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

WYOMING NATIVE PLANT SOCIETY

3165 University Station
Laramie, WY 82071
Vol. 12, No. 2 May 1, 1993

NOTE SPECIAL ENCLOSURE!

Now is the time for...annual dues and election of officers.

In addition, an amendment to the By-laws of the Society has been proposed to allow establishment of local chapters. Included with this issue is a dues notice, a ballot for officers and a ballot for the proposed amendment. You may vote by mail or at the annual meeting IF you are in good standing (i.e. have paid your dues). If you've already paid for fiscal year 1994, ignore the dues notice.

Candidates: Nominees for Society Officers are: President - Phil White (Laramie); Vice President - Barbara Amidon (Rock Springs); Secretary-Treasurer - Walt Fertig (Laramie); Board Member - Jennifer Whipple (Yellowstone NP). George Jones is the carry-over Board Member. Additional write-in candidates are welcome. **WF**

Treasurer's Report - Balance as of Feb. 16, 1993: $638.21; deposits: dues $112.00; disbursements: newsletter printing $27.30, postage $29.00, annual state tax $10.00, scholarship $300.00. New balance as of April 28, 1993: $383.91. **1993-94 Scholarship Fund**: $64.50.

Annual Meeting: The annual meeting/field trip will be held June 19 and 20, 1993, in the Black Hills. The meeting will begin at 9:00 AM on June 19 in the parking lot of Devils Tower Nat. Monument (see map on back of newsletter). Entrance fees to the Monument will be waived for WNPS members. The first day of the field trip will focus on basic plant identification at Devils Tower and in the Bear Lodge Mountains. Sunday, June 20, will be spent searching for and photographing rare species in the Sand Creek area. Bring your cameras, hand lens', field guides and picnic lunches, and prepare for some leisurely days of botanizing! Camping is available on National Forest lands NW of Sundance, at Devils Tower and at Keyhole Reservoir. **WF**

Scholarship: The Board met on March 26 in Laramie, and voted to award a scholarship of $300.00 to Alan Redder, a graduate student in Zoology from the University of Wyoming. Alan will br conducting a floristic survey of the Haystack Mountains, west of Seminoe Reservoir, in conjunction with his ongoing research on rattlesnake behavioral ecology. Alan is interested in determining how the composition and distribution of plant species influences the rattlesnake's prey. This study will be the first large-scale effort to document the flora of the Haystacks. **WF**

Rare Plants of Wyoming: North Fork easter daisy

***Townsendia condensata* var. *anomala* (Asteraceae)**

Description: North Fork easter daisy is a perennial, short-stemmed, mat-forming herb less than 4 cm tall. The leaves are spatula-shaped, long stalked and clustered in a basal rosette. Leaf blades and stalks are densely pubescent throughout with stiff, spreading or appressed hairs, except for the rounded tips of the lowermost leaves. Three to fifteen flower heads are borne on short branches among the leaves and are 10-17 mm wide with sharp-tipped, lanceolate involucre bracts. The glandular ray flowers are white, pink, or lavender. Achenes are pubescent and minutely papillate.

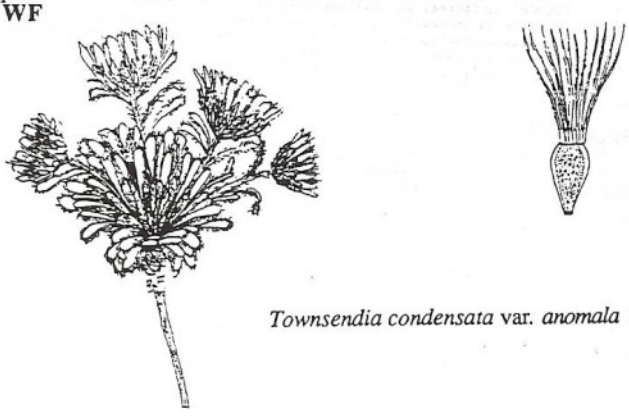
Similar Species: Cushion easter daisy (*T. condensata* var. *condensata*) has wider flower heads (17-40 mm) and often produces only one head per stem. *T. spathulata* differs in having leaves and petioles that are pubescent throughout (including the leaf tips) with soft, thin hairs. Cedar Mountain easter daisy, a new species recently described by Bob Dorn, is distinguished by having glabrous, smooth achenes.

Flowering/Fruiting Period: June-August

Distribution: Endemic to the Absaroka Mountains in Park County, Wyoming. Known occurrences are all in Shoshone National Forest.

Habitat: Sparsely-vegetated rocky slopes and ridges. Elevation 6500-12,000 feet.

Status: Recently designated as Sensitive by Region 2 of the US Forest Service. The Nature Conservancy's Wyoming Natural Diversity Database tracks var. *anomala* as a G3T2/S2 species, meaning that it is extremely rare globally and in the state (there are less than 20 known occurrences). At present, the taxon appears to be secure, but because of its limited distribution it could be vulnerable to environmental change. **WF**



Townsendia condensata var. *anomala* (illustration by Linda Shoemaker)

Family 16: Polemoniaceae, Phlox Family

This is the sixteenth largest family of flowering plants in Wyoming with 40 species. The family is characterized by bisexual flowers; united petals, mostly 5, rarely 4; regular corolla; stamens 5 and alternate with petals; ovary solitary, unlobed, and superior with usually 3 chambers; and stigmas usually 3. Some common representatives are Phlox, Gilia, and Jacob's Ladder (**Polemonium**). Our largest genus is **Phlox** with ten species. Find representatives of the family and observe the characteristic features. RD

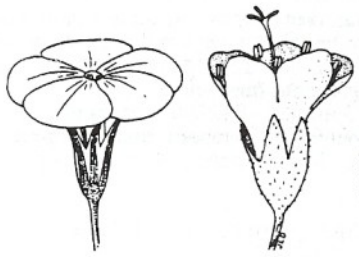


Figure. Flower of **Phlox** at left (note calyx) (x 1.3), flower of **Polemonium** at right (x 2).

Family 17: Liliaceae, Lily Family

This is the seventeenth largest family of flowering plants in Wyoming with 34 species. The family is a member of the "monocots" with parallel-veined leaves and flower parts in 3's or 6's or rarely 4's. The flowers are mostly regular with 6 (rarely 4) perianth parts which may be all similar or differentiated into green sepals and colored (or white) petals. There are 6 (rarely 4) stamens, 1 pistil, and a superior ovary. Our largest genus is **Allium** (wild onion) with seven species. Other common representatives are Asparagus, Mariposa Lily (**Calochortus**), Camas, Glacier Lily (**Erythronium**), various other lilies, Trillium, and Death Camas which is highly poisonous. Some of these are illustrated in the figure. Find some representatives of the family and observe the flower parts. RD

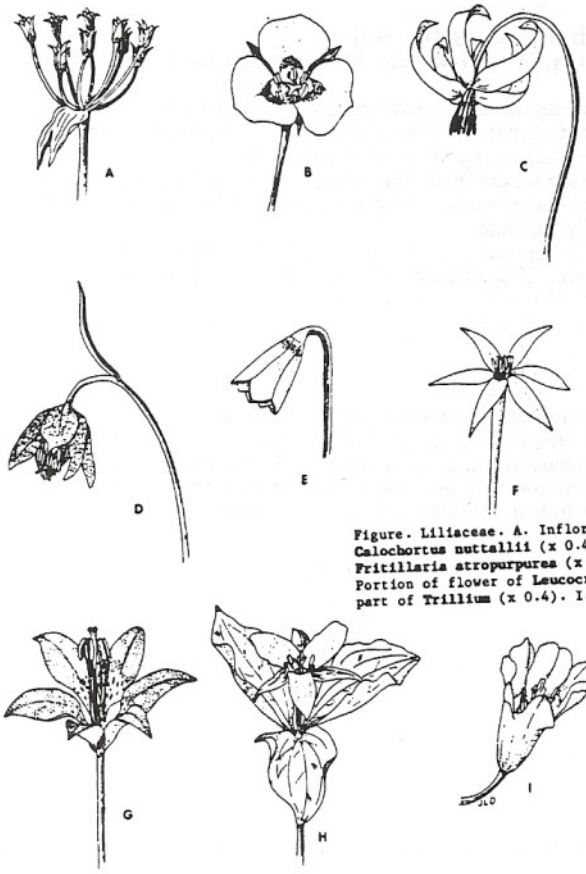


Figure. Liliaceae. A. Inflorescence of **Allium brevistylum** (x 1.7). B. Flower of **Calochortus nuttallii** (x 0.4). C. Flower of **Erythronium** (x 0.8). D. Flower of **Fritillaria atropurpurea** (x 0.8). E. Flower of **Fritillaria pudica** (x 0.8). F. Portion of flower of **Leucocrinum** (x 0.8). G. Flower of **Lilium** (x 0.4). H. Upper part of **Trillium** (x 0.4). I. Flower of **Triteleia** (x 0.8).

MISSING IN WYOMING

I have a favor to ask of Wyoming botanists who are itching for a challenge in 1993.

For the past several years I have been trying to gain a more complete understanding of what appears to be one of the rarest milkweeds in North America. The dwarf milkweed, *Asclepias uncialis*, is known from only about 25 scattered localities, most of them from the plains of eastern Colorado. There is one known collection of this species from Wyoming, however, and I would like to enlist the aid of Wyoming botanists in relocating this historical occurrence.

My work with this species has involved an extensive survey of herbarium collections (47 herbaria) for locality information plus field work in eastern Colorado and northeastern New Mexico for the Nature Conservancy (1990) and the Colorado Native Plant Society (1992). This field work has involved relocation of historical collection localities, search for new populations, observation of habitat and ecology, and assessment of conservation needs.

The majority of the known occurrences of the dwarf milkweed are from eastern Colorado, where it has been collected at widely scattered localities from near the Wyoming line to the New Mexico border. One of these was made by George Osterhout on 8 May 1896 near Windsor in Weld County, Colorado, only about 35 air miles south of the Colorado-Wyoming line. This occurrence which has not been relocated.

For some time it appeared that Osterhout's collection, which is housed at the Rocky Mountain Herbarium, represented the northern limits of the distribution of *A. uncialis*. However, I later came across a collection from Wyoming that has considerably extended the known range of this species.

This collection was made in western Wyoming in 1873 by the famous botanist, Charles C. Parry. Parry was participating in the "Northwestern Wyoming Expedition," a government reconnaissance of the region for a military wagon road. The specimens were originally identified as *Asclepias brachystephana*, a species of Texas, New Mexico, and Arizona. It was listed as such in the "Botanical Report" written by Parry as part of the official report of the Expedition (Jones 1874). Parry did not mention this collection, however, in his separately published account of the Expedition, "Botanical Observations in Western Wyoming" (Parry 1874).

There are two specimens of this collection, one at the Grey Herbarium (GH) at Harvard University and one at Iowa State University (ISC), Parry's original herbarium. Both were originally labeled "*Asclepias brachystephana*." The name on both specimen labels was later corrected to *Asclepias uncialis*. The GH specimen is mounted on a sheet containing three other collections of *A. uncialis*, including an isotype. The ISC specimen was verified by R.E. Woodson, Jr., who wrote a monograph of the genus Asclepias in 1954.

I have seen both specimens and they are very similar in appearance to living plants and herbarium specimens that I have seen from the Great Plains. It appears that Parry's collection represents a disjunction of over 250 miles from the basic range of *A. uncialis*. One puzzling problem, however, is that Parry's plants were in bloom at a considerably later date than is typical on the plains.

While there are no collection dates on the specimen labels, Parry's "Botanical Report" (Jones 1874) states that the specimens were collected in "June." A more precise time frame can be determined from the locality information for the collection, which is given as "Green River" on the GH specimen and in the Expedition report (Jones 1874). According to the descriptive journal in Jone's report, the Expedition embarked from Fort Bridger on June 12 and first reached the Green River (in present-day Sweetwater County) on June 16; they left the river on June 17.

From herbarium specimen information and recent field observations, it appears that the flowering period of *A. uncialis* on the Great Plains begins in late April and lasts to mid-May. Plants I located in Kit Carson County in eastern Colorado in 1992 had well-developed fruits on May 14. Parry's specimens were in flower on June 16 or 17. This is 30-45 days later than is typical on the plains.

Relocation of Parry's collection site and observing the ecology and status of this plant in Wyoming would be of considerable help in gaining a more complete understanding of *A. uncialis*. For anyone who would wish to undertake this challenge, I would offer the following information.

Asclepias uncialis is an herbaceous perennial with several to many spreading or erect stems. It is probably the most diminutive member of the genus *Asclepias* in North America, with stems only 1 to 2.5 inches tall. Its small size makes it difficult to find in the field.

The leaves are opposite and of two types. The lower are oval to lance-shaped and 1/2 to 3/4 inches long. The upper leaves are linear-lanceolate and much narrower, generally 3/4 to 1.5 inches long and often only 1/8 inch in width. Flowers are grouped in clusters of 7 to 12 (sometimes as many as 18) at the tips of the stems. Clusters occasionally occur below the stem tip. The flowers are about 1/4 inch wide and rose-purple in color.

Asclepias uncialis is a distinctive species and is not easily confused with other milkweeds. *Asclepias pumila* from the plains of eastern Wyoming is similar in that it is a small plant, but it has white flowers, blooms much later (July-September), and has uniformly filiform leaves.

Where I have seen *A. uncialis* in the field it occurs on gently sloping ground below rimrock, such as at the base of a mesa or escarpment. It does not seem to be restricted to any special geological situation or soil type; I have seen it growing in soil derived from sandstone, limestone, and shale, although in most places in the Great Plains it is associated with sandstone and sandy loam soils. In eastern Colorado the plants usually occur in areas of bare soil between patches of blue grama grass (*Bouteloua gracilis*) in shortgrass prairie.

As previously mentioned, the only locality data for Parry's Wyoming collection of *A. uncialis* is "Green River." This is stated on the GH specimen and in Parry's "Botanical Report" (Jones 1874). In speaking with Bob Dorn about this, he estimates that the Expedition encountered the Green River somewhat below where it is joined by the Big Sandy River in northwestern Sweetwater County.

This would seem to be confirmed by Parry's description of the route of the Expedition in his separately published, "Botanical Observations in Western Wyoming" (Parry 1874). Parry states that the Expedition embarked from Fort Bridger in a northeasterly direction over the Green River basin to South Pass, then northward on to Yellowstone. He indicates that on the portion of their route from Fort Bridger to South Pass they were following the track of the Oregon Trail.

If Parry did encounter *A. uncialis* near the Green River, it may have been at the point where the Oregon Trail crossed the river. If there are escarpments associated with the Green River in this area, it might be profitable to search along the base of these escarpments for *A. uncialis*. It's not much to go on, but it's better than nothing!

I would be very interested in information on efforts to relocate *A. uncialis* in Wyoming. Populations of this plant are typically very small, so herbarium voucher specimens should be collected sparingly, if at all. Please deposit any collected material at the Rocky Mountain Herbarium and I will contact them about borrowing the specimens. Thanks for your help!

James H. Locklear
Dyck Arboretum of the Plains
P.O. Box 3000
Hesston, KS 67062
(316) 327-8124

References Cited:

Jones, W.A. 1874. Report upon the reconnaissance of northwestern Wyoming, made in the summer of 1873. 43rd Congr., 1st Sess., Hous. Exec. Doc. No. 285. Serial 1615.

Parry, C.C. 1874. Botanical observations in western Wyoming. Am. Nat. 8:9-14, 102-108, 175-180, 211-215.

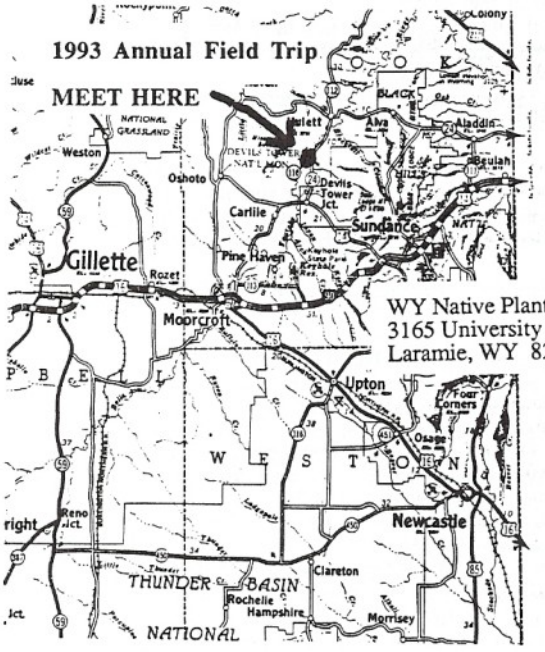
NEWS FROM TETON COUNTY: Northern Rockies Plant Study Center starts its first year of classes. Herbalist Clarrissa Smith and botanical artist Meredith Edgecomb Campbell have co-founded a center which provides classes on a variety of plant-related topics. The center's classes included basic botany, plant identification, plant drawing, herbal medicine, wild edible plants and plant ecology. the classes are taught in the Jackson Hole area. for more information on classes offered, or to receive a brochure, call: (307) 733-6811, or write NRPSC, PO Box 8578, Jackson, WY 83001. **MEC**

Photos Needed...PLEASE! The Wyoming rare plant committee is developing a field guide to the rare plants of the state--a joint effort of the Bureau of Land Management, US Forest Service, The Nature Conservancy and the National Park Service. Expected publication date is spring 1994--in time for the 1994 field season. The guide will include photographs and illustrations for help in identification; a search is presently underway for high-quality photos. The committee is looking for photos of habitat, as well as of species of concern. Color transparencies (slides) are most desirable, but print format also will be considered. This would be a one-time-only use of photos, with credit to the photographer and/or agency. Currently, there are no funds available to pay for use of photos. Utmost care will be taken in handling the material, but the committe does not have liability insurance. Photos will be returned as soon as possible after the guide is completed. IF YOU ARE INTERESTED IN CONTRIBUTING to this project, please contact:

Jennifer Whipple
Greater Yellowstone CDC
Box 168
Yellowstone National Park, WY 82190
(307) 344-2157

to find out what species are needed. Jennifer would love to hear from you by May 15, 1993, if possible.

Contributors to this issue: Meredith Edgcomb Cambell (MEC), Robert Dorn (RD), Walt Fertig (WF), James Locklear, Hollis Marriott, Jennifer Whipple.



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