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PIKE AND SAN ISABEL NATIONAL FORESTS  
AND  
COMANCHE AND CIMARRON NATIONAL GRASSLANDS  
PLANTS OF SPECIAL CONCERN

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## INTRODUCTION

The Pike and San Isabel National Forests and the Comanche and Cimarron National Grasslands contain many plant species thought to be rare in all or parts of their range. This guide includes species known to occur or expected to occur on these Forest Service managed areas. Additional sensitive species not included in this guide may also occur on these areas.

The purpose of this field guide is to provide a nontechnical source of information, to be used by people with a minimum of botanical training, to identify rare plants. When rare species are located, a professional botanist should be contacted to verify identification. For keys, more detailed information, or technical descriptions, refer to the floras listed in the reference section of this guide.

This project is an initial effort to produce a statewide Rare Plant Guide for Colorado. This guide complements an effort being undertaken by the Colorado Natural Heritage Program and Region 2 of the U. S. Forest Service to produce map overlays indicating locations of sensitive species (rare plants and animals) and significant natural communities known to occur on Colorado's National Forests. A detailed report will accompany each map overlay.

Pages are not numbered in this guide to allow for simplicity in making additions and deletions as species status changes. This also allows for individuals to organize the guide in the manner they find most useful. Nomenclature follows the Soil Conservation Service (SCS) plant list (synonyms are included in Appendix III). Several incomplete species accounts are included to provide as much information as possible about additional sensitive species.

## ACKNOWLEDGEMENTS

The completion of this guide was made possible by the combined efforts of several organizations and a number of individuals. Information for the text came from the files and database at the Colorado Natural Heritage Program and from various floras and other published materials listed in the references section of this guide.

We would like to thank Tom Ranker, Tim Hogan, and William Weber at the University of Colorado Herbarium and Dieter Wilken at the Colorado State University Herbarium for their support and advice. Also, thanks to the many volunteers and interns at the Colorado Natural Heritage Program; without them it would have been a much more lengthy job. Emily Norland completed a variety of tasks that enabled us to complete this guide. Nan Lederer prepared the majority of the species accounts and did extensive herbarium work for the look-alikes section in addition to preparing the descriptive text surrounding each drawing.

A special thanks goes to William Jennings who provided most of the photos used in the guide and compiled the drawings from the various artists. He also provided valuable information on locations for many of the species and reviewed the species accounts.

We would like to thank all who contributed photographs and artwork (listed by species in Appendix I). Great appreciation goes to Tom Juenger of The Nature Conservancy's Colorado Field Office for the production of all maps included in the

guide.

Finally, we would like to acknowledge the efforts of Sylvia Kelso, Betsy Neely, Peter Root, and William Weber who reviewed some or all of the species accounts. Additional thanks goes to William Weber for use of material previously published in "Colorado Flora: Eastern Slope".

## NATURAL HERITAGE RANKS (The Nature Conservancy)

The Colorado Natural Heritage Program (CNHP) serves as a central repository for information concerning TES species (plants and animals) for the state. It functions as a part of The Nature Conservancy's Natural Heritage Network to prioritize conservation efforts. The network utilizes the following ranking system to categorize species by their rangewide or state rarity. A brief explanation of the rangewide (global) ranks follows. Please note that state rarity ranks are similarly applied.

### Global Status (rangewide) - G-Rank

- G1 Extremely rare globally, critically imperiled, usually 5 or fewer populations or occurrences, or very few remaining individuals, often especially vulnerable to extirpation.
- G2 Very rare rangewide, usually between 6 and 20 populations or occurrences, or with many individuals in fewer occurrences, often susceptible to becoming extirpated.
- G3 Rare to uncommon globally, usually between 21 and 100 populations or occurrences, may have fewer occurrences but with a large number of individuals in some populations, may be susceptible to large-scale disturbances.
- G4 Common globally, usually >100 populations or occurrences, but may be fewer with many large populations, usually not susceptible to immediate threat.
- G5 Very common globally, demonstrably secure under present conditions.
- GU Thought to be rare globally but status uncertain, more information needed.
- GH Only known from historic collections (usually more than 25 years ago).
- T. Subspecies or variety rank

State Status (statewide) - S-Rank - criteria are the same as those used for global status except for the range within the state is considered.

## FEDERAL STATUS

- E Formally listed as endangered.
- T Formally listed as threatened.
- P Proposed E or T, proposed to be formally listed as endangered or threatened.
- C1 Category 1 - substantial biological information on biological vulnerability and threat(s) to support proposals to list as endangered or threatened.
- C2 Category 2 - information now in possession indicates that proposing to list as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat are not currently available to support proposed rules.
- 3C Taxa that have proven to be more abundant or widespread than previously believed and/or those that are not subject to any identifiable threat.

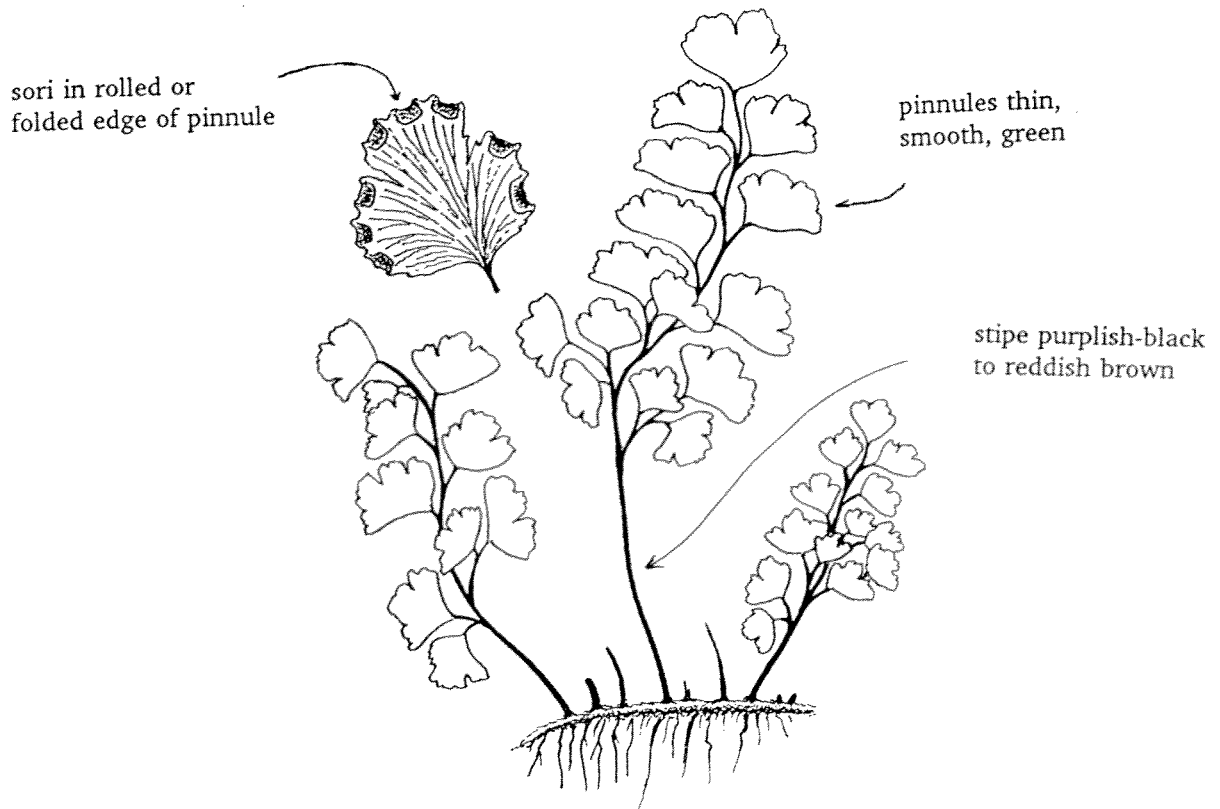
SPECIES LIST

	G/S RANK	FEDERAL STATUS	FOREST SERVICE SENSITIVE
<i>Adiantum capillus-veneris</i>	G5/S2		X
<i>Aquilegia saximontana</i>	G2G3/S2S3	3C	
<i>Asclepias uncialis</i>	G2/S2	C2	X
<i>Asplenium platyneuron</i>	G5/S1		
<i>Astragalus molybdenus</i>	G3/S2	C2	X
<i>Botrychium echo</i>	G2/S2		X
<i>Botrychium pallidum</i>	GU/S1	C2	X
<i>Botrychium virginianum ssp. europaeum</i>	G5/S?		
<i>Braya glabella</i>	G5/S1		X
<i>Braya humilis</i>	G4/S2		X
<i>Carex concinna</i>	G4G5/S1		
<i>Carex leptalea</i>	G5/S1		
<i>Carex livida</i>	G5/S1		X
<i>Carex peckii</i>	G4G5/S1?		
<i>Carex tenuiflora</i>	G5/S1?		
<i>Carex viridula</i>	G5?/S1		
<i>Chenopodium cycloides</i>	G3?/S1?		X
<i>Crepis nana ssp. nana</i>	G5/S2		
<i>Cypripedium pubescens</i>	G5/S1		
<i>Cystopteris montana</i>	G5/S1		
<i>Draba borealis</i>	G4/S2		
<i>Draba exunguiculata</i>	G3/S2	3C	
<i>Draba globosa</i>	GU/S2		
<i>Draba grayana</i>	G2/S2		
<i>Draba smithii</i>	G3/S2	C2	X
<i>Draba streptobrachia</i>	GU/S3		

	G/S RANK	FEDERAL STATUS	FOREST SERVICE SENSITIVE
<i>Draba weberi</i>	G?/S?		
<i>Epipactis gigantea</i>	G4/S1		X
<i>Eriogonum brandegei</i>	G2/S2	C1	
<i>Eriogonum coloradense</i>	G3/S3		
<i>Eriophorum altaicum var. neogaeum</i>	G4T?/S2		X
<i>Eriophorum gracile</i>	G5/S2		
<i>Eustoma russelianum</i>	G5/S3	C2	
<i>Eutrema penlandii</i>	G1/S1	T	
<i>Festuca campestris</i>	G?/S?		
<i>Festuca hallii</i>	G2G3/S1	3C	X
<i>Frasera coloradensis</i>	G2/S2	C2	X
<i>Goodyera repens</i>	G5/S2		
<i>Ipomopsis globularis</i>	G4?/S2		X
<i>Lilium philadelphicum</i>	G5/S2		
<i>Listera borealis</i>	G5?/S2		
<i>Malaxis brachypoda</i>	G4/S1		
<i>Mentzelia densa</i>	G1/S1	3C	
<i>Mimulus gemmiparus</i>	G2/S2	C2	X
<i>Neoparrya lithophila</i>	G2/S2	3C	X
<i>Onoclea sensibilis</i>	G5/SH		
<i>Oreoxis humilis</i>	GU/S1		
<i>Papaver lapponicum ssp. occidentale</i>	G4/S2		
<i>Parnassia kotzebuei</i>	G4/S1		
<i>Pellaea atropurpurea</i>	G5/S2		
<i>Penstemon degeneri</i>	G1/S1	3C	X
<i>Phippsia algida</i>	G4/S2	3C	
<i>Primula egaliksensis</i>	G4/S1		X



	<i>G/S RANK</i>	<i>FEDERAL STATUS</i>	<i>FOREST SERVICE SENSITIVE</i>
<i>Ptilagrostis mongholica ssp. porteri</i>	<i>G2/S2</i>	<i>C2</i>	<i>X</i>
<i>Pyrola picta</i>	<i>G4G5/S1</i>		
<i>Ranunculus karelinii</i>	<i>G4/S2</i>		
<i>Rubus arcticus ssp. acaulis</i>	<i>G5/S1</i>		<i>X</i>
<i>Saussurea densa</i>	<i>G3/S2</i>	<i>3C</i>	
<i>Sisyrinchium pallidum</i>	<i>G2/S2</i>	<i>C2</i>	
<i>Smilax lasioneuron</i>	<i>G?/S3</i>		
<i>Solidago ptarmicoides</i>	<i>G5/SU</i>		
<i>Viola pedatifida</i>	<i>G5/S2</i>		
<i>Viola selkirkii</i>	<i>G5/S1</i>		<i>X</i>



Scientific Name: *Adiantum capillus-veneris* L.

Common Name: Maidenhair fern

Family: Adiantaceae - Maidenhair Family

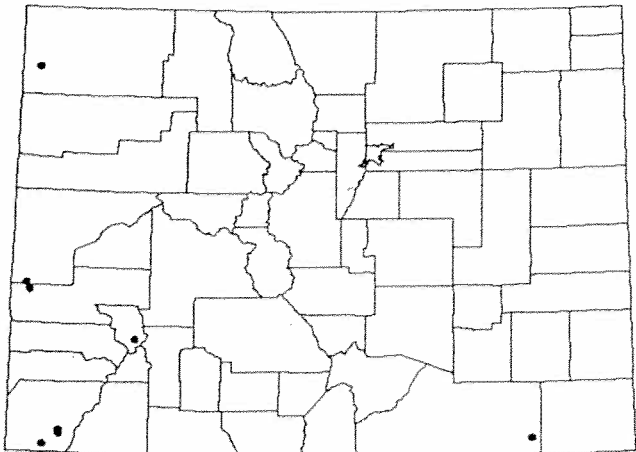
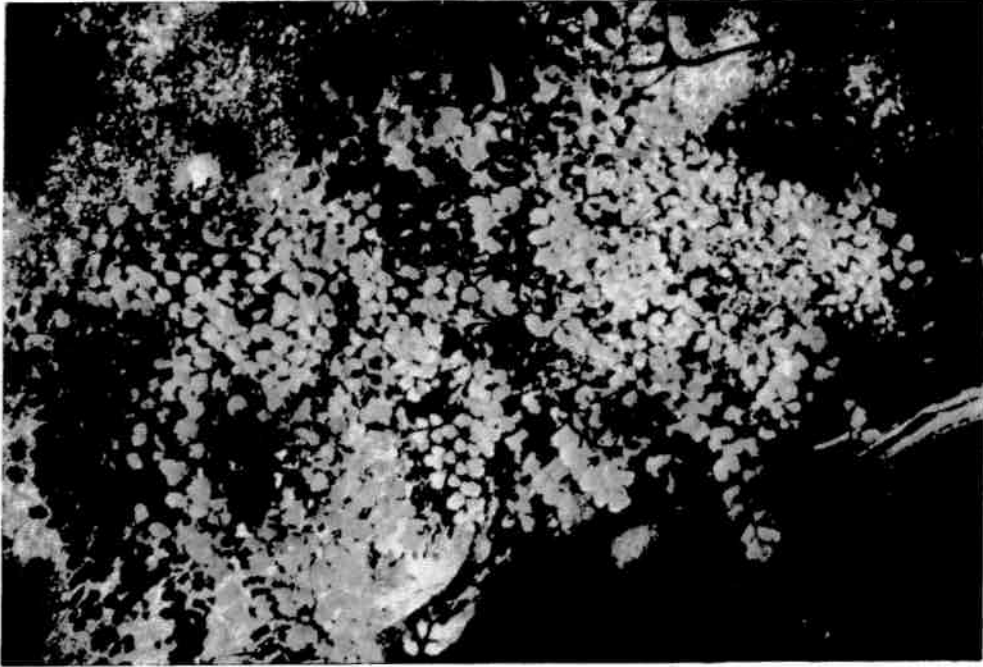
Synonyms: None

Global Distribution: Southern U.S. extending north to Virginia, Missouri, California, Utah, and Colorado (Baca, Mesa, Moffat, Montezuma, Montrose, and Ouray counties).

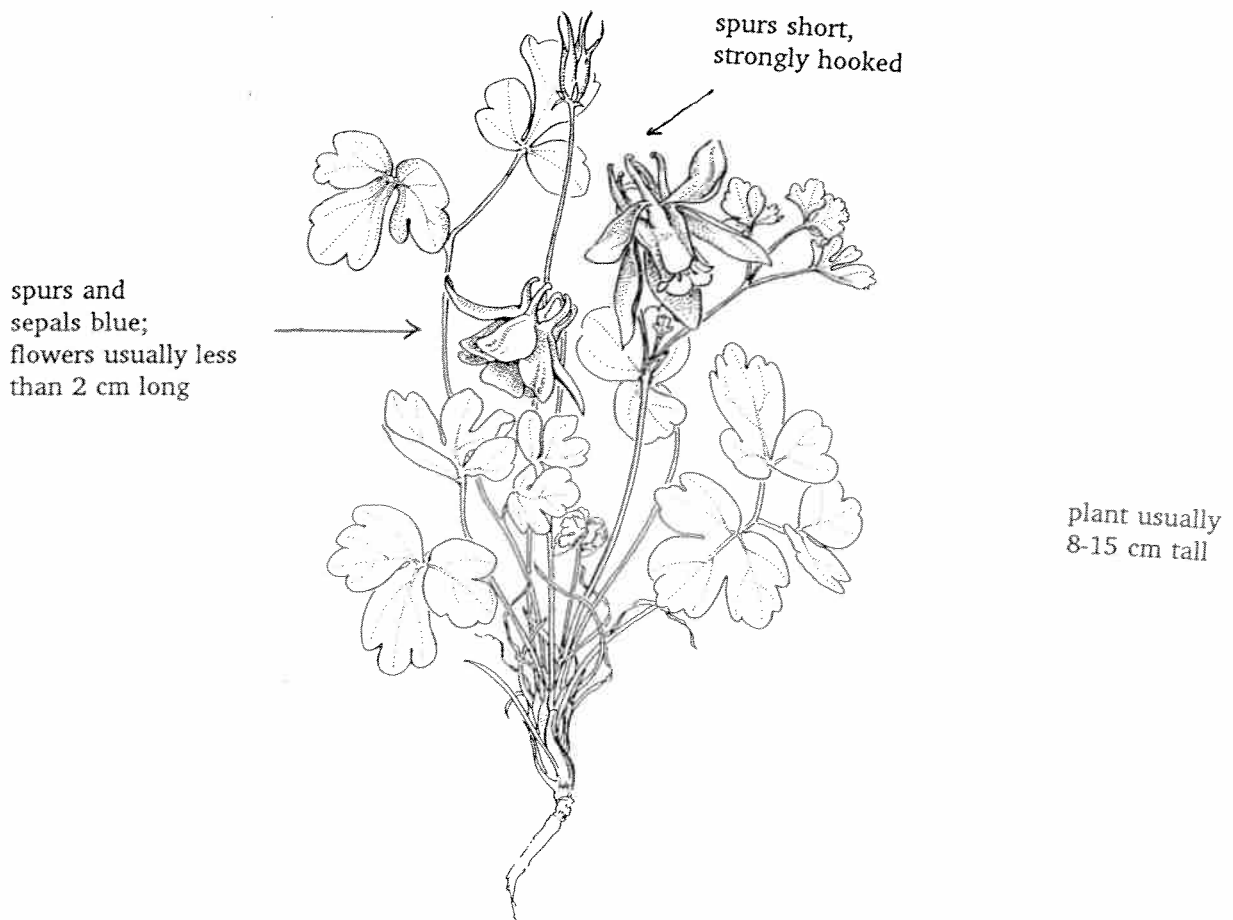
Managed Area Occurrence(s): May occur on Comanche N.G.

Habitat: Seeps on sandstone cliffs at approximately 5,000 to 7,800 ft (1,500 to 2,400 m).

Look-alikes: The only *Adiantum* found at lower elevations.



*Adiantum capillus - veneris*



**Scientific Name:** *Aquilegia saximontana* Rydberg ex B. L. Robinson in A. Gray

**Common Name:** Dwarf columbine, Rocky Mountain columbine

**Family:** Ranunculaceae - Buttercup Family (Helleboraceae)

**Synonyms:** *Aquilegia vulgaris* L. var. *brevistyla* A. Gray

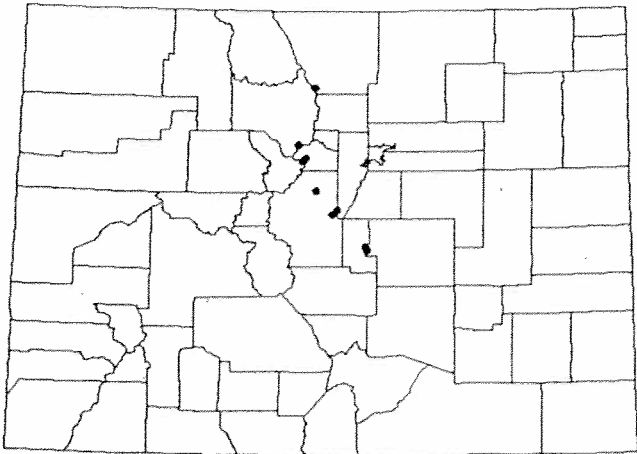
**Global Distribution:** Endemic to central and north-central Colorado (Boulder, Clear Creek, El Paso, Gilpin, and Larimer counties).

**Managed Area Occurrence(s):** Pike N.F.

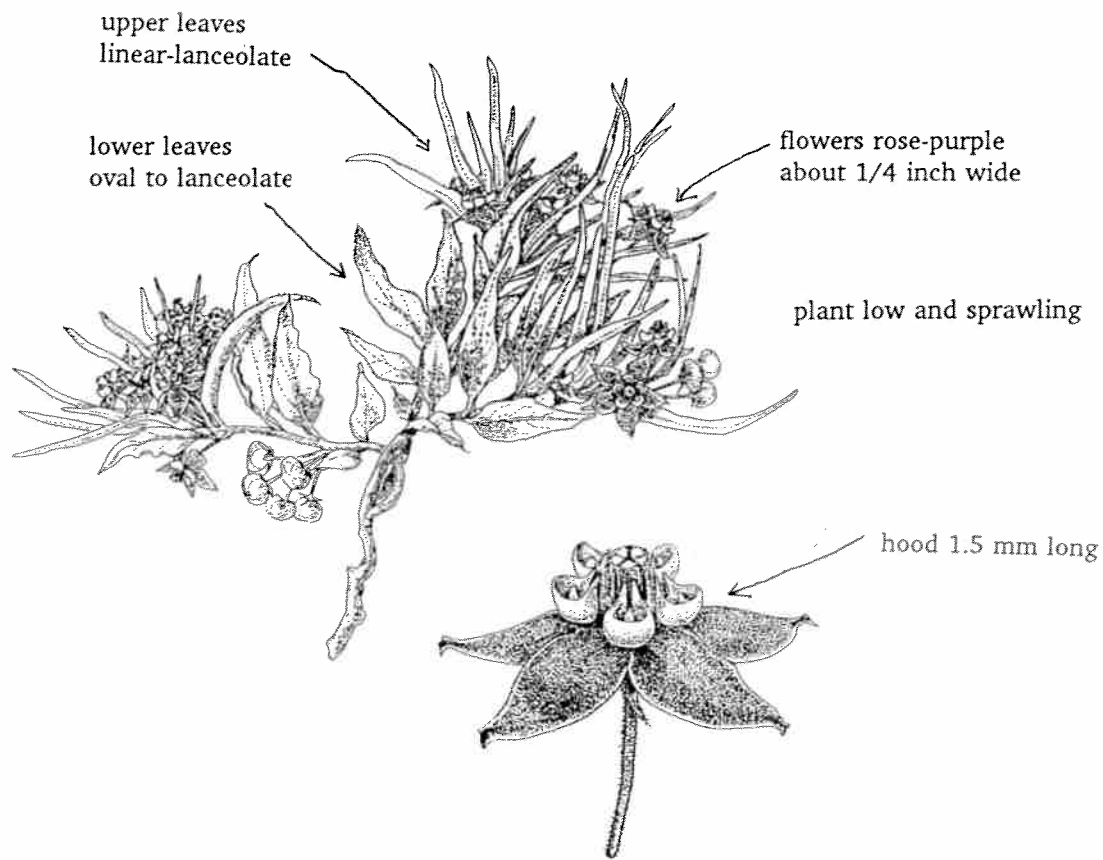
**Habitat:** Rock crevices at or above timberline. Elevation 10,500 to 12,000 ft (3,200 to 3,650 m).

**Phenology:** Flowering early to late July, fruiting in August.

**Look-alikes:** Differs from *A. coerulea* in having short and strongly hooked spurs rather than long straight spurs, and small flowers usually not more than 2 cm long including spurs, the flowers hardly exceeding the leaves.



*Aquilegia saximontana*



**Scientific Name:** *Asclepias uncialis* Greene

**Common Name:** Dwarf milkweed

**Family:** Asclepiadaceae - Milkweed Family

**Synonyms:** None

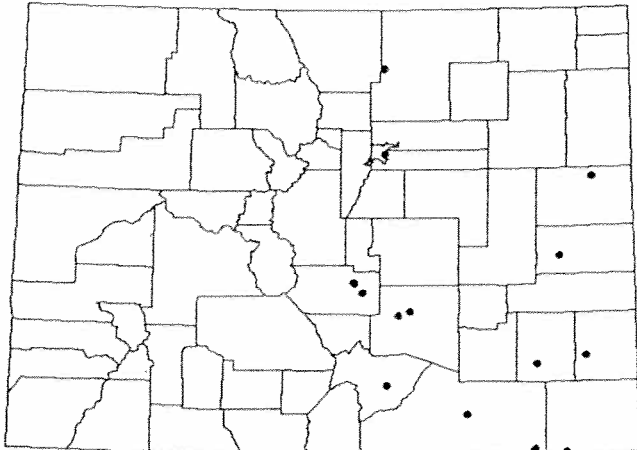
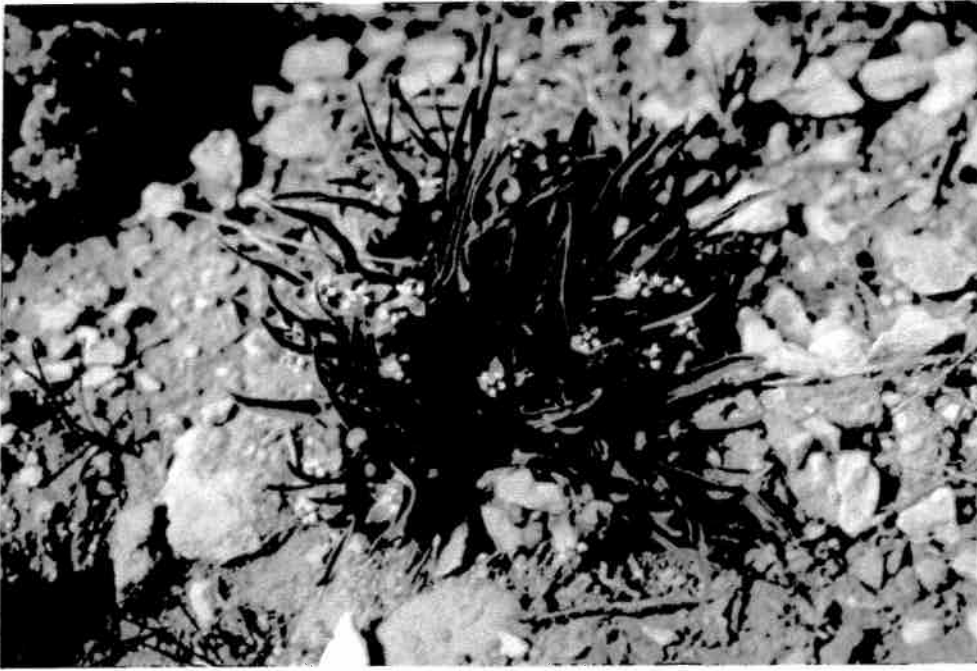
**Global Distribution:** Arizona, New Mexico, Wyoming, eastern Colorado (Baca, Bent, Cheyenne, Denver, Fremont, Huerfano, Kit Carson, Las Animas, Prowers, Pueblo, Washington, and Weld counties).

**Managed Area Occurrence(s):** Comanche N. G.

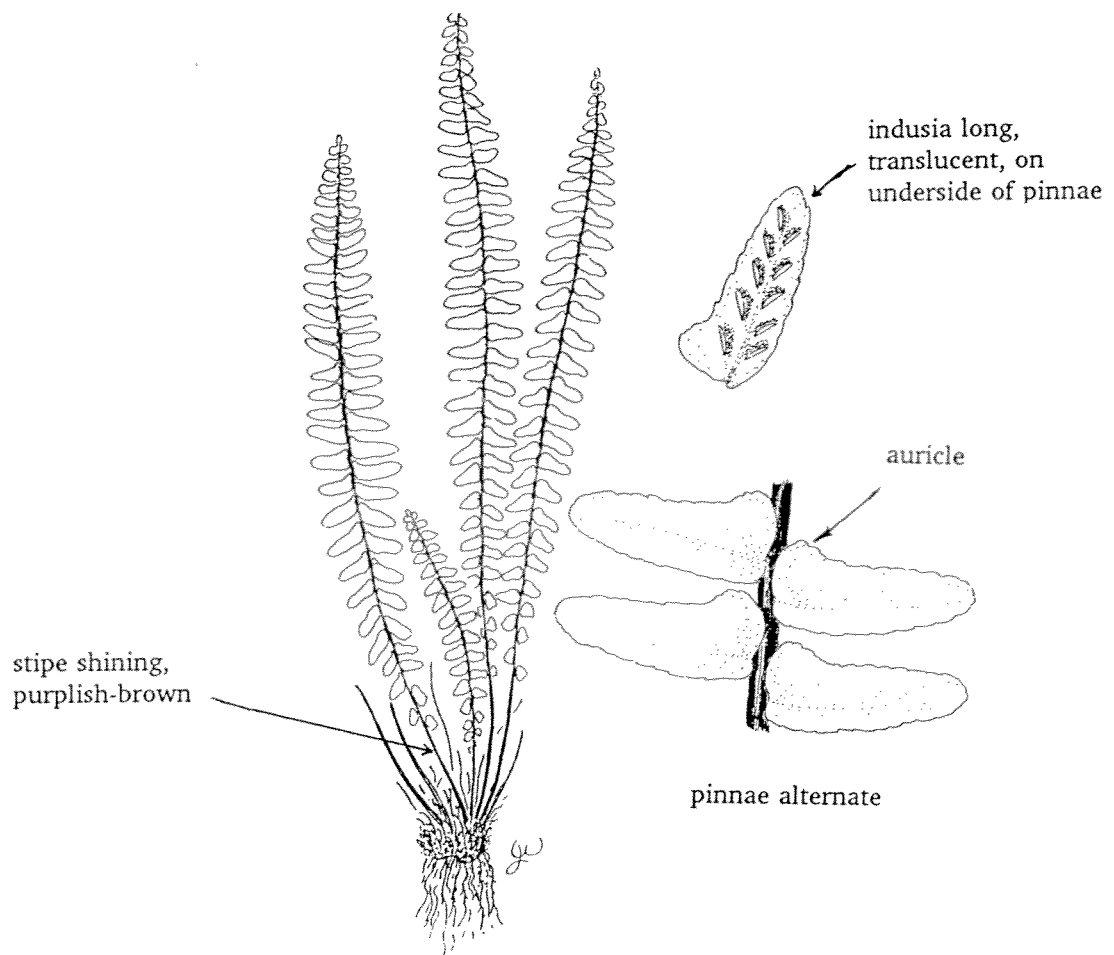
**Habitat:** In shortgrass prairie vegetation, often on sandstone derived soils and gravelly rocky side slopes. Elevation 4,000 to 6,500 ft (1,200 to 2,000 m).

**Phenology:** Flowering late April to mid-May, fruiting late May to early June.

**Look-alikes:** *A. pumila* is similar but has whitish flowers and filiform leaves as opposed to the rose-purple flowers and ovate to linear-lanceolate leaves of *A. uncialis*. *A. pumila* blooms later (from July to September), and stands erect, while *A. uncialis* is very small and sprawling. *A. involucrata* is also small and sprawling, but has longer hoods on the flowers (3-4 mm vs. 1.5 mm).



*Asclepias uncialis*



Scientific Name: *Asplenium platyneuron* (L.) Britton, Sterns & Poggenberg

Common Name: Ebony spleenwort

Family: Aspleniaceae - Spleenwort Family

Synonyms: *Asplenium ebeneum* Aiton

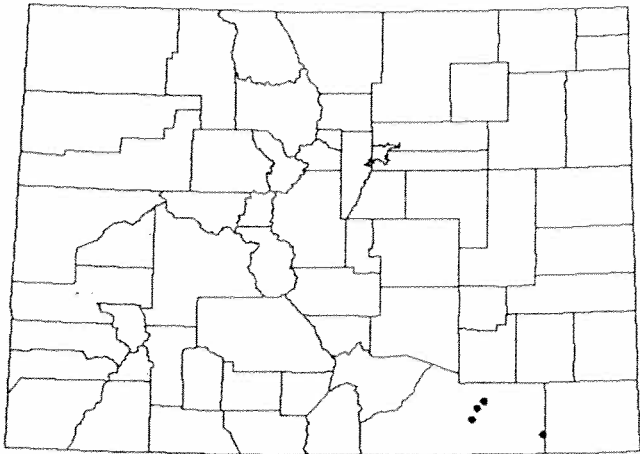
Global Distribution: Southeastern Canada, south to Florida and Texas, west to eastern Colorado (Baca and Las Animas counties)

Managed Area Occurrence(s): Comanche N.G.

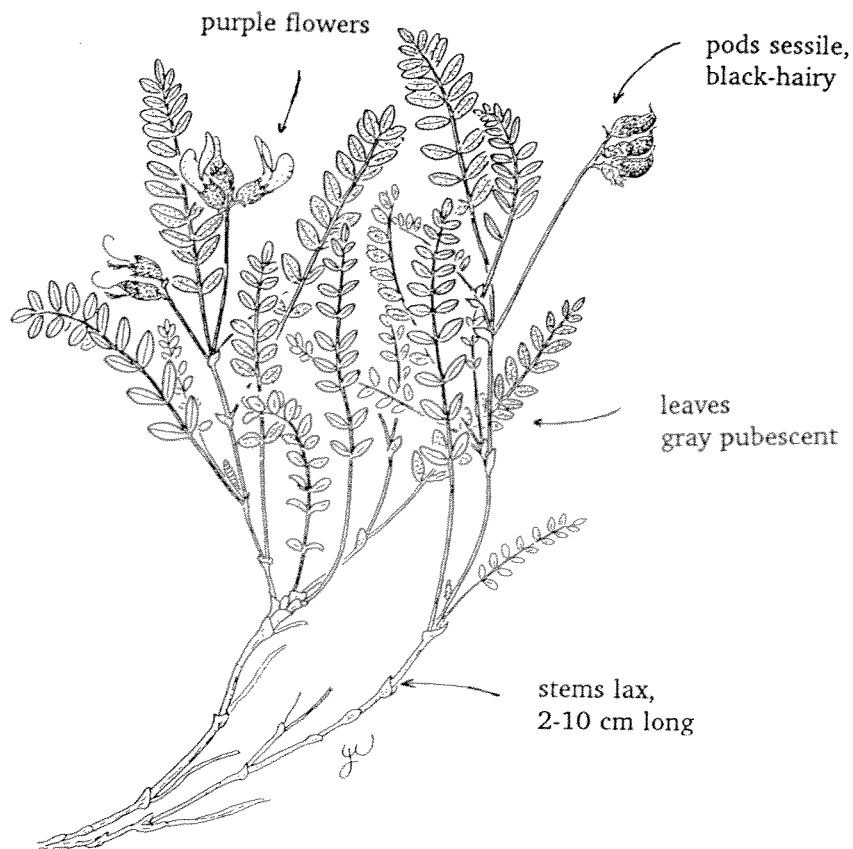
Habitat: Seeps at base of cliffs. Elevation approximately 4,500 to 5,000 ft (1,350 to 1,550 m).

Look-alikes: Similar to *A. resiliens*, but *A. platyneuron* has two types of fronds -- fertile and short-spreading sterile (with indusia) -- while *A. resiliens* has fronds alike, all erect. *A. resiliens* has pinnae mostly opposite along the rachis, while those of *A. platyneuron* are alternate.





*Asplenium platyneuron*



**Scientific Name:** *Astragalus molybdenus* Barneby

**Common Name:** Leadville milk-vetch

**Family:** Fabaceae (Leguminosae) - Pea Family

**Synonyms:** *Astragalus plumbeus* Barneby

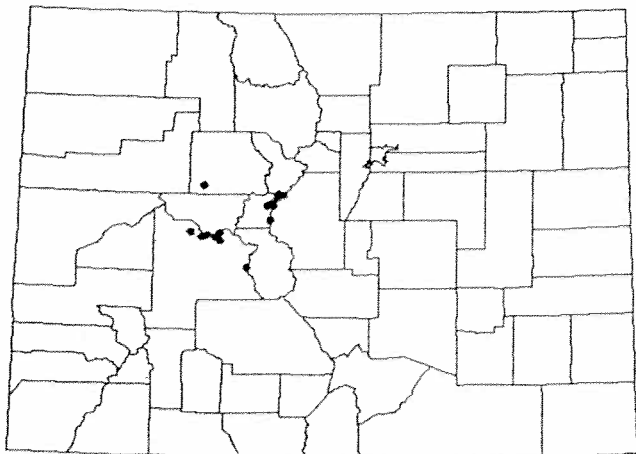
**Global Distribution:** Montana, central Colorado (Gunnison, Lake, Park, Pitkin and Summit counties).

**Managed Area Occurrence(s):** Pike N. F. - South Park Ranger District, San Isabel N.F.

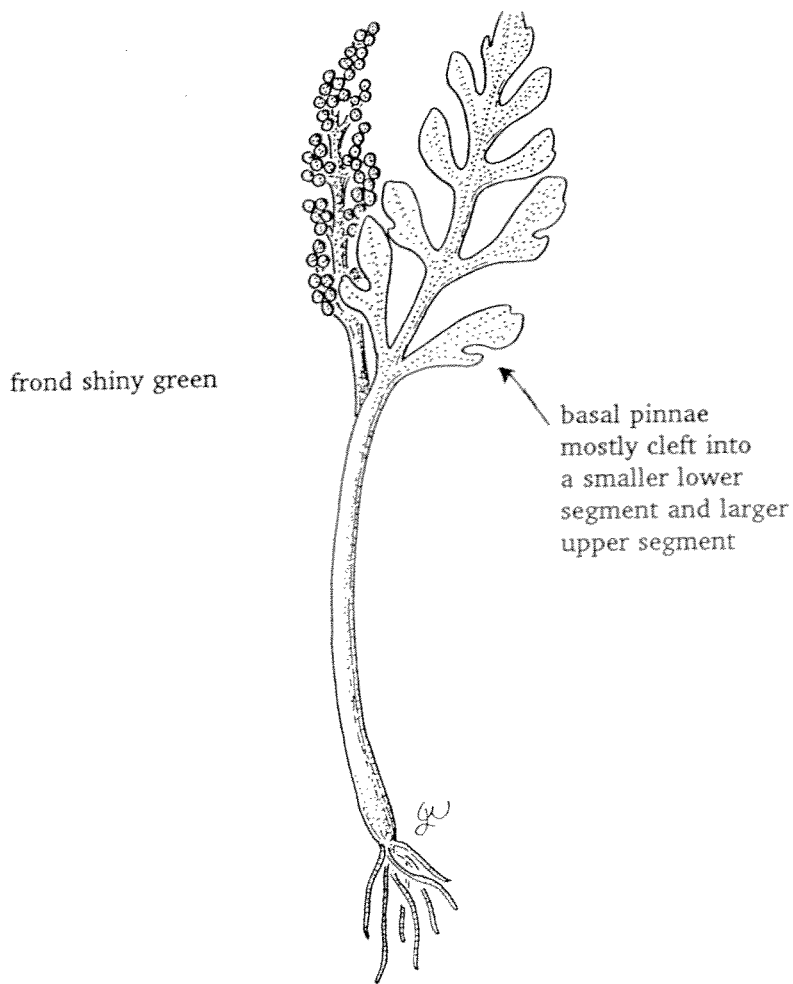
**Habitat:** Tundra, subalpine exposed sites, above treeline, calcareous scree slopes. Elevation 11,000 to 13,000 ft (3,350 to 4,000 m).

**Phenology:** Flowering and fruiting from late July to August.

**Look-alikes:** Similar alpine species -- *A. aboriginum* var. *major*, *A. robbinsii* var. *minor*, and *A. alpinus* -- are larger and stouter with stipitate pods, as opposed to the smaller *A. molybdenus*' sessile pods. Pods of *A. alpinus* have much denser and longer black hairs. *A. aboriginum* var. *major* has white flowers with a purple spot on the keel, while *A. molybdenus* has purple flowers.



*Astragalus molybdenus*



Scientific Name: *Botrychium echo* Wagner

Common Name: Reflected moonwort

Family: Ophioglossaceae - Adder's Tongue Family

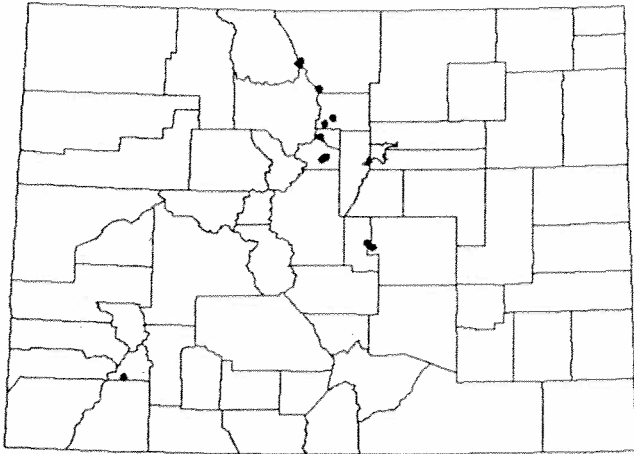
Synonyms: None

Global Distribution: Northern Arizona, northern Utah, central Colorado (Boulder, Clear Creek, El Paso, Grand, Gunnison, Larimer and San Juan counties).

Managed Area Occurrence(s): Pike N. F.

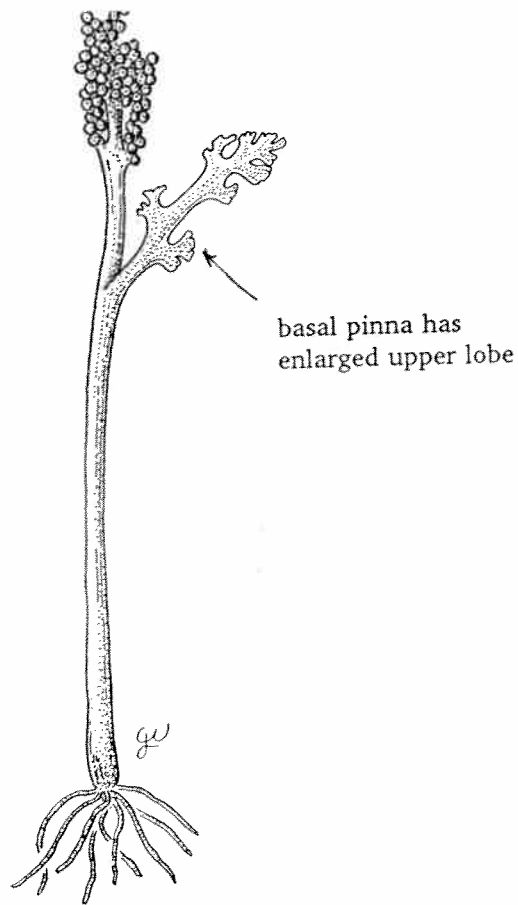
Habitat: Gravelly soils near roads and trails, rocky hillsides, grassy slopes, meadows.  
Elevation 9,500 to 11,000 ft (2,900 to 3,350 m).

Look-alikes: The lower pinnae of *B. echo* are well separated and linear to lanceolate with pointed tips; those of *B. lunaria*, *B. pallidum*, *B. "colorado"* and *B. simplex* are fan- or wedge-shaped; those of *B. hesperium* and *B. pinnatum* are oblong to ovate with rounded tips and not clearly separated. In addition, *B. hesperium* is dull green while *B. echo* is bright green.



*Botrychium echo*

plant pale green  
glaucous



basal pinna has  
enlarged upper lobe

Scientific Name: *Botrychium pallidum* W.H. Wagner

Common Name: Pale moonwort

Family: Ophioglossaceae - Adder's Tongue Family

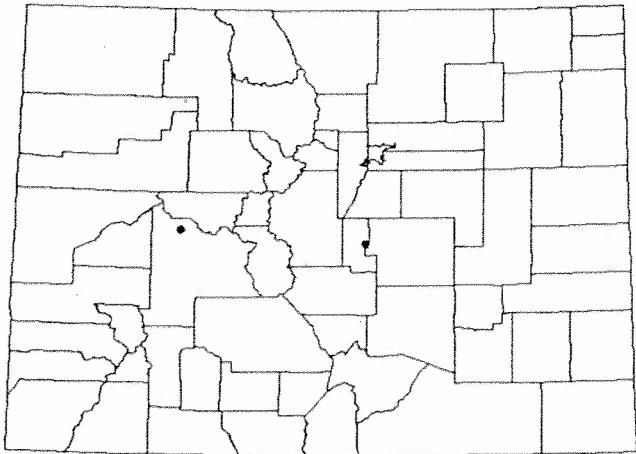
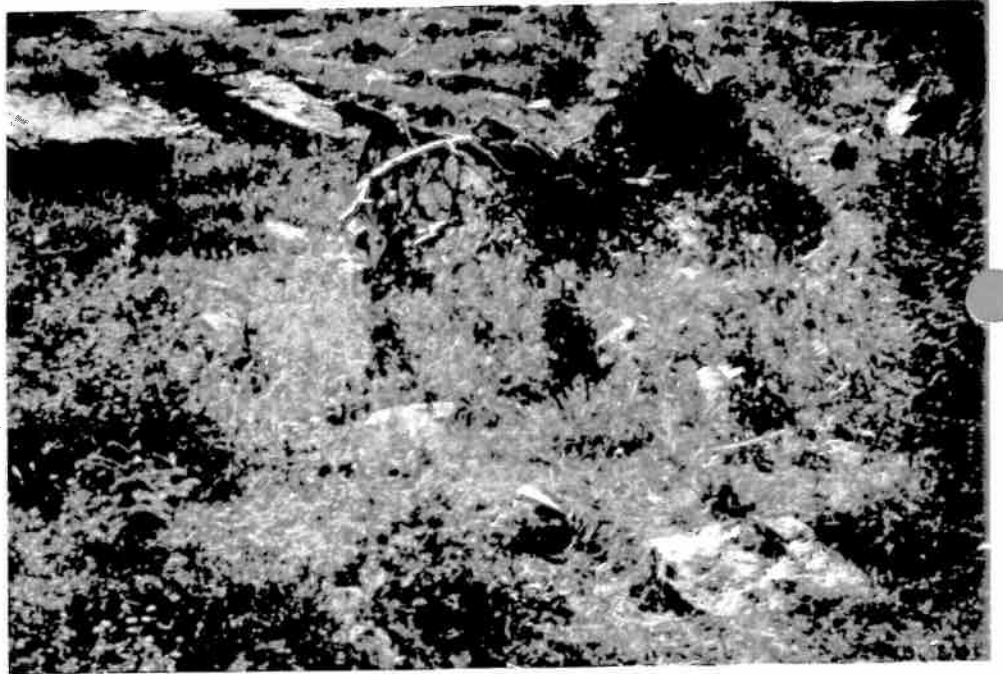
Synonyms: None

Global Distribution: Southern Canada, Michigan, Colorado (Boulder, Conejos, Gunnison, Larimer, Park and Teller counties).

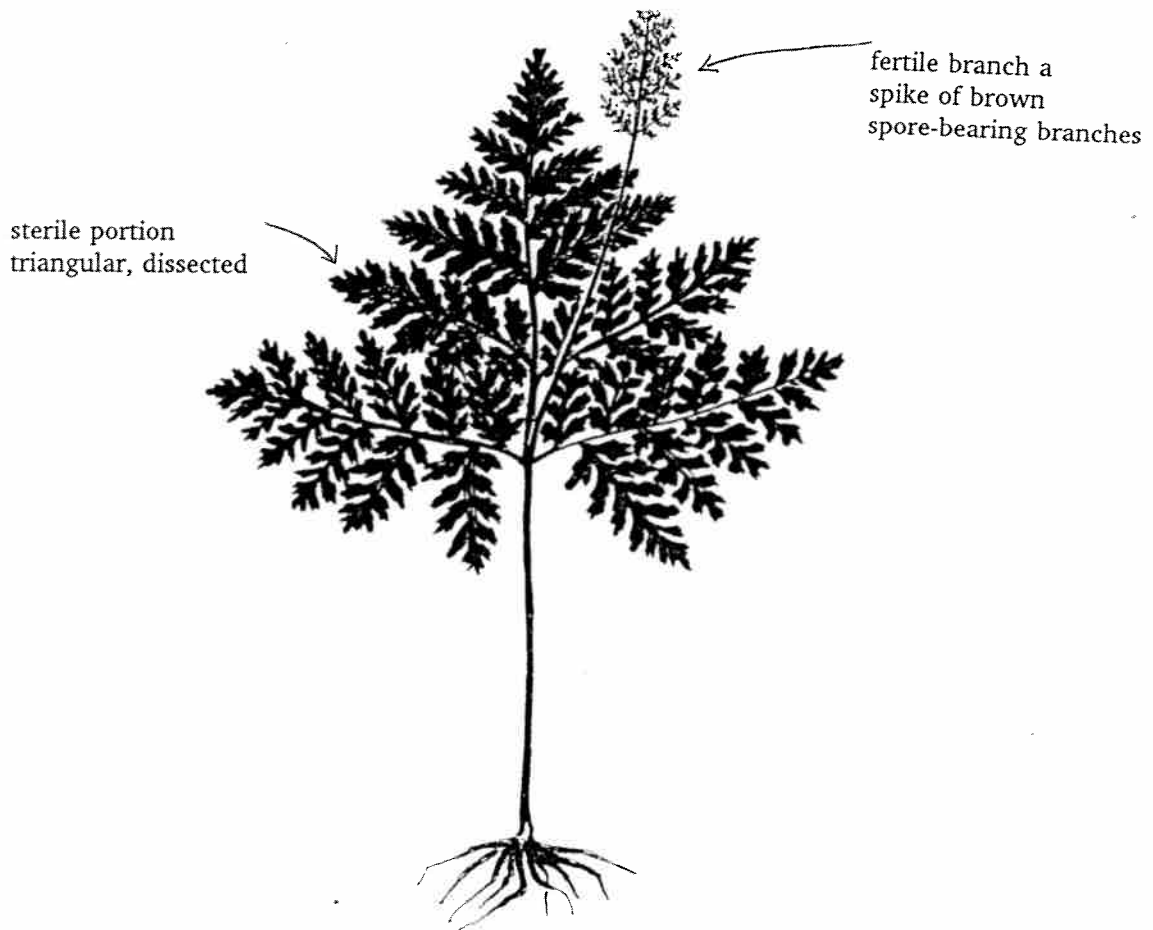
Managed Area Occurrence(s): Pike N.F.

Habitat: Old mining town sites , soil pockets on limestone. Elevation 10,000 - 11,800 ft (3,300 - 3,575 m).

Look-alikes: Other *Botrychium* species with fan- or wedge-shaped pinnae are *B. lunaria*, *B. minganense* form "colorado" and *B. simplex*; *B. lunaria* has broadly fan-shaped as opposed to narrowly fan-shaped pinnae; *B. simplex* has upper pinnae irregularly fused, not deeply divided as in *B. pallidum*. *B. pallidum* is a distinctive pale green color and also has a enlarged upper lobe on the basal segment.



*Botrychium pallidum*



Scientific Name: *Botrychium virginianum* (L.) Swartz ssp. *europaeum*

Common Name: Rattlesnake fern

Family: Ophioglossaceae - Adder's Tongue Family

Synonyms: *Botrypus virginianus* (L.) Holub subsp. *europaeus* (Ångström) Holub

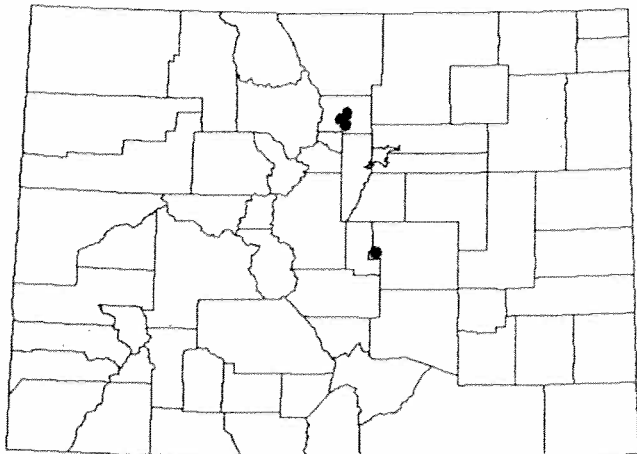
Global Distribution: Asia, Europe, Canada, northeastern and north-central US (Michigan, Wisconsin, Minnesota), Oregon, Wyoming and Colorado (Boulder and El Paso counties).

Managed Area Occurrence(s): Pike N.F.

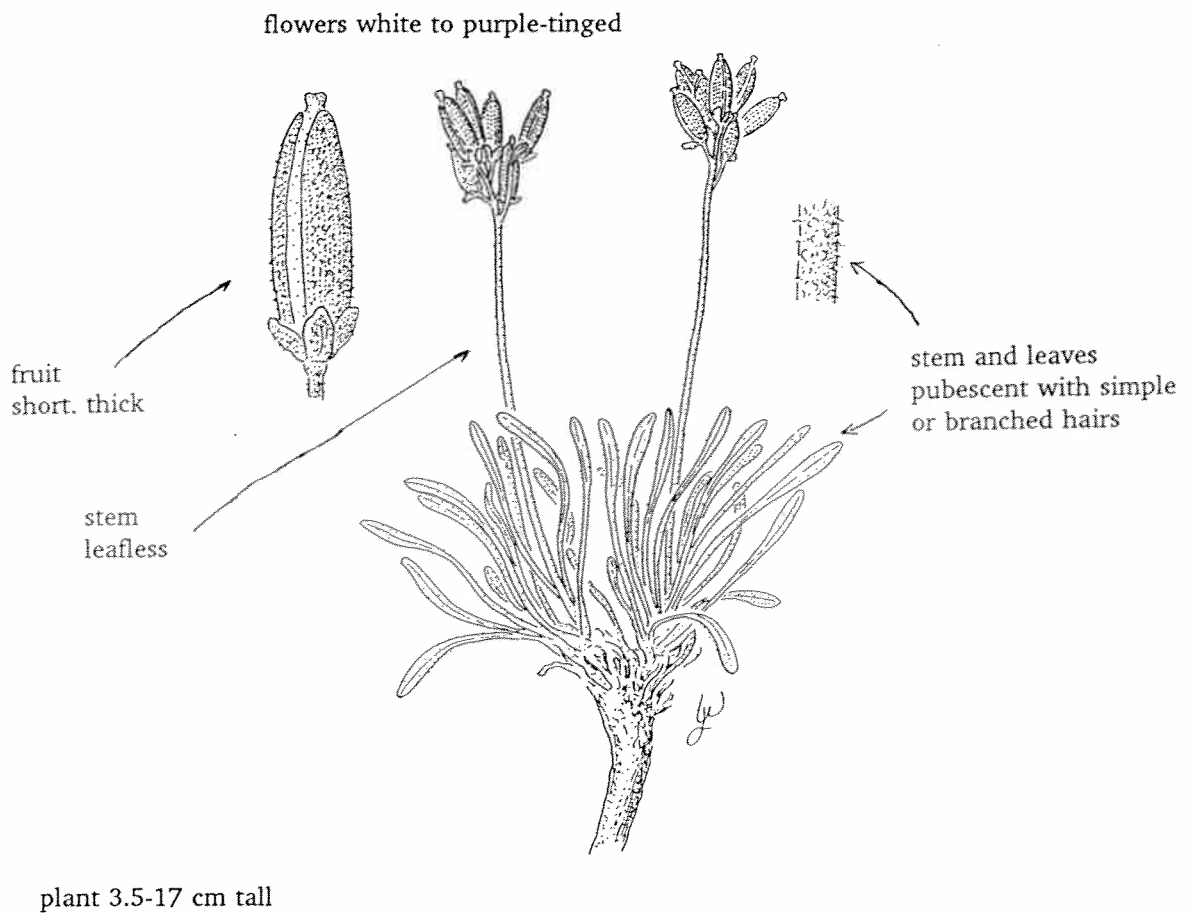
Habitat: Springs and moist areas in cool ravines. Elevation 6,000 to 9,500 ft (1,800 to 2,900 m).

Look-alikes: Differs from other *Botrychium* species in being about 3 to 4 times taller and having the green sterile portion triangular and finely dissected rather than pinnatifid and coarsely dissected.





*Botrychium virginianum*



**Scientific Name:** *Braya glabella* Richardson

**Common Name:** Arctic braya

**Family:** Brassicaceae (Cruciferae) - Mustard Family

**Synonyms:** None

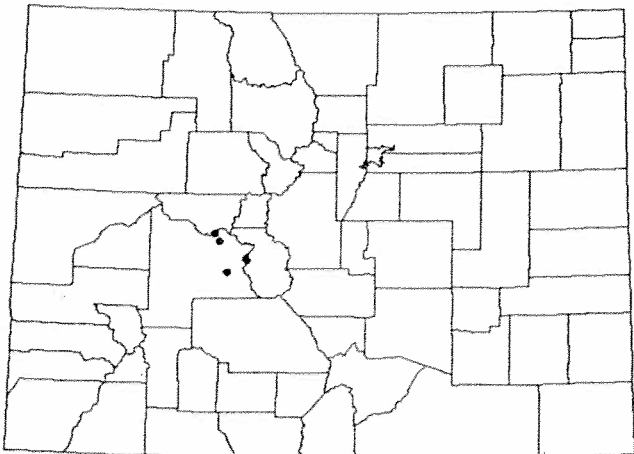
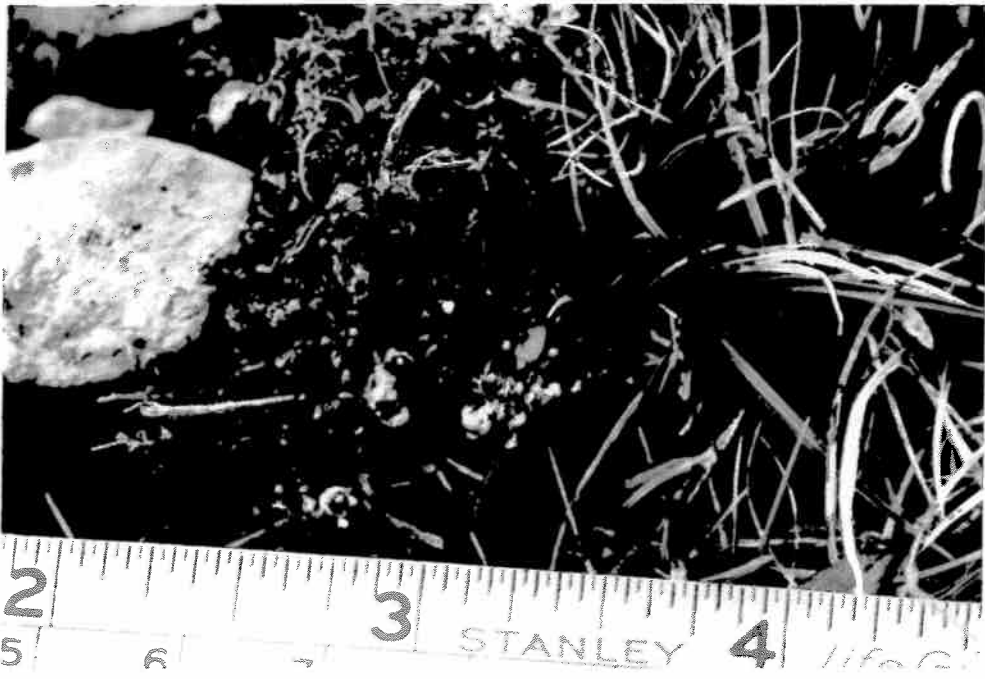
**Global Distribution:** Alaska, Yukon, British Columbia, Northwest Territories, Quebec. Disjunct in central Colorado (Chaffee, Gunnison, Park, and Pitkin counties). The Colorado populations are approximately 1000 miles south of the main range.

**Managed Area Occurrence(s):** Pike and San Isabel N. F.

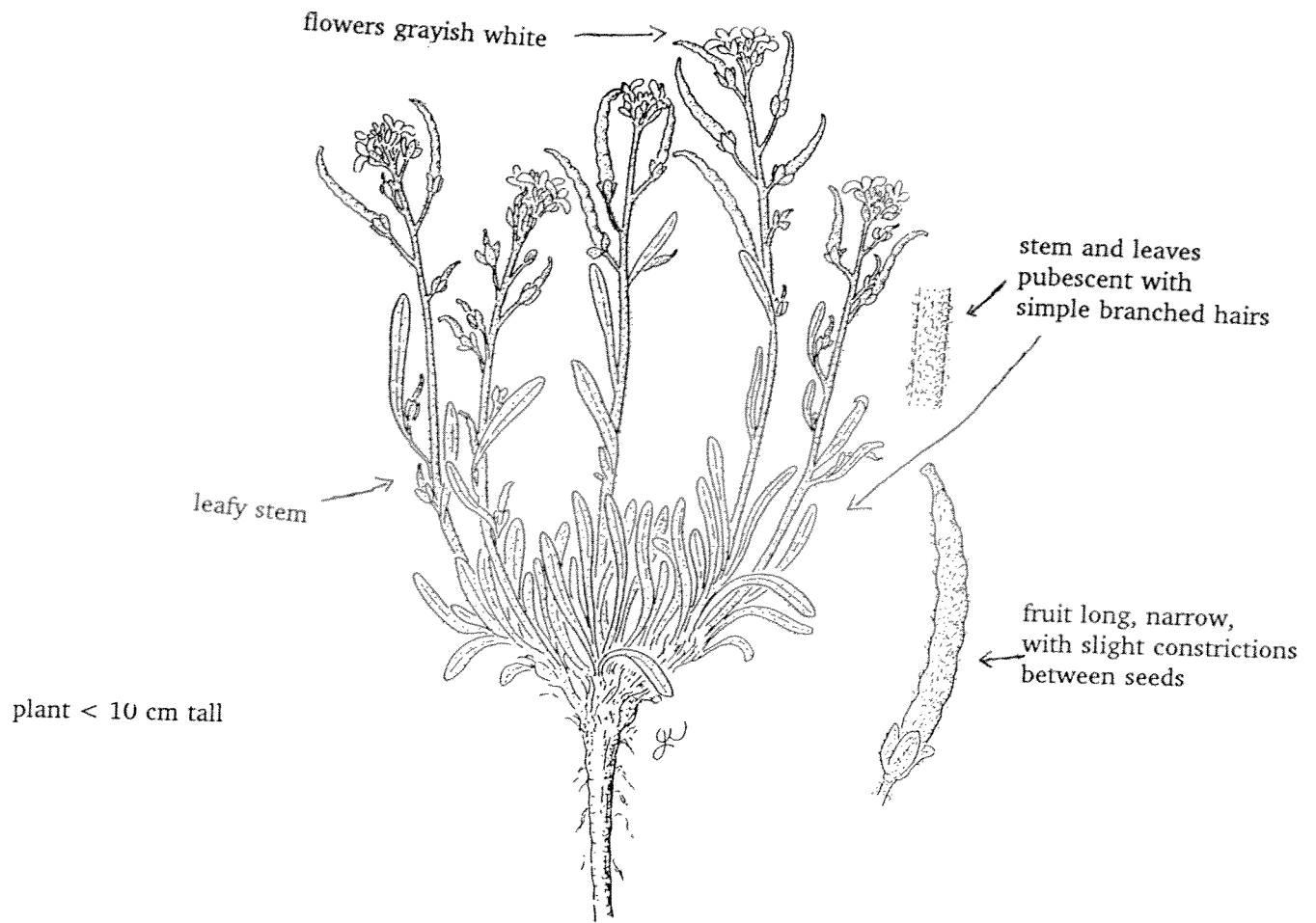
**Habitat:** Calcareous substrates (Leadville limestone and Manitou dolomite), scree slopes, disturbed gravel soils. Elevation 12,000 to 12,300 ft (3,650 to 3,750 m).

**Phenology:** Flowering late June to July, fruiting in August.

**Look-alikes:** Distinguished from *B. humilis*, with which it often occurs, by smaller stature, leafless stems, white to purple-tinged petals, and short thick fruits; *B. humilis* has long, narrow fruits and grayish white petals.



*Braya glabella*



**Scientific Name:** *Braya humilis* (C.A. Meyer) Robins. ssp. *ventosa* Rollins

**Common Name:** Alpine braya, dwarf braya

**Family:** Brassicaceae (Cruciferae) - Mustard Family

**Synonyms:** None

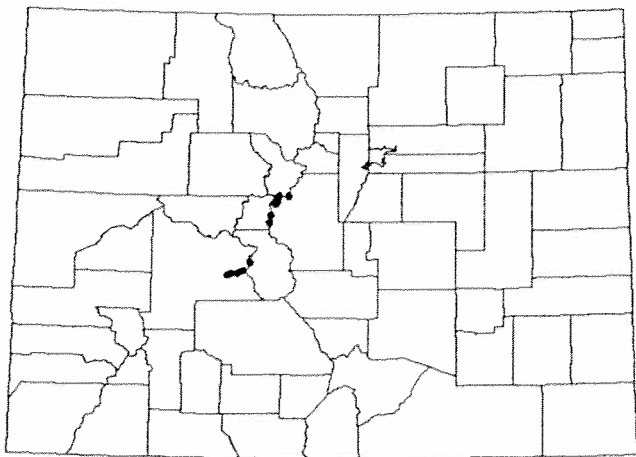
**Global Distribution:** Endemic to central Colorado (Chaffee, Gunnison, Park, Pitkin, and Summit counties).

**Managed Area Occurrence(s):** Pike and San Isabel N.F. - Dillon and South Park Ranger Districts.

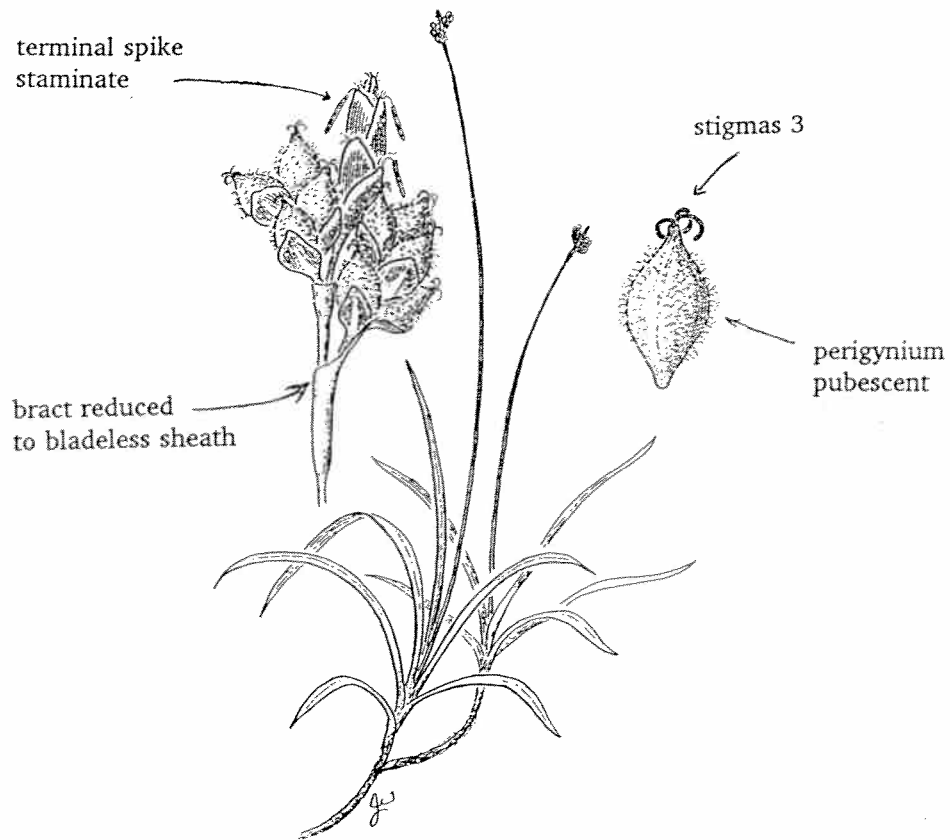
**Habitat:** Calcareous soils (Leadville limestone or Manitou dolomite), exposed slopes, solifluction lobes, scree slopes; seems to occur on slightly disturbed microsites. Elevation from 11,400 to 12,800 ft (3,475 to 3,900 m).

**Phenology:** Flowering mid-July, fruiting late July to August.

**Look-alikes:** Differs from *B. glabella*, with which it often occurs, in having several leaves on the stem, grayish-white flowers rather than white to purple-tinged, and long, slender, curved capsules with slight constrictions between the seeds, vs. short thick capsules.



*Braya humilis*



**Scientific Name:** *Carex concinna* R. Brown

**Common Name:** Low northern sedge

**Family:** Cyperaceae - Sedge Family

**Synonyms:** None

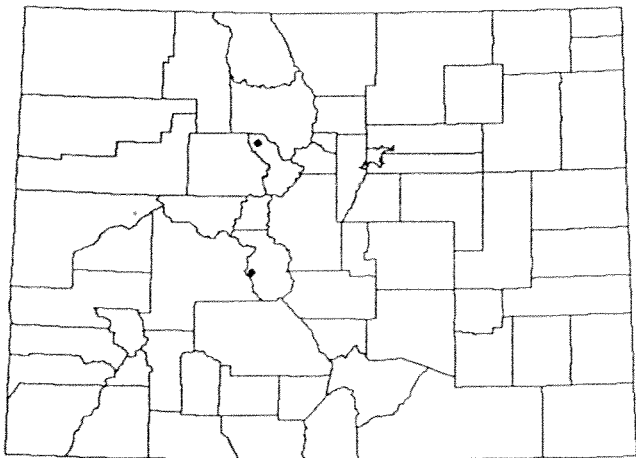
**Global Distribution:** Alaska, Yukon east to Newfoundland and south to South Dakota, Wisconsin, and Colorado (Chaffee and Summit counties).

**Managed Area Occurrence(s):** Pike and San Isabel N.F.

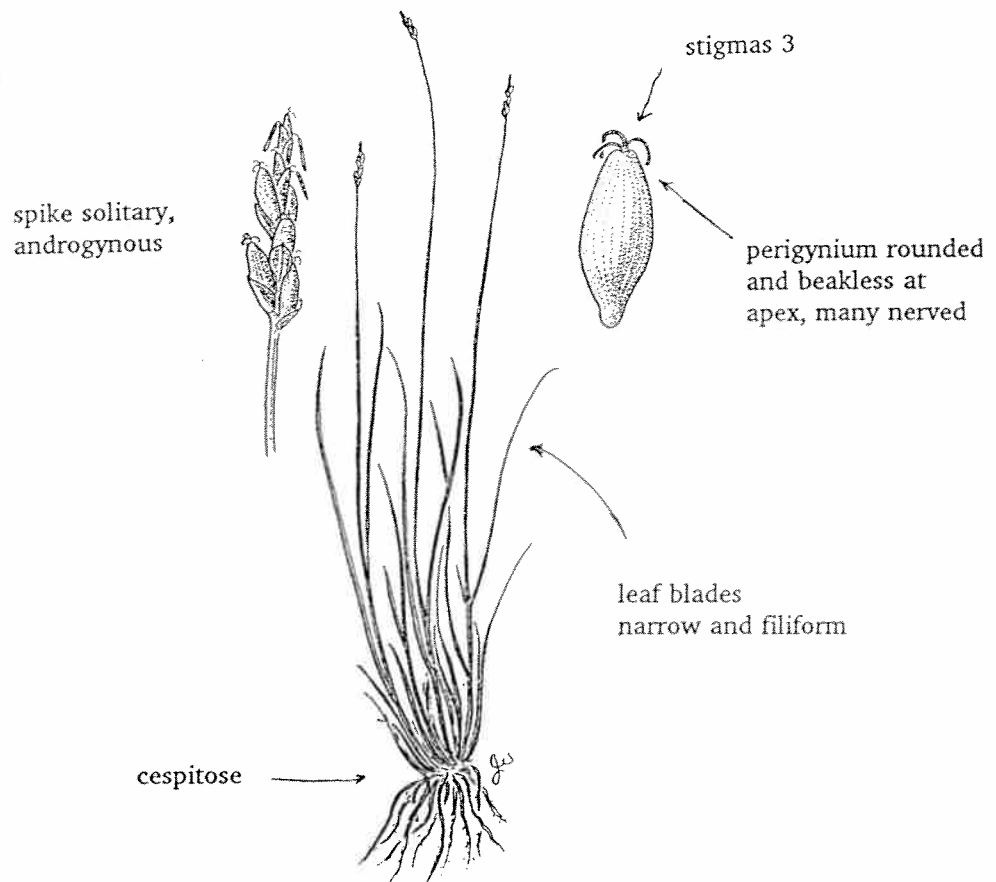
**Habitat:** Cool, moist forests, with mosses, on rich peaty soil, often calcareous. Elevation 8,000 to 10,500 ft (2,450 to 3,200 m).

**Phenology:** The few Colorado specimens in the CU Herbarium were collected with mature fruits in mid- to late July.

**Look-alikes:** *C. peckii*, which also has pubescent perigynia, has bracts with well-developed blades, while *C. concinna* has bracts reduced to bladeless sheaths.



*Carex coccinea*



Scientific Name: *Carex leptalea* Wahlenberg

Common Name: Bristle-stalk sedge

Family: Cyperaceae - Sedge Family

Synonyms: *Carex polytrichoides* Willdenow

Global Distribution: Alaska, Yukon to Nova Scotia, south to California, Florida, Texas, and Colorado (El Paso and Park counties).

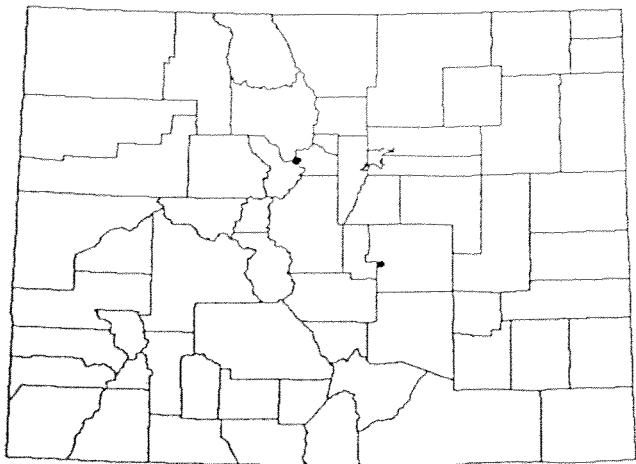
Managed Area Occurrence(s): Pike N. F.

Habitat: Wet meadows and bogs. Elevation up to 9,000 ft (2,750 m).

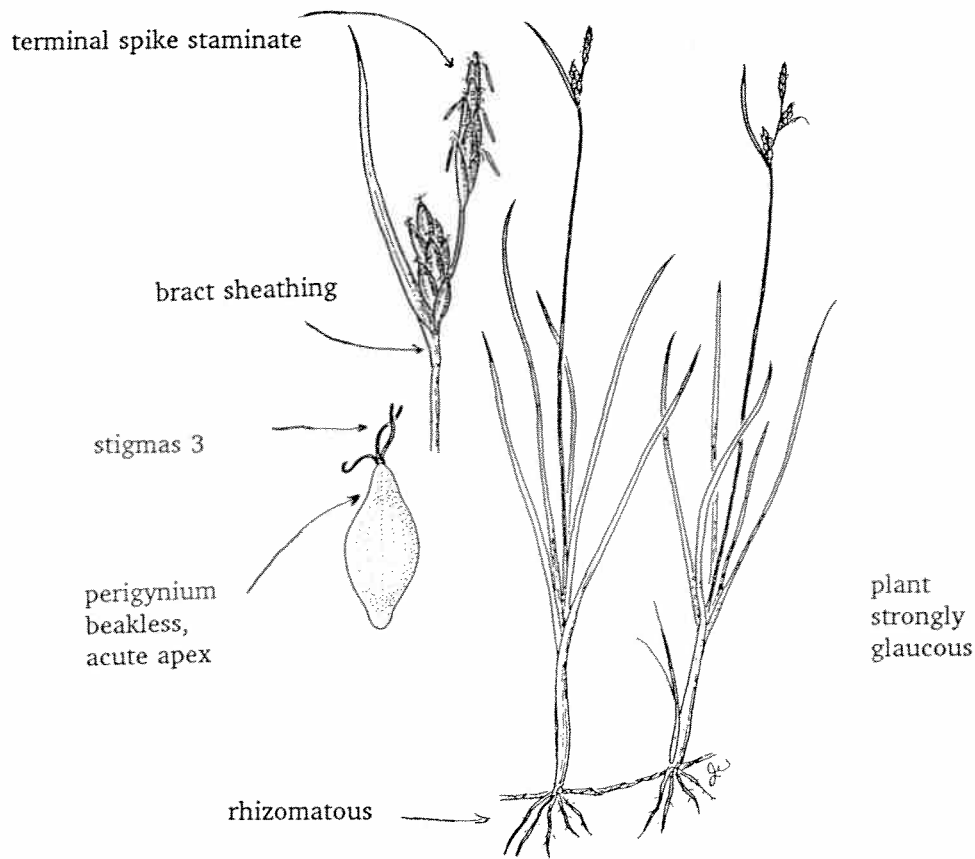
Phenology: Unknown.

Look-alikes: *C. leptalea* has distinctive perigynia--tapering to a blunt, beakless, sometimes notched apex. Other characteristics that distinguish it from the following similar species are: *C. tenuiflora* has more than one spike per head, and the spikes are broader. *C. dioica* var. *gynocrates* has fatter, reflexed perigynia. *C. geyeri* is a more robust plant with much broader leaves and only 1-3 conspicuous fat perigynia separated on the rachis from the staminate flowers.





*Carex leptalea*



**Scientific Name:** *Carex livida* (Wahlenberg) Willdenow

**Common Name:** Livid sedge

**Family:** Cyperaceae - Sedge Family

**Synonyms:** None

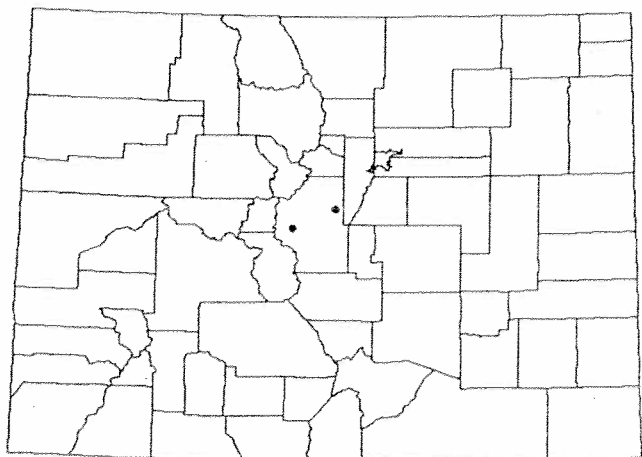
**Global Distribution:** Labrador, Newfoundland, Manitoba to the Aleutians Islands, south to New Jersey, Michigan, Montana, California, and Colorado (Larimer, Park counties)

**Managed Area Occurrence(s):** Pike N. F.

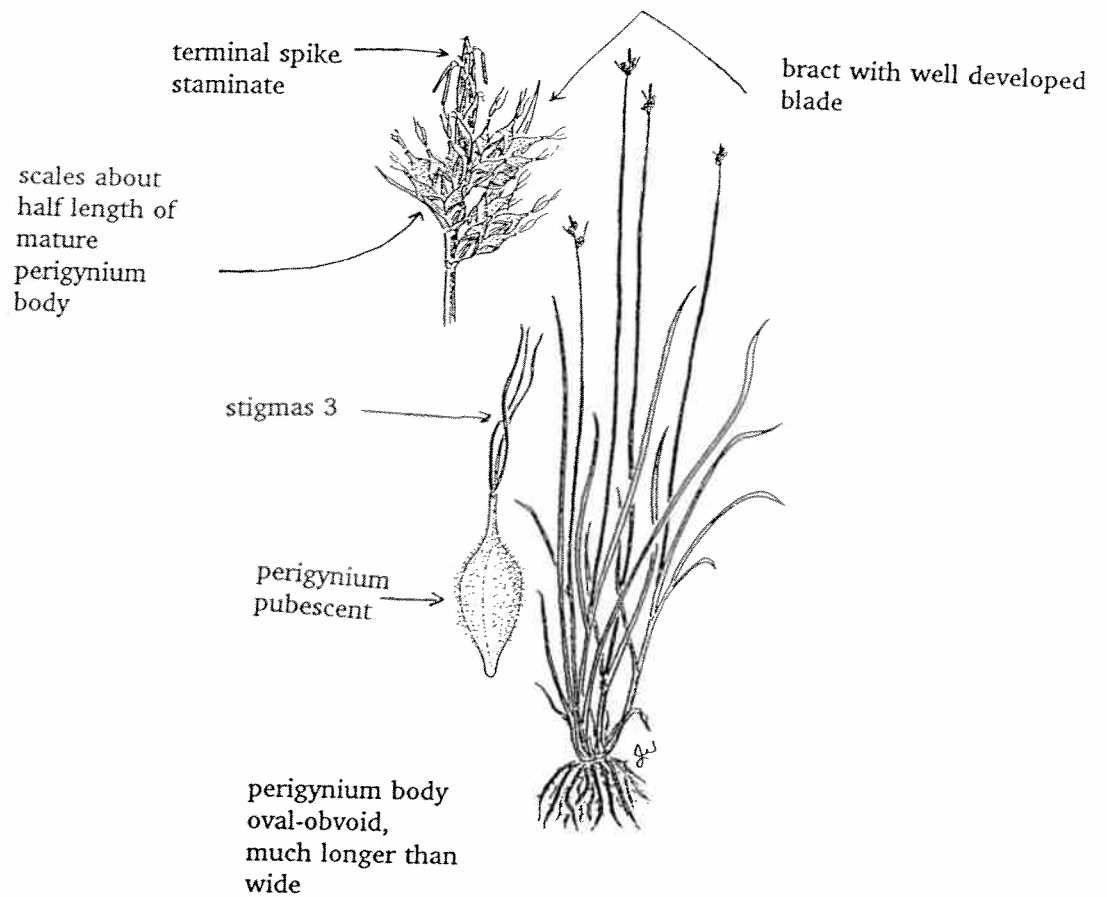
**Habitat:** Rich fens; graminoid dominated calcareous wetlands. Elevation from 9,000 to 10,000 ft (2,750 to 3,050 m).

**Phenology:** The few Colorado specimens in the CU Herbarium were collected with mature fruits in July through mid-August.

**Look-alikes:** *C. hassei* has rounded perigynia, while those of *C. livida* taper to an acute apex.



*Carex livida*



Scientific Name: *Carex peckii* E.C. Howe

Common Name: Peck sedge

Family: Cyperaceae - Sedge Family

Synonyms: None

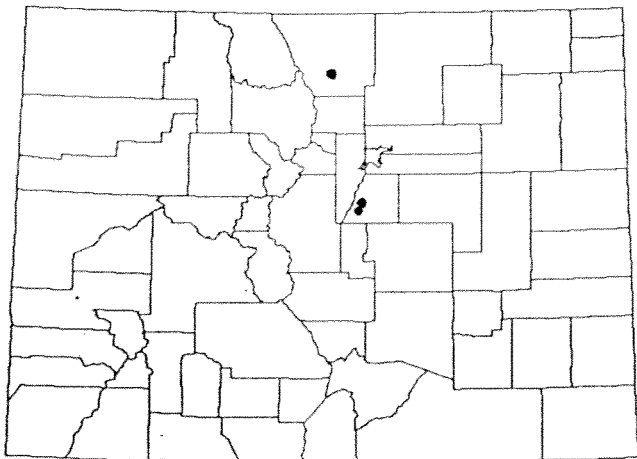
Global Distribution: Quebec to Yukon, south to New Jersey, Michigan, South Dakota, British Columbia and Colorado (Douglas and Larimer counties).

Managed Area Occurrence(s): Pike N.F.

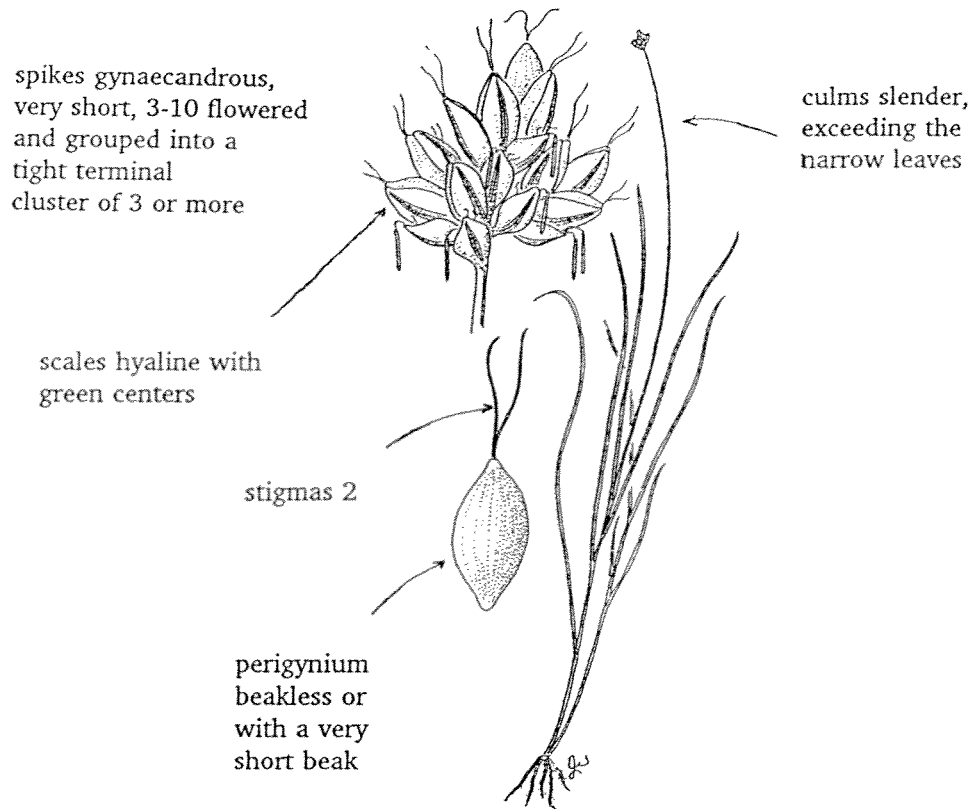
Habitat: Cool valleys in the foothills of the Front Range.

Phenology: The few Colorado specimens in the CU Herbarium were collected with mature fruits in June through early August.

Look-alikes: *C. concinna*, which also has pubescent perigynia, has bracts reduced to bladeless sheaths, while *C. peckii* has bracts with well-developed blades.



*Carex peckii*



**Scientific Name:** *Carex tenuiflora* Wahlenberg

**Common Name:** Slender flower sedge

**Family:** Cyperaceae - Sedge Family

**Synonyms:** None

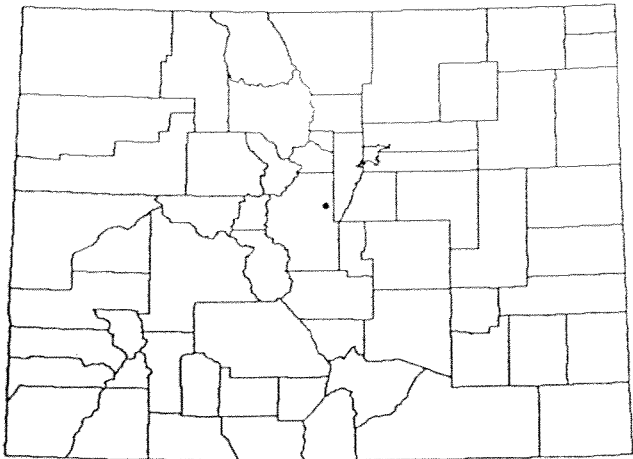
**Global Distribution:** Alaska, Yukon east to Newfoundland, south to Saskatchewan, Minnesota, and Maine. Disjunct in Colorado in Park County.

**Managed Area Occurrence(s):** Pike N. F.

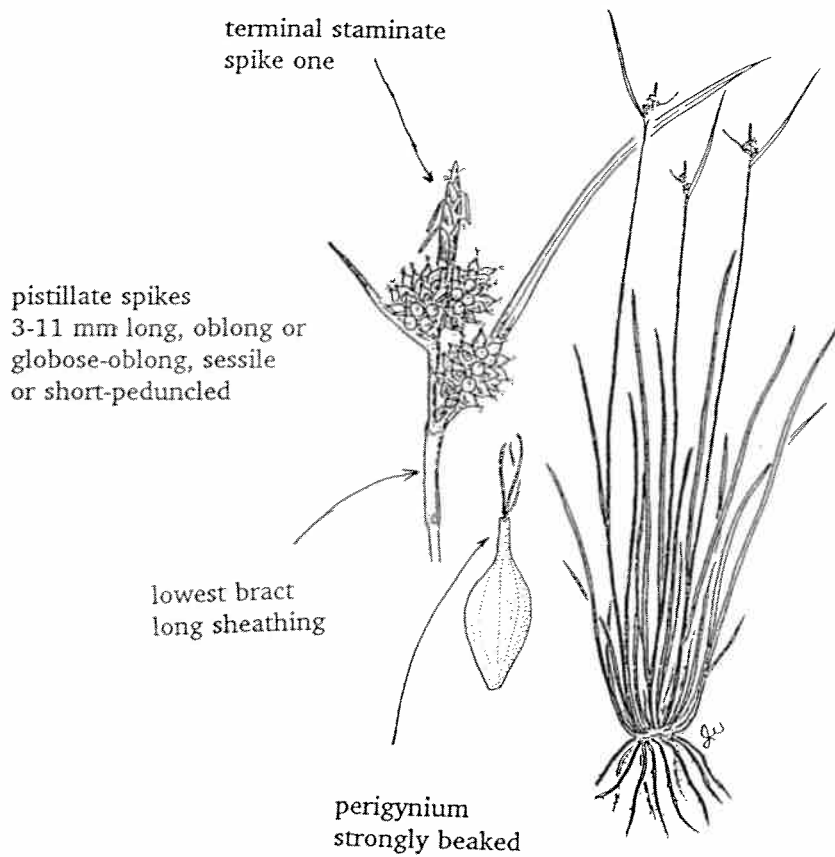
**Habitat:** Rich fens.

**Phenology:** The one Colorado specimen in the CU Herbarium was collected with mature fruits in mid-August.

**Look-alikes:** Similar to *C. leptalea*, which has only one spike, more slender than the 3 or more spikes of *C. tenuiflora*.



*Carex tenuiflora*



**Scientific Name:** *Carex viridula* Michaux

**Common Name:** Green sedge

**Family:** Cyperaceae - Sedge Family

**Synonyms:** *C. oederi* Retzius subsp. *viridula* (Michaux) Hultén

**Global Distribution:** Japan, Newfoundland to Alaska, south to New Jersey, Indiana, New Mexico, Utah, California. In Colorado, Gunnison, Jackson, La Plata and Park counties.

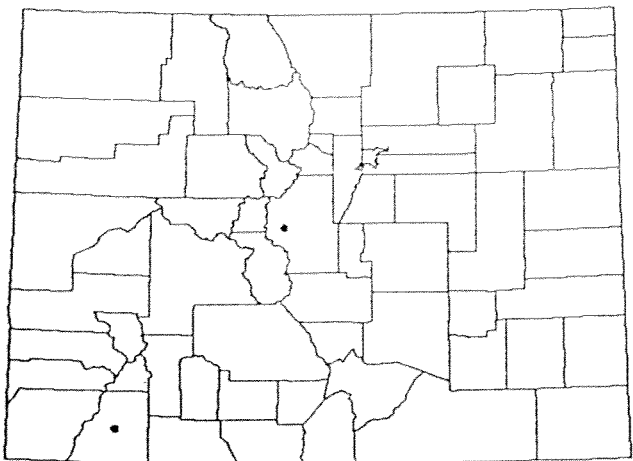
**Managed Area Occurrence(s):** May occur in Pike N.F.

**Habitat:** Calcareous fens.

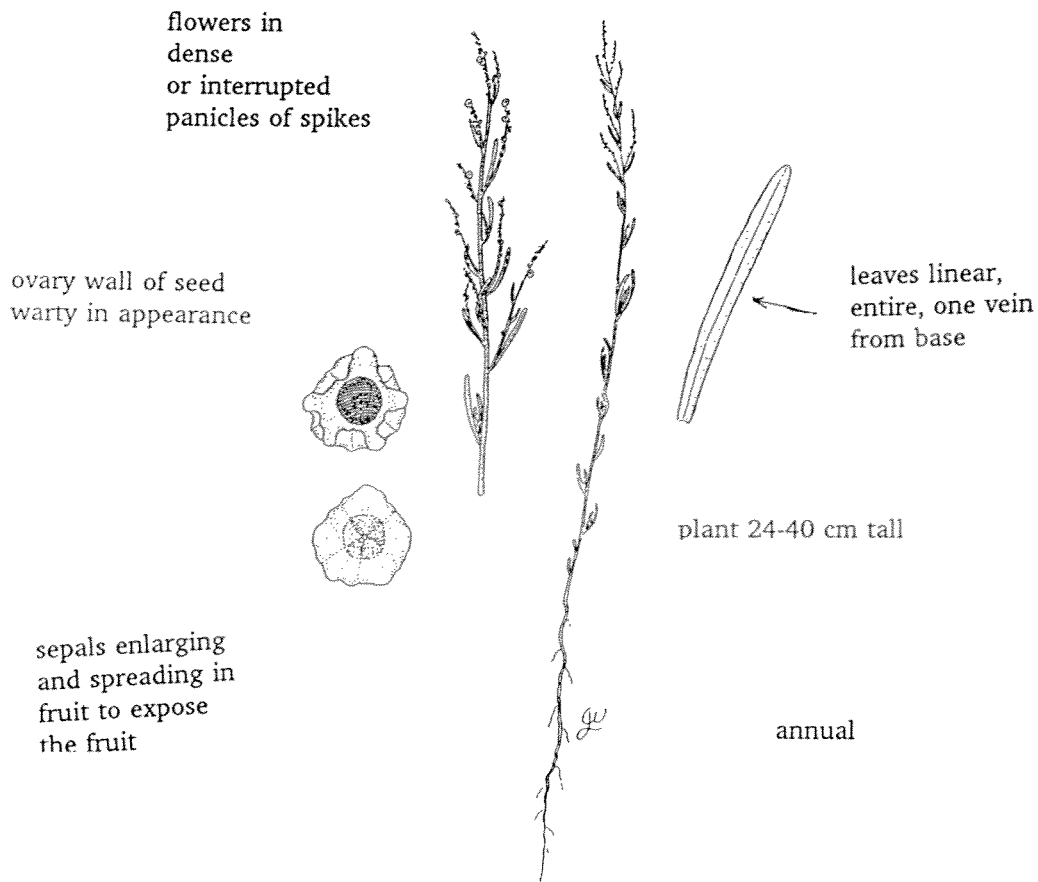
**Phenology:** The few Colorado specimens in the CU Herbarium were collected with mature fruits in early July through early October.

**Look-alikes:** *C. angustior*, *C. brunnescens*, *C. disperma* and *C. interior* have smaller spikes which are sessile and bisexual, while *C. viridula* has a staminate terminal spike and sessile or short-peduncled pistillate spikes.





*Carex viridula*



**Scientific Name:** *Chenopodium cycloides* A. Nelson

**Common Name:** Sandhill goosefoot

**Family:** Chenopodiaceae - Goosefoot Family

**Synonyms:** None

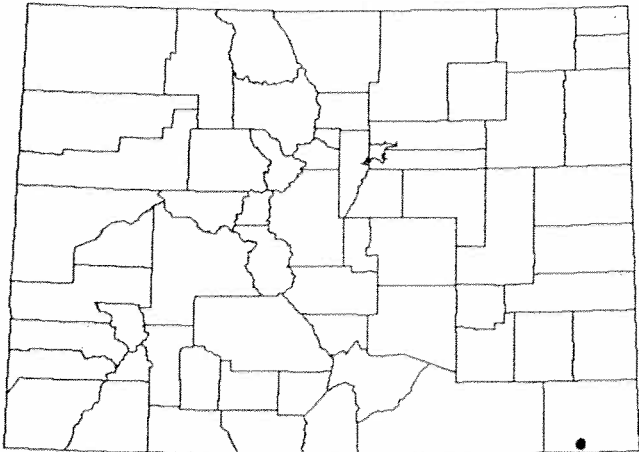
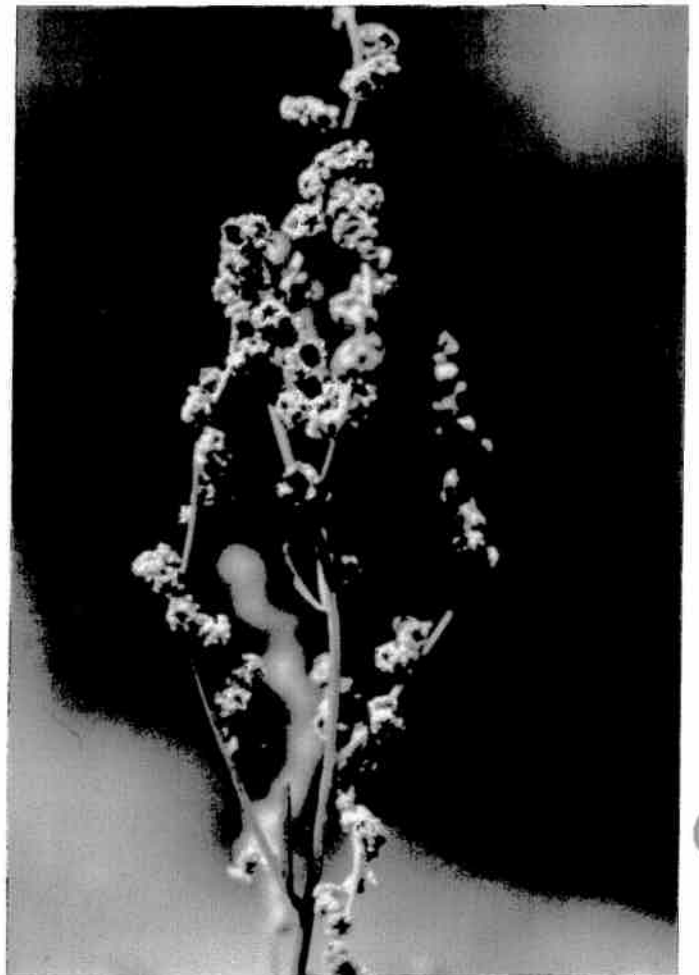
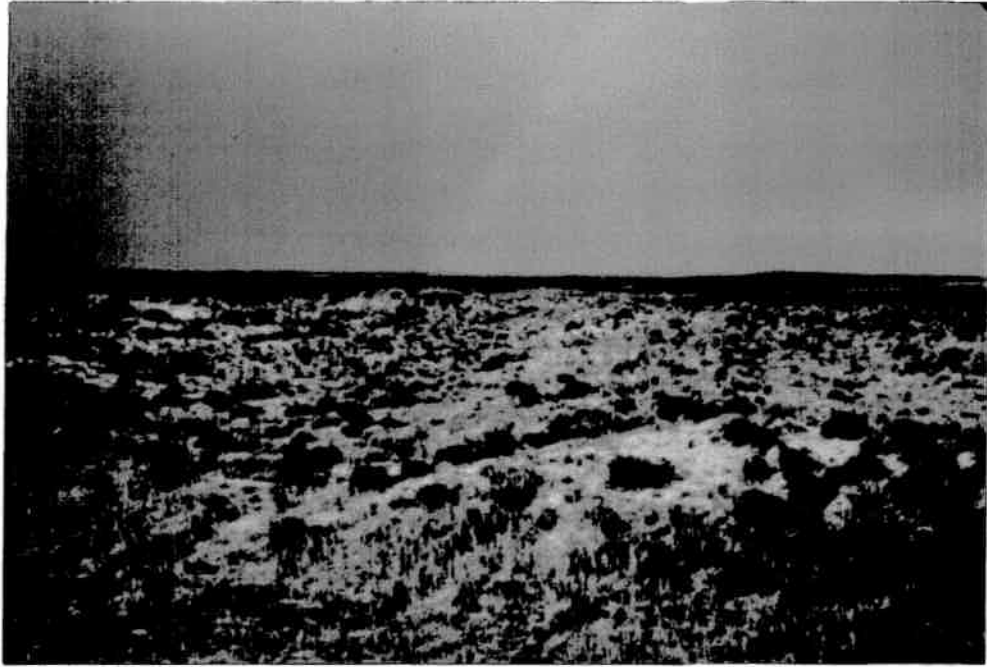
**Global Distribution:** Southwestern Kansas, southeastern Colorado (Las Animas and Pueblo counties); south through western Texas, west to south-central New Mexico.

**Managed Area Occurrence(s):** Cimarron N.G.; possibly Comanche N.G.

**Habitat:** Sandy soil on dunes, stabilized sand in blowouts.

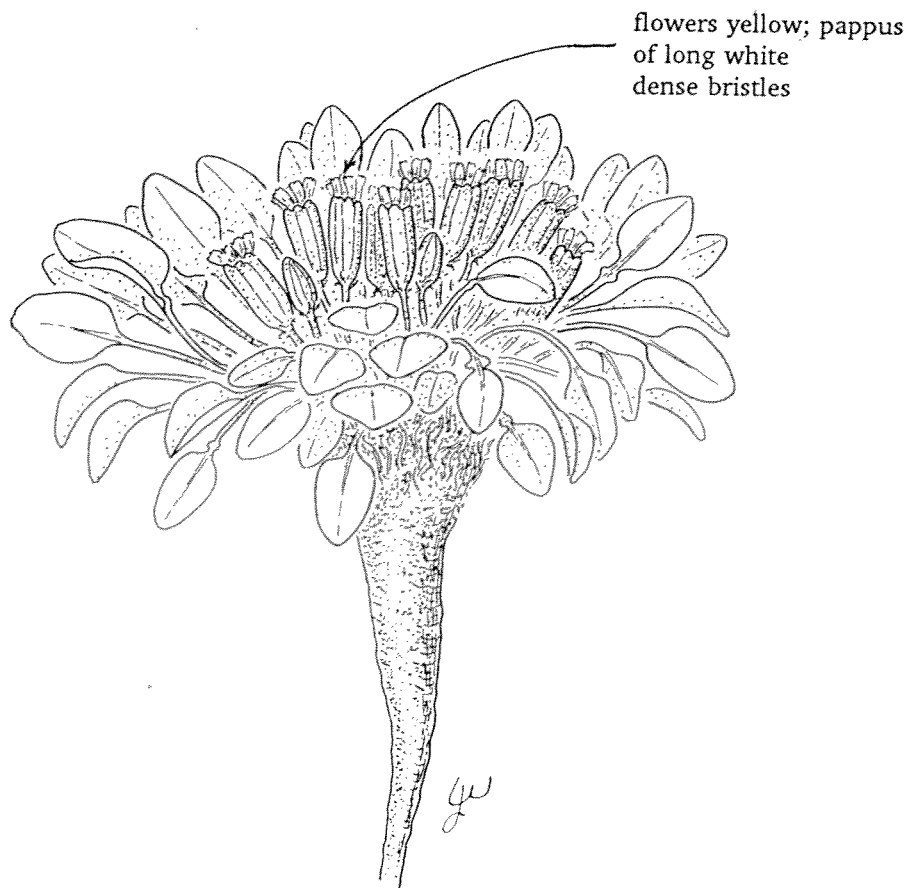
**Phenology:** Flowering July through August, fruiting August through September.

**Look-alikes:** Distinguished from *C. berlandieri*, *C. incanum* and *C. pratericola*, with which it often occurs in mixed populations, by its linear leaves with a single vein, partially fused sepals which spread at maturity revealing the reddish-purple fruit, and larger fruits.



*Chenopodium cycloides*

plant 2-7 cm tall,  
essentially glabrous,  
acaulescent



Scientific Name: *Crepis nana* ssp. *nana* Richardson

Common Name: Dwarf hawksbeard, alpine hawksbeard

Family: Asteraceae - Sunflower Family

Synonyms: *Askellia nana* (Richardson) W.A. Weber

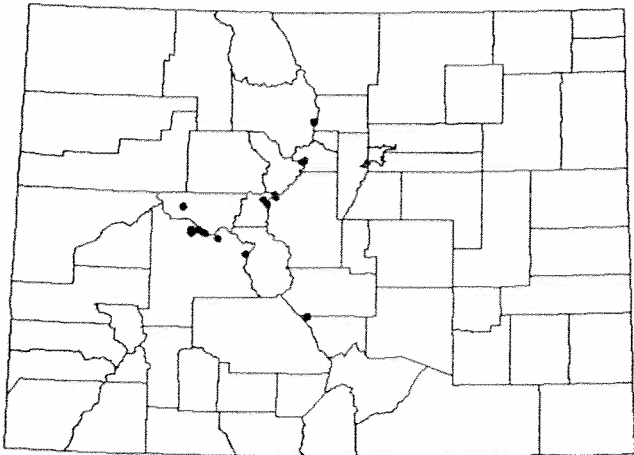
Global Distribution: Asia, eastern half of Alaska, most of Yukon; scattered across North America east to Labrador and Newfoundland, south to California, Utah, Nevada, central Colorado (Boulder, Chaffee, Clear Creek, Custer, Gunnison, Lake, Park, and Pitkin counties).

Managed Area Occurrence(s): Pike and San Isabel N. F.

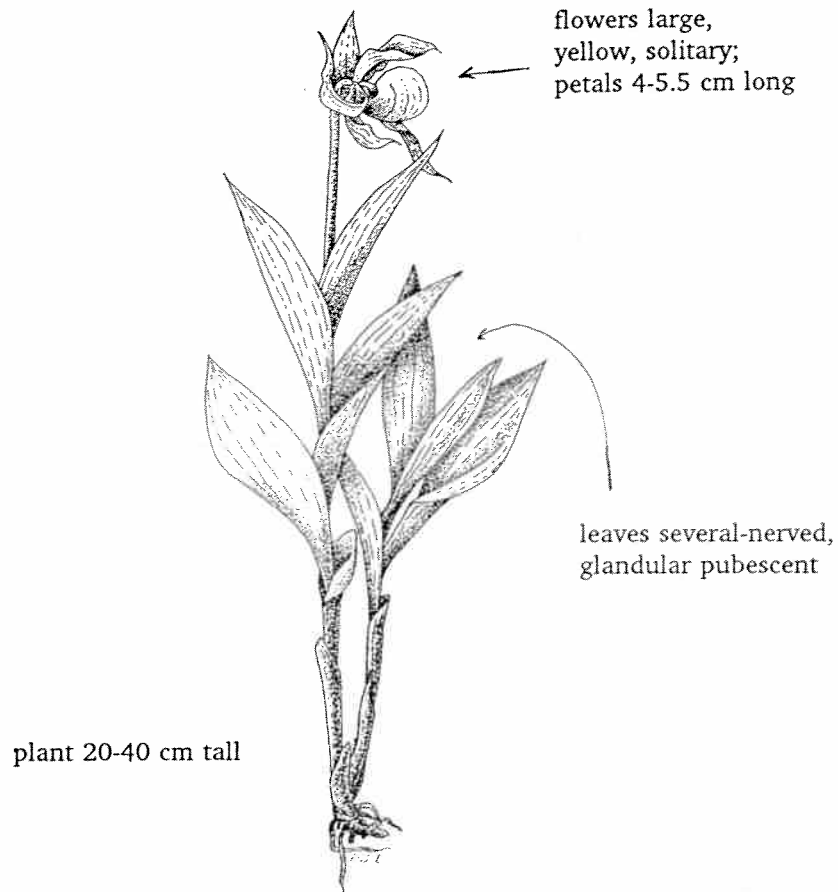
Habitat: Steep alpine scree and talus slopes. Elevation 10,000 to 14,000 ft (3,050 to 4,250 m).

Phenology: Flowering May to September.

Look-alikes: None; the only species in this genus known from Colorado.



*Crepis nana ssp. nana*



Scientific Name: *Cypripedium pubescens* (Willdenow) Correll

Common Name: Yellow ladies'-slipper, downy ladies'-slipper

Family: Cyripediaceae - Lady's slipper Family; (Orchidaceae - Orchid Family)

Synonyms: *C. calceolus* L. ssp. *parviflorum* (Salisbury) Hulten, *C. parviflorum* Salisbury var. *pubescens* (Willdenow) Knight, *C. pubescens* Willdenow

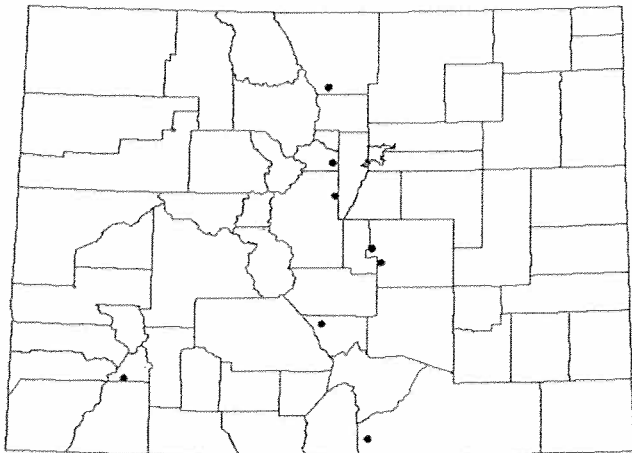
Global Distribution: Yukon east to Newfoundland, south to Louisiana, Arizona, and New Mexico. North-central, central, and south-central Colorado (Clear Creek, Custer, Douglas, El Paso, Huerfano, Jefferson, La Plata, Larimer, Las Animas, Montrose, Park and Pueblo counties).

Managed Area Occurrence(s): Pike and San Isabel N.F.

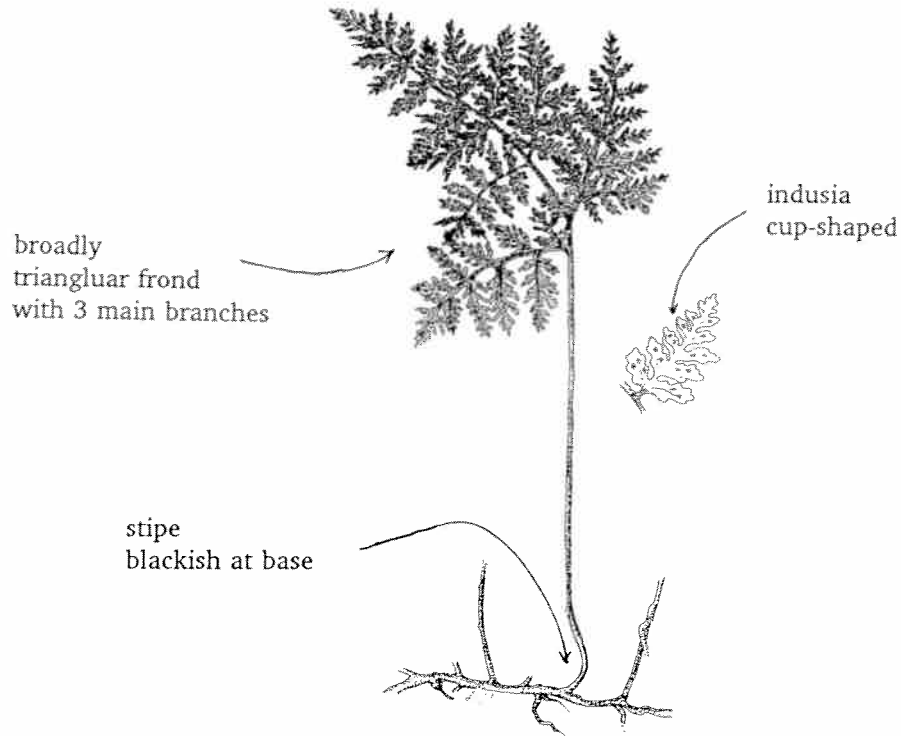
Habitat: Aspen groves and lodgepole pine forests. Elevation 8,000 to 10,000 ft (2,450 to 3,050 m).

Phenology: Flowering June and July.

Look-alikes: *C. fasciculatum* has small purple or dull brown-purple flowers rather than large yellow ones. *Calypta bulbosa* has a single pink flower and a single leaf



*Cypripedium pubescens*



**Scientific Name:** *Cystopteris montana* (Lamarck) Bernhardt ex Desvaux

**Common Name:** Mountain fragile-fern, mountain bladder fern

**Family:** Athyriaceae - Ladyfern Family

**Synonyms:** *Filix montana* (Lamarck) Underwood

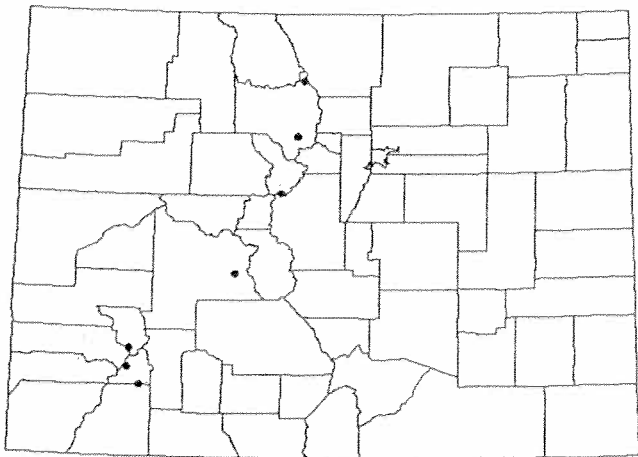
**Global Distribution:** Alaska, Yukon, south to southern British Columbia, northwest Montana, Quebec. Disjunct in central Colorado (Chaffee, Conejos, Grand, Gunnison, Ouray, San Juan, and Summit counties).

**Managed Area Occurrence(s):** San Isabel N.F.; may occur in Pike N.F.

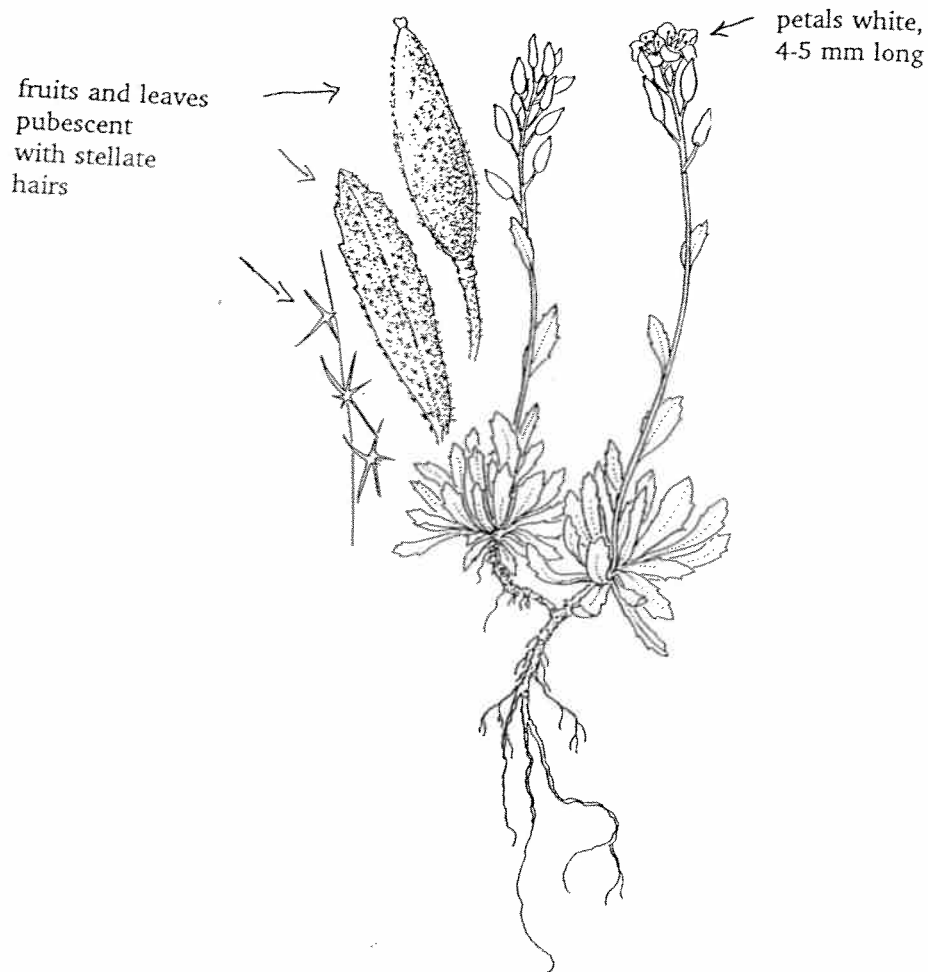
**Habitat:** Moist, rich soil in shady spruce-fir forests. Elevation 9,000 to 11,000 ft (2,750 to 3,350 m).

**Look-alikes:** Distinguished from other *Cystopteris* species (*C. fragilis*, *C. dickieana*, *C. tenuis* and *C. reevesiana*) by its broadly triangular fronds with three main branches, rather than pinnate fronds.





*Cystopteris montana*



**Scientific Name:** *Draba borealis* De Candolle

**Common Name:** Northern rockcress, boreal draba

**Family:** Brassicaceae (Cruciferae) - Mustard Family

**Synonyms:** None

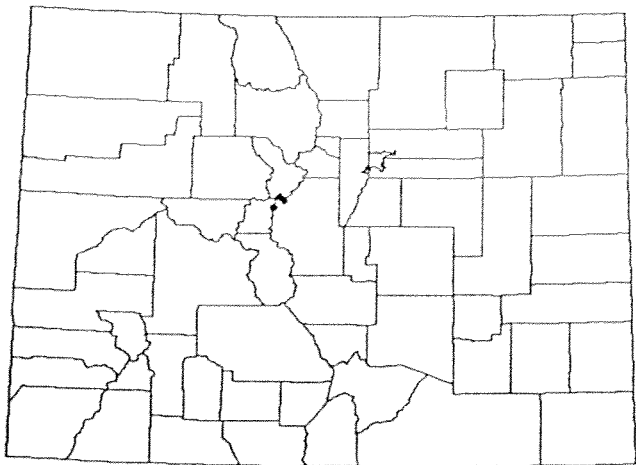
**Global Distribution:** Asia, coastal and interior southern and western Alaska, southern Yukon, British Columbia. Disjunct in central Colorado (Lake, Park and Summit counties).

**Managed Area Occurrence(s):** Pike and San Isabel N.F.

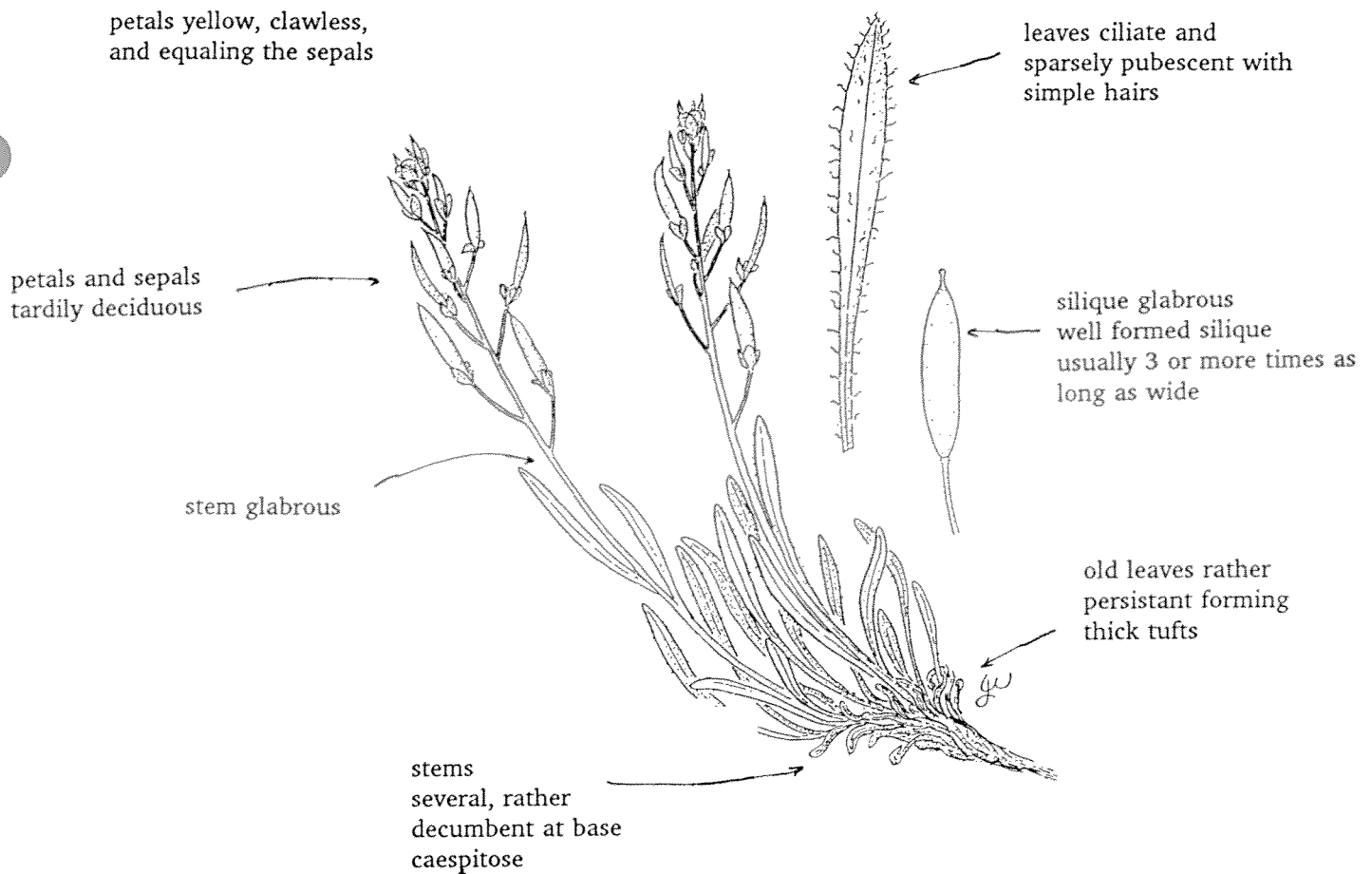
**Habitat:** Alpine tundra. Elevation 11,500 to 12,500 ft (3,500 to 3,800 m).

**Phenology:** Flowering and fruiting in July.

**Look-alikes:** *D. cana* has more densely pubescent leaves and slightly shorter petals (3.5-4 mm



*Draba borealis*



Scientific Name: *Draba exunguiculata* (O.E. Schulz) C.L. Hitchcock

Common Name: Clawless draba

Family: Brassicaceae (Cruciferae) - Mustard Family

Synonyms: *D. chrysantha* S. Watson, *D. chrysantha* S. Watson var. *exunguiculata* O.E. Schulz

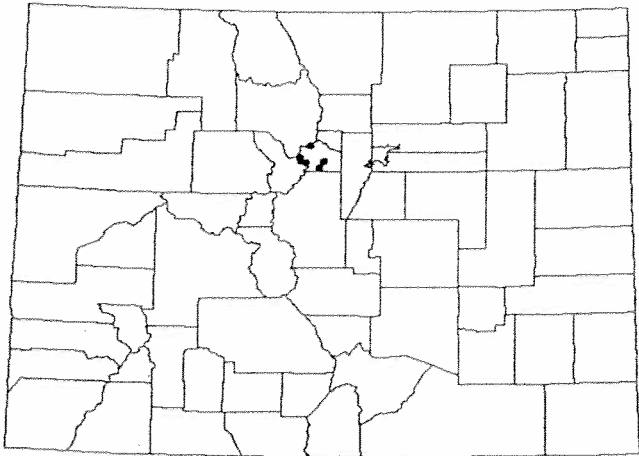
Global Distribution: Endemic to northern and central Colorado (Boulder, Clear Creek, El Paso, Grand, and Summit counties).

Managed Area Occurrence(s): Pike N.F.

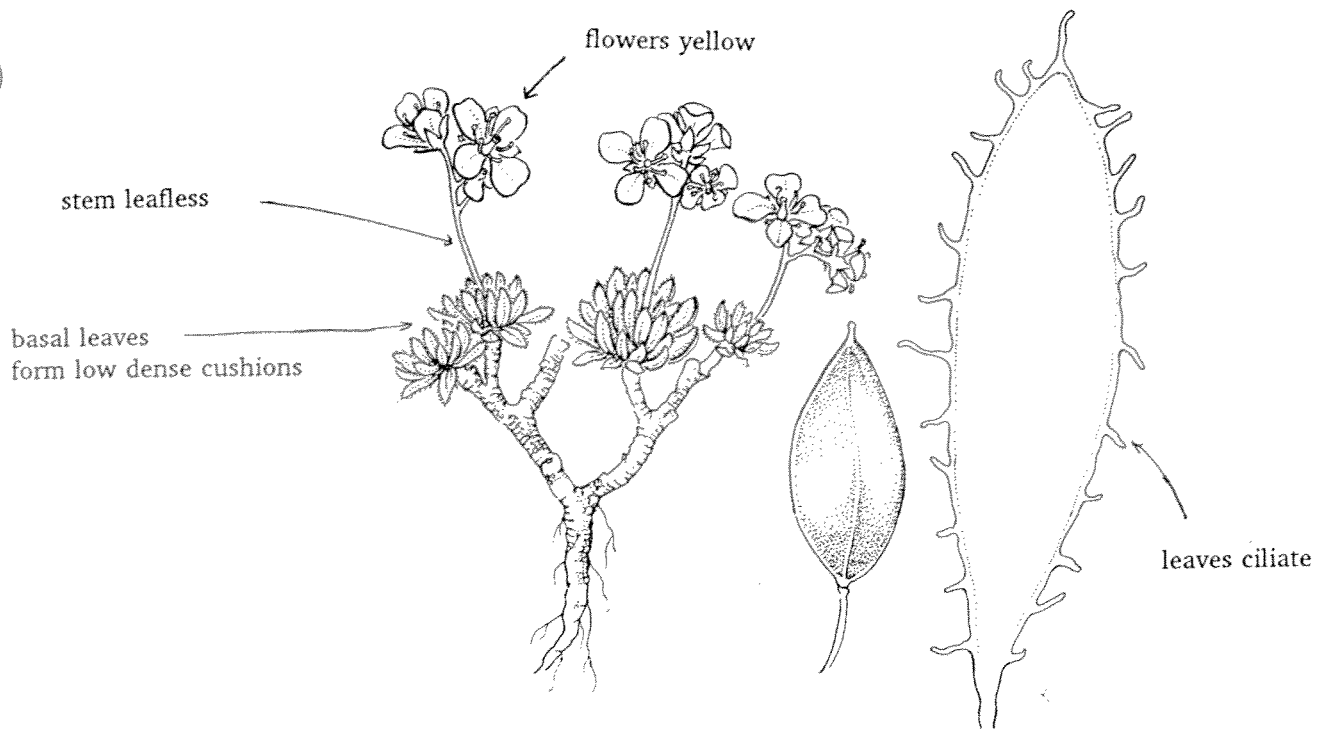
Habitat: Fell-fields, typically with granitic bedrock. Elevation 11,000 to 14,000 ft (3,350 to 4,250 m).

Phenology: Flowering and fruiting June through August.

Look-alikes: Distinguished from other yellow-flowered alpine *Draba* species having fewer than 4 stem leaves and growing in dry rocky sites as follows: *D. exunguiculata* has clawless petals, glabrous stems, and simple pubescence if any on leaves; *D. streptobrachia* has stellate or cruciform pubescence; *D. grayana* has dense tangled simple pubescence on the stems and clawed petals; *D. crassifolia* has much shorter styles (less than .15 mm); *D. crassa* has a sparsely pubescent stem and semi-succulent basal leaves, and usually has 4 or more stem leaves.



*Draba exunguiculata*



**Scientific Name:** *Draba globosa* Payson

**Common Name:** Rockcress draba, pointed draba

**Family:** Brassicaceae (Cruciferae) - Mustard Family

**Synonyms:** *Draba apiculata* C.L. Hitchcock

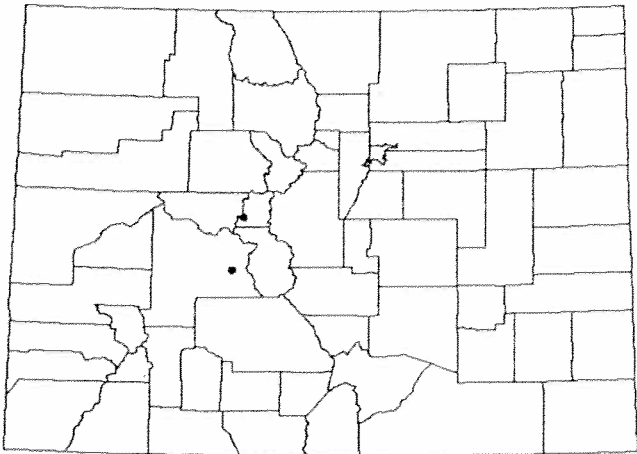
**Global Distribution:** Wyoming, Uinta and Wasatch Mountains in Utah, Bitterroot Mountains in Montana, central Colorado (Gunnison and Lake counties).

**Managed Area Occurrence(s):** San Isabel N.F.

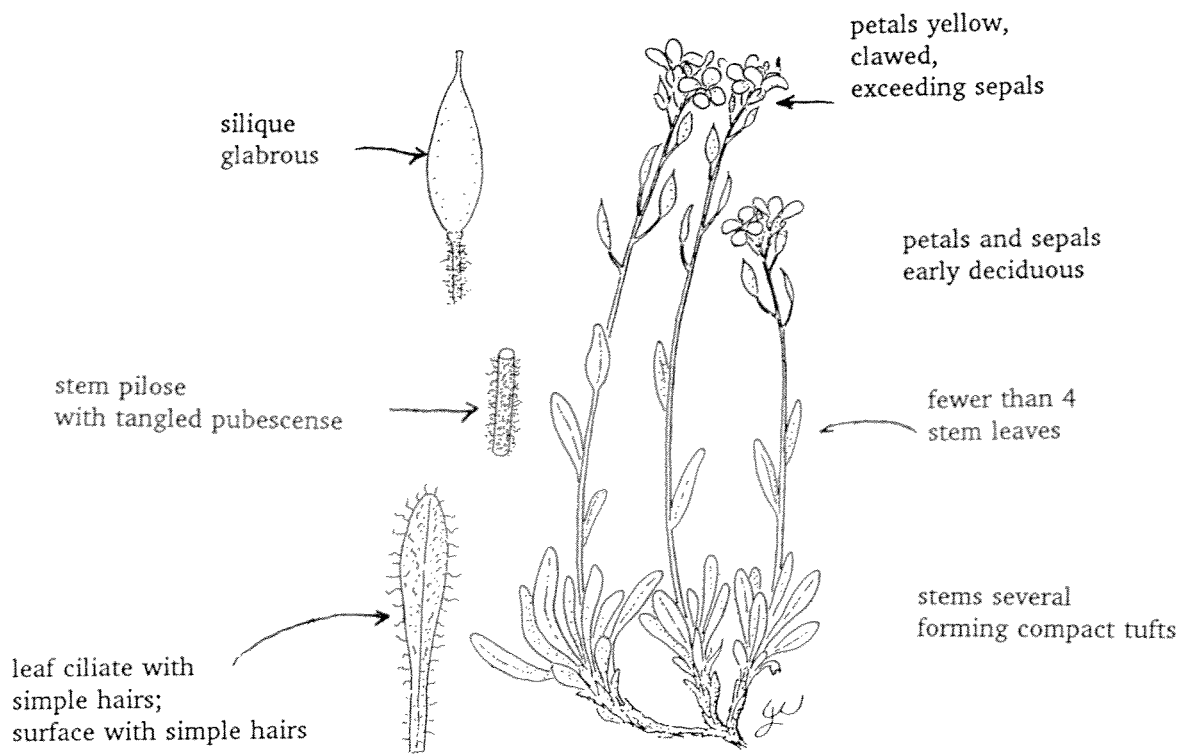
**Habitat:** Alpine meadows, granitic talus slopes, rock crevices. Elevation 11,500 to 12,500 ft (3,500 to 3,800 m).

**Phenology:** Flowering June through August.

**Look-alikes:** Differs from other yellow-flowered alpine Drabas without stem leaves in forming very low dense cushions with many short caudices, each topped by a cluster of broad and short incurved glabrous or ciliate leaves, forming minute cabbage-like heads. The most similar one, *D. oligosperma*, has pubescent leaves.



*Draba globosa*



Scientific Name: *Draba grayana* (Rydberg) C.L. Hitchcock

Common Name: Gray's Peak whitlow-grass

Family: Brassicaceae (Cruciferae) - Mustard Family

Synonyms: *D. alpicola* Osterhout, *D. chrysantha* S. Watson var. *hirticaulis* O.E. Schulz forma *perhumilis* O.E. Schulz, *D. streptocarpa* A. Gray var. *grayana* Rydberg

Global Distribution: Endemic to central and north-central Colorado (Boulder, Chaffee, Clear Creek, Gilpin, Grand, Lake, Larimer, Park, Saguache, and Summit counties).

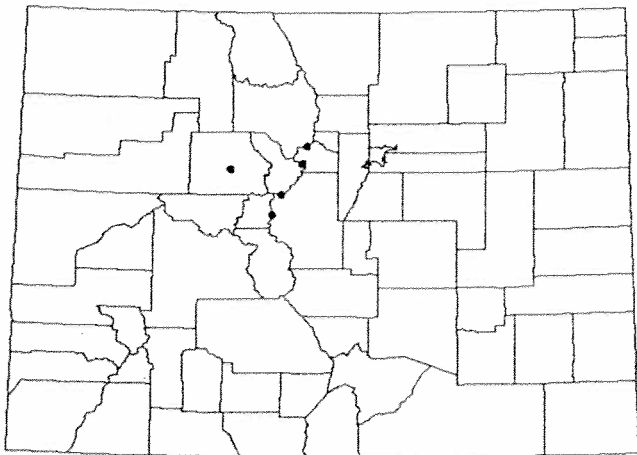
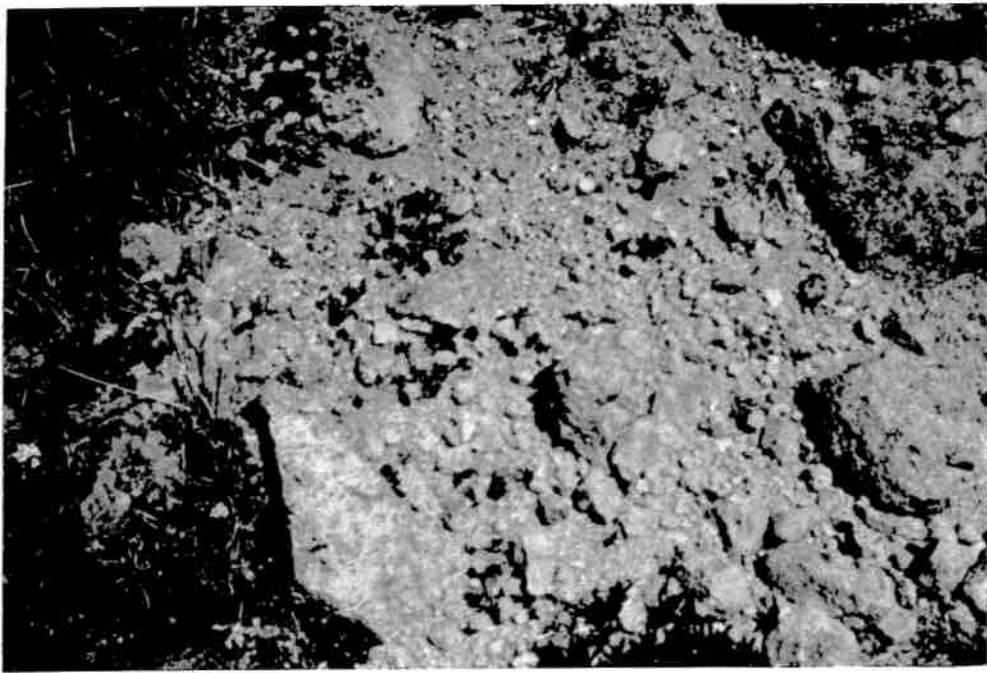
Managed Area Occurrence(s): Pike, San Isabel N.F.

Habitat: Alpine fell-fields. Elevation 12,000 to 14,000 ft (3,650 to 4,250 m).

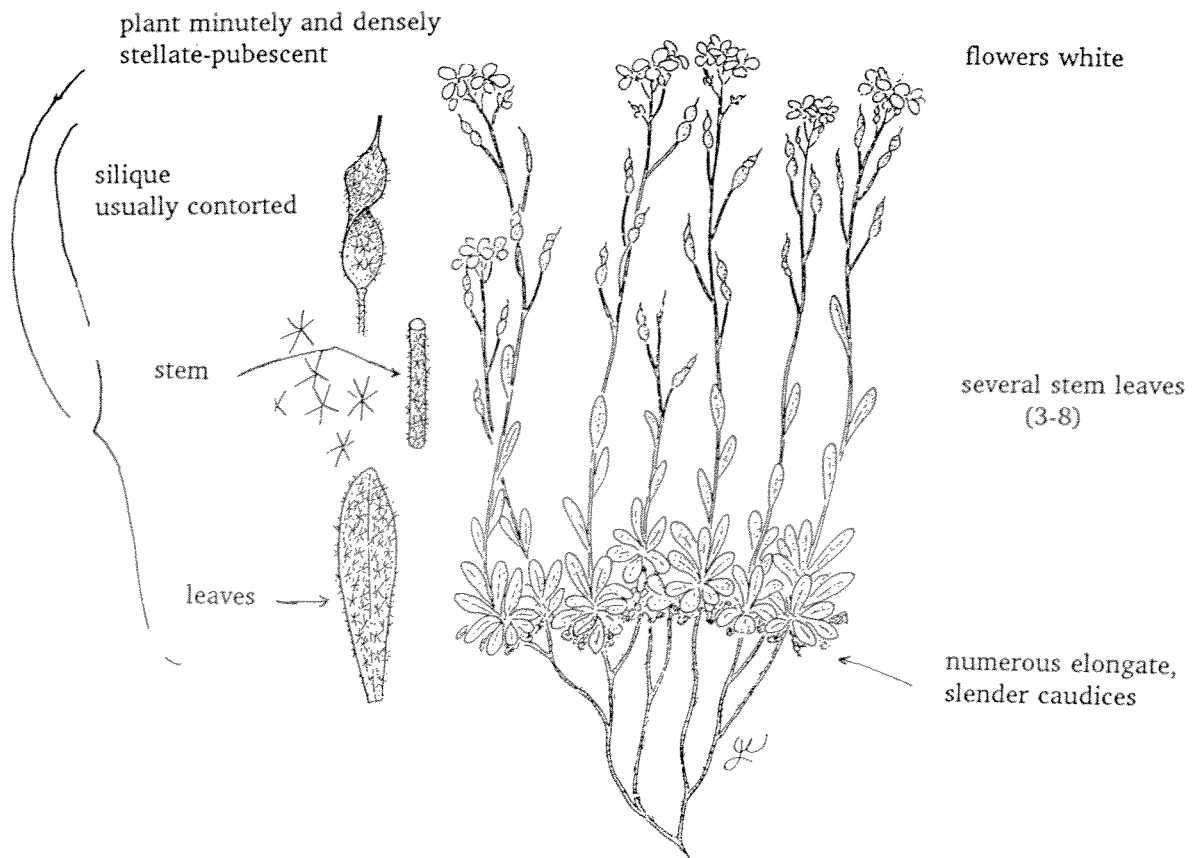
Phenology: Flowering and fruiting July through August.

Look-alikes: Distinguished from other yellow-flowered alpine *Drabas* having fewer than 4 stem leaves and growing in dry rocky sites as follows: *D. grayana* has clawed petals exceeding the sepals, and dense, tangled, simple pubescence on stems; *D. streptobrachia* has stellate or cruciform pubescence; and *D. exunguiculata* has glabrous stems and clawless petals equalling the sepals; *D. crassifolia* has a much shorter style (less than .15 mm); *D. crassa* has semi-succulent basal leaves that are glabrous on the surface (although ciliate-margined).





*Draba grayana*



**Scientific Name:** *Draba smithii* Gilg ex O.E. Schulz

**Common Name:** Smith whitlow-grass

**Family:** Brassicaceae (Cruciferae) - Mustard Family

**Synonyms:** None

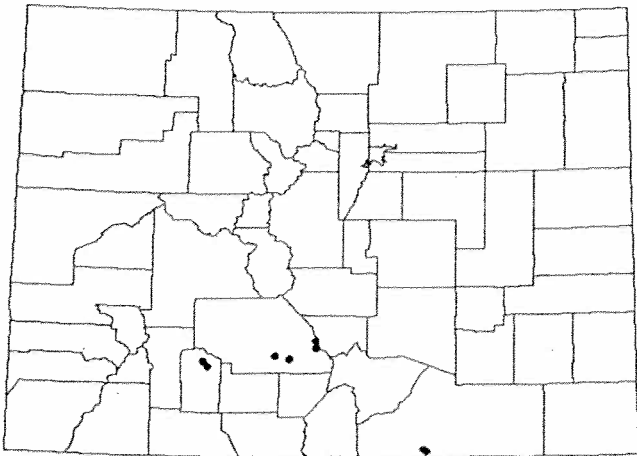
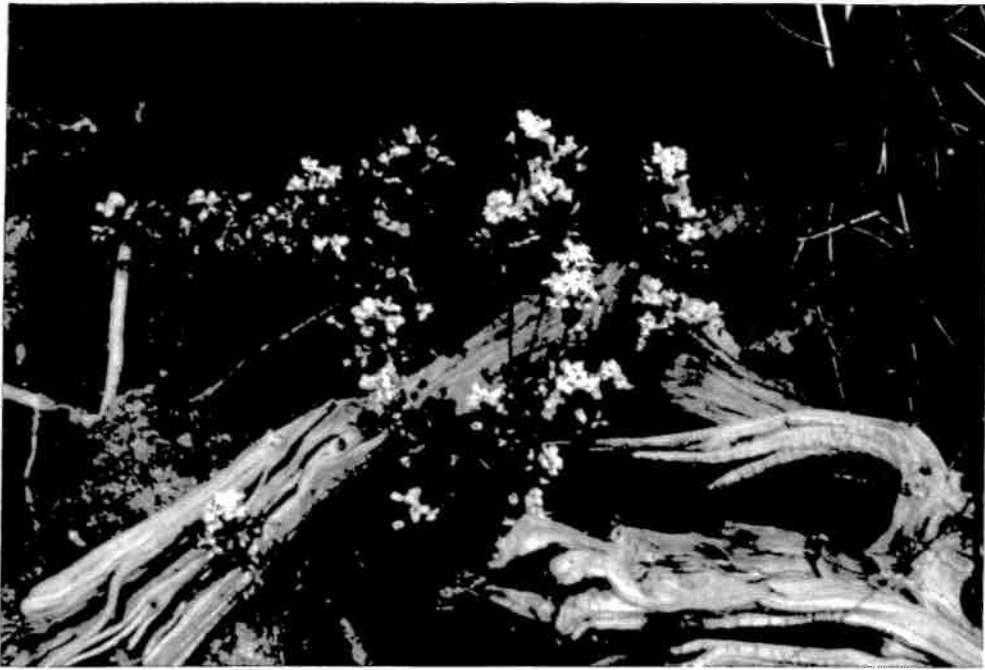
**Global Distribution:** Endemic to south-central Colorado (Custer, Lake, Las Animas, Mineral, and Saguache counties).

**Managed Area Occurrence(s):** San Isabel N.F.

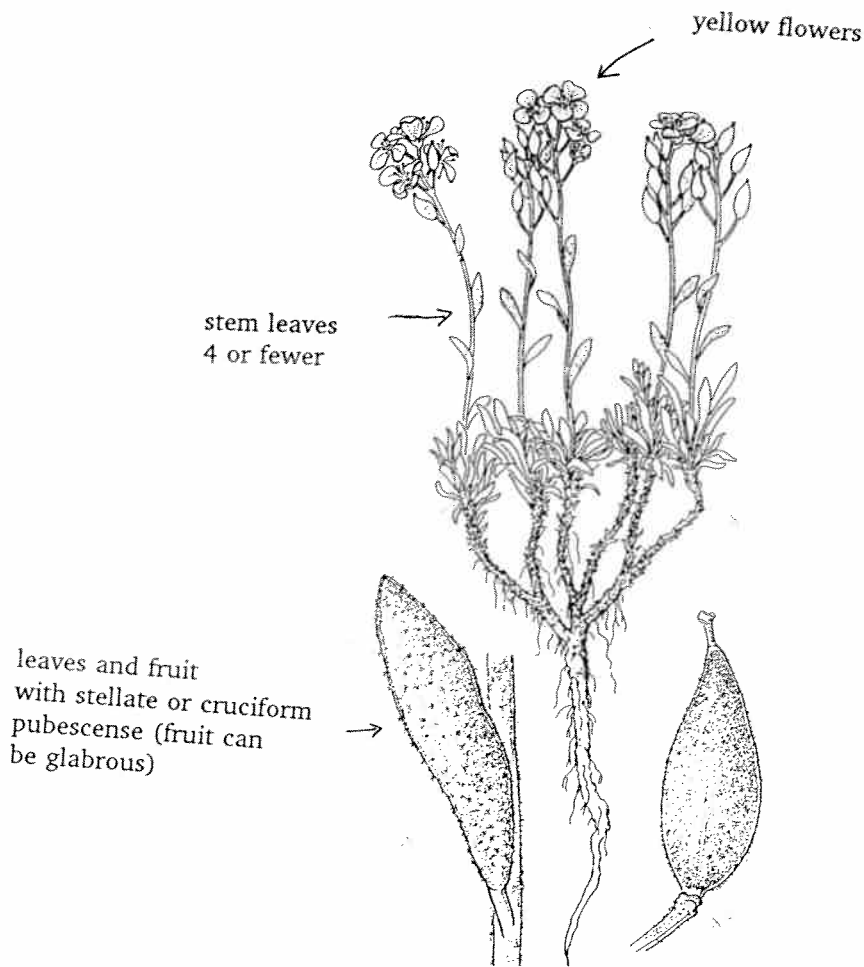
**Habitat:** Talus slopes, in crevices and between rocks in shaded protected sites. Elevation 8,000 to 11,000 ft (2,450 to 3,350 m).

**Phenology:** Flowering and fruiting June and July.

**Look-alikes:** Distinguished from *D. cana* in being much more finely and densely stellate-pubescent; also, *D. cana* grows in open sites in dry tundra.



*Draba smithii*



Scientific Name: *Draba streptobrachia* Price

Common Name: Colorado Divide whitlow-grass

Family: Brassicaceae (Cruciferae) - Mustard Family

Synonyms: *D. chrysantha* S. Watson var. *hirticaulis* O.E. Schulz forma *dasycarpa* O.E. Schulz, *D. spectabilis* Greene var. *dasycarpa* (O.E. Schulz) C.L. Hitchcock

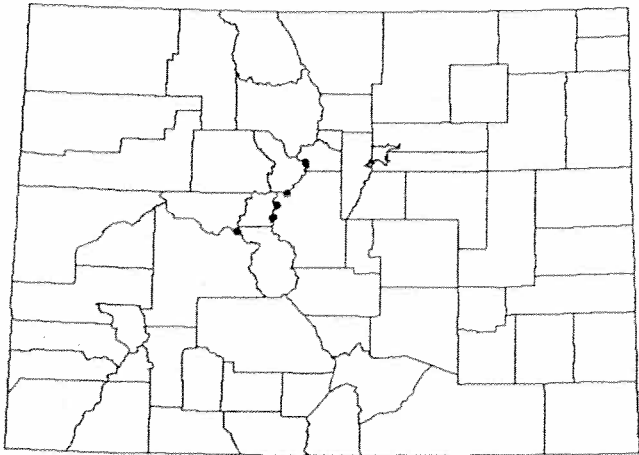
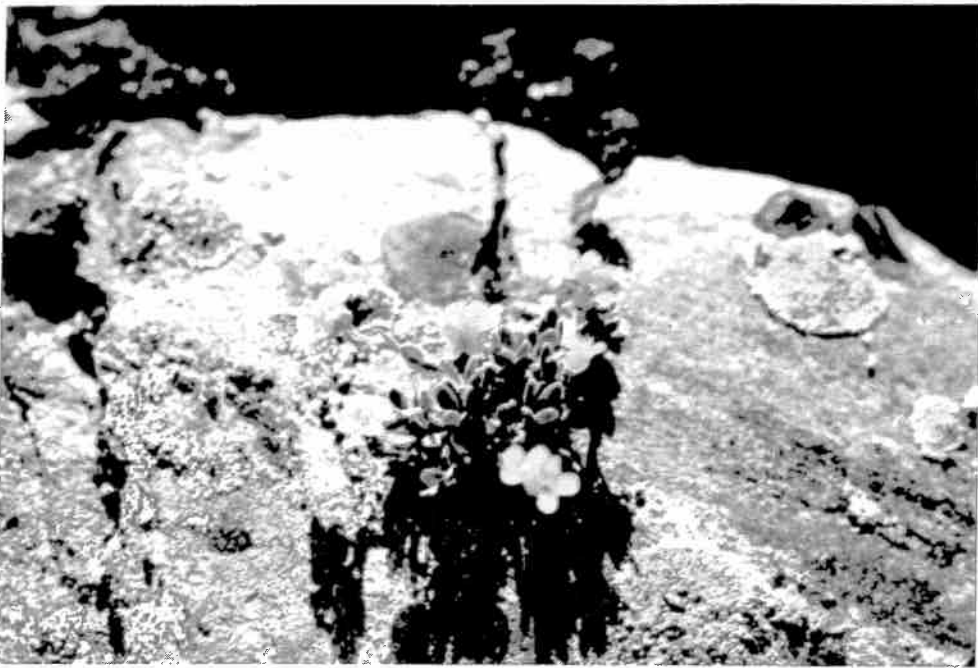
Global Distribution: Endemic to Colorado near Continental Divide (Chaffee, Clear Creek, Conejos, Hinsdale, Jackson, Lake, La Plata, Mineral, Ouray, Park, Pitkin, San Juan, San Miguel, and Summit counties).

Managed Area Occurrence(s): Pike and San Isabel N.F.

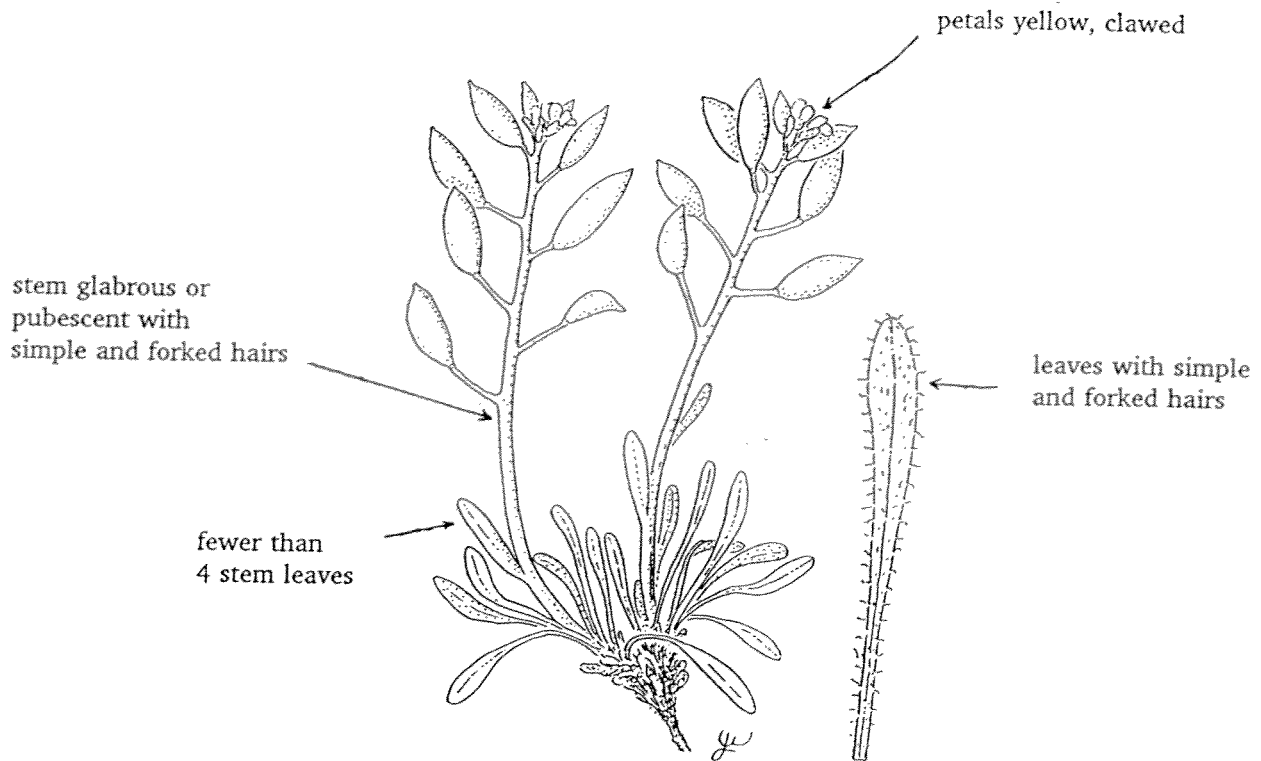
Habitat: Alpine fell-fields, talus and scree slopes. Elevation 12,000 to 14,000 ft (3,650 to 4,250 m).

Phenology: Flowering and fruiting July through August.

Look-alikes: Distinguished from other yellow-flowered alpine *Drabas* having fewer than 4 stem leaves and growing in dry rocky sites as follows: *D. crassa* has semi-succulent basal leaves with glabrous surfaces (although ciliate margins); *D. grayana* and *D. exunguiculata* have simple straight hairs if any, rather than twisted stellate or cruciform hairs as in *D. streptobrachia*; *D. crassifolia* has shorter styles (less than 0.15 mm long).



*Draba streptobrachia*



**Scientific Name:** *Draba weberi* Price & Rollins

**Common Name:**

**Family:** Brassicaceae (Cruciferae) - Mustard Family

**Synonyms:** None

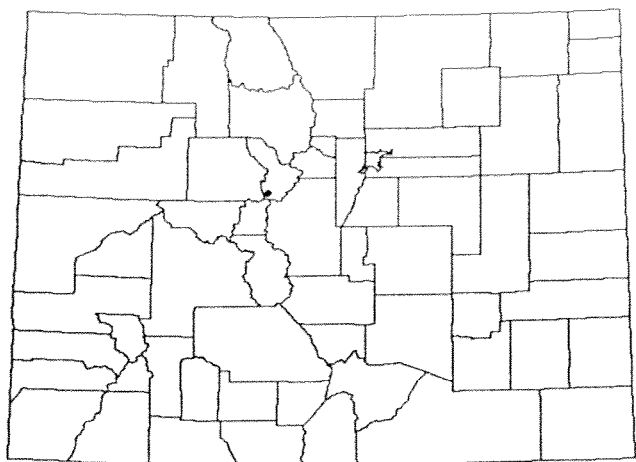
**Global Distribution:** Endemic to central Colorado (Summit County).

**Managed Area Occurrence(s):** May occur in Pike N.F.

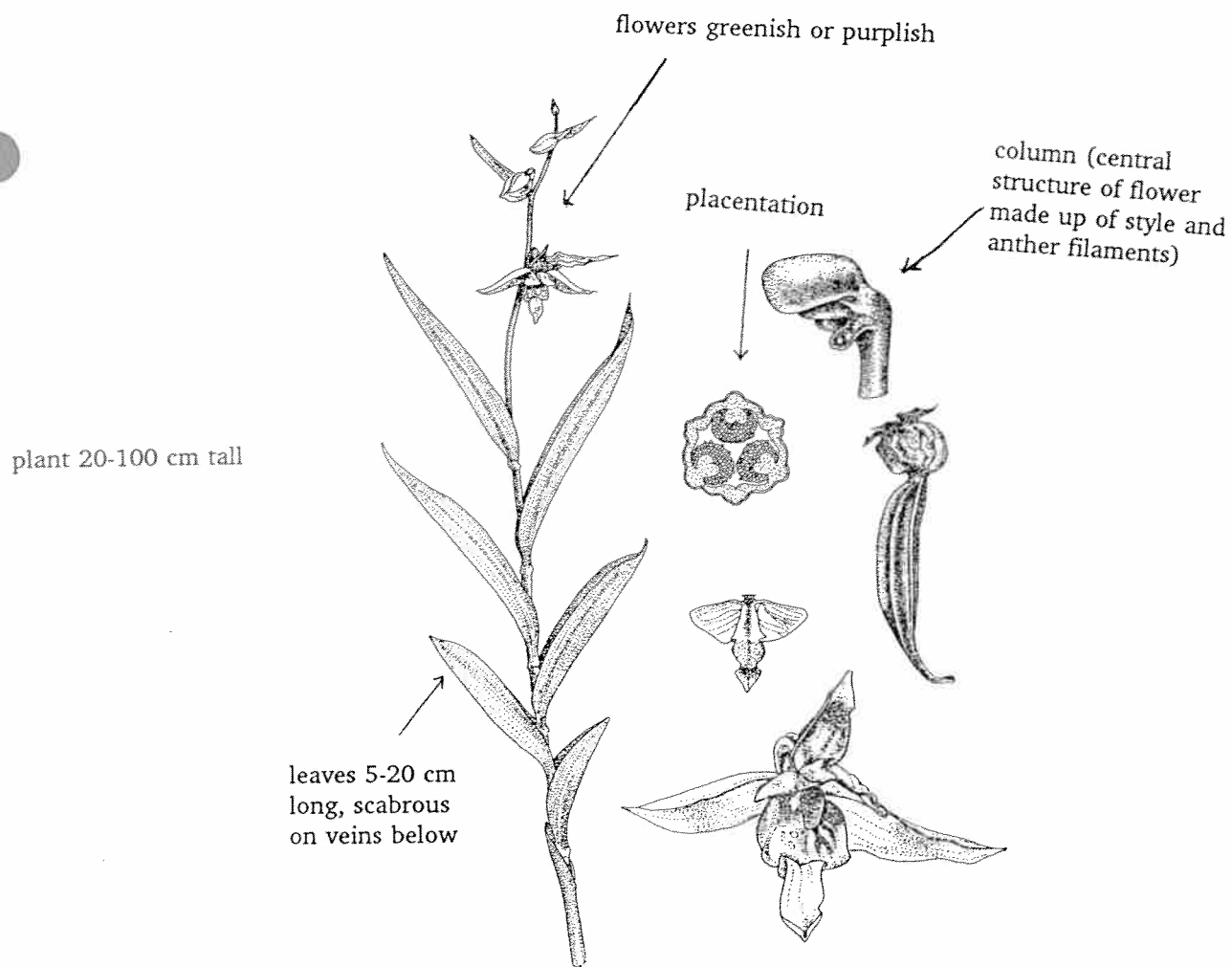
**Habitat:** Rock crevices at edge of streams. Elevation 11,500 ft (3,500 m).

**Phenology:** Flowering June through July.

**Look-alikes:** Distinguished from other yellow-flowered alpine *Draba* species with fewer than 4 stem leaves by its wetter habitat and the following characteristics: *D. streptobrachia* has tangled stellate pubescence on stems, while *D. weberi* has stems glabrous to moderately pubescent with simple and forked hairs. *D. grayana* differs by having denser and more tangled stem pubescence and leaves more coarsely and evenly pubescent with longer hairs. *D. exunguiculata* has clawless petals and simple hairs if any on the leaves, while *D. weberi* has clawed petals and simple and forked hairs. *D. crassa* has semi-succulent basal leaves with glabrous surfaces.



*Draba weberi*



**Scientific Name:** *Epipactis gigantea* Douglas ex Hooker

**Common Name:** Giant helleborine

**Family:** Orchidaceae - Orchid Family

**Synonyms:** *Limodorum giganteum* Kuntze, *Peramium giganteum* Coulter, *Serapias gigantea* Eaton, *Helleborine gigantea* Druce, *Amesia gigantea* Nelson and Macbr.

**Global Distribution:** British Columbia, Montana, south to Texas, Arizona, California. In western Colorado (Archuleta, Chaffee, Delta, Mesa, Moffat, Montezuma, and Montrose counties).

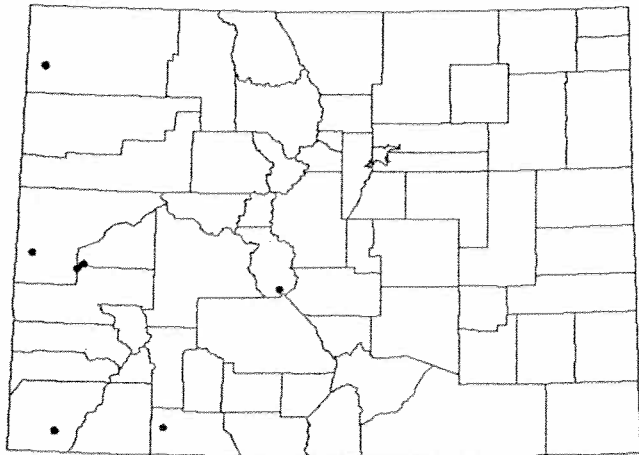
**Managed Area Occurrence(s):** May occur in San Isabel N.F.

**Habitat:** Seeps on sandstone cliffs and hillsides, springs. Elevation 4,800 to 8,000 ft (1,450 to 2,450 m).

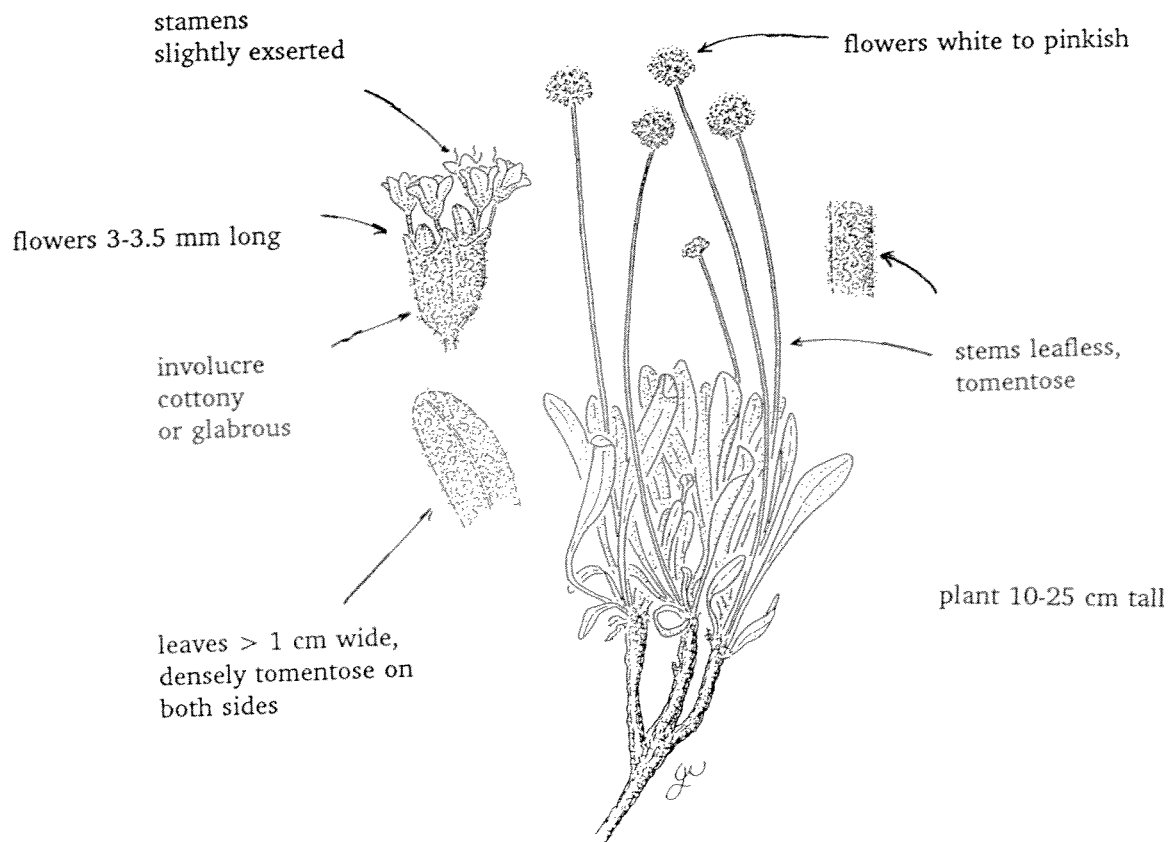
**Phenology:** Flowering June and July, fruiting August and September.

**Look-alikes:** The only species in this genus occurring in Colorado.





*Epipactis gigantea*



**Scientific Name:** *Eriogonum brandegei* Rydberg

**Common Name:** Brandegee wild buckwheat

**Family:** Polygonaceae - Buckwheat Family

**Synonyms:** *E. spathulatum* A. Gray var. *brandegei* (Rydberg) S. Stokes

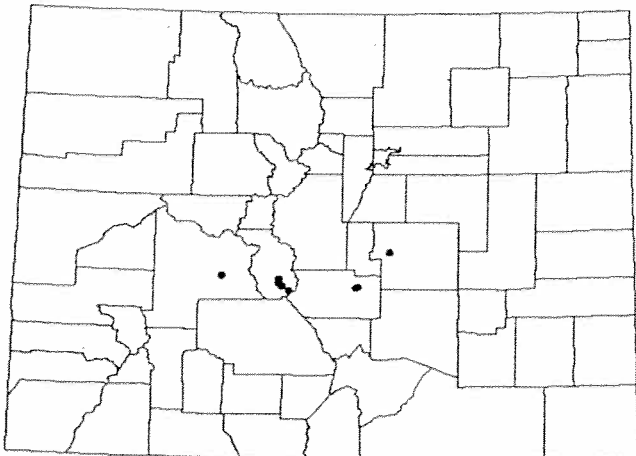
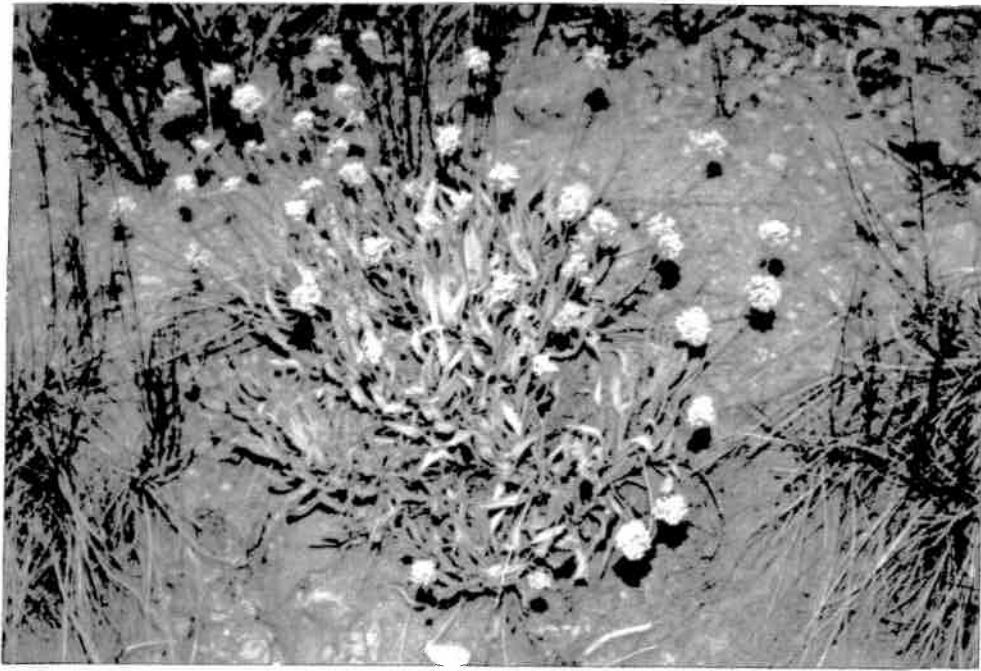
**Global Distribution:** Endemic to south-central Colorado (Chaffee and Fremont counties).

**Managed Area Occurrence(s):** May occur in San Isabel N.F.

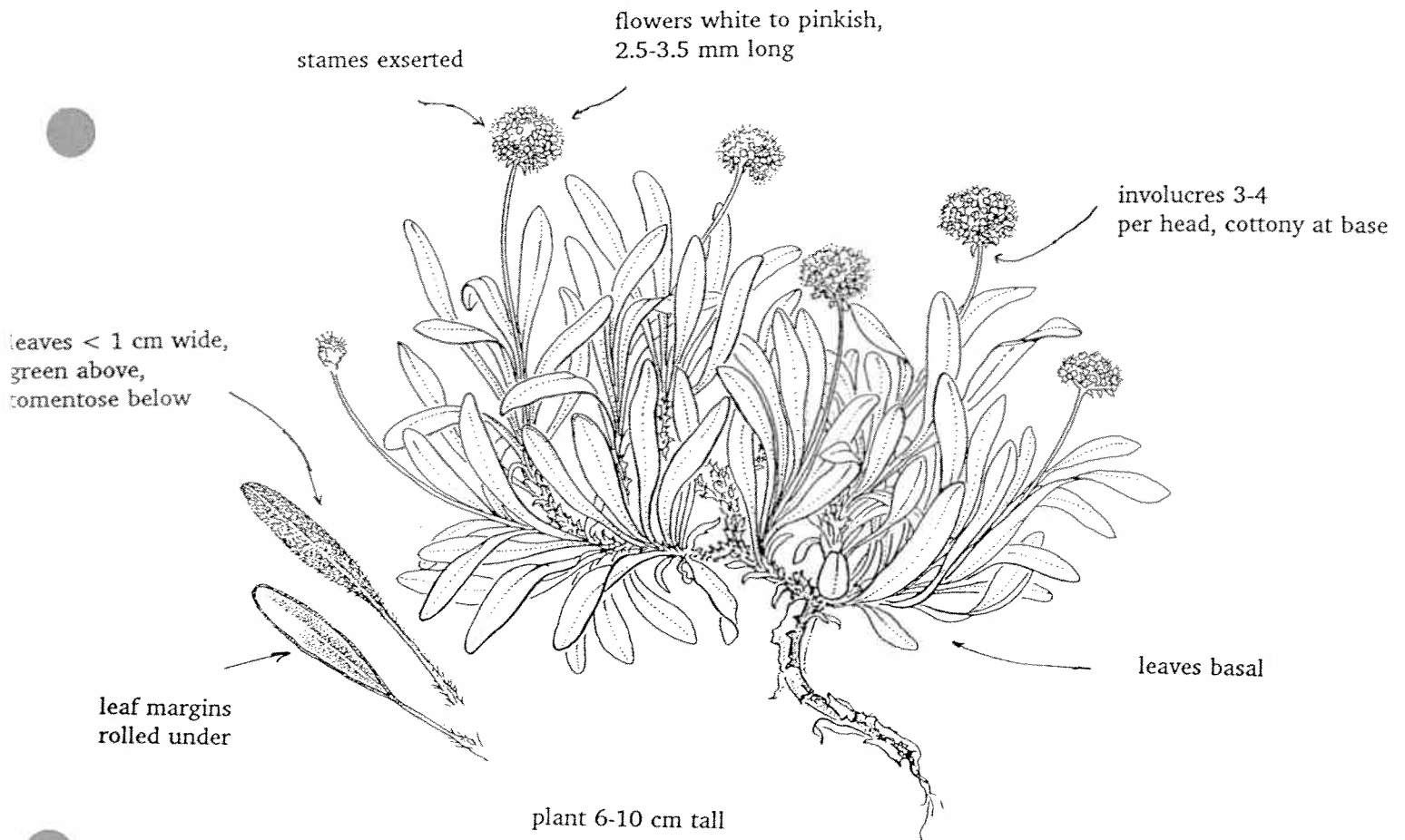
**Habitat:** Barren and sparsely vegetated clay and shale hills surrounded by piñon-juniper woodlands. Elevation 5,700 to 7,500 ft (1,750 to 2,300 m).

**Phenology:** Flowering late July through August, fruiting late August through September.

**Look-alikes:** Distinguished from *E. coloradense* by its wider leaves (more than 1 cm), which are densely tomentose on both sides and not revolute (margins rolled under), while the leaves of *E. coloradense* are narrow, green above, and revolute. Also, *E. brandegei* is usually taller than *E. coloradense*, with flowering stems 10-25 cm tall vs. 6-10 cm.



*Erigonum brandegei*



**Scientific Name:** *Eriogonum coloradense* Small

**Common Name:** Colorado wild buckwheat

**Family:** Polygonaceae - Buckwheat Family

**Synonyms:** *E. multiceps* Nees in Wied-Neuw. subsp. *coloradense* S. Stokes

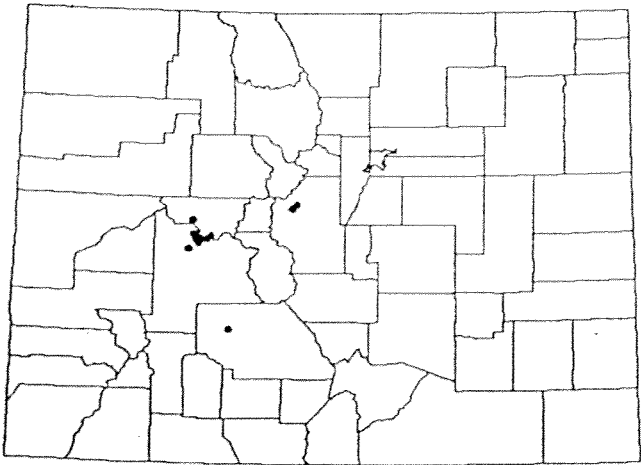
**Global Distribution:** Endemic to central Colorado (Gunnison and Park counties).

**Managed Area Occurrence(s):** May occur in Pike N.F.

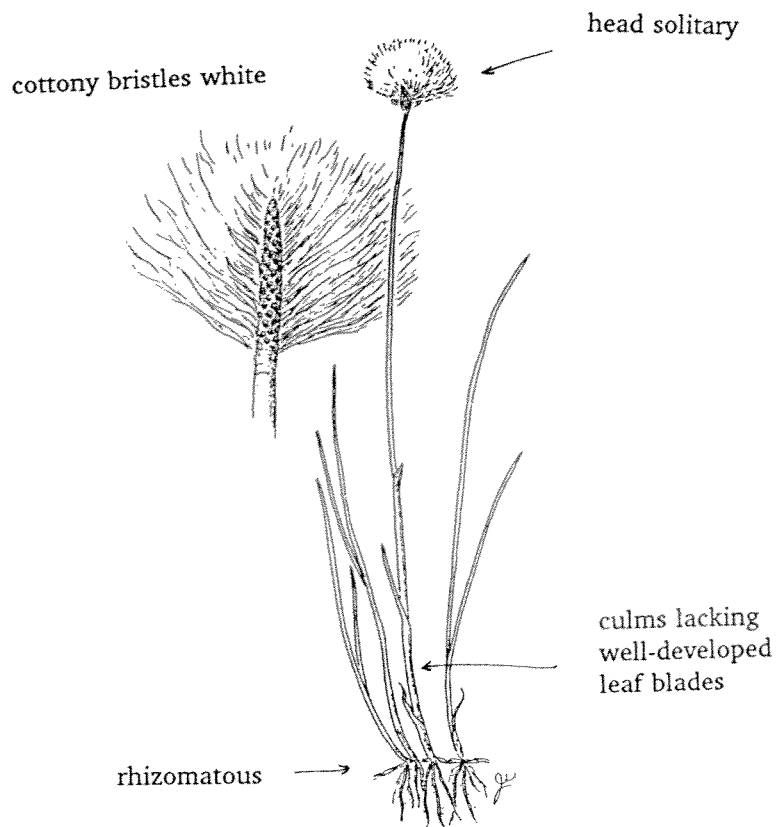
**Habitat:** Gravelly or sandy soil, often subalpine and alpine slopes, but sometimes montane grasslands. Elevation 8,500 to 12,500 ft (2,600 to 3,800 m).

**Phenology:** Flowering July and August.

**Look-alikes:** Differs from *E. brandegei* in having narrower leaves (less than 1 cm), which are revolute (margins rolled under), and green above rather than tomentose on both sides. Also, *E. coloradense* is shorter than *E. brandegei*, with flowering stems 6-10 cm long vs. 10-25 cm.



*Erigonum coloradense*



**Scientific Name:** *Eriophorum altaicum* Meinshausen var. *neogaeum* Raymond

**Common Name:** Altai cottongrass, white cottongrass

**Family:** Cyperaceae - Sedge Family

**Synonyms:** None

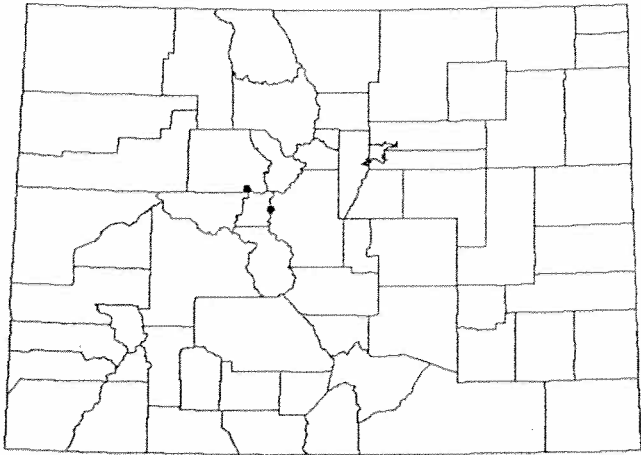
**Global Distribution:** Asia (Altai Mountains); var. *neogaeum* is a New World race found in Alaska, British Columbia, Uinta Mountains in Utah, and Colorado (Eagle, Park and San Juan counties).

**Managed Area Occurrence(s):** Pike N.F.

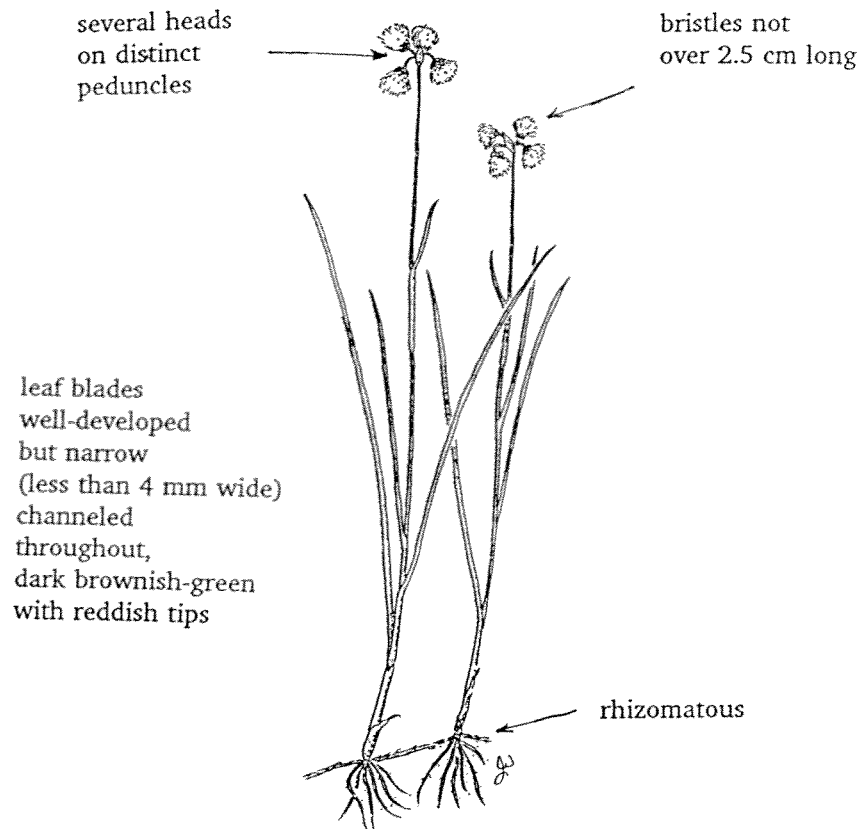
**Habitat:** Fens. Elevation 9,500 to 12,300 ft (2,900 to 3,800 m).

**Phenology:** Fruiting late July through August.

**Look-alikes:** *E. altaicum* var. *neogaeum* has a solitary head, and culms lacking well-developed leaf blades. Other *Eriophorum* species (*E. gracile*, *E. angustifolium*) have several heads on distinct peduncles, and well-developed leaf blades.



*Eriophorum altaicum* var. *neogaeum*



**Scientific Name:** *Eriophorum gracile* W.D.J. Koch in Roth

**Common Name:** Slender cottongrass

**Family:** Cyperaceae - Sedge Family

**Synonyms:** *E. gracile* W.D.J. Koch var. *caurianum* Fernald

**Global Distribution:** Eurasia, Alaska, east to Newfoundland, south to California, Nebraska, Illinois, Delaware. In Colorado, Clear Creek, Conejos, Gunnison, Jackson, Las Animas, Park, and San Juan counties.

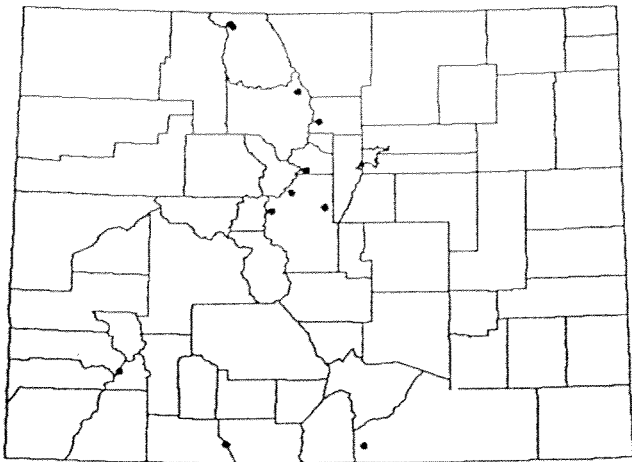
**Managed Area Occurrence(s):** Pike N.F.

**Habitat:** Rich fens, wet meadows, peaty soil, pond edges. Elevation 8,000 to 10,000 ft (2,450 to 3,050 m).

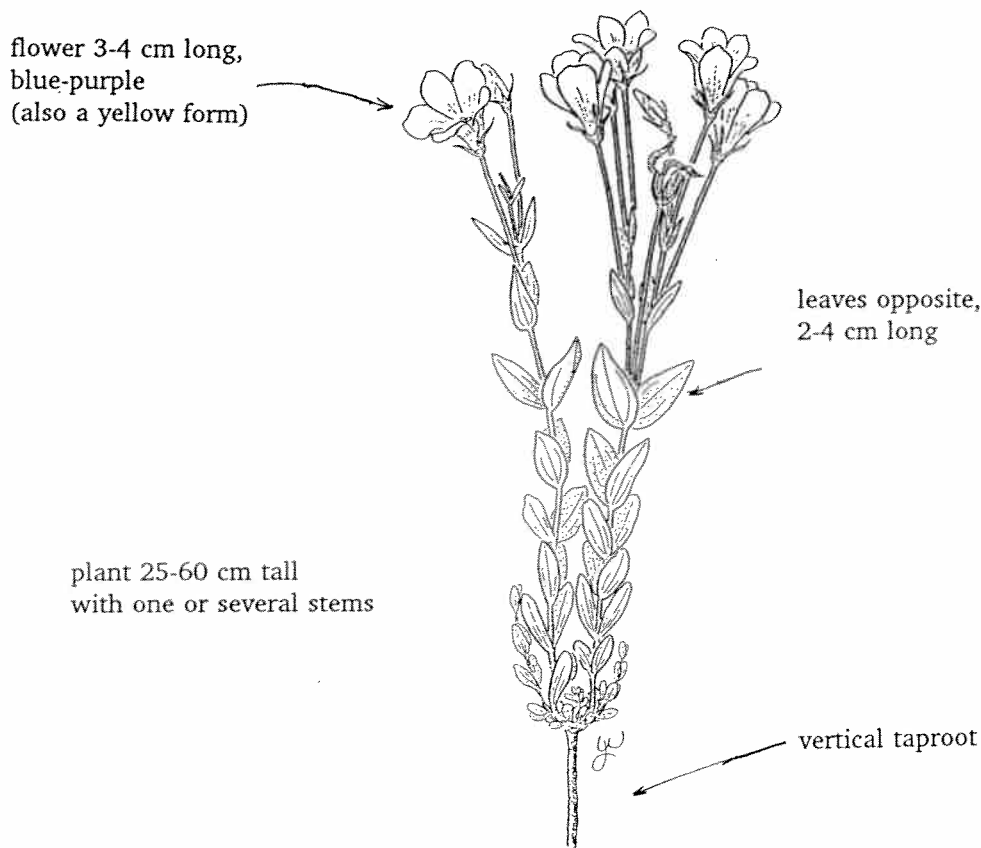
**Phenology:** Fruiting in July through August.

**Look-alikes:** *E. gracile* often forms large uniform stands that are recognizable at a distance because of reddish leaf tips, while the other *Eriophorum* species do not. In addition, *E. angustifolium* has wider leaves (more than 4 mm) which are bright green rather than dark brownish-green as in *E. gracile*; *E. altaicum* has solitary heads rather than several, and lacks well-developed leaf blades.





*Eriophorum gracile*



Scientific Name: *Eustoma russelianum* (Hooker)

Common Name: Tulip gentian, prairie gentian

Family: Gentianaceae - Gentian Family

Synonyms: *E. andrewsii* A. Nelson, *E. grandiflorum* (Rafinesque) Shinnery Grisebach, *E. russelianum* (Hooker) Grisebach forma *flaviflorum* Cockerell

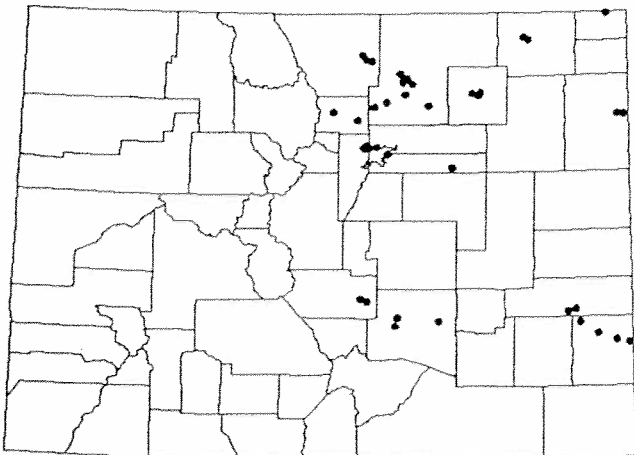
Global Distribution: South Dakota to Texas and Mexico; northeastern, central, and southeastern Colorado (Adams, Arapahoe, Boulder, Denver, Fremont, Jefferson, Larimer, Logan, Morgan, Prowers, Pueblo, Sedgwick, Weld, and Yuma counties).

Managed Area Occurrence(s): Cimarron N.G.

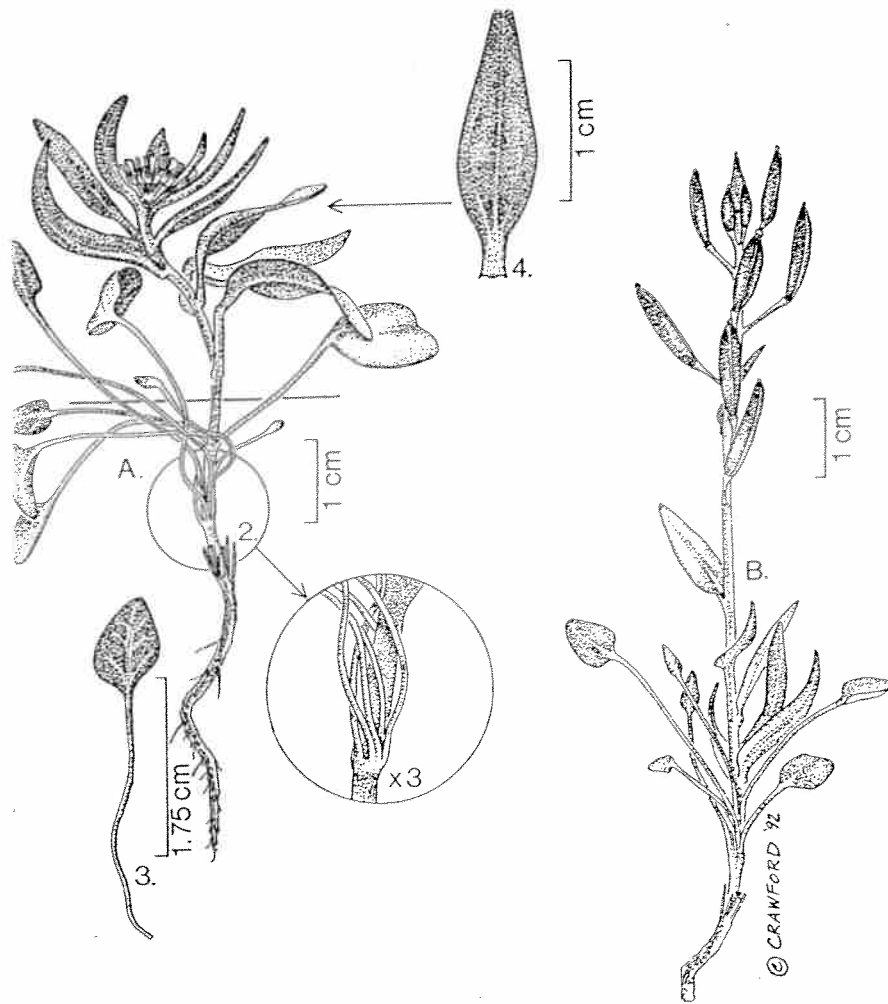
Habitat: Streamsides, wet meadows, usually alkaline sites. Elevation 3,500 to 5,500 ft. (1,050 to 1,700 m); possibly up to 9,000 ft (2,750 m).

Phenology: Flowering July and August.

Look-alikes: None



*Eustoma russelianum*



**Scientific Name:** *Eutrema penlandii* Rollins

**Common Name:** Penland eutrema

**Family:** Brassicaceae (Cruciferae) - Mustard Family

**Synonyms:** *E. edwardsii* R. Brown subsp. *penlandii* (Rollins)

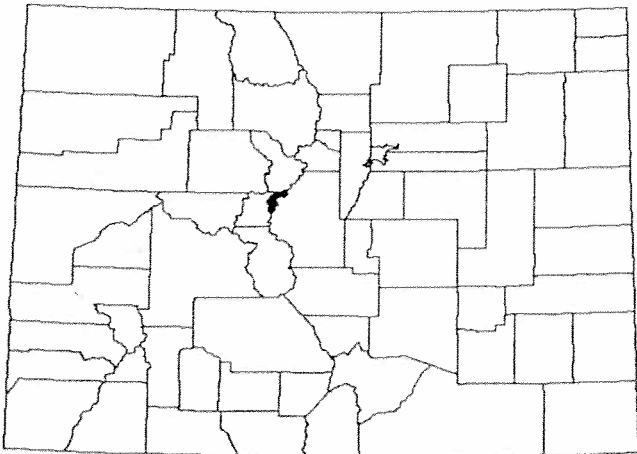
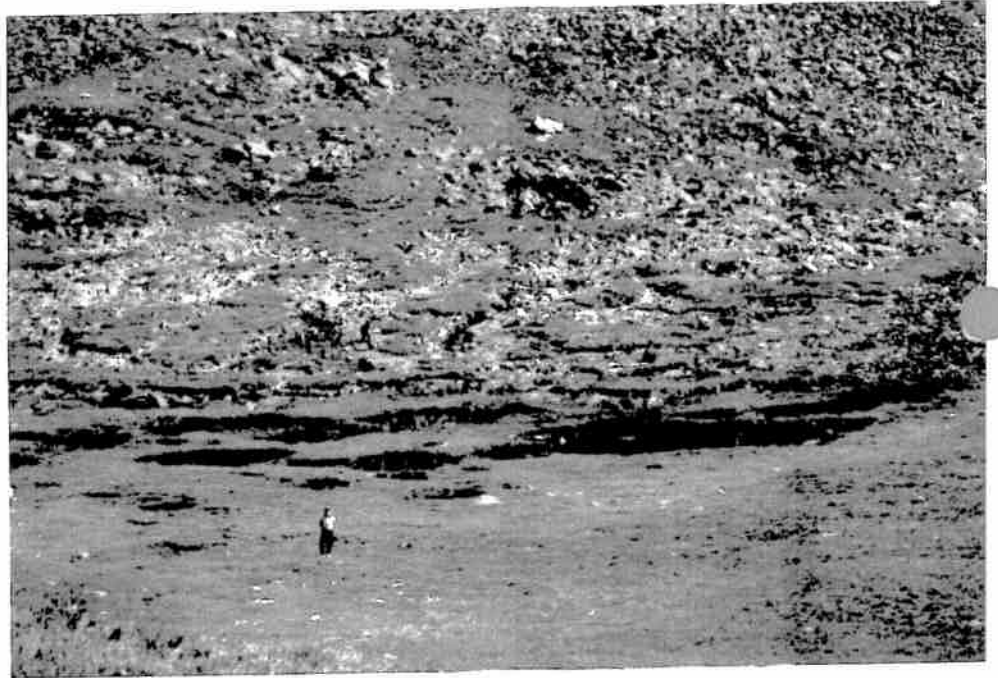
**Global Distribution:** Endemic to central Colorado, in Park and Summit counties

**Managed Area Occurrence(s):** Pike N.F., South Park Ranger District

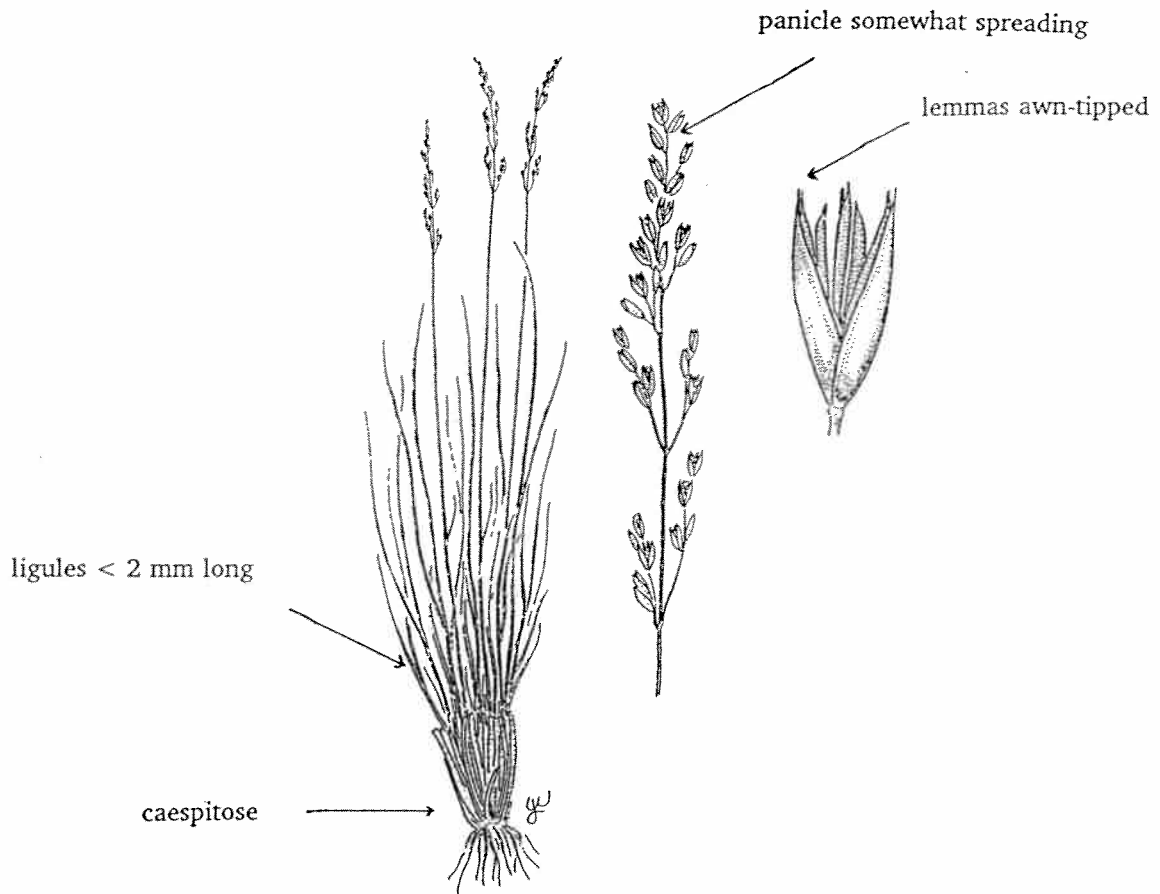
**Habitat:** Alpine tundra, wetlands associated with small streams, rooted in moss wet year-round. Elevation from 12,000 to 12,800 ft. (3,650 to 3,900 m.)

**Phenology:** Flowering early July, fruiting mid-July to early August.

**Look-alikes:** *Noccaea montana* (*Thlaspi montanum*) has obcordate fruits broadest at the apex and long-styled (1-3 mm), as opposed to the elliptical fruits and barely evident style of *Eutrema*. *Draba borealis* is pubescent, while *Eutrema* is glabrous. *Draba cana*, *D. porsildii* and *D. lonchocarpa*, which may occur in the same area but in dry sites, are also pubescent.



*Eutrema pendlandii*



Scientific Name: *Festuca campestris* Rydberg

Common Name: Field fescue

Family: Poaceae (Graminae) - Grass Family

Synonyms: *F. scabrella* Torrey ex Hooker var. *major* Vasey, *F. altaica* Trinius var. *major* Gleason

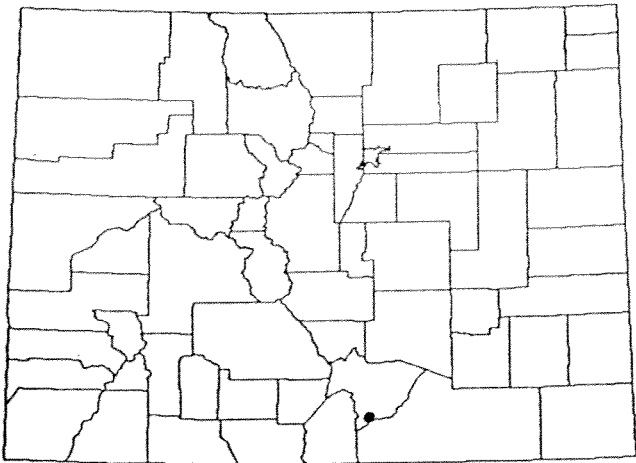
Global Distribution: British Columbia east to Newfoundland, south to Oregon, North Dakota, Colorado (Huerfano County).

Managed Area Occurrence(s): San Isabel N.F.

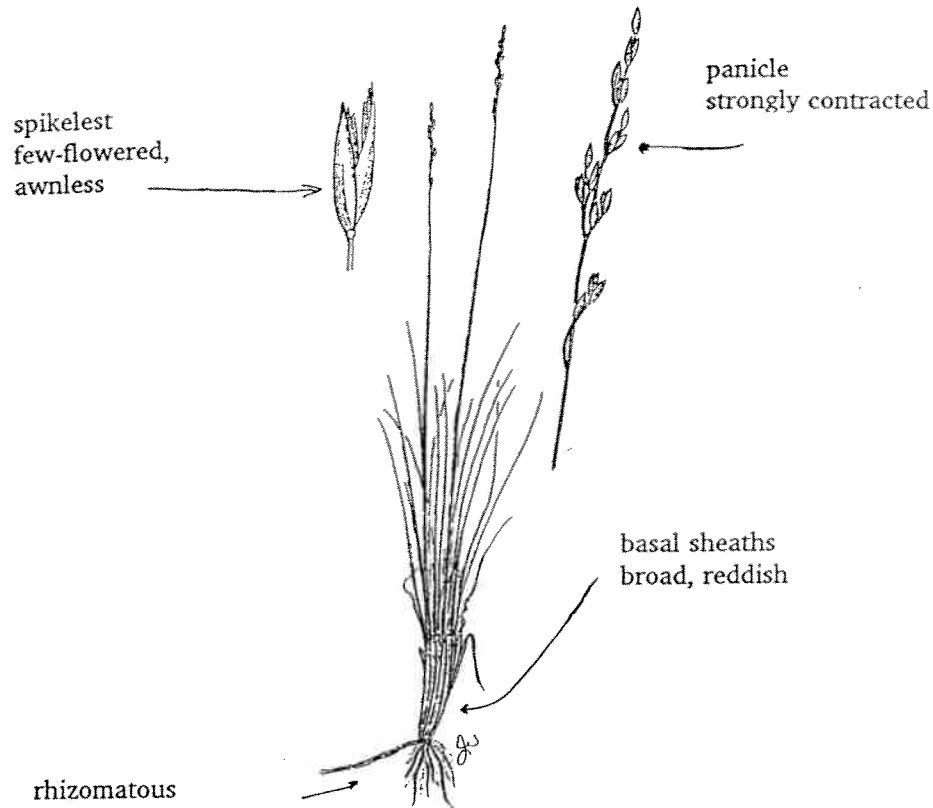
Habitat: Subalpine meadow. Elev. 11,000 ft (3350 m).

Phenology: Unknown.

Look-alikes: *F. rubra* has culms curved at the base rather than erect; *F. hallii* is rhizomatous rather than caespitose; *F. thurberi* has longer ligules (2-4 mm vs. less than 2 mm).



*Festuca campestris*



**Scientific Name:** *Festuca hallii* (Vasey) Piper

**Common Name:** Hall fescue

**Family:** Poaceae (Graminae) - Grass Family

**Synonyms:** *F. altaica* Trinius subsp. *hallii* (Vasey) V. Harms, *F. scabrella* Torrey subsp. *hallii* (Vasey) W.A. Weber, *Melica hallii* Vasey

**Global Distribution:** British Columbia to North Dakota, Montana, Wyoming, and Colorado (Larimer County, possibly Park County).

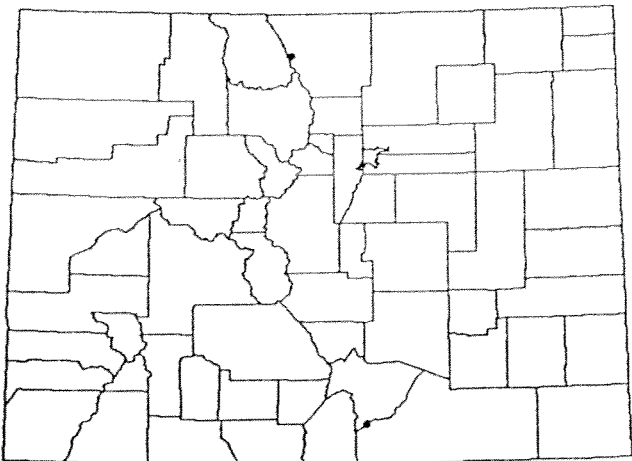
**Managed Area Occurrence(s):** May occur in Pike N.F.

**Habitat:** Alpine tundra in *Kobresia* stands.

**Phenology:**

**Look-alikes:** *F. hallii* is rhizomatous, distinguishing it from *F. campestris*, *F. saximontana*, *F. baffinensis*, *F. minutiflora*, and *F. brachyphylla* subsp. *coloradensis*, which are all caespitose; and all these except *F. campestris* have awned lemmas. *F. rubra* has awned lemmas, while *F. hallii* lemmas are awnless





*Festuca hallii*



**Scientific Name:** *Frasera coloradensis* (C.M. Rogers) D.M. Post

**Common Name:** Colorado green gentian, Colorado elkweed

**Family:** Gentianaceae - Gentian Family

**Synonyms:** *Swertia coloradensis* Rogers

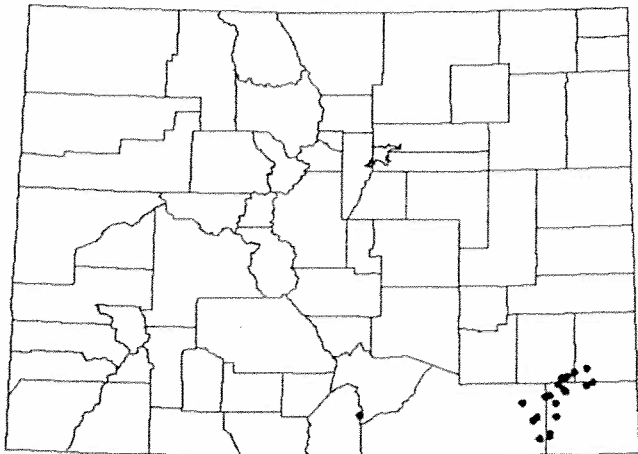
**Global Distribution:** Endemic to southeastern Colorado (Baca, Bent, Las Animas, and Prowers counties).

**Managed Area Occurrence(s):** Comanche N.G.

**Habitat:** Dry rocky outcrops and sparsely vegetated slopes, especially on Greenhorn limestone, in piñon-juniper woodlands and grasslands.

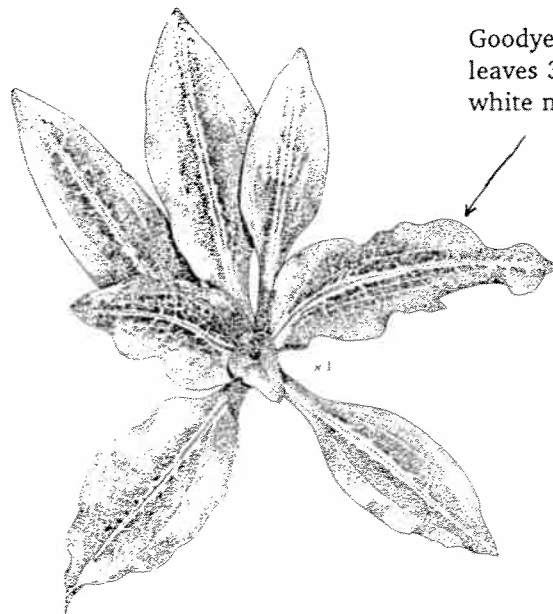
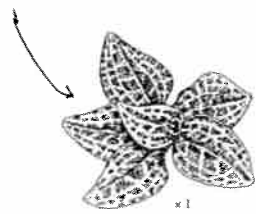
**Phenology:** Elevation 4,000 to 5,400 ft (1,200 to 1,650 m). Flowering June, fruiting July.

**Look-alikes:** None; the only *Frasera* found in this part of the state.



*Frasera coloradensis*

*Goodyera repens*  
leaves dark green,  
1-2 cm long, lacking  
white midrib but with white  
markings on crossveins



*Goodyera oblongiflora*  
leaves 3.5 cm long with  
white midrib

lip saccate at base  
with recurved tip and margins

scape minutely  
glandular pubescent,  
10-20 cm tall

**Scientific Name:** *Goodyera repens* (L.) R. Brown

**Common Name:** Lesser rattlesnake plantain, dwarf rattlesnake plantain

**Family:** Orchidaceae - Orchid Family

**Synonyms:** *Peramium ophioides* (Fernald) Rydberg

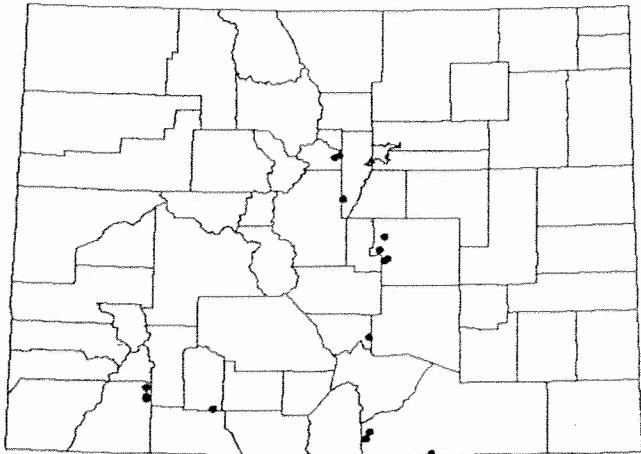
**Global Distribution:** Circumboreal, Alaska to Newfoundland and south to Arizona, New Mexico, South Dakota, Tennessee, and North Carolina. Central and southern Colorado (Clear Creek, Custer, El Paso, Jefferson, La Plata, Las Animas and Mineral counties).

**Managed Area Occurrence(s):** Pike and San Isabel N.F.

**Habitat:** Shady sites on north to east facing slopes in mixed conifer stands and along banks of small streams, in forest duff and moss. Elevation from 8,000 to 9,500 ft (2,450 to 2,900 m).

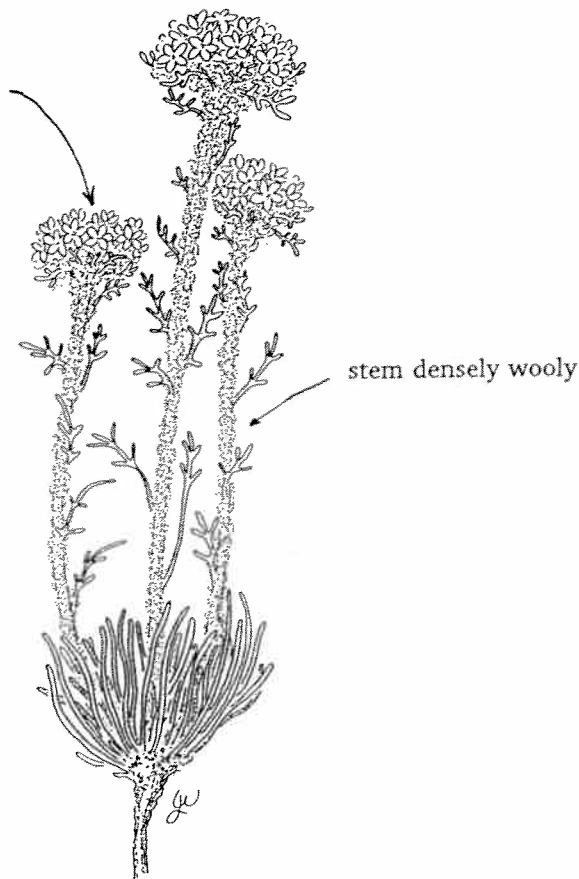
**Phenology:** Flowering late July to mid-August.

**Look-alikes:** Similar to *G. oblongiflora*, but shorter (10-20 cm tall vs. 10-40 cm tall). *G. repens* has much shorter leaves that do not have a conspicuous white midrib as *G. oblongiflora* leaves do, although both species can have white markings on the crossveins. *G. oblongiflora* leaves are "crisped" on the margins, while *G. repens* leaves are flat.



*Goodyera repens*

globose, capitate, woolly  
inflorescence, flowers  
pale purple with heavy  
fragrance



plant approximately  
10-20 cm tall

**Scientific Name:** *Ipomopsis globularis* (Brand) W.A. Weber

**Common Name:** Globe gilia

**Family:** Polemoniaceae - Phlox Family

**Synonyms:** *I. spicata* (Nuttall) V. Grant subsp. *capitata* (A. Gray) V. Grant, *Gilia globularis* Brand, *Gilia spicata* Nuttall var. *capitata* A. Gray

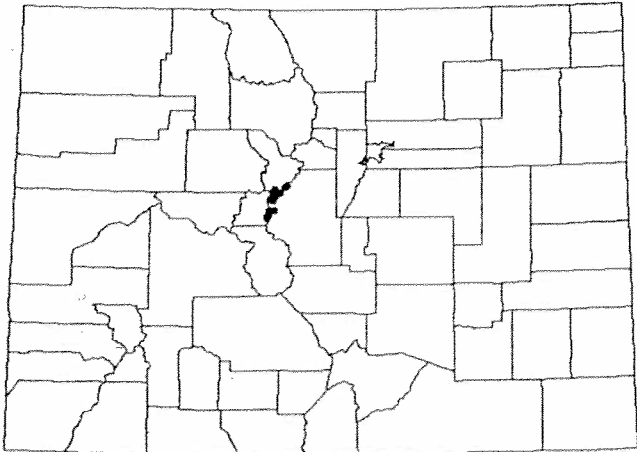
**Global Distribution:** Endemic to central Colorado (Lake, Park, and Summit counties).

**Managed Area Occurrence(s):** Pike N.F. - South Park R.D., Dillon R.D.

**Habitat:** Gravelly, exposed alpine ridges on Leadville limestone or Manitou dolomite.  
Elevation 11,500 to 13,000 ft (3,500 to 3,950 m).

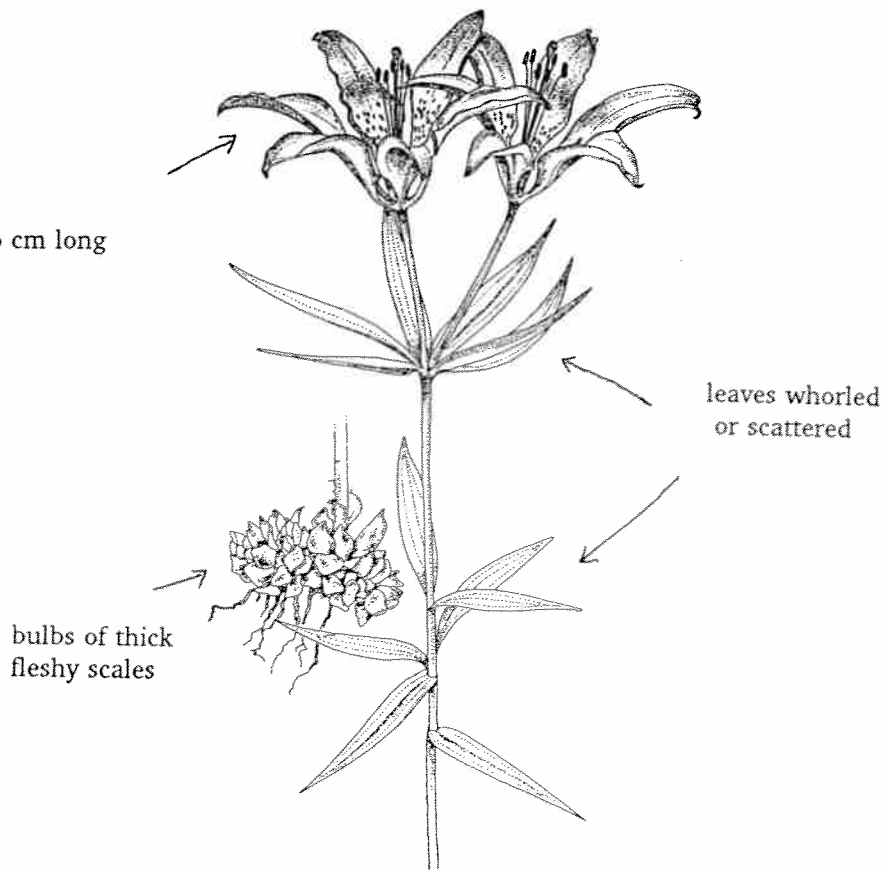
**Phenology:** Flowering in July and early August, fruiting in August.

**Look-alikes:** *I. congesta* grows at lower elevations, usually below 9,000 ft (2,750 m) and has white flowers rather than pale purple in a less woolly inflorescence. *I. globularis* has a heavy fragrance.



*Ipomopsis globularis*

3 large red-orange  
brick-red flowers,  
petals and sepals 5-6 cm long



leaves whorled  
or scattered

bulbs of thick  
fleshy scales

plants 30-60 cm tall

**Scientific Name:** *Lilium philadelphicum* L.

**Common Name:** Wood lily, tiger lily

**Family:** Liliaceae - Lily Family

**Synonyms:** *L. montanum* A. Nelson, *L. umbellatum* Pursh

**Global Distribution:** Alberta to Ontario and Maine, south to Arkansas, North Carolina, West Virginia, Colorado (Archuleta, Boulder, Clear Creek, Custer, Douglas, El Paso, Gilpin, Gunnison, Hinsdale, Huerfano, Jefferson, La Plata, Larimer, Las Animas, Park and Teller counties).

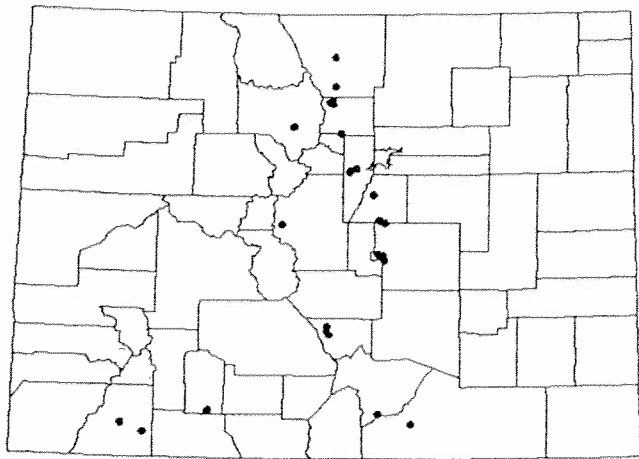
**Managed Area Occurrence(s):** Pike and San Isabel N.F.

**Habitat:** Moist woods, thickets, wet meadows. Elevation 6,000 to 10,000 ft (1,850 to 3,050 m).

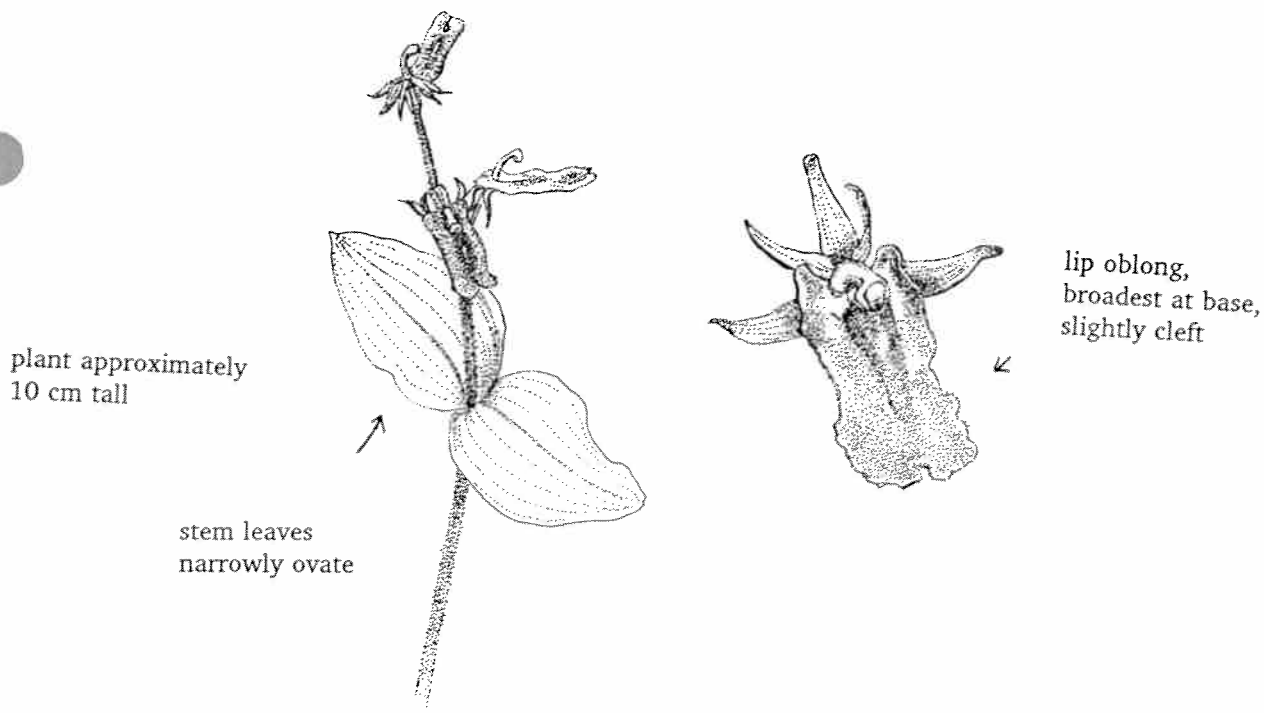
**Phenology:** Flowering June, July, early August; (peak of bloom mid-July).

**Look-alikes:** None; large red-orange to brick-red lily flowers are unmistakable.





*Lilium philadelphicum*



**Scientific Name:** *Listera borealis* Morong

**Common Name:** Northern twayblade

**Family:** Orchidaceae - Orchid Family

**Synonyms:** *Ophrys borealis* (Morong) Rydberg

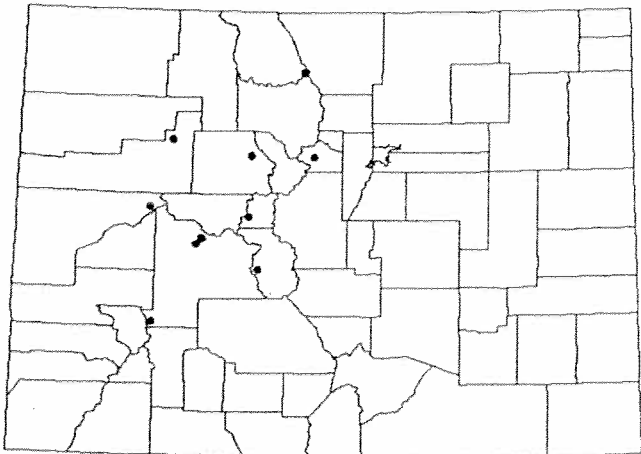
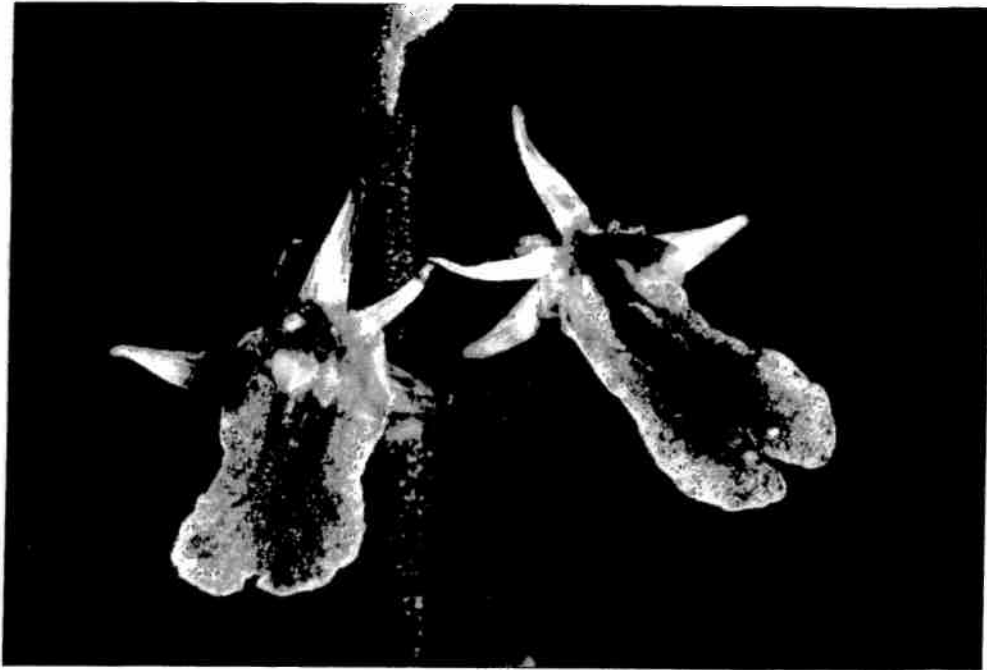
**Global Distribution:** Alaska, Yukon, east to Labrador and Hudson Bay, south to Montana, Idaho, Wyoming, Utah, Colorado (Chaffee, Clear Creek, Eagle, Garfield, Grand, Gunnison, Lake, Larimer, and Mesa counties).

**Managed Area Occurrence(s):** San Isabel N.F.

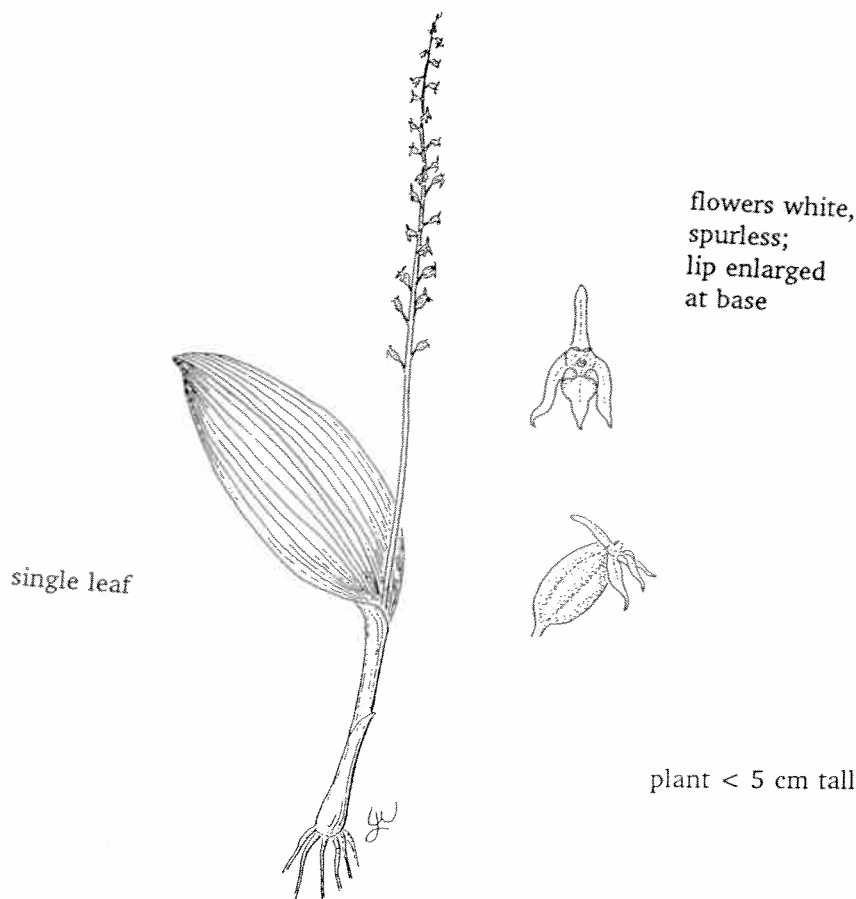
**Habitat:** Moist shady spruce forests. 8,700 to 10,700 ft (2,650 to 3,250 m).

**Phenology:** Flowering in July.

**Look-alikes:** *L. cordata* subsp. *nephrophylla* stem leaves are broad and heart-shaped, and *L. convallarioides* stem leaves are broadly ovate (almost round), while those of *L. borealis* are narrowly ovate. All three *Listera* species have 2-cleft corolla lips, but the lip of *L. borealis* is oblong and broadest at the base, while that of *L. convallarioides* is broadest at the apex (resembling half of a cartoon dogbone), and that of *L. cordata* subsp. *nephrophylla* is narrow and 2-cleft for half its length (resembling a snake's tongue). At some sites, all three *Listera* species can be found growing together.



*Listera borealis*



Scientific Name: *Malaxis brachypoda* (A. Gray) Fernald

Common Name: White adder's mouth

Family: Orchidaceae - Orchid Family

Synonyms: *Malaxis monophyllos* (L.) Swartz var. *brachypoda* (A. Gray) Morris & Eames, *M. monophyllos* (L.) Solander ex Swartz subsp. *brachypoda* (A. Gray) Löve & Löve, *Acroanthes monophylla* (L.) Greene

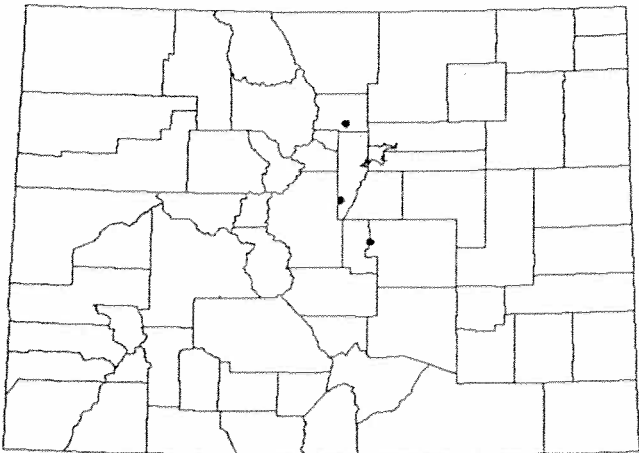
Global Distribution: Alaska to Newfoundland, Canada, Great Lake States, New England, south to California. Disjunct in Colorado (Boulder, El Paso and Jefferson counties).

Managed Area Occurrence(s): Pike N.F. (private inholding)

Habitat: Shaded streamsid es, mossy wet areas. Elevation 7,200 to 8,000 ft (2,200 to 2,450 m).

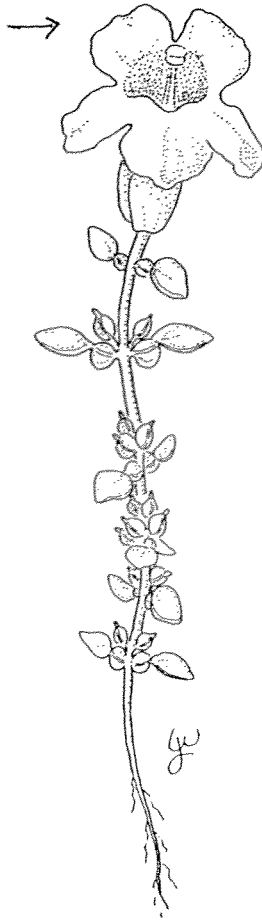
Phenology: Peak of flowering mid-July.

Look-alikes: *Listera* species have two opposite stem leaves, while *Malaxis* has a single leaf near the base. *Lysiella obtusata* also has a single leaf, but has spurred flowers, while those of *Malaxis* are spurless and smaller.

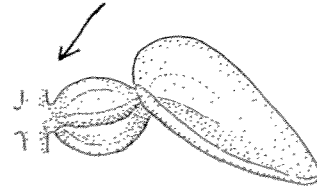


*Malaxis brachypoda*

flowers yellow when present;  
solitary, either terminal  
or from leaf axil



leaf petiole base  
modified to form  
pocket containing  
embryonic shoot



plant 1-10 cm tall

**Scientific Name:** *Mimulus gemmiparus* W.A. Weber

**Common Name:** Pocket monkey-flower

**Family:** Scrophulariaceae - Figwort Family

**Synonyms:** None

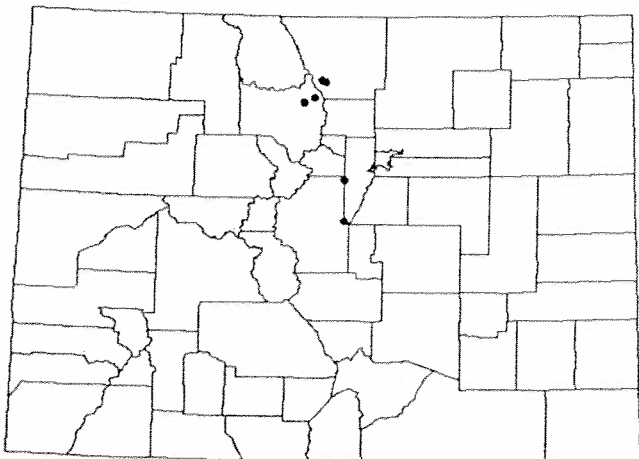
**Global Distribution:** Endemic to two locations in Colorado: Rocky Mountain National Park and the Tarryall Mountains (Grand, Jefferson and Larimer counties).

**Managed Area Occurrence(s):** Pike N.F.

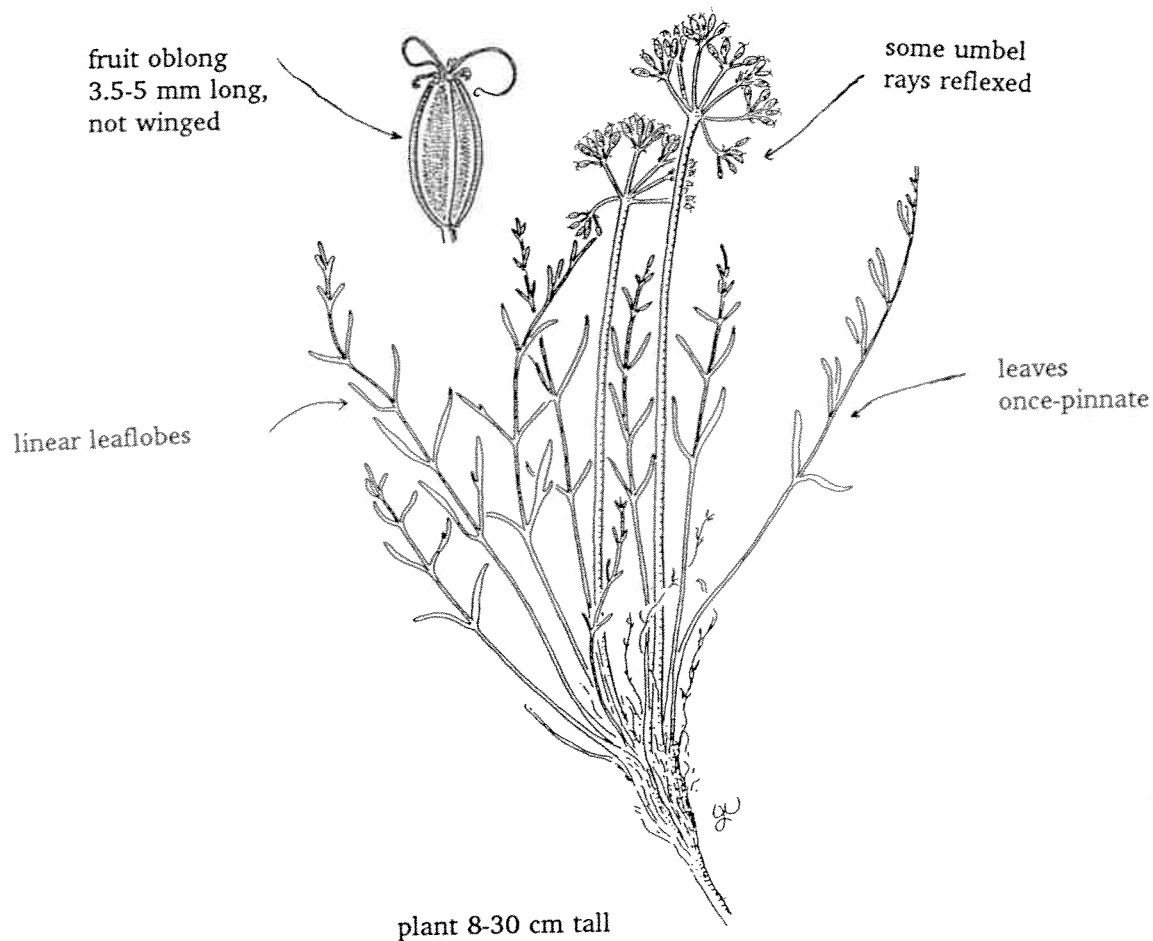
**Habitat:** Seeping granite outcrops and slopes. Elevation 8,400 to 10,500 ft (2,550 to 3,200 m).

**Phenology:** Reproducing early July to early August.

**Look-alikes:** *M. gemmiparus* is the only *Mimulus* species that reproduces vegetatively--its leaf petiole bases are modified to form pockets containing dormant embryonic shoots; flowers are usually absent (but when present are yellow, typical of the genus).



*Mimulus gemmiparus*



Scientific Name: *Neoparrya lithophila* Mathias

Common Name: Rock-loving neoparrya

Family: Apiaceae (Umbelliferae) - Parsley Family

Synonyms: *Aletes lithophilus* (Mathias) W.A. Weber

Global Distribution: Endemic to south-central Colorado (Chaffee, Conejos, Huerfano, Rio Grande, and Saguache counties).

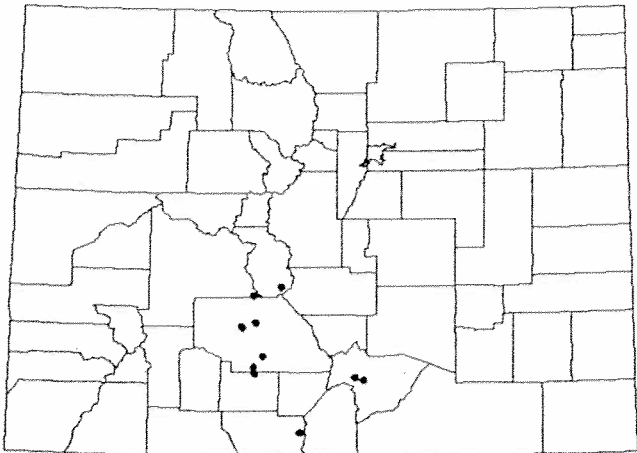
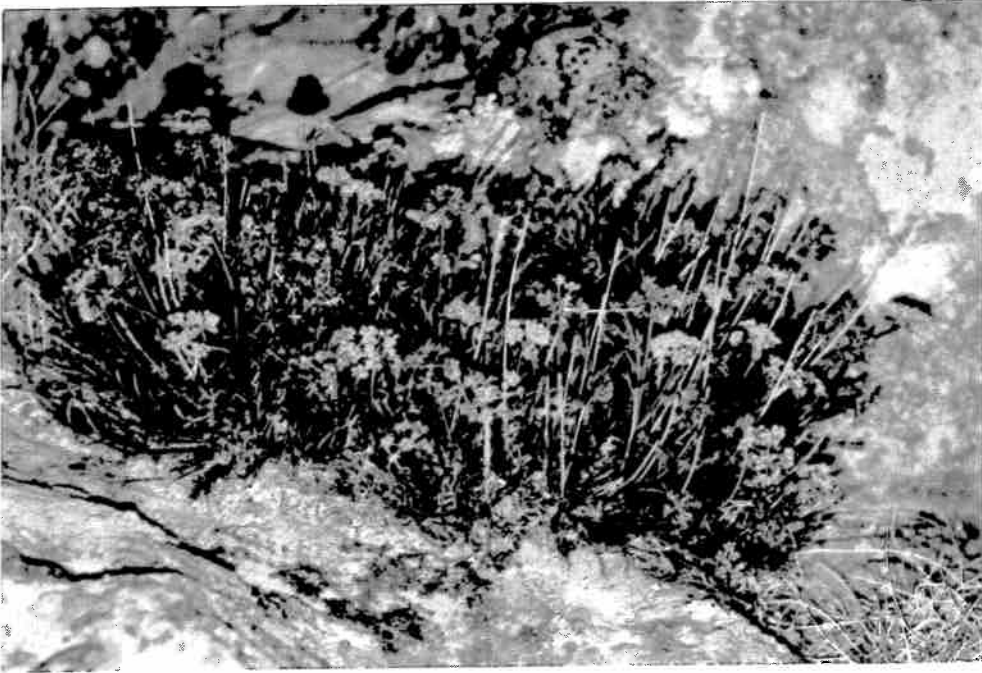
Managed Area Occurrence(s): May occur in San Isabel N.F.

Habitat: Ledges and cliffs of volcanic dikes; lava flows, igneous outcrops. Elevation 6,700 to 10,000 ft (2,050 to 3,050 m).

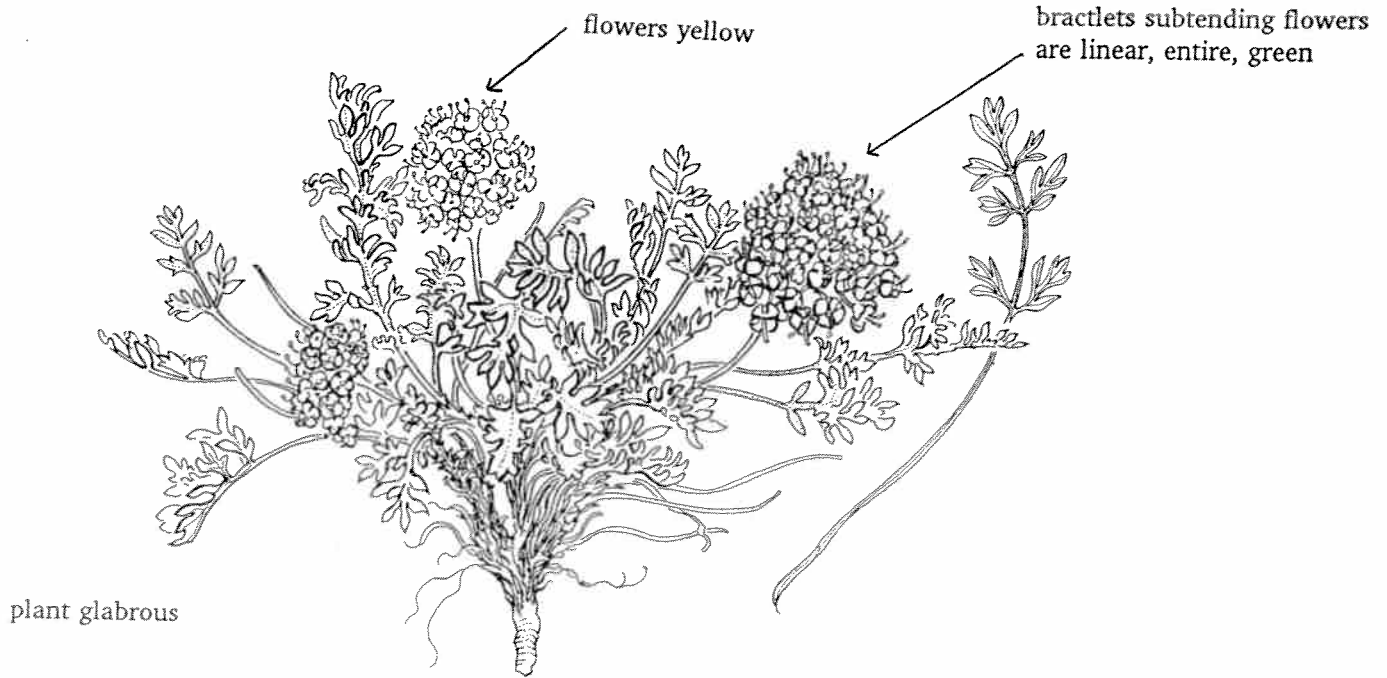
Phenology: Flowering June and July, fruiting late July through August.

Look-alikes: Distinguished from *Aletes humilis* and *A. acaulis* in having lateral leaf lobes linear rather than broad and incised with flaring tips. Also differs from these species as well as *A. anisatus* in having reflexed umbel rays, giving the inflorescence a ball-shaped appearance; lacks the strong anise odor of *A. anisatus*.





*Neoparrya lithophila*



**Scientific Name:** *Oreoxis humilis* Rafinesque

**Common Name:** Pike's Peak spring parsley

**Family:** Apiaceae (Umbelliferae) - Parsley Family

**Synonyms:** *Cymopterus humilis*

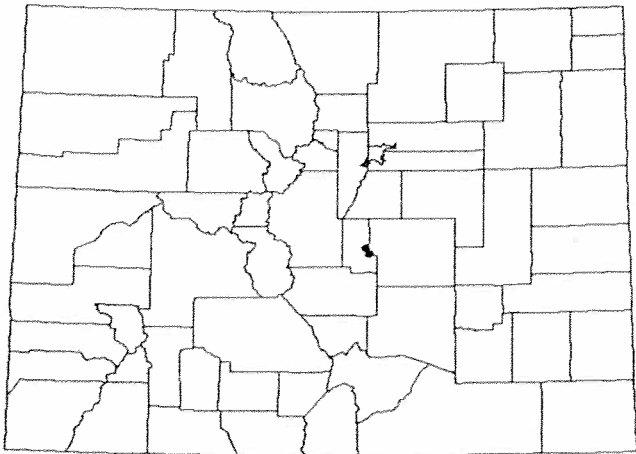
**Global Distribution:** Endemic to Pike's Peak, El Paso County, Colorado

**Managed Area Occurrence(s):** Pike N.F.

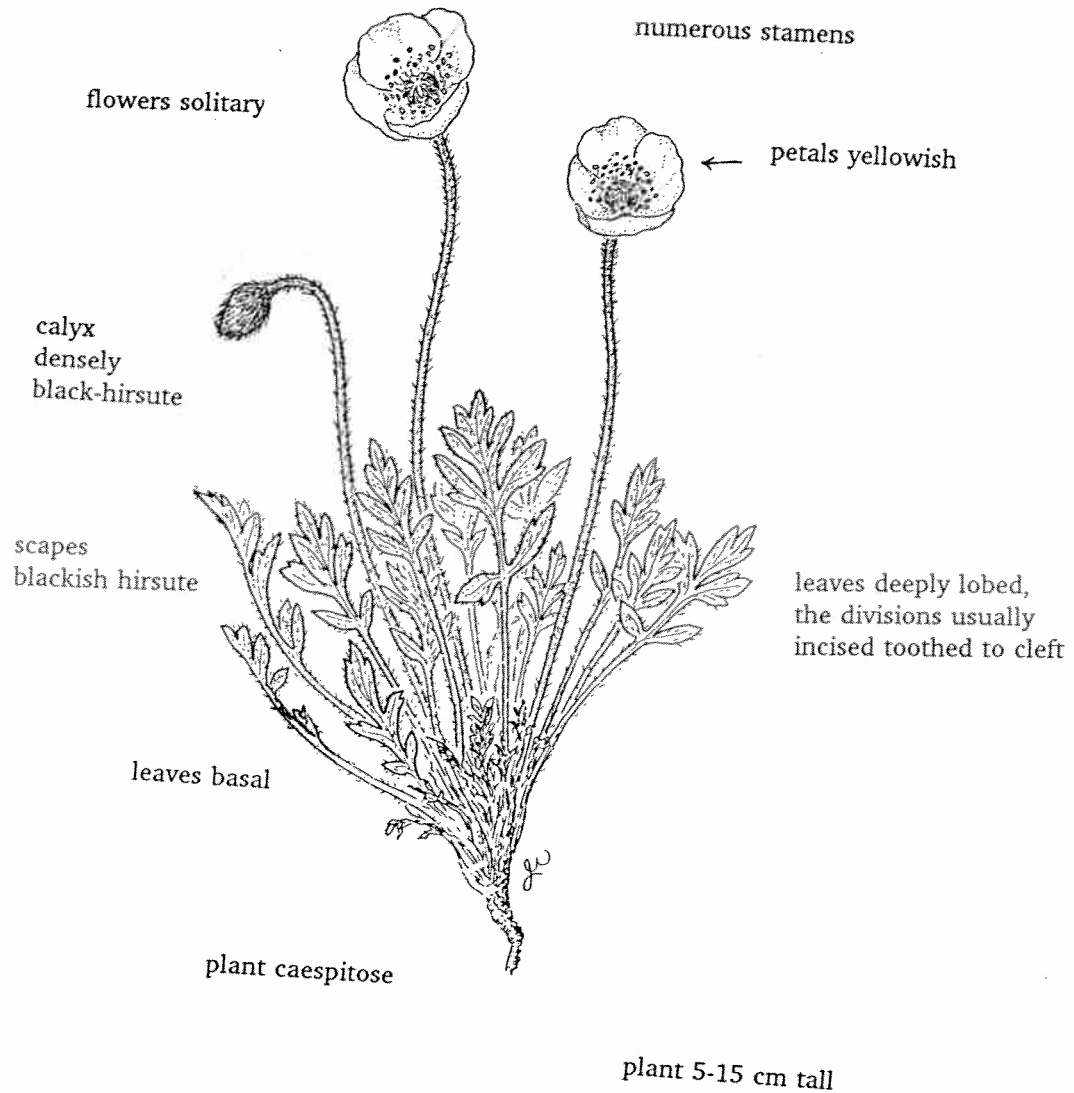
**Habitat:** Granitic substrate above timberline. Elevation 12,000 to 13,000 ft (3,650 to 4,000 m).

**Phenology:** Flowering in July and August, fruiting in August.

**Look-alikes:** Differs from *O. alpina* in being totally glabrous; *O. alpina* is slightly puberulent at least on the fruits. The similar *O. bakeri* has broad, toothed, often purplish bractlets (small bracts subtending the flowers), while the bractlets of *O. humilis* are linear, entire and green.



*Oreoxis humilis*



Scientific Name: *Papaver lapponicum* ssp. *occidentale*

Common Name: Alpine poppy

Family: Papaveraceae - Poppy Family

Synonyms: *P. kluanense* D. Love, *P. radicum* Rottboel var. *pygmaeum* (Rydberg) Welsh, *P. pygmaeum* Rydberg

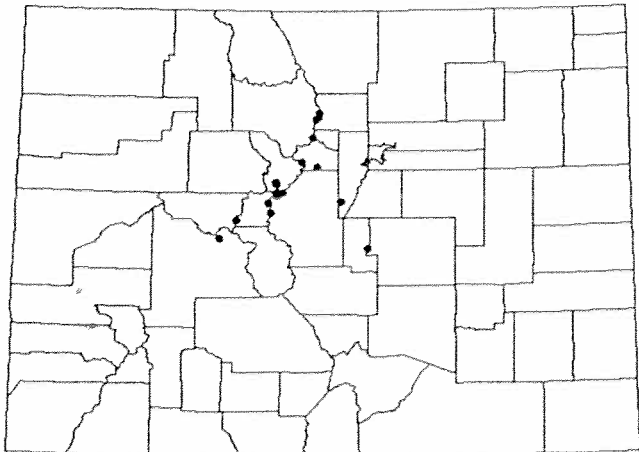
Global Distribution: Alaska to Greenland, south to New Mexico. In Colorado, Boulder, Clear Creek, El Paso, Gilpin, Grand, Gunnison, Lake, Park, Pitkin, and Summit counties.

Managed Area Occurrence(s): Pike and San Isabel N.F.

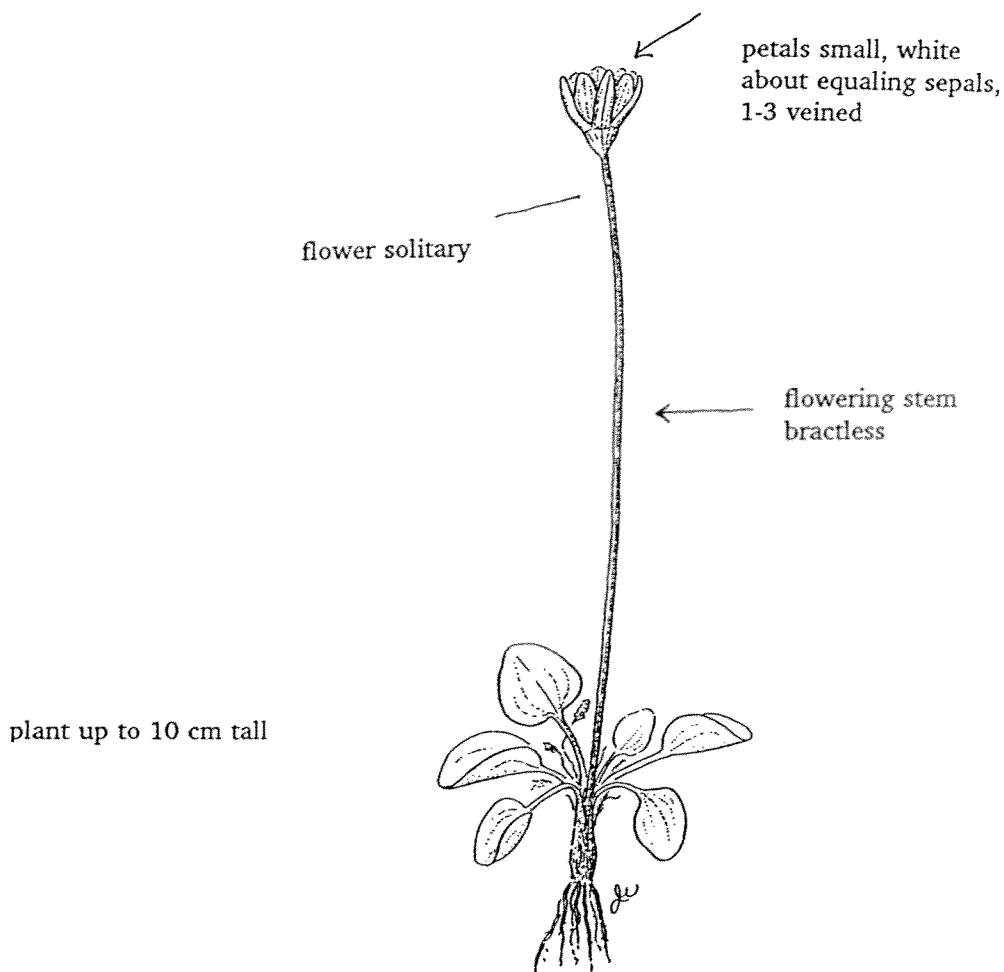
Habitat: Dry alpine tundra meadows, gravelly slopes, talus and fell-fields. Elevation 11,500 to 13,800 ft (3,500 to 4,200 m).

Phenology: Flowering and fruiting July through mid-August.

Look-alikes: *P. croceum*, an introduced plant persisting around old alpine mining townsites, has large bright orange petals as opposed to the small pale yellow or white petals of *P. lapponicum*.



*Papaver lapponicum ssp. occidentale*



**Scientific Name:** *Parnassia kotzebuei* Chamisso & Schlechtendal

**Common Name:** Kotzebue grass-of-parnassus

**Family:** Parnassiaceae - Grass-of-Parnassus Family (Saxifragaceae - Saxifrage Family)

**Synonyms:** None

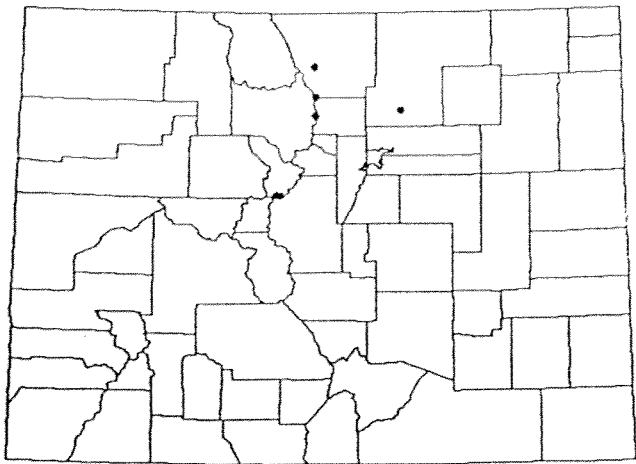
**Global Distribution:** Northeast Asia, Alaska, Yukon, east to Labrador, Greenland, south to Washington, Nevada, Wyoming, Colorado (Boulder, Grand, Larimer, Park, San Juan and Summit counties).

**Managed Area Occurrence(s):** Pike N.F.

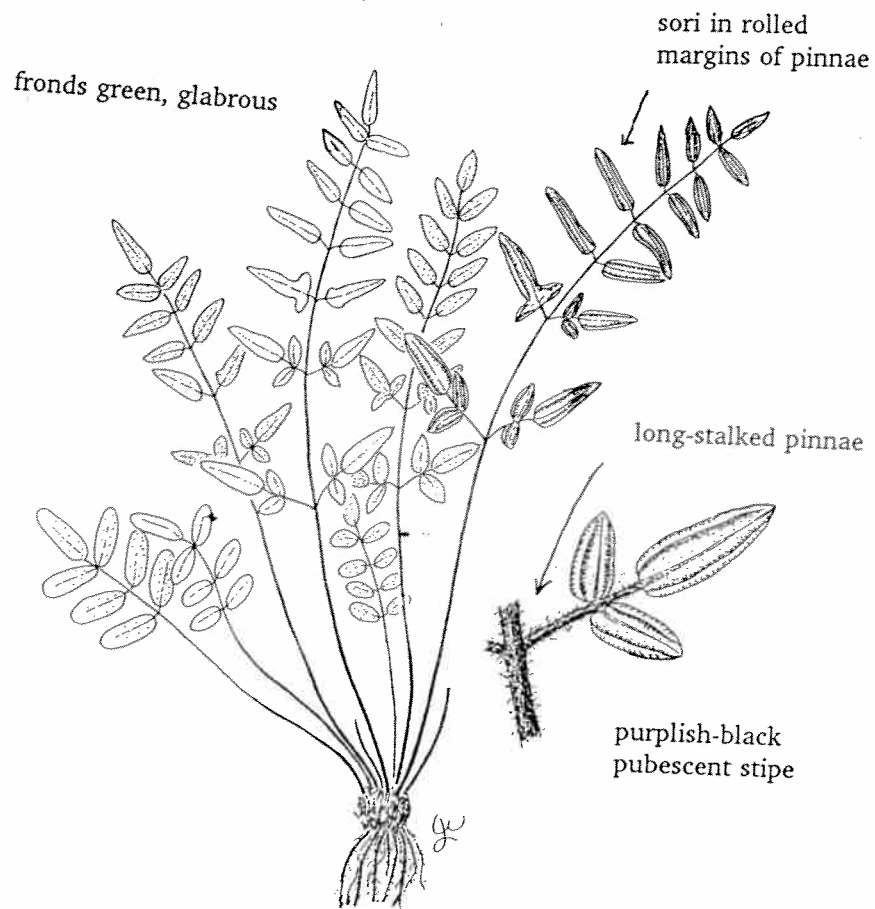
**Habitat:** Subalpine and alpine wet rocky ledges and streamlets, moss mats. Elevation 10,800 to 12,000 ft (3,300 to 3,650 m).

**Phenology:** Flowering July, fruiting August.

**Look-alikes:** *P. fimbriata* and *P. parviflora* have larger petals with 5-13 veins, and a bractlike leaf on the stem; *P. kotzebuei* has small inconspicuous 1-3-veined petals about equalling the



*Parnassia kotzebuei*



**Scientific Name:** *Pellaea atropurpurea* (L.) Link

**Common Name:** Purple cliff-brake, hairy cliff-brake

**Family:** Sinopteridaceae - Lipfern Family (Polypodiaceae - Polypody Family)

**Synonyms:** *P. glabella* x *P. ternifolia*

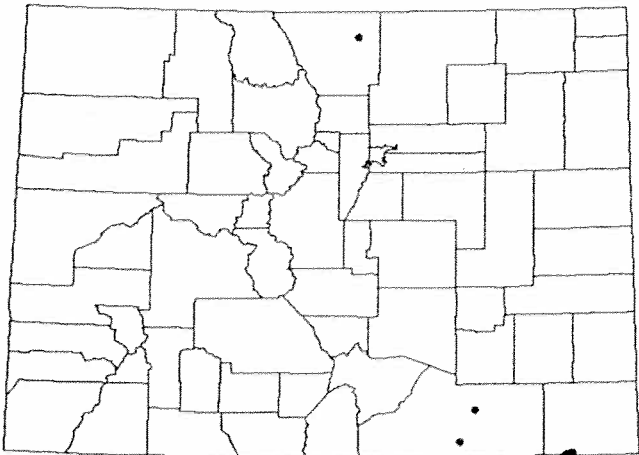
**Global Distribution:** Ontario to South Dakota, south to the Gulf states, Mexico and Central America. In Colorado, Baca, El Paso, Larimer and Las Animas counties.

**Managed Area Occurrence(s):** Comanche N.G.

**Habitat:** Dry shaded ledges and crevices of limestone, sandstone, and basalt. Elevation 4,000 to 7,200 ft (1,200 to 2,200 m).

**Look-alikes:** *P. truncata* and *P. wrightiana* have glabrous stipes and rachises and sessile or short-stalked pinnae, while *P. atropurpurea* has pubescent stipes and rachises and long-stalked pinnae. *P. occidentalis* (= *P. glabella* var. *occidentalis*) has sparse, spreading pubescence on stipes and rachises as opposed to the denser more appressed pubescence of *P. atropurpurea*. Also, all three other *Pellaea* species have monomorphic fronds rather than dimorphic as in *P. atropurpurea*, which has fertile fronds longer than sterile ones, and fertile pinnules narrower than the ovate to oblong sterile pinnules.



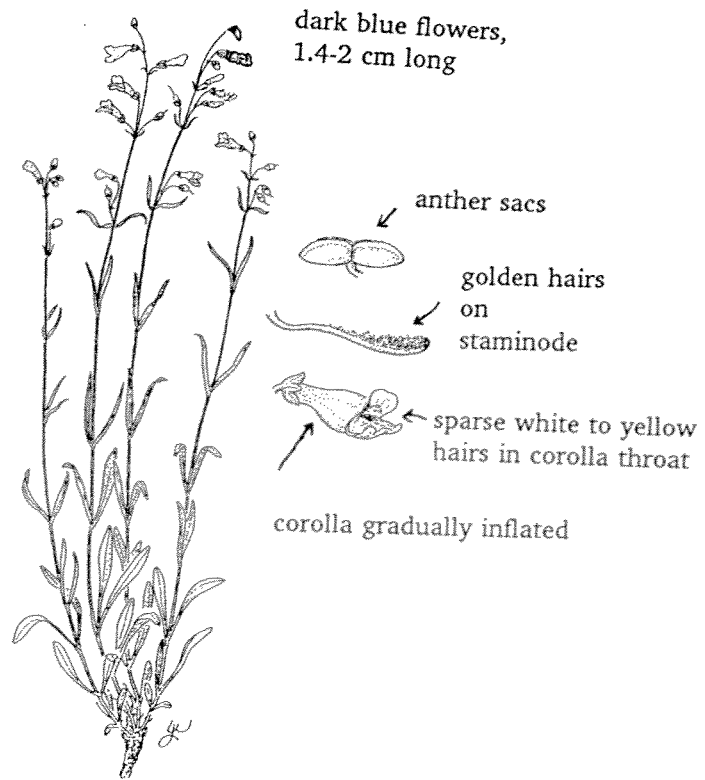


*Pellaea atropurpurea*

plant 25-40 cm tall

stems short-pubescent

leafy stems,  
no basal rosette



dark blue flowers,  
1.4-2 cm long

anther sacs

golden hairs  
on  
staminode

sparse white to yellow  
hairs in corolla throat

corolla gradually inflated

**Scientific Name:** *Penstemon degeneri* Crosswhite

**Common Name:** Degener penstemon, Degener beardtongue

**Family:** Scrophulariaceae - Figwort Family

**Synonyms:** None

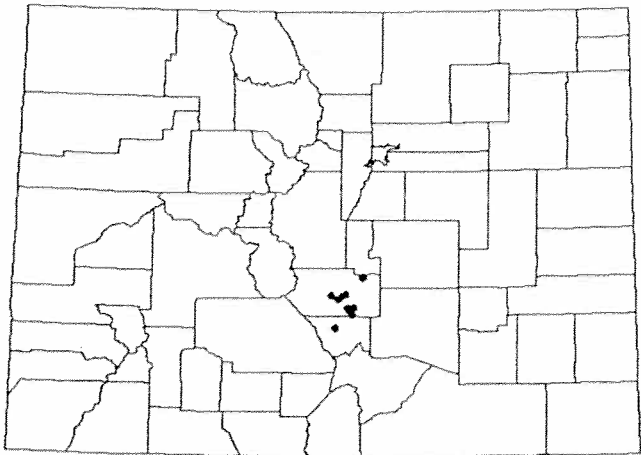
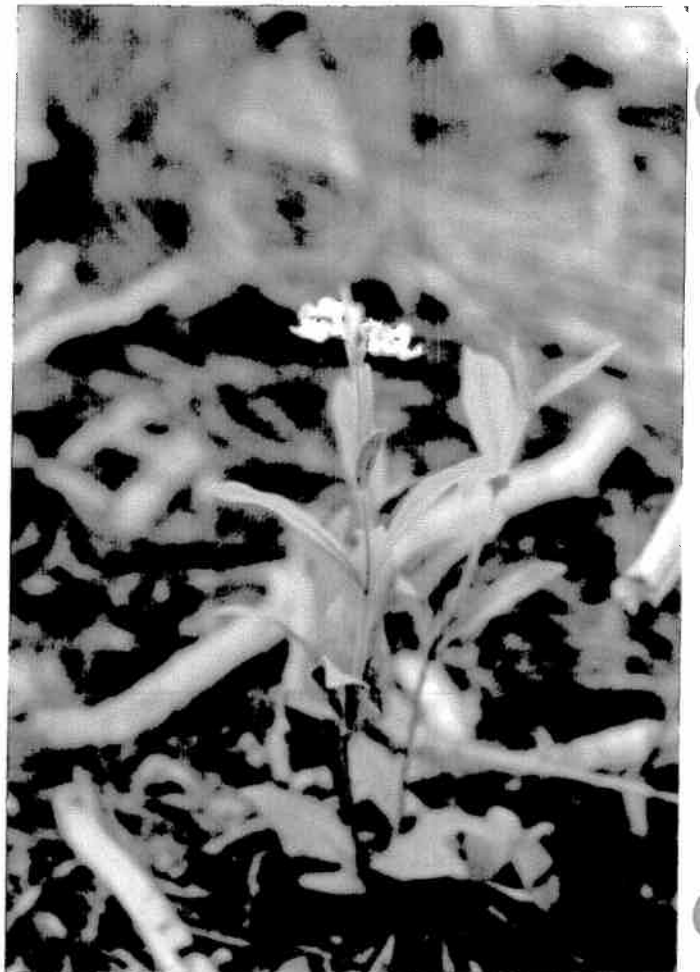
**Global Distribution:** Endemic to central Colorado (Fremont County)

**Managed Area Occurrence(s):** San Isabel N.F.

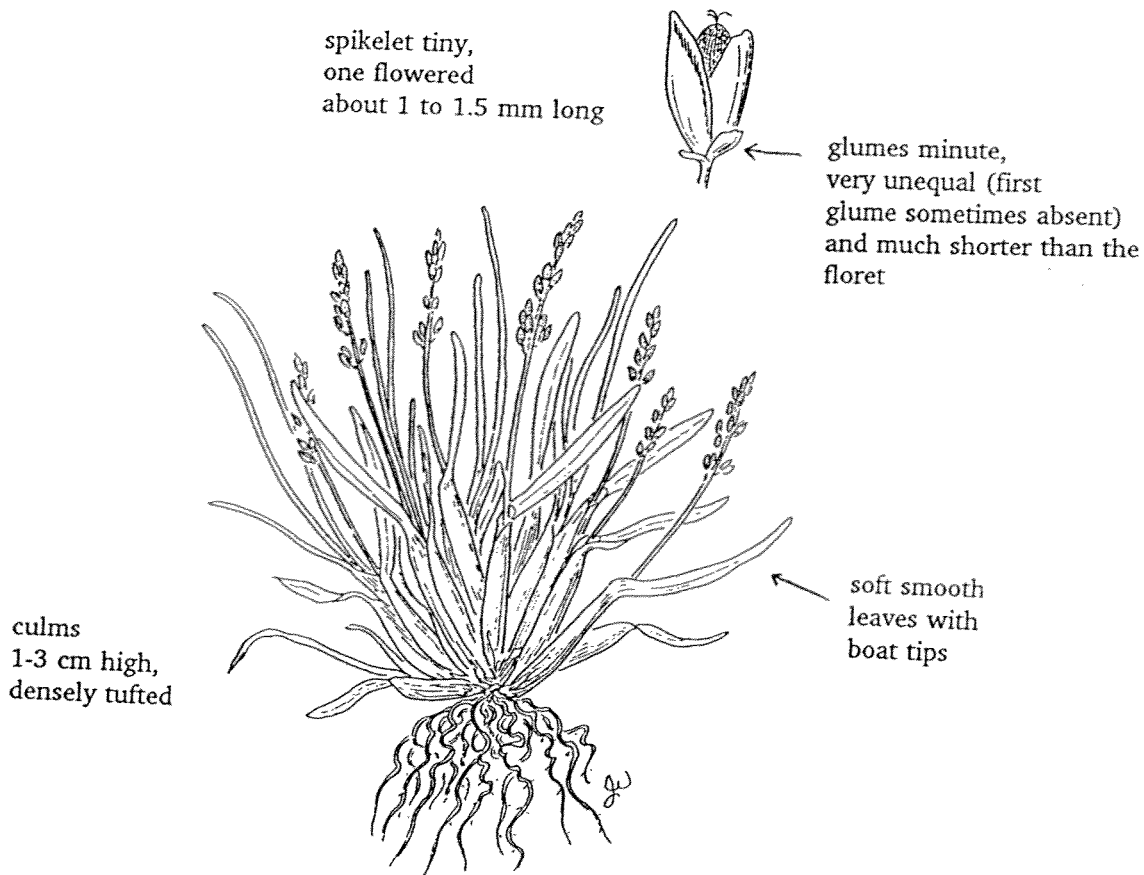
**Habitat:** Piñon-juniper woodlands and montane grasslands; rocky soil with igneous bedrock. Elevation 6,000 to 9,500 ft (1,850 to 2,900 m).

**Phenology:** Flowering June through July, fruiting late July.

**Look-alikes:** *P. griffinii* has a basal rosette through the flowering period, and smaller, linear stem leaves (2-3 cm long, 2 mm wide). *P. degeneri* lacks a basal rosette at flowering time, and has longer and wider stem leaves (up to 6 cm long and 16 mm wide). *P. griffinii* has dense golden hairs in its corolla throat, while *P. degeneri* has sparser white to light yellow hairs. (Caution: both species have dense golden hairs on the staminode which may be confused with hairs on the corolla itself).



*Penstemon degeneri*



**Scientific Name:** *Phippsia algida* (Phipps) R. Brown

**Common Name:** Icegrass, snowgrass

**Family:** Poaceae (Graminae) - Grass Family

**Synonyms:** None

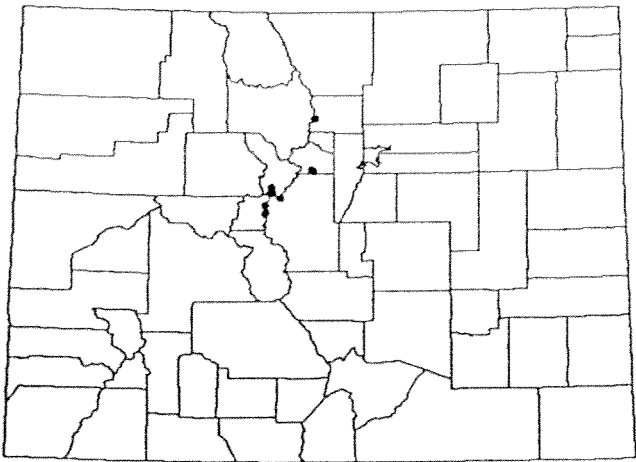
**Global Distribution:** Northern Asia, Scandinavia, Greenland, northern Canada, Alaska; disjunct in Colorado (Boulder, Clear Creek, Park and Summit counties).

**Managed Area Occurrence(s):** Pike N.F.

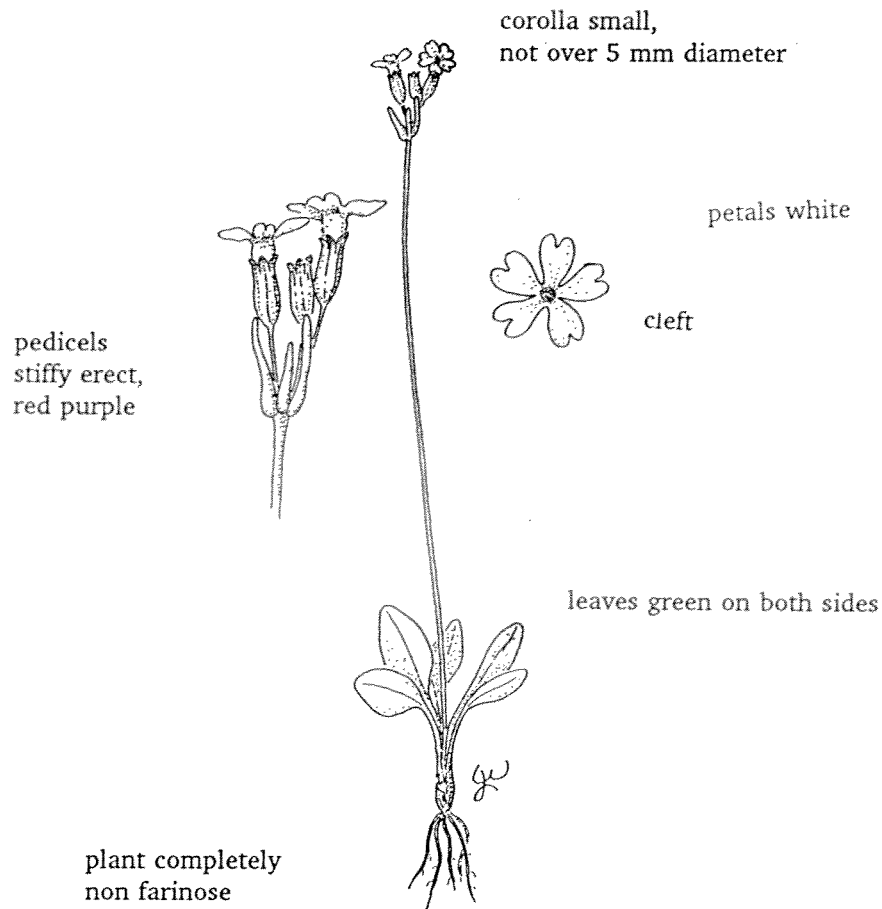
**Habitat:** Cold gravels of snowmelt streamlets, saturated sand at inlets to alpine lakes.  
Elevation 11,700 to 14,000 ft (3,550 to 4,250 m).

**Phenology:** Fruiting mid-July through late September.

**Look-alikes:** The plant vegetatively resembles *Poa annua*, but *Phippsia algida* leaves are very short, usually less than 1 cm. Also, *Phippsia algida* has only one floret per spikelet and the glumes are tiny and unequal, with the first glume sometimes missing.



*Phippsia algida*



Scientific Name: *Primula egaliksensis* Wormskjold

Common Name: Greenland primrose

Family: Primulaceae - Primrose Family

Synonyms: None

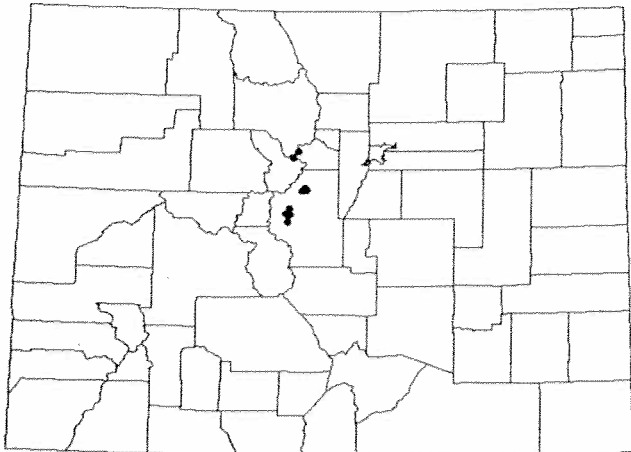
Global Distribution: Alaska, Yukon, east to Labrador and Greenland, south to British Columbia; disjunct in Wyoming (one site) and Colorado (Park County).

Managed Area Occurrence(s): May occur in Pike N.F.

Habitat: Wet meadows, fens. Elevation approximately 9,300 to 9,500 ft (2,850 to 2,900 m).

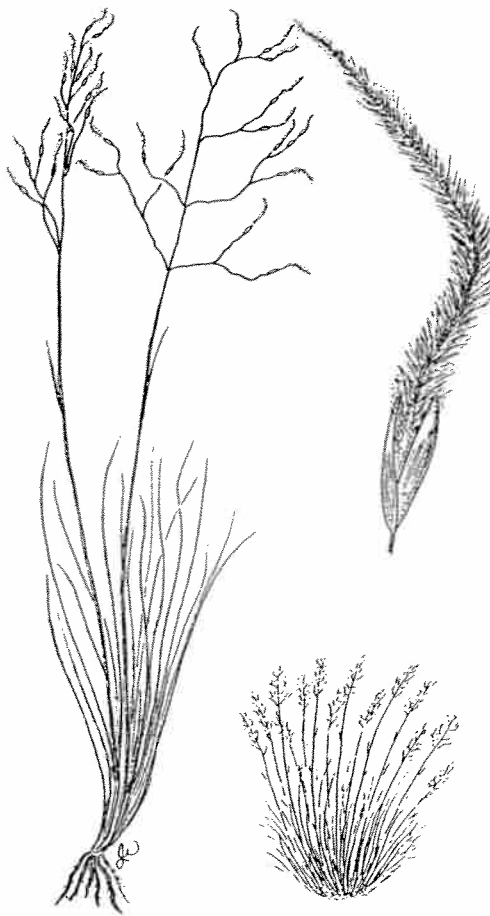
Phenology: Flowering late June through July.

Look-alikes: *P. incana* is taller and more robust, with green pedicels and leaves which are usually mealy beneath at least when young, and which often have small teeth near the apex, while *P. egaliksensis* has red-purple pedicels and entire leaves that are green on both sides. Where the two species grow together, *P. egaliksensis* occurs in slightly wetter microsites.



*Primula egaliksensis*

panicle  
branches  
distant  
capillary, flexuous  
few-flowered



Awn less than 2 cm  
long, plumose  
entire length

spikelet  
one-flowered

leaf blades  
very narrow  
(less than  
1 mm wide)  
involute

**Scientific Name:** *Ptilagrostis mongholica* (Turczaninov ex Trinius) Grisebach subsp. *porteri* (Rydberg) Barkworth

**Common Name:** Porter needlegrass, Porter feathergrass

**Family:** Poaceae (Graminae) - Grass Family

**Synonyms:** *P. porteri* (Rydberg) W.A. Weber, *Stipa porteri* Rydberg

**Global Distribution:** Endemic to central Colorado (Park and Summit counties).

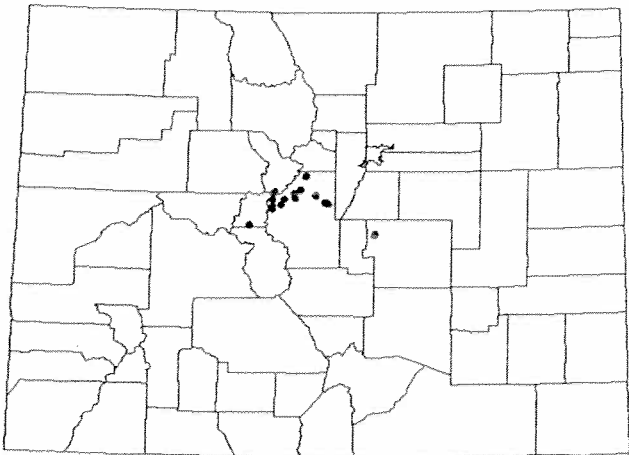
**Managed Area Occurrence(s):** Pike N.F. - South Park R.D. May occur in San Isabel N.F.

**Habitat:** Hummocks in peat bogs. Elevation 9,700 to 12,000 ft (3,000 to 3,650 m).

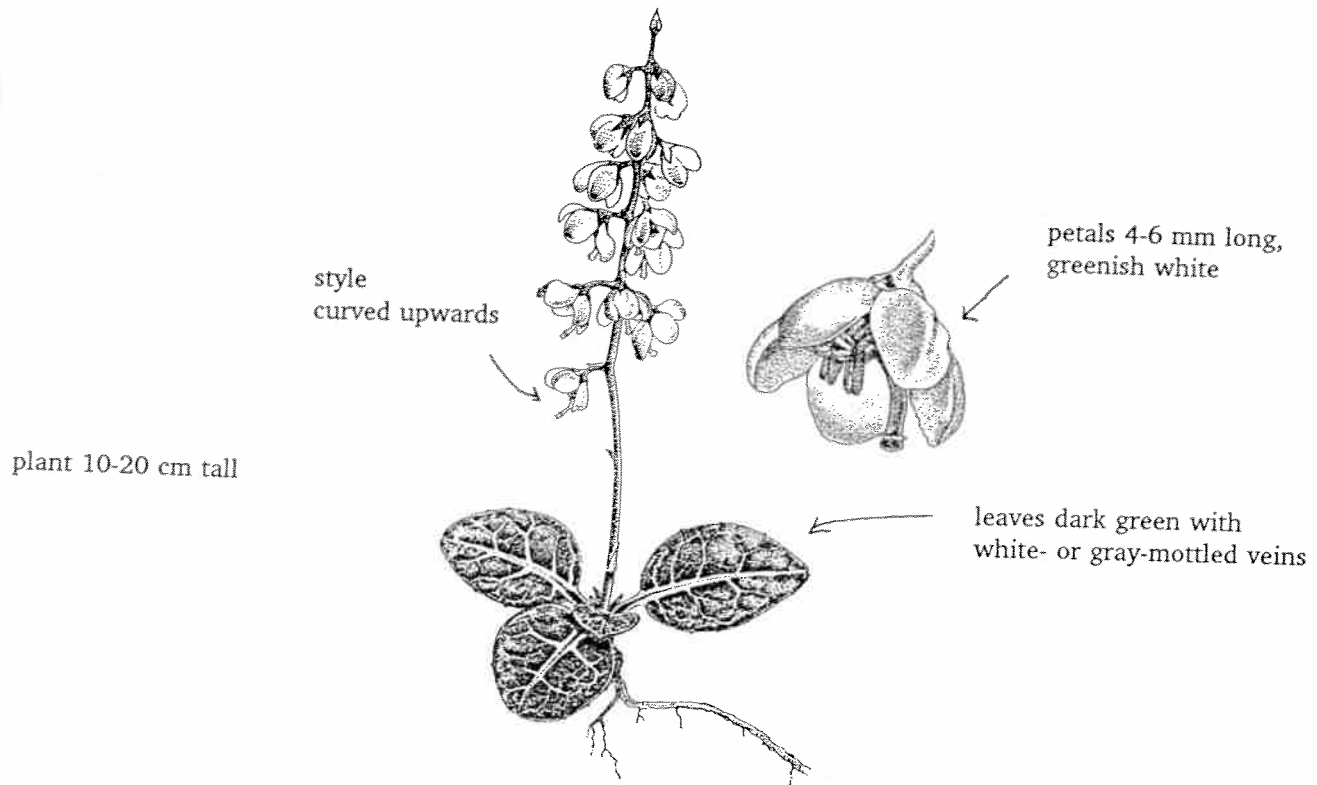
**Phenology:** Fruit maturing mid-August to early September.

**Look-alikes:** *Stipa* species that might occur in the same areas lack the conspicuous feathery (plumose) awns.





*Ptilagrostis mongholica ssp. porteri*



**Scientific Name:** *Pyrola picta* J.E. Smith

**Common Name:** Whitevein wintergreen

**Family:** Pyrolaceae - Wintergreen Family (Ericaceae - Heath Family)

**Synonyms:** None

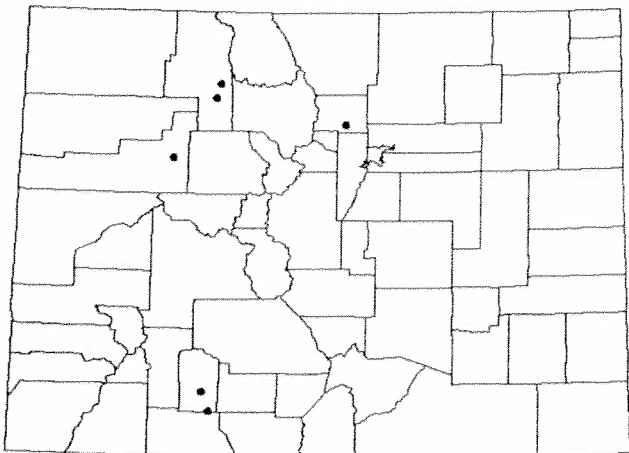
**Global Distribution:** British Columbia to South Dakota, south to Arizona, California, Colorado (Boulder, Conejos, Douglas, El Paso, Garfield, La Plata, Mineral, Ouray and Routt counties).

**Managed Area Occurrence(s):** Pike N.F.

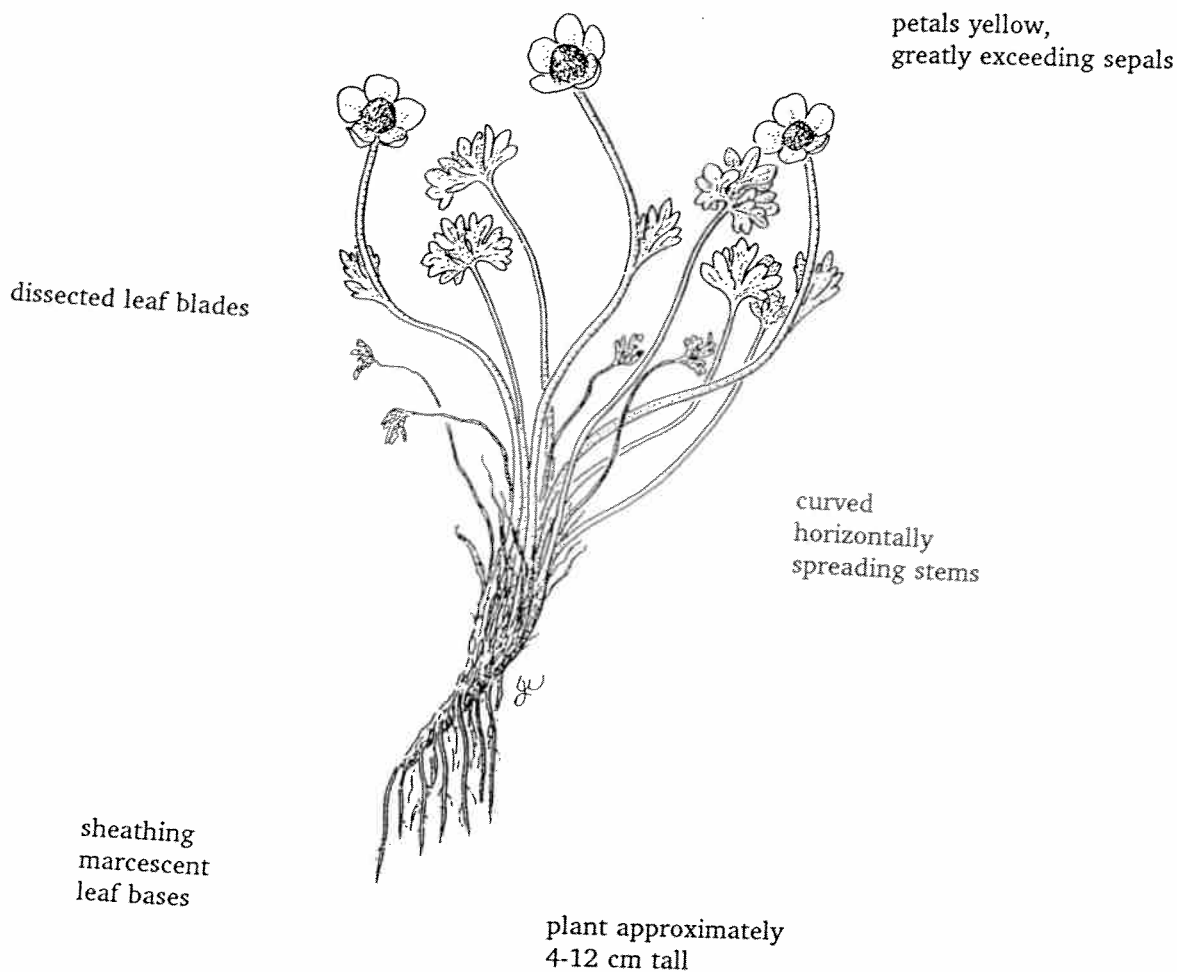
**Habitat:** Deeply shaded ravines in pine duff. Elevation 6,000 to 8,700 ft (1,800 to 2,650 m).

**Phenology:** Flowering June through early August, fruiting July through August.

**Look-alikes:** *P. picta* is the only *Pyrola* with white- or gray-mottled veins.



*Pyrola picta*



Scientific Name: *Ranunculus karelinii*

Common Name: *Tundra buttercup*

Family: *Ranunculaceae* - *Buttercup Family*

Synonyms: *R. drummondii* Greene, *R. grayi* Britton, *R. gelidus* Karilin & Kirilow subsp. *grayi* (Britton) Hultén

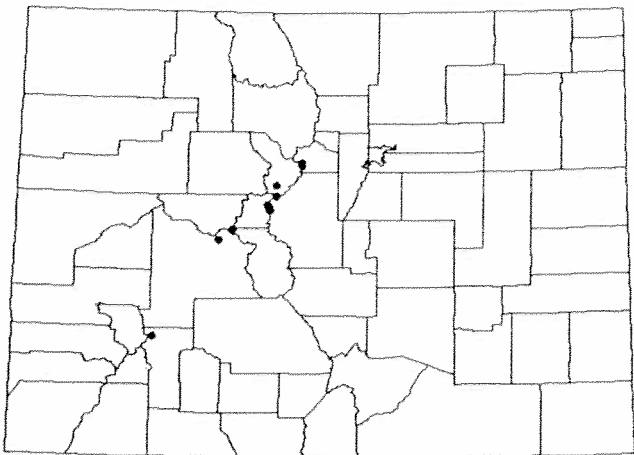
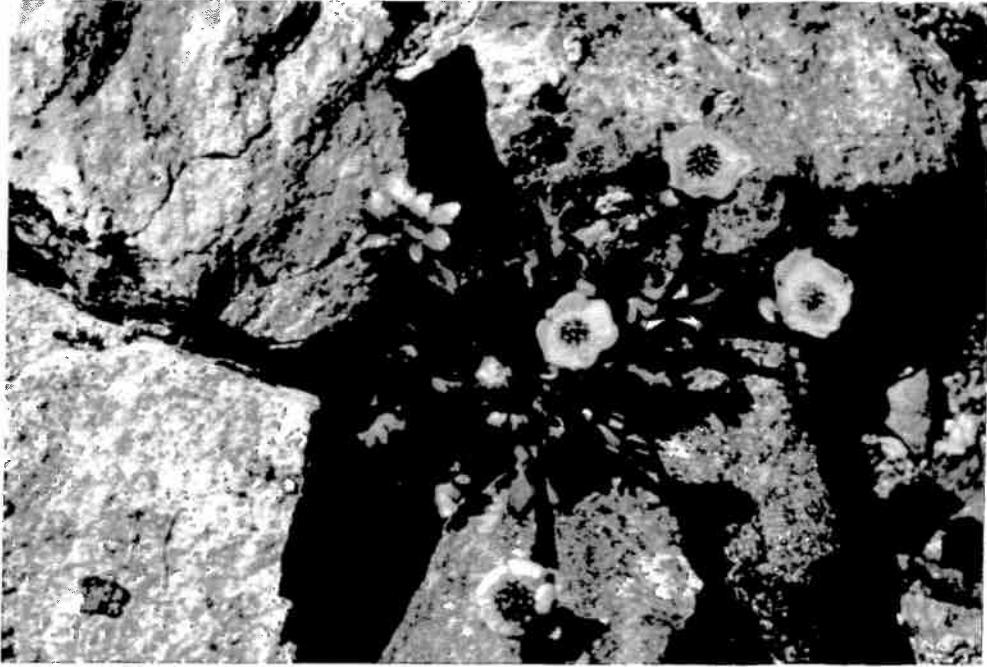
Global Distribution: Eastern Siberia, Alaska, south to Montana and Colorado (Clear Creek, Gunnison, Lake, Park and Summit counties).

Managed Area Occurrence(s): Pike and San Isabel N.F.

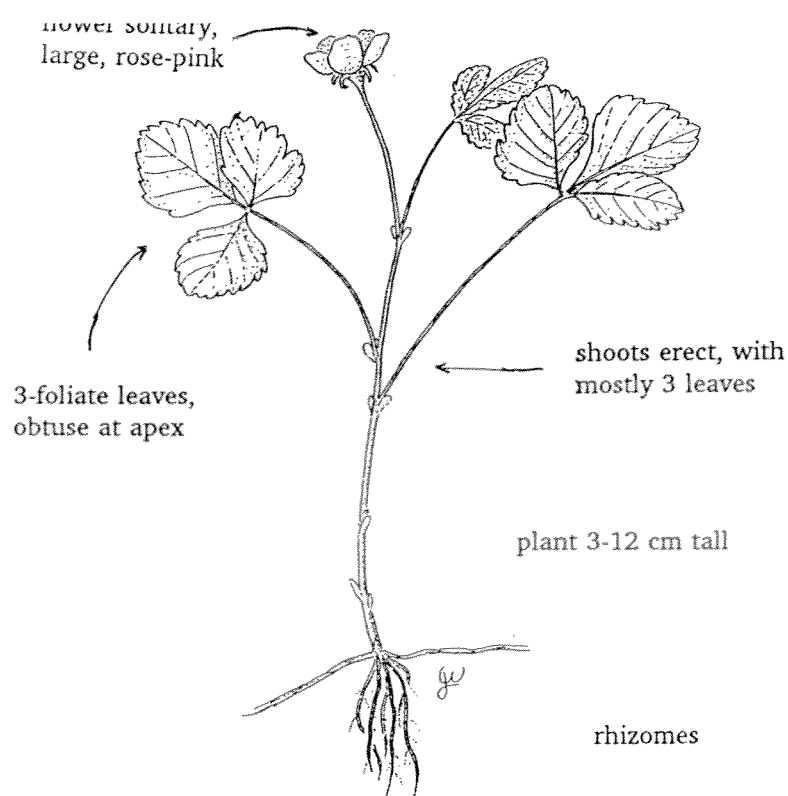
Habitat: Among rocks and scree on exposed summits, slopes. Elevation 12,900 to 13,800 ft (3,900 to 4,200 m).

Phenology: Flowering in July, fruiting in late July, August.

Look-alikes: *R. pygmaeus* is smaller (less than 5 cm tall), with 3-lobed leaves and petals only equalling the sepals, while the larger *R. karelinii* has leaves more dissected and petals greatly exceeding the sepals. *R. pedatifidus* has stem leaves with linear divisions.



*Ranunculus karelinii*



Scientific Name: *Rubus arcticus* L. subsp. *acaulis* (Michaux) Focke

Common Name: Dewberry, Nagoon berry

Family: Rosaceae - Rose Family

Synonyms: *Cylactis arctica* (L.) W.A. Weber subsp. *acaulis* (Michaux) W.A. Weber

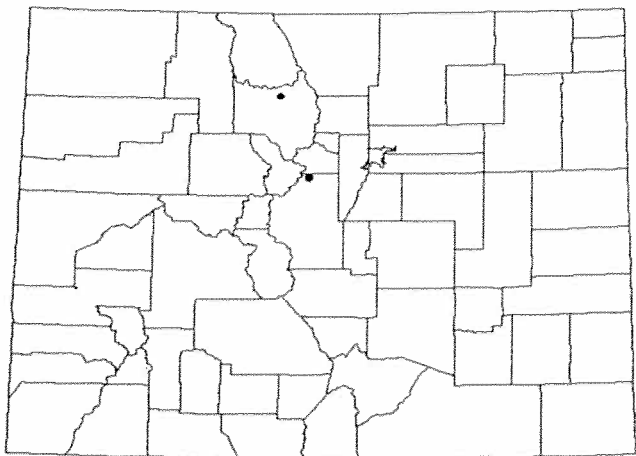
Global Distribution: Northern Europe, Asia, Alaska, Canada, south to Montana, Wyoming, Colorado (Clear Creek, Grand and Park counties).

Managed Area Occurrence(s): Pike N.F.

Habitat: Willow carrs, mossy streamsides. Elevation 8,600 to 9,700 ft (2,600 to 2,950 m).

Phenology: Flowering late June to early July, fruiting late July through August.

Look-alikes: *Cylactis pubescens* has white flowers, leaves that are acute or acuminate at the apex, and trailing shoots, while *C. arcticus* subsp. *acaulis* has rose-pink flowers, leaves that are obtuse at the apex, and lacks trailing shoots. *Fragaria* species have white flowers, stolons, and leaves with simple unbranched veins as opposed to the reticulate veins of *Cylactis*.



*Rubus arcticus ssp. acaulis*



Scientific Name: *Saussurea densa* Hultén

Common Name: Weber saussurea

Family: Asteraceae (Compositae) - Sunflower Family

Synonyms: *S. weberi*

Global Distribution: Montana, Wyoming, Colorado (Park and Summit counties).

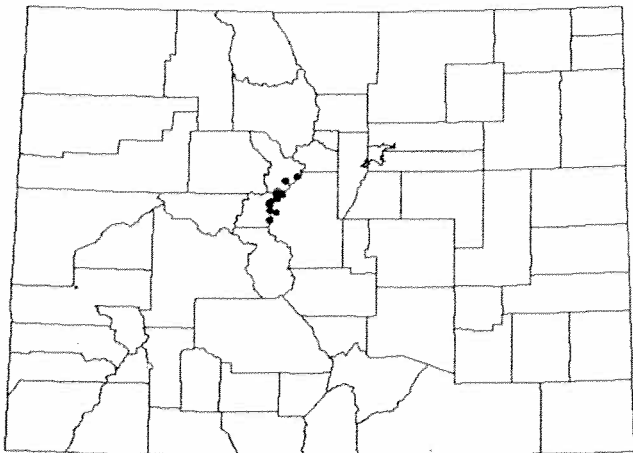
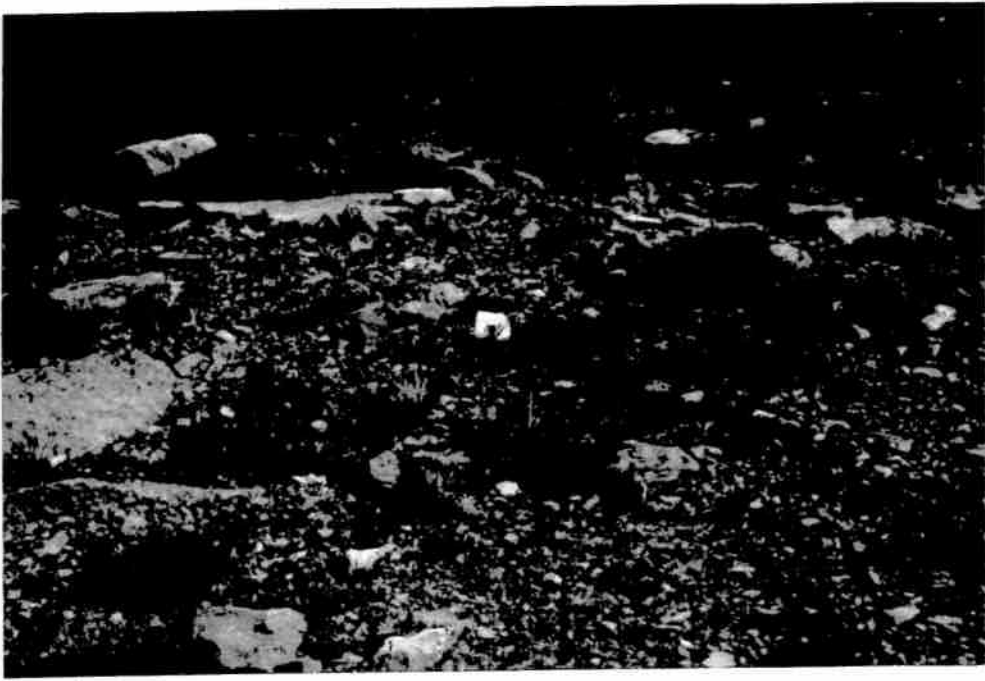
Managed Area Occurrence(s): Pike N.F. - South Park R.D.

Habitat: Alpine solifluction lobes, gravelly tundra slopes and scree. Elevation 10,500 to 14,300 ft (3,200 to 4,350 m).

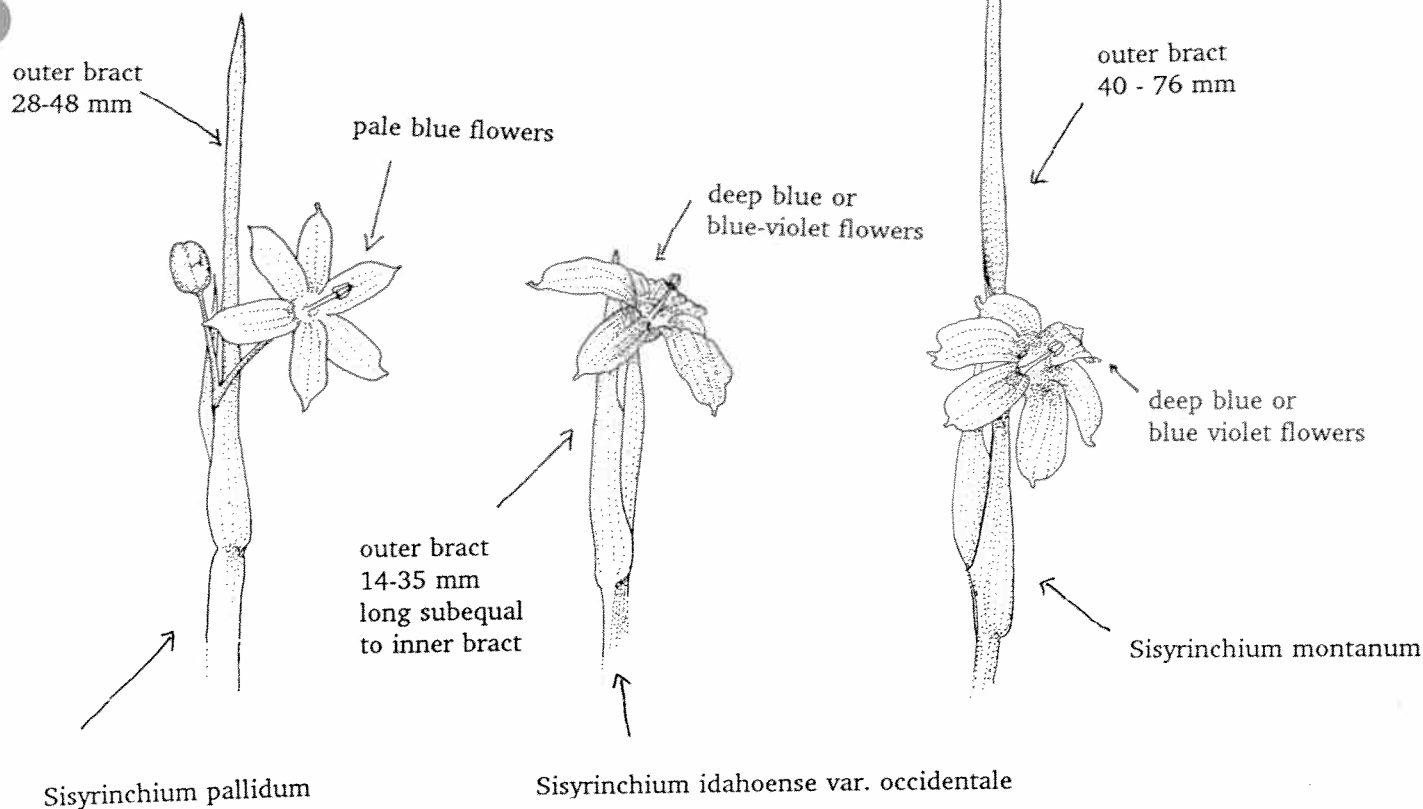
Phenology: Flowering late July through August.

Look-alikes: None; the only member of the genus known to occur in Colorado.





*Saussurea densa*



**Scientific Name:** *Sisyrinchium pallidum* Cholewa & Henderson

**Common Name:** Pale blue-eyed grass

**Family:** Iridaceae - Iris Family

**Synonyms:** None

**Global Distribution:** Endemic to southeastern Wyoming and Colorado (Larimer, Park, and Saguache counties).

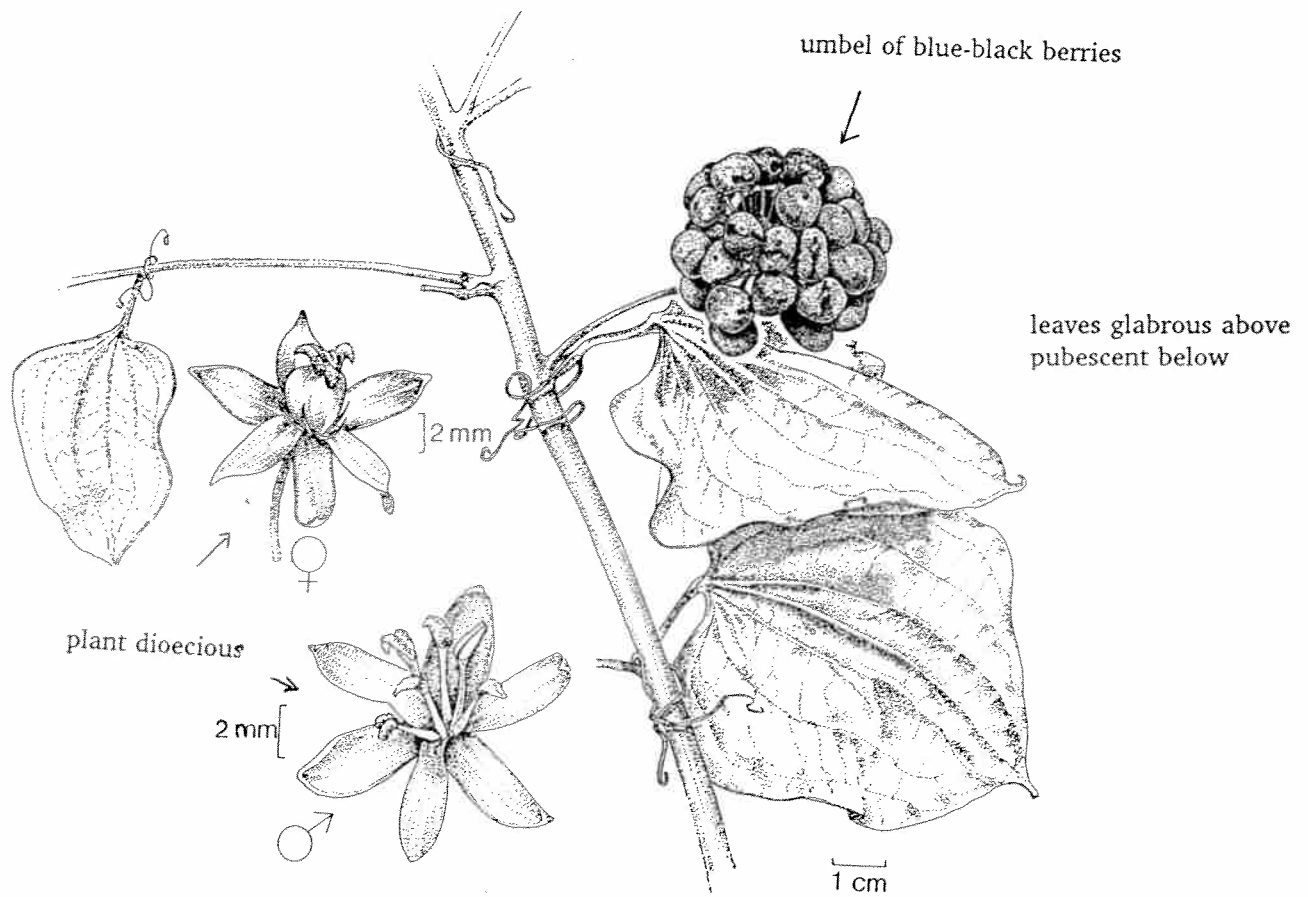
**Managed Area Occurrence(s):** May occur in Pike N.F.

**Habitat:** Wet meadows, fens, especially on calcareous soils. Elevation 7,600 to 9,500 ft (2,300 to 2,900 m).

**Phenology:** Flowering in July, fruiting late July, August.

**Look-alikes:** *S. montanum* and *S. idahoense* var. *occidentale* have deep blue flowers as opposed to the pale blue flowers of *S. pallidum*; the outer bract of *S. idahoense* var. *occidentale* is subequal to the inner bract. *S. demissum* also has pale flowers, but it usually has more than one pedunculate spathe (bract below the inflorescence) arising from the axil of a leaflike bract on the stem, while *S. pallidum* has a single sessile spathe. Also, *S. pallidum* grows in wetter sites than the other species.





**Scientific Name:** *Smilax lasioneuron* Hooker

**Common Name:** Carrionflower

**Family:** Smilacaceae - Smilax Family

**Synonyms:** *Smilax herbacea* L. var. *lasioneuron* (Hooker) A. De Candolle, *Nemexia herbacea* (L.) Small subsp. *melica* A. Nelson, *Nemexia lasioneura* (Hooker) Rydberg.

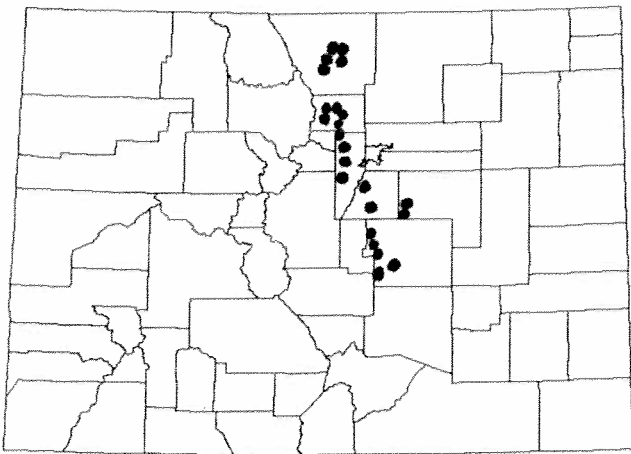
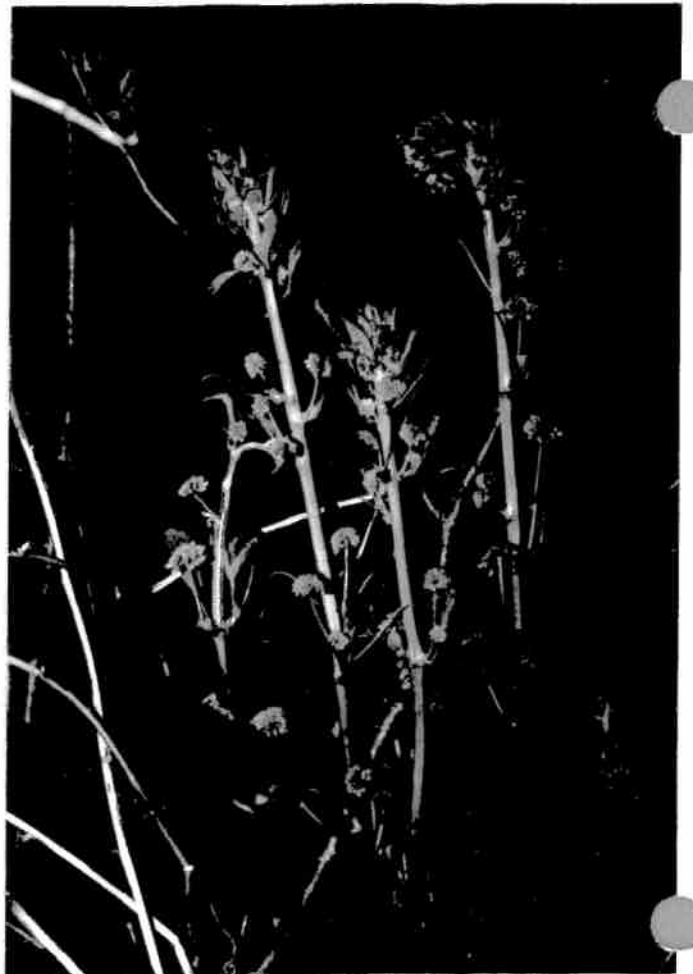
**Global Distribution:** Saskatchewan east to Ontario, south to Kansas, Colorado (Boulder, Douglas, Elbert, El Paso, Jefferson and Larimer counties).

**Managed Area Occurrence(s):** Pike N.F.

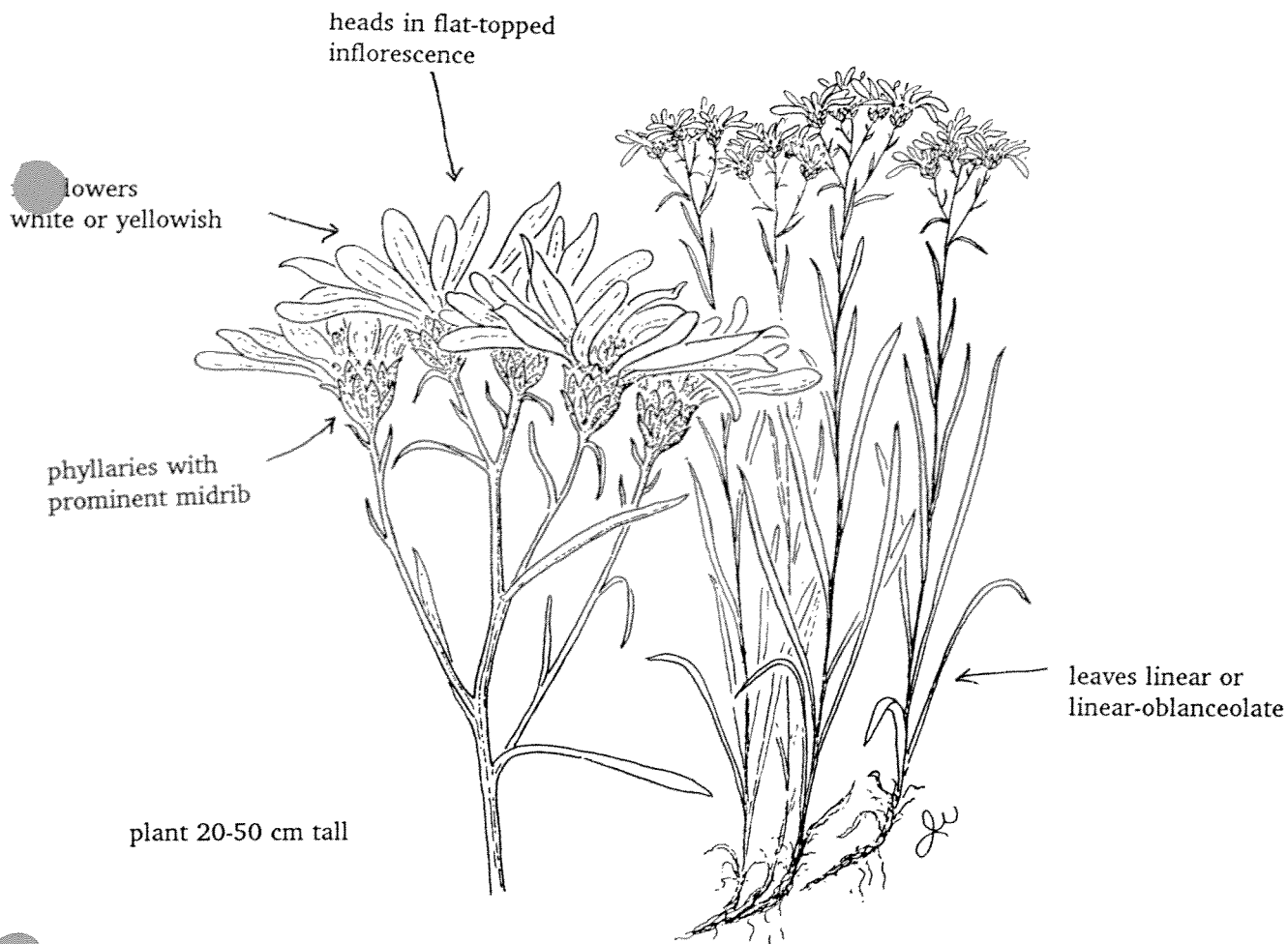
**Habitat:** Brushy ravines, typically twining on shrubs such as *Quercus gambelii*, *Crataegus* and *Prunus* species. Elevation 5,600 to 6,200 ft (1,700 to 1,900 m).

**Phenology:** Flowering mid-May through June, fruiting late July through September.

**Look-alikes:** None; the only species in the genus known to occur in Colorado.



*Smilax lasioneuron*



Scientific Name: *Solidago ptarmicoides* (Nees) <sup>u</sup>Bovin <sub>^</sub>

Common Name: Sneezewort aster

Family: Asteraceae (Compositae) - Sunflower Family

Synonyms: *Unamia alba* (Nuttall) Rydberg, *Unamia ptarmicoides* (Nees) Greene, *Aster ptarmicoides* (Nees) Torrey & Gray

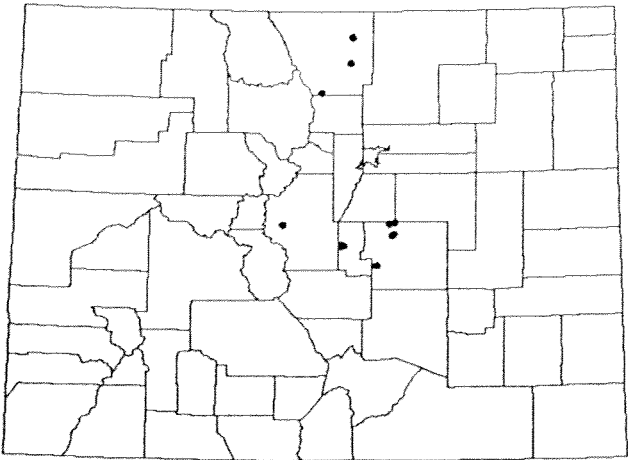
Global Distribution: Saskatchewan east to New England, south to Colorado (El Paso, Larimer, Park and Teller counties).

Managed Area Occurrence(s): Pike N.F.

Habitat: Montane meadows, dry slopes. Elevation 7,500 to 9,300 ft (2,300 to 2,850 m).

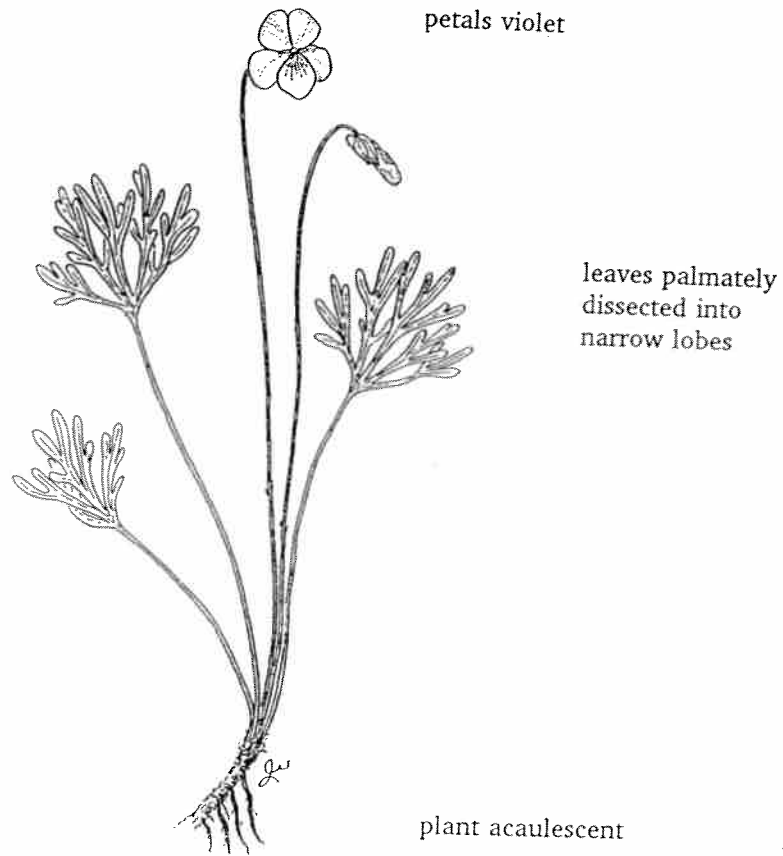
Phenology: Flowering July through August.

Look-alikes: Differs from other *Solidago* species in having larger inflorescences and white to very pale yellow flowers rather than yellow ones. Distinguished from white-flowered, linear-lanceolate-leaved Aster species (*A. junciformis*, *A. hesperius*, *A. porteri*, and *A. ascendens* [= *Virgulaster ascendens*]) in having a prominent midrib on the phyllaries and at least some of the pappus bristles enlarged at the apex.



*Solidago ptarmicoides*

plant 7-20 cm tall



**Scientific Name:** *Viola pedatifida* G. Don

**Common Name:** Birdfoot violet

**Family:** Violaceae - Violet Family

**Synonyms:** *V. delphinifolia* Nuttall

**Global Distribution:** Saskatchewan to Ohio, south to Oklahoma and Arizona; in Colorado, Boulder, Custer, Douglas, El Paso and Las Animas counties.

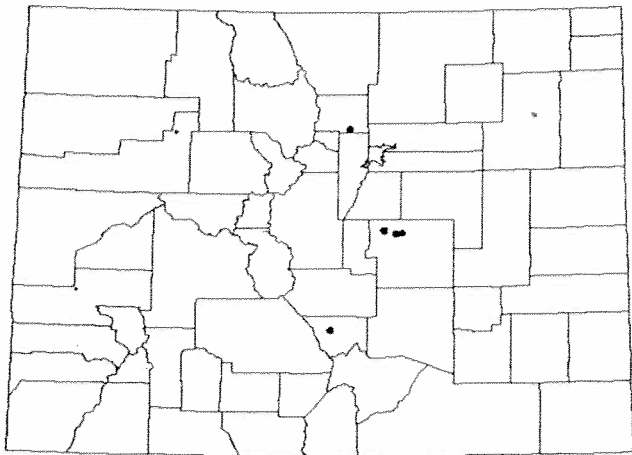
**Managed Area Occurrence(s):** Pike N.F.

**Habitat:** Dry grassland, forest openings, rocky sites. Elevation 5,800 to 8,800 ft (1,750 to 2,700 m).

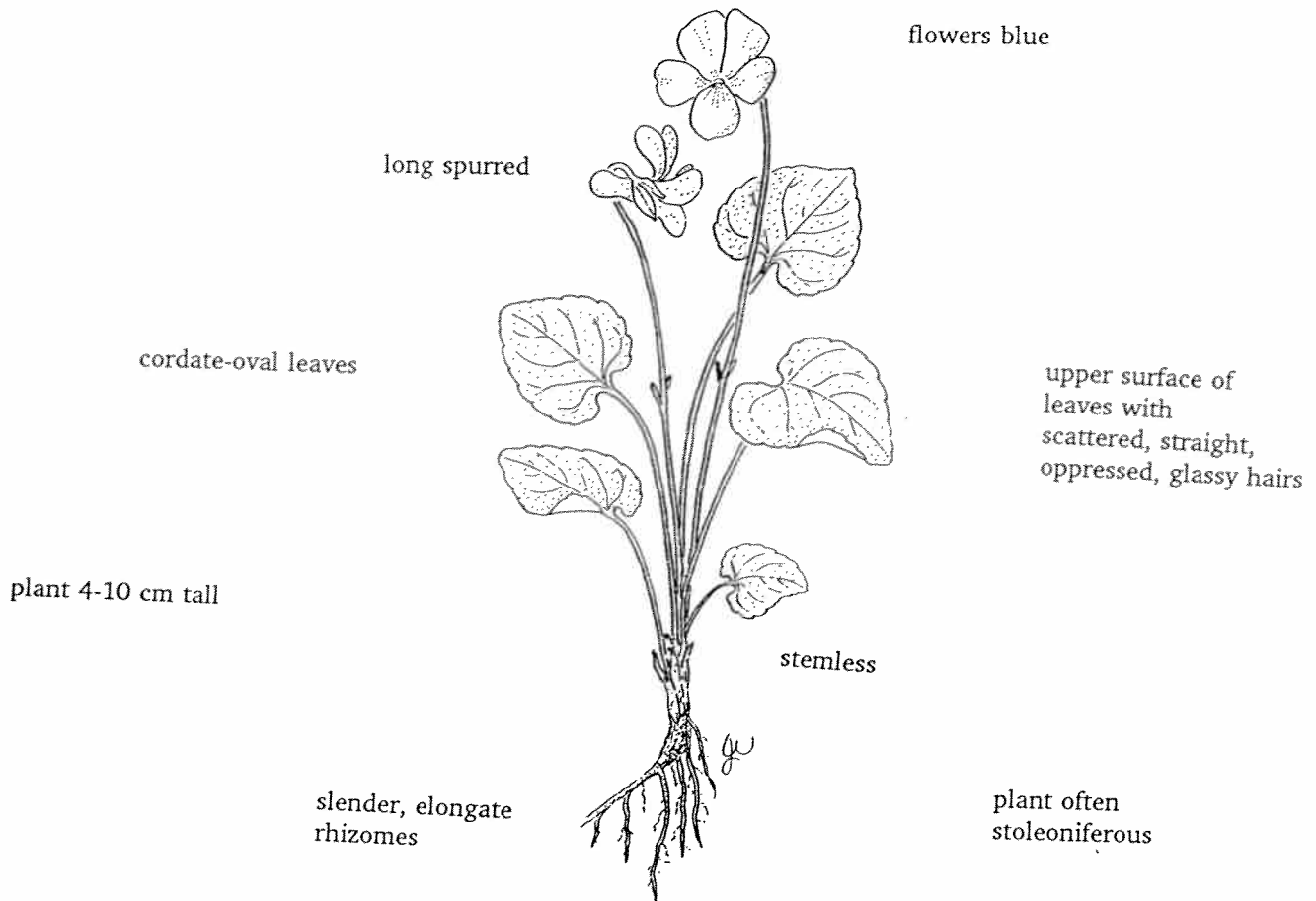
**Phenology:** Flowering late April through early June.

**Look-alikes:** No other blue-flowered *Viola* species in Colorado have leaves dissected into narrow lobes (*V. sheltonii* has yellow flowers).





*Viola pedatifida*



**Scientific Name:** *Viola selkirkii* Pursh ex Goldie

**Common Name:** Selkirk violet

**Family:** Violaceae - Violet Family

**Synonyms:** None

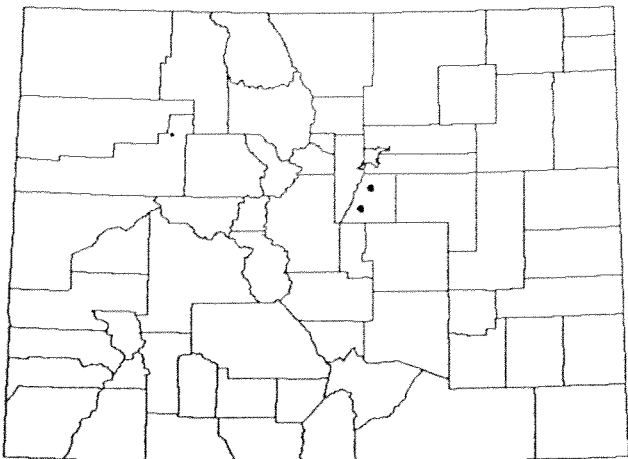
**Global Distribution:** British Columbia east to Greenland, south to Washington, New Mexico; in Colorado, Douglas and Larimer counties.

**Managed Area Occurrence(s):** Pike N.F.

**Habitat:** Aspen forests. Elevation 8,500 to 9,100 ft (2,600 to 2,800 m).

**Phenology:** Flowering late May.

**Look-alikes:** Differs from other blue- or purple-flowered violets as follows: The leaves of *V. adunca* and *V. labradorica* are not cordate (heart-shaped); the leaves of these and *V. sororia* subsp. *affinis* are glabrous or short-pubescent (in the case of *V. adunca*), rather than having long, glassy, appressed hairs on the upper surface, as in *V. selkirkii*. *V. sororia* subsp. *affinis* petals are longer (10-15 mm vs. 5-10 mm in *V. selkirkii*).



*Viola selkirkii*

## GLOSSARY

- Acaulescent:** The leaves clustered at or near the base of the plant.
- Achene:** A small, dry, 1 seeded indehiscent fruit.
- Acuminate:** Gradually tapering to the apex.
- Acute:** Tapering to the apex with straight sides.
- Alternate:** Borne singly, not opposite.
- Androgynous:** Having staminate flowers above the carpellate flowers.
- Anther:** The pollen-bearing part of a stamen.
- Awn:** A slender, bristle-like structure; the tips of glumes and lemmas on grass.
- Beak:** A hard or firm point or projection.
- Bisexual:** A flower having both stamens and pistils.
- Bract:** A reduced leaf usually subtending a flower or inflorescence.
- Bractlet:** A secondary bract, usually smaller than the bracts.
- Caespitose:** Growing in tufts or clumps.
- Capsule:** A dry, dehiscent fruit made up of more than one carpel.
- Capillary:** Thread-like.
- Capitate:** Collected into a dense, head-like cluster.
- Catkin:** A spike or spike-like inflorescence of unisexual flower.
- Caudex:** The persistent, often woody base of an otherwise herbaceous stem.
- Calyx:** The outer leaves that surround the unopened bud of a flower.
- Ciliate:** With a marginal fringe of hairs.
- Claw:** The narrow base or stalk to some petals.
- Cleft:** Split about in the middle.
- Cordate:** Heart shaped.
- Corolla:** Collective name for the petals.
- Cruciform:** Cross-shaped.
- Culms:** The specialized stem of grasses, sedges and rushes.
- Decumbent:** Prostrate except for the ascending tips of branches.
- Dioecious:** Having staminate and pistillate flowers on separate plants of a species.
- Dimorphic:** Two forms.
- Elliptical:** Shaped like an ellipse: widest in the center and the 2 ends equal.
- Entire:** Margins without teeth or lobes.
- Farinose:** With a mealy or powdery covering of wax.
- Fertile:** Capable of producing fruit or spores.
- Filiform:** Thread-like.
- Flexuous:** Wavy or curved.
- Floret:** A small flower, especially one in a dense cluster. Also used for a grass flower with its lemma and palea included.
- Fronde:** Leaf of a fern.
- Glabrous:** Without hairs.
- Glaucous:** A whitish covering.
- Globose:** Spherical.
- Glume:** A bract at the base of a grass spikelet.
- Gynaecandrous:** Pistillate flowers above staminate flowers.
- Hirsute:** With coarse, straight hairs.



**Hyaline:** Transparent or translucent.

**Incurved:** Curved toward the axis or attachment.

**Indehiscent:** Not splitting open at maturity.

**Indusium:** A membranous flap covering the sorus of ferns.

**Inflorescence:** Flower cluster.

**Involucre:** A series of bracts which subtend a flower, sometimes fused into a cup.

**Involute:** Having edges rolled inward.

**Keel:** A projecting central rib or dorsal ridge, like the keel of a boat.

**Lanceolate:** Lance-shaped; several times longer than wide, broadest toward the base and tapering to the apex.

**Lemma:** In grasses, the lower of two bracts enclosing the floret.

**Ligule:** A hair-like or membranous projection up from the inside of a grass sheath at its junction with the blade.

**Linear:** Narrow and flat with the sides parallel, like a grass leaf blade.

**Marcrescent:** Persisting beyond a single season as dried parts.

**Monomorphic:** One form.

**Obcordate:** Inverted heart-shaped, attached at the point.

**Oblong:** Two to four times longer than wide and the sides parallel or nearly so.

**Obtuse:** Blunt or rounded at the apex.

**Ovate:** Egg-shaped in outline, attached at the wide end.

**Panicle:** A compound inflorescence with two or more flowers on each branch.

**Pappus:** An appendage at the apex of the ovary.

**Pedicel:** The stalk to a single flower.

**Peduncle:** The stalk of an inflorescence.

**Pedunculate:** Borne on a peduncle.

**Perigynous:** The inflated sac enclosing the ovary.

**Petiole:** The leaf stalk.

**Phyllary:** The involucre bract on the head of members of Asteraceae.

**Pilose:** Covered with long, soft hairs.

**Pinna:** One of the first or primary divisions of a pinnately compound leaf: usually used to describe ferns.

**Pinnate:** Compound leaf with the leaflets on 2 opposite sides of an elongated axis.

**Pinnatifid:** Pinnately lobed, cleft or parted 1/2 way to the midrib or more.

**Pinnule:** A secondary division of a fern frond.

**Pistil:** The seed-producing organ, consisting of a stigma and ovary with a style between.

**Pistillate:** A flower which lacks well-developed, functional stamens.

**Plumose:** Hairs with side hairs along the main axis like the plume of a feather.

**Puberulent:** With very short hairs.

**Pubescence:** Hair on various parts of the plant.

**Pubescent:** Covered with short hairs.

**Rachis:** The central elongated axis to an inflorescence or a compound leaf.

**Reflexed:** Abruptly bent or turned downward or backward.

**Reticulate:** In the form of a network as in leaf veins.

**Revolute:** Rolled backward from the margin to the lower side.

**Rhizomatous:** Having a more or less elongated stem growing partly or completely



beneath the surface of the ground.

**Rosette:** A cluster of radiating leaves, usually at ground level.

**Saccate:** Shaped like a pouch or bag.

**Scabrous:** Rough to the touch.

**Scape:** A leafless flower stalk.

**Semi-succulent:** Somewhat fleshy.

**Sepals:** A segment of the calyx.

**Serrate:** With sharp teeth pointed forward.

**Sessile:** Without a stalk.

**Sheath:** The basal part of the leaf enclosing the stem, usually used for that part of a sedge or grass that envelopes the stem.

**Silique:** The fruit of mustards.

**Spathe:** A large bract or leaf which subtends and often partially surrounds an inflorescence.

**Spike:** An inflorescence with the flowers sessile on a more or less elongated axis.

**Spikelet:** The smallest unbranched flower cluster in an inflorescence.

**Spurs:** A sac-like or tubular extension of a floral organ.

**Stamen:** One of the pollen-bearing organs of a flower; made up of filament and anther.

**Staminate:** Bearing stamens only, a male flower.

**Staminode:** A sterile stamen or any structure lacking an anther but corresponding to a stamen.

**Stellate:** Star-like or star-shaped.

**Sterile:** Infertile and unproductive, as a flower without a pistil, a stamen without an anther or a leafy shoot without flowers.

**Stigma:** The receptive part of the pistil on which the pollen germinates.

**Stipe:** A stalk.

**Stipule:** An appendage at the base of the petiole or leaf at each side of the insertion.

**Stolon:** A trailing shoot above ground, rooting at the nodes.

**Style:** The usually stalk-like part of a pistil connecting the ovary and stigma.

**Tomentose:** With a dense wool-like covering of matted, intertangled hairs of medium length.

**Umbel:** A convex or flat-topped inflorescence, the flowers all arising from one point, like the spokes of an umbrella.





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## APPENDIX I

### PHOTO AND DRAWING ACKNOWLEDGEMENTS

SPECIES	PLANT PHOTO	HABITAT PHOTO	DRAWING
ADIANTUM CAPILLUS-VENERIS	W. JENNINGS	W. JENNINGS	D. ADAMS
AQUILEGIA SAXIMONTANA	L. YEATTS		M. LEGGITT
ASCLEPIAS UNCIALIS	J. LOCKLEAR	J. LOCKLEAR	C. CRAWFORD
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BOTRYCHIUM PALLIDUM	R. BRUNE	R. BRUNE	J. WINGATE
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BRAYA HUMILIS	W. JENNINGS	B. NEELY	J. WINGATE
CAREX CONCINNA			J. WINGATE
CAREX LEPTALEA			J. WINGATE
CAREX LIVIDA	J. COLES	B. NEELY	J. WINGATE
CAREX PECKII			J. WINGATE
CAREX TENUIFLORA			J. WINGATE
CAREX VIRIDULA			J. WINGATE
CHENOPODIUM CYCLOIDES	C. FREEMAN	C. FREEMAN	J. WINGATE
CREPIS NANA SSP. NANA	ROLOFF		J. WINGATE
OREOXIS HUMILIS	R. HARTMAN	R. HARTMAN	M. LEGGITT
CYPRIPEDIUM PUBESCENS	W. JENNINGS	W. JENNINGS	D. ADAMS
CYSTOPTERIS MONTANA	W. JENNINGS	W. JENNINGS	D. ADAMS
DRABA BOREALIS			M. LEGGITT
DRABA EXUNGUICULATA	W. JENNINGS		J. WINGATE
DRABA GLOBOSA	W. JENNINGS		
DRABA GRAYANA	P. LEHR		M. LEGGITT
DRABA SMITHII	L. YEATTS	L. YEATTS	J. WINGATE
DRABA STREPTOBRACHIA	R. PRICE	R. PRICE	M. LEGGITT
DRABA WEBERI	R. PRICE		J. WINGATE
EPIPACTIS GIGANTEA	W. JENNINGS	W. JENNINGS	C. CRAWFORD
ERIOGONUM BRANDEGEI	W. JENNINGS	W. JENNINGS	J. WINGATE
ERIOGONUM COLORADENSE			M. LEGGITT
ERIOPHORUM ALTAICUM	P. LEHR	P. LEHR	J. WINGATE
ERIOPHORUM GRACILE			J. WINGATE
EUSTOMA RUSSELLIANUM	W. JENNINGS	W. JENNINGS	J. WINGATE
EUTREMA PENLANDII	W. JENNINGS	W. JENNINGS	C. CRAWFORD
FESTUCA CAMPESTRIS			J. WINGATE
FESTUCA HALLII			J. WINGATE
FRASERA COLORADENSIS	J. LOCKLEAR	R. BRUNE	M. LEGGITT
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LISTERA BOREALIS	W. JENNINGS	W. JENNINGS	C. CRAWFORD
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MIMULUS GEMMIPARUS	W. JENNINGS	C. CRAWFORD	J. WINGATE
NEOPARRYA LITHOPHILA	W. JENNINGS	B. NEELY	J. WINGATE
OREOXIS HUMILIS			
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PTILAGROSTIS MONGHOLICA SSP. PORTERI			J. WINGATE
PYROLA PICTA	W. JENNINGS	W. JENNINGS	C. CRAWFORD
RANUCULUS KARELINII	L. YEATTS		J. WINGATE
RUBUS ARCTICUS SSP. ACAULIS			



APPENDIX I (cont.)

SAUSSEREA DENSA  
SISYRINCHIUM PALLIDUM  
SMILAX LASIONEURON  
SOLIDAGO PTARMICOIDES  
VIOLA PEDATIFIDA  
VIOLA SELKIRKII

W. JENNINGS  
W. JENNINGS  
W. JENNINGS  
L. BARZEE  
W. JENNINGS

W. JENNINGS  
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J. WINGATE



APPENDIX II  
LIST OF COMMON NAMES

Followed by SCS accepted name, and other synonyms

Altai cottongrass - *Eriophorum altaicum* var. *neogaeum*

Alpine braya - *Braya humilis*

Alpine hawksbeard - *Crepis nana* ssp. *nana*, *Askellia nana*

Alpine poppy - *Papaver lapponicum* ssp. *occidentale*, *P. kluanense*, *P. radicum*  
var. *pygmaeum*, *P. pygmaeum*

Arctic braya - *Braya glabella*

Arkansas Canyon stickleaf - *Mentzelia densa*, *Nuttallia densa*, *Touterea densa*

Birdfoot violet - *Viola pedatifida*, *V. delphinifolia*

Boreal draba - *Draba borealis*

Brandegee wild buckwheat - *Eriogonum brandegei*, *E. spathulatum* var. *brandegei*

Bristle-stalk sedge - *Carex leptalea*, *C. polytrichoides*

Carrionflower - *Smilax lasioneuron*, *S. herbacea* var. *lasioneuron*, *Nemexia herbacea* subsp. *melica*,  
*N. lasioneura*

Clawless draba - *Draba exunguiculata*, *D. chrysantha*, *D. chrysantha* var. *exunguiculata*

Colorado Divide whitlow-grass - *Draba streptobrachia*, *D. chrysantha* var. *hirticaulis* forma  
*dasycarpa*, *D. spectabilis* var. *dasycarpa*

Colorado elkweed - *Frasera coloradensis*, *Swertia coloradensis*

Colorado green gentian - *Frasera coloradensis*, *Swertia coloradensis*

Colorado wild buckwheat - *Eriogonum coloradense*, *E. multiceps* subsp. *coloradense*

Degener beardtongue - *Penstemon degeneri*

Degener penstemon - *Penstemon degeneri*

Dewberry - *Rubus arcticus* subsp. *acaulis*, *Cylactis arctica* subsp. *acaulis*





Downy ladies'-slipper - *Cypripedium pubescens*, *C. calceolus* ssp. *parviflorum*, *C. parviflorum* var. *pubescens*, *C. pubescens*

*Draba weberi*

Dwarf braya - *Braya humilis*

Dwarf columbine - *Aquilegia saximontana*, *A. vulgaris* var. *brevistyla*

Dwarf hawksbeard - *Crepis nana* ssp. *nana*, *Askellia nana*

Dwarf milkweed - *Asclepias uncialis*

Dwarf rattlesnake plantain - *Goodyera repens*, *Peramium ophioides*

Ebony spleenwort - *Asplenium platyneuron*, *A. ebeneum*

Field fescue - *Festuca campestris*, *F. scabrella* var. *major*, *F. altaica* var. *major*

Giant helleborine - *Epipactis gigantea*, *Limodorum giganteum*, *Peramium giganteum*, *Serapias gigantea*, *Helleborine gigantea*, *Amesia gigantea*

Globe gilia - *Ipomopsis globularis*, *I. spicata* subsp. *capitata*, *Gilia globularis*, *G. spicata* var. *capitata*

Gray's Peak whitlow-grass - *Draba grayana*, *D. alpicola*, *D. chrysantha* var. *hirticaulis* forma *perhumilis*, *D. streptocarpa* var. *grayana*

Greenland primrose - *Primula egaliksensis*

Green sedge - *Carex viridula*, *C. oederi* subsp. *viridula*

Hall fescue - *Festuca hallii*, *F. altaica* subsp. *hallii*, *F. scabrella* subsp. *hallii*, *Melica hallii*

Hairy cliff-brake - *Pellaea atropurpurea*, *P. glabella* x *P. ternifolia*

Icegrass - *Phippsia algida*

Kotzebue grass-of-parnassus - *Parnassia kotzebuei*

Leadville milk-vetch - *Astragalus molybdenus*, *A. plumbeus*

Lesser rattlesnake plantain - *Goodyera repens*, *Peramium ophioides*

Livid sedge - *Carex livida*

Low northern sedge - *Carex concinna*



Maidenhair fern - *Adiantum capillus-veneris*

Mountain bladder fern - *Cystopteris montana*, *Filix montana*

Mountain fragile-fern - *Cystopteris montana*, *Filix montana*

Nagoon berry - *Rubus arcticus* subsp. *acaulis*, *Cylactis arctica* subsp. *acaulis*

Northern rockcress - *Draba borealis*

Northern twayblade - *Listera borealis*, *Ophrys borealis*

Pale blue-eyed grass - *Sisyrinchium pallidum*

Pale moonwort - *Botrychium pallidum*

Peck sedge - *Carex peckii*

Penland eutrema - *Eutrema penlandii*, *E. edwardsii* subsp. *penlandii*

Pike's Peak spring parsley - *Oreoxis humilis*, *Cymopterus humilis*

Pocket monkey-flower - *Mimulus gemmiparus*

Pointed draba - *Draba globosa*, *D. apiculata*

Porter feathergrass - *Ptilagrostis mongholica* subsp. *porteri*, *P. porteri*, *Stipa porteri*

Porter needlegrass - *Ptilagrostis mongholica* subsp. *porteri*, *P. porteri*, *Stipa porteri*

Prairie gentian - *Eustoma russelianum*, *E. grandiflorum*, *E. andrewsii*, *E. russelianum* forma *flaviflorum*

Purple cliff-brake - *Pellaea atropurpurea*, *P. glabella* x *P. ternifolia*

Rattlesnake fern - *Botrychium virginianum*, *Botrypus virginianus* subsp. *europaeus*

Reflected moonwort - *Botrychium echo*

Rocky Mountain columbine - *Aquilegia saximontana*, *A. vulgaris* var. *brevistyla*

Rockcress draba - *Draba globosa*, *D. apiculata*

Rock-loving neoparrya - *Neoparrya lithophila*, *Aletes lithophilus*

Royal Gorge stickleaf - *Mentzelia densa*, *Nuttallia densa*, *Touterea densa*



Sandhill goosefoot - *Chenopodium cycloides*

Selkirk violet - *Viola selkirkii*

Sensitive fern - *Onoclea sensibilis*

Slender cottongrass - *Eriophorum gracile*, *E. gracile* var. *caurianum*

Slender flower sedge - *Carex tenuiflora*

Smith whitlow-grass - *Draba smithii*

Sneezewort aster - *Solidago ptarmicoides*, *Unamia alba*, *U. ptarmicoides*, *Aster ptarmicoides*

Snowgrass - *Phippsia algida*

Tiger lily - *Lilium philadelphicum*, *L. montanum*, *L. umbellatum*

Tulip gentian - *Eustoma russelianum*, *E. grandiflorum*, *E. andrewsii*, *E. russelianum* forma *flaviflorum*

Tundra buttercup - *Ranunculus karelinii*, *R. gelidus*, *R. drummondii*, *R. gelidus* subsp. *grayi*

Yellow ladies'-slipper - *Cypripedium pubescens*, *C. calceolus* ssp. *parviflorum*, *C. parviflorum* var. *pubescens*

Weber saussurea - *Saussurea densa*, *S. weberi*

White adder's mouth - *Malaxis brachypoda*, *M. monophyllos* var. *brachypoda*, *M. monophyllos* subsp. *brachypoda*, *Acroanthes monophylla*

Whitevein wintergreen - *Pyrola picta*

White cottongrass - *Eriophorum altaicum* var. *neogaeum*

Wood lily - *Lilium philadelphicum*, *L. montanum*, *L. umbellatum*



APPENDIX III  
LIST OF SYNONYMS  
Followed by SCS accepted name

*Aletes lithophilus* - *Neoparrya lithophila*  
*Amesia gigantea* - *Epipactis gigantea*  
*Aquilegia vulgaris* var. *brevistyla* - *Aquilegia saximontana*  
*Askellia nana* - *Crepis nana* ssp. *nana*  
*Asplenium ebeneum* - *Asplenium platyneuron*  
*Aster ptarmicoides* - *Solidago ptarmicoides*  
*Astragalus plumbeus* - *Astragalus molybdenus*  
*Botrypus virginianus* subsp. *europaeus* - *Botrychium virginianum*  
*Carex oederi* subsp. *viridula* - *Carex viridula*  
*Carex polytrichoides* - *Carex leptalea*  
*Cylactis arctica* subsp. *acaulis* - *Rubus arcticus* subsp. *acaulis*  
*Cymopterus humilis* - *Oreoxis humilis*  
*Cypripedium calceolus* ssp. *parviflorum* - *Cypripedium pubescens*  
*Cypripedium parviflorum* var. *pubescens* - *Cypripedium pubescens*  
*Draba alpicola* - *Draba grayana*  
*Draba apiculata* - *Draba globosa*  
*Draba chrysantha* var. *hirticaulis* forma *dasycarpa* - *Draba streptobrachia*  
*Draba chrysantha* var. *hirticaulis* forma *perhumilis* - *Draba grayana*  
*Draba chrysantha* var. *exunguiculata* - *Draba exunguiculata*  
*Draba chrysantha* - *Draba exunguiculata*  
*Draba spectabilis* var. *dasycarpa* - *Draba streptobrachia*  
*Draba streptocarpa* var. *grayana* - *Draba grayana*  
*Eriogonum mulliceptis* subsp. *coloradense* - *Eriogonum coloradense*  
*Eriogonum spathulatum* var. *brandegei* - *Eriogonum brandegei*  
*Eriophorum gracile* var. *caurianum* - *Eriophorum gracile*  
*Eustoma andrewsii* - *Eustoma russelianum*  
*Eustoma grandiflorum* - *Eustoma russelianum*  
*Eustoma russelianum* forma *flaviflorum* - *Eustoma russelianum*  
*Eutrema edwardsii* subsp. *penlandii* - *Eutrema penlandii*  
*Festuca altaica* subsp. *hallii* - *Festuca hallii*  
*Festuca altaica* var. *major* - *Festuca campestris*  
*Festuca scabrella* subsp. *hallii* - *Festuca hallii*  
*Festuca scabrella* var. *major* - *Festuca campestris*  
*Filix montana* - *Cystopteris montana*  
*Gilia globularis* - *Ipomopsis globularis*  
*Gilia spicata* var. *capitata* - *Ipomopsis globularis*  
*Helleborine gigantea* - *Epipactis gigantea*  
*Ipomopsis spicata* subsp. *capitata* - *Ipomopsis globularis*  
*Lilium montanum* - *Lilium philadelphicum*  
*Lilium umbellatum* - *Lilium philadelphicum*  
*Limodorum giganteum* - *Epipactis gigantea*  
*Malaxis monophyllos* subsp. *brachypoda* - *Malaxis brachypoda*





*Malaxis monophyllos* var. *brachypoda* - *Malaxis brachypoda*  
*Melica hallii* - *Festuca hallii*  
*Nemexia herbacea* subsp. *melica* - *Smilax lasioneuron*  
*Nemexia lasioneura* - *Smilax lasioneuron*  
*Nuttallia densa* - *Mentzelia densa*  
*Ophrys borealis* - *Listera borealis*  
*Papaver kluanense* - *Papaver lapponicum* ssp. *occidentale*  
*Papaver pygmaeum* - *Papaver lapponicum* ssp. *occidentale*  
*Papaver radicum* var. *pygmaeum* - *Papaver lapponicum* ssp. *occidentale*  
*Pellaea glabella* x *P. ternifolia* - *Pellaea atropurpurea*  
*Peramium giganteum* - *Epipactis gigantea*  
*Peramium ophioides* - *Goodyera repens*  
*Ptilagrostis porteri* - *Ptilagrostis mongholica* subsp. *porteri*  
*Ranunculus drummondii* - *Ranunculus karelinii*  
*Ranunculus gelidus* - *Ranunculus karelinii*  
*Ranunculus gelidus* subsp. *grayi* - *Ranunculus karelinii*  
*Saussurea weberi* - *Saussurea densa*  
*Serapias gigantea* - *Epipactis gigantea*  
*Smilax herbacea* var. *lasioneuron* - *Smilax lasioneuron*  
*Stipa porteri* - *Ptilagrostis mongholica* subsp. *porteri*  
*Swertia coloradensis* - *Frasera coloradensis*  
*Touterea densa* - *Mentzelia densa*  
*Unamia alba* - *Solidago ptarmicoides*  
*Unamia ptarmicoides* - *Solidago ptarmicoides*  
*Viola delphinifolia* - *Viola pedatifida*



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