely) Dorn & Lichvar

#### Barneby Clover

This little clover, a member of the pea family, was first collected by H. Dwight Ripley and Rupert Barneby in the foothills of the southern Wind River Mountains in 1947. They identified it as *T. haydenii*, a high mountain species from farther north in Wyoming. John Gillett in 1972 redetermined it as *T. gymnocarpon*, a basin species found in southern Wyoming. In 1980, Duane Isely described it as a new variety of *T. haydenii*. In the same year, Bob Dorn and Bob Lichvar rediscovered the population and in 1981 elevated the variety to a species. The plants form dense mats which may cover areas 5 to 10 feet across. The flowering stems are 2 inches or less high with a dense head of 8-18 white flowers. The flowers are each about 1/2 inch long and become brownish in age. The plants grow on pale red sandstone ledges and at the base of these outcrops in the foothills of the southern Wind River Mountains in Fremont County. They flower in the spring.

**Pteridophytes in Wyoming** - Pteridophytes are plants that reproduce by means of spores rather than flowers and seeds, yet they have vascular tissue unlike the lower plants. They include the ferns, grape ferns, pepperwort, horsetails and scouring rushes, quillworts, club mosses, and spike mosses. These plants were dominant before the seed plants evolved. Today, they are largely restricted in our region to specialized habitats of two general categories: moist, usually shady sites and seasonally moist rock crevices in dryland areas. The former group includes most of our species. Most pteridophytes are not particularly rare when considering their entire range because their tiny spores can be carried long distances through the atmosphere. Pteridophytes generally prefer a moist, humid, warm site. Because Wyoming has a scarcity of such sites, its pteridophyte flora of 52 species is relatively meager. An eastern or midwestern state of much smaller size may have half again as many species.

The horsetails and scouring rushes (*Equisetum*) have jointed and longitudinally grooved stems. The stems contain silica and were often used in the past for scouring pans, thus the common name. Seven species are known to occur in the state. There are only about 20 species worldwide.

The quillworts (*Isoetes*) appear like tufts of grass and are usually submerged in ponds in the mountains. Only two species are known from Wyoming.

The grape ferns (Ophioglossaceae) are so-called because their sporangia (spore-bearing receptacles) are clustered on a modified portion of a leaf and sometimes appear like clusters of tiny grapes. Although eight species in two genera are known from Wyoming, they are extremely rare. Three of the eight

species were only recently discovered in the state.

Pepperworts (*Marsilea*) appear like a four-leaf clover. They are found in temporary ponds that tend to dry up in late summer, but they do not appear every year. In fact, it may be a decade or more before they reappear in the same pond. As such, they tend to be quite rare. There is disagreement on whether we have one or two species in Wyoming.

The club mosses (*Lycopodium*) resemble large mosses with the stem often tipped by a club-like cone which bears the sporangia. They grow in moist shady places, usually dense woods or thickets. The four species in Wyoming are very rare. Two of the four were discovered in the state only recently.

The spike mosses (*Selaginella*) are even more moss-like except for their spore-bearing portion which is usually in the form of a 4-sided termination of a branch. One of our five species is extremely common occurring from the sagebrush plains to alpine. These belong with the so-called resurrection plant. When conditions are dry, the plants may look dead. Once moisture returns, they can be green and fresh looking within hours.

There are 25 species of true ferns in Wyoming in 15 genera. There is no general agreement on the number of families represented. Some recognize only one while others recognize five or more. The largest genus in Wyoming (*Pellaea*) is represented by four species. These are "dryland" ferns which grow in seasonally moist rock crevices, often limestone. Like *Selaginella*, these dryland ferns tend to be "evergreen," that is, they dry up and may look dead when conditions are dry but restore rather rapidly when moisture returns. Most of our fern species are quite rare within the state. RD



Representative pteridophytes found in Wyoming. A. *Equisetum*, horsetail. B. *Isoetes*, quillwort. C. *Botrychium*, grape fern. D. *Marsilea*, pepperwort. E. *Lycopodium*, club moss. F. *Selaginella*, spike moss. G. *Cystopteris*, bladder fern.

**Apparent State Records in 1987** - Introductions: Platte Co., *Mollugo verticillata* (also a new family, Molluginaceae). Natives: Carbon & Sweetwater cos., *Populus deltoides* ssp. *wislizenii*; Sweetwater Co., *Chrysothamnus Greenei* (our earlier record was based on a misidentification); Fremont Co., *Botrychium ascendens*; Goshen Co., *Penstemon angustifolius* var. *caudatus*. RD

**Articles for Newsletter** - Articles are always welcome for the newsletter. The new format is as follows: text of 79 spaces in 12 pitch giving left and right margins of 15/16 inch, single spaced.



**COLORADO NPS INVITES WYNPS MEMBERS TO ATTEND ACTIVITIES** In late January, I lead a workshop on Wyoming rare plants for the Colorado Native Plant Society in Boulder. The audience was a group of enthusiastic, knowledgeable, dedicated plant nuts, and we had a great time. Bill Jennings, Workshop Coordinator, suggested that Wyoming NPS members be invited to attend future workshops (at member rates), and that the workshop schedule be posted in our newsletter. I immediately agreed, and added that Colorado NPS members would be welcome at our one event of the year (annual fieldtrip), also at member "rates" (free). Thus was an informal pact drawn up. After all, plants don't recognize state boundaries, so why should we? Workshops scheduled for the near future are:

Sat., April 2, 1988: **Identification and Classification of Cryptantha (Boraginaceae)**, leader: Dr. Walter A. Kelley

Plants in the genus Cryptantha ("miner's candle") are hard to identify, often requiring careful study of the nutlets. Dr. Kelley has investigated this group extensively and will show what to look for, both in the field and in the herbarium, when trying to key plants. Nutlet terminology in particular is confusing, so he has prepared a series of slides and line drawings that will be thoroughly discussed during the workshop. Primary emphasis will be on the perennial species, particularly those of the western slope. Dr. Kelley has indicated he has lots of specimens to be torn apart. To be held in E112, Plant Science Building, CSU, Ft. Collins.

Sat., April 23, 1988: **Improving your Wildflower Photography**, leaders: Loraine Yeatts and Bill Jennings

If you have ever seen their slide shows, you know that Loraine and Bill usually take good pictures. While luck and patience play a role in good photography, so do composition, light, film, and depth of field. Topics to be covered include differences in films, differences in cameras, how and when to use flash, the interaction of depth of field and lens f-stop, and how to deal with a tripod. To be held at the Foothills Nature Center, 4201 N. Broadway, Boulder. We will work indoors in the morning. After lunch, we will put our newfound knowledge to work and go photograph some flowers north of Boulder.

Sat., May 14, 1988: **Natural Communities of Colorado**, leader: Sue Galatowisch

Most are familiar with the life-zone concept: plains, foothills, montane, etc., but within each life zone are a number of plant communities. A plant community is an association of plants, regularly and repeatedly seen in a particular exposure, on a particular rock type, or in a moist or dry environment within a given life zone. Sue will explain exactly what is meant by a natural community, how to recognize one, the importance to the diversity of the natural flora, and above all, will present examples of numerous plant communities native to northern Colorado. Location to be announced, but to be held primarily in the field.

Enrollment in workshops is limited, so you must register in advance. To register, contact Bill Jennings, 360 Martin Dr., Boulder, CO 80303, (303) 494-5159. Include your mailing address and phone number if you mail in your registration. Registrants will be notified by mail about two weeks prior to the workshop regarding final location, time, lunch, suggested references, etc. Please register promptly, as workshops fill up fast. Cancellations sometimes create openings, so check with Bill up to the night before the workshop if you want to try for a last-minute opening. The fee for each workshop is \$8 for members (\$5 for Deciduous Trees, Feb. 20). Wyoming Native Plant Society members receive member rates. For non-members, the fee is \$16. You may pay in advance, or at the workshop.

If you're interested in learning about plants and having a good time while you're at it, sign up for a workshop! **HJM**

#### Nature Conservancy News

After a three-year hiatus, the Rocky Mountain Heritage Task Force of The Nature Conservancy again has a plant ecologist in Wyoming. George Jones was hired early in January to update the Heritage Task Force's classification of Wyoming plant communities and to begin tracking down examples worth protecting of each community. Working with state and federal land management agencies, Wyoming botanists, and private landowners, the Heritage Task Force hopes to identify both the unusual and the common plant communities in the state, and assure that at least one example of each is protected. George will be building on the base laid by Ellen Collins, the previous Heritage Task Force ecologist. He works with Hollis Marriott, the Wyoming Heritage botanist, in Laramie and can be reached at RM Heritage Task Force, Box 3165 University Station, Laramie, 82071. GJ

Checklist of the Flora of the Wind River Basin and Adjacent Areas:  
Intensive collection of this area was undertaken during the field seasons of 1985 and 1986 by June Haines and R. L. Hartman. Over 4600 specimens were collected. The study area encompassed roughly 5000 square miles in central Wyoming, mostly in Fremont and Natrona Counties, but also extending into northeastern Carbon County.

The Wind River Basin and adjacent areas contain a diverse range of vegetation types which include sagebrush-grassland, greasewood shrubland, saline grassland, sagebrush-juniper-pine woodland, juniper woodland, pine woodland, and pine forest (limited to areas of higher elevation in the Wind River Mountain, Green Mountain, and Ferris Mountain foothills). A correspondingly diverse flora, consisting of 885 taxa, was documented for this area.

This study yielded 214 county records, including 22 for Carbon, 76 for Natrona, and 116 for Fremont County. There were 96 introductions, which represented approximately eleven percent of the total flora.

Noteworthy collections included six species. Cymopterus williamsii, collected north of Armito, represented the southernmost location known for this relatively new species to date. The single collection of Antennaria arcuata along Sage Hen Creek was the first collection of this species east of the Continental Divide. A single collection of Oxytropis besseyi var. obnapiformis was made along Beaver Rim. Previously, this variety was known in Wyoming only from the extreme southwest. This was the first collection of this variety east of the Continental Divide. Trifolium barnebyi is restricted in distribution to Red Canyon, an area in the Wind River Mountain foothills. Prior to a single collection near Ocean Lake, Castilleja exilis was known in Wyoming only from Yellowstone National Park. Penstemon paysoniorum is an endemic in central and southwestern Wyoming. JH

**Contributors This Issue** - RD = Robert Dorn, JH = June Haines, GJ = George Jones, HJM = Hollis J. Marriott.

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