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STATUS OF THE RARE PLANTS OF
BRYCE CANYON NATIONAL PARK

NAME	FEDERAL RANK	GLOBAL RANK	STATE RANK
Castilleja parrula var. revealii	2	G1	S1
Cryptantha ochroleuca	2	G3	S3
Draba subalpina	3C		
Eriogonum panquicense	3C		
Heterotheca jonesii	2	G2	S2
Lesquerella rubicundula	3C	G3	S3
Lomatium minimum	3C		
Oxytropis jonesii	3C		
Pediomelum pariense	2	G1	S1
Penstemon bracteatus	2	G1	S1
Silene petersonii var. minor	3B	G3	S1
Townsendia montana var. minima	3C		

FEDERAL RANKING SYSTEM

Two listing classifications are provided. The term Endangered is given to a species in danger of extinction through all or a significant portion of its range. The term Threatened is applied to species that are likely to become endangered in the foreseeable future.

In December 1980 a review of plant taxa considered for listing as endangered or threatened species was published in the Federal Register by the acting director of the U.S. Fish and Wildlife Service. This publication placed species in categories indicating their readiness for listing. Category 1 plants are those species for which the Service had sufficient information to support the appropriateness of their being listed as threatened or endangered. Category 2 plants are those species that require further biological research and field study to determine the appropriateness of their being listed. Category 3 plants are those species no longer being considered for listing as endangered or threatened. There are three subheadings in this category. 3A plants are taxa considered probably extinct. 3B plants were those with unsure taxonomic status. 3C plants are those taxa that have proven to be more widespread than originally believed, or that are no longer subject to any threats.

The global and state ranking system is explained on the next page. This system has been developed and maintained by the Nature Conservancy.

The Nature Conservancy Element Ranking System

The ranking system used by The Nature Conservancy assigns ranks to elements of natural diversity (that is, special plants, special animals, and terrestrial and aquatic ecosystems) according to their relative rarity and endangerment. Two parallel ranking methods are employed: The Global ranking system assigns a rank to the elements according to their status throughout their entire range, while the State ranking system assigns a similar rank that reflects the status of the element within a particular state.

The basic rank is a two-byte code with the first byte being either G or S, indicating a global or state rank, respectively. In some cases the first byte will be a T, which is used for subspecific taxa. The second byte is an integer from 1 to 5, or in some cases, a letter. Definitions for global element ranks are listed below. Definitions of state ranks can be derived by substituting "in state" for "globally" or in those definitions in which range is specified, the range referred to would be the state range.

Global Element Ranks

- G1= Critically imperiled globally because of extreme rarity or because of some factor of its biology making it especially vulnerable to extinction.
- G2= Imperiled globally because of rarity or because of other factors demonstrably making it very vulnerable to extinction throughout its range.
- G3= Either very rare and local throughout its range or found locally in a restricted range or because of other factors making it vulnerable to extinction throughout its range.
- G4= Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- G5= Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- GU= Possibly in peril range-wide, but status uncertain; more information needed.
- GH= Of historical occurrence throughout its range, i.e., formerly part of the native biota, with the implied expectation that it may be rediscovered.
- GX= Believed to be extinct throughout its range.

SCIENTIFIC NAME: Castilleja revealii N. Holmgr.

FAMILY: Scrophulariaceae

CITATION: Bull. Torrey Bot. Club 100: 83. 1973.

SYNONYMS: None

STATUS: Reviewed as endangered, Federal Register, 1 July 1975. Proposed as endangered, Federal Register, 16 June 1976. Recommended as endangered by S. L. Welsh, 1978.

COMMON NAME: Reveal paintbrush

KNOWN DISTRIBUTION: Garfield Co., Utah

HABITAT: Limestone outcrops, gravelly soil; ponderosa pine woodland

ELEVATION: 7800 to 8000 feet (2379 to 2440 m)

DESCRIPTION: Plants perennial; caudex soft woody above a cluster of roots; stems usually single, sometimes two rarely three, unbranched, erect, 0.8-1.5 dm tall, anthocyanous purple, glabrous becoming villous in the inflorescence; leaves 2-3.5 cm long, linear to lanceolate except at the base, mostly glabrous, sometimes glandular puberulent above, puberulent below; bracts broadly lanceolate to ovate rounded, glandular puberulent, magenta to rose; calyx 16.5-22 mm long, glandular hispid; corolla 19-25 mm long, anthers included in the galea; fruit a capsule.

TAXONOMIC PROBLEMS: Related to C. parvula, this plant can be distinguished by its strict habit, few stems, and longer corolla.

EXISTING OR POTENTIAL THREATS: Inadvertant highway realignment, construction or trampling are threats to this species.

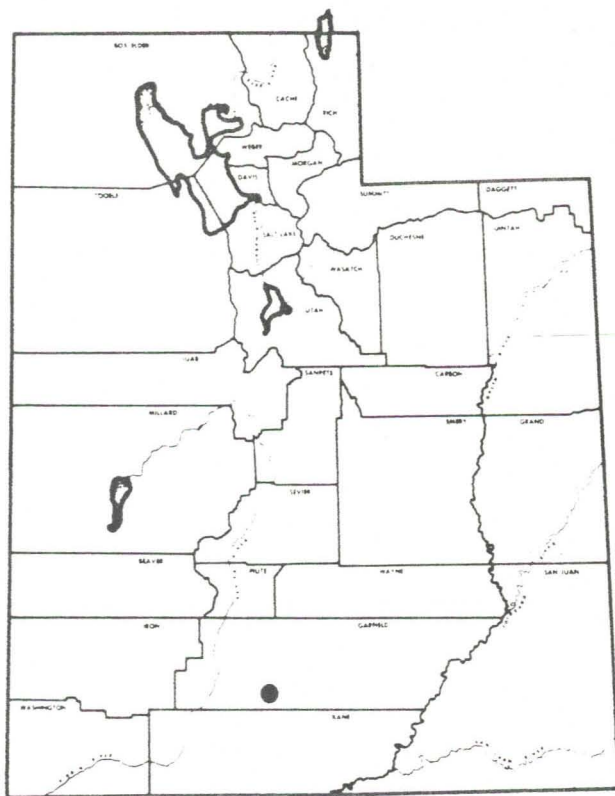
LAND OWNERSHIP/MANAGEMENT: National Park Service

REMARKS: This plant is known only from the type locality.

RECOMMENDATIONS: The extent of the population should be determined and the relation of this plant to its environment should be investigated.

Castilleja revealii

1 cm



SCIENTIFIC NAME: Cryptantha ochroleuca Higgins

FAMILY: Boraginaceae

CITATION: Great Basin Naturalist 28: 197. 1968.

SYNONYMS: None

STATUS: Reviewed as endangered, Federal Register, 1 July 1975. Proposed as endangered, Federal Register, 16 June 1976. Recommended as endangered by S. L. Welsh, 1978.

COMMON NAME: Yellow-white catseye

KNOWN DISTRIBUTION: Garfield Co., Utah

HABITAT: Pink Limestone Member of the Wasatch Formation, rocky outcrops; scattered ponderosa, bristle cone pine community

ELEVATION: 6500 to 8000 feet (1983 to 2440 m)

DESCRIPTION: Low growing perennial to 1 dm tall; stems several, strigose; leaves linear-oblongate to oblongate, apices usually acute, 1-2.5 cm long, 0.1-0.3 cm wide, densely strigose; petiole white-hairy; inflorescence narrow; calyx segments linear-lanceolate, setose; flowers pale yellow, tube 2-2.5 mm long, limb 4-5 mm wide; style included; nutlets 2.5-3 mm long, usually only one maturing, rugose.

TAXONOMIC PROBLEMS: C. ochroleuca is related to C. nana and C. caespitosa but differs from the former by its shorter calyx, pale yellow flowers and rugose seed, and from the latter by its less caespitose habit and woody taproot.

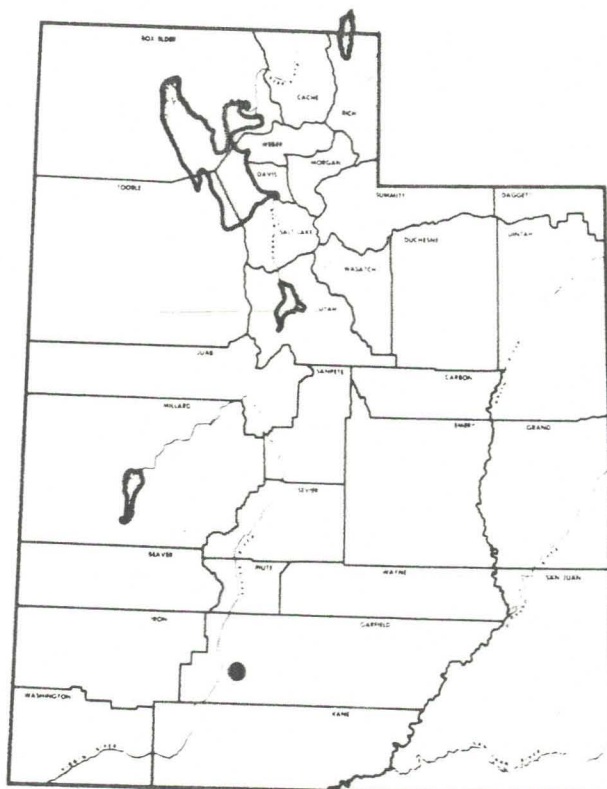
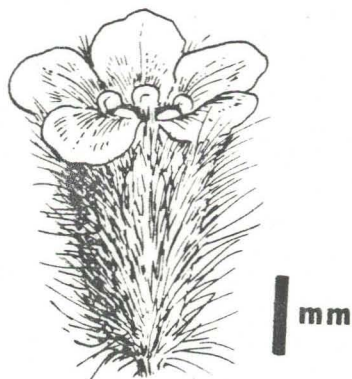
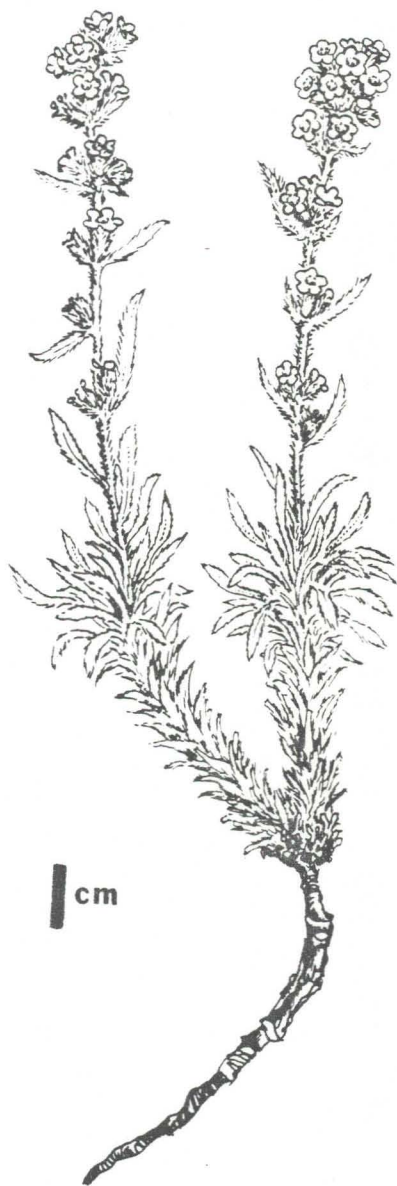
EXISTING OR POTENTIAL THREATS: Changes in the land use and limestone exploitation are potential threats to this species.

LAND OWNERSHIP/MANAGEMENT: National Park Service

REMARKS: This local species is apparently confined to the Pink Limestone Member of the Wasatch Formation.

RECOMMENDATIONS: Portions of the Pink Limestone Member of the Wasatch Formation should be preserved as a natural area.

Cryptantha ochroleuca



SCIENTIFIC NAME: Heterotheca jonesii (Blake) Welsh & Atwood

FAMILY: Asteraceae

CITATION: Great Basin Naturalist 35: 336. 1975.

SYNONYMS: Chrysopsis jonesii Blake. (Contr. U. S. Natl. Herb. 25: 536. 1925.)

Chrysopsis caespitosa M. E. Jones, not Nutt. (Proc. Calif. Acad. Sci. II 5: 694. 1895.)

STATUS: Recommended as endangered by S. L. Welsh, 1978.

COMMON NAME: Jones golden aster

KNOWN DISTRIBUTION: Garfield and Washington cos., Utah

HABITAT: Gravelly, sandy limestone outcrops; ponderosa, Arctostaphylos community

ELEVATION: 9000 feet (2745 m)

DESCRIPTION: The plant is a caespitose perennial from a woody much branched root forming a dense mat; leaves spatulate, about 12 mm long, clustered on short stems, 2.5-5 cm long, villous but not hispid, not apiculate; inflorescence heads about 6 mm high, sessile; involucre ashy green, linear, somewhat unequal, inner bracts with purple hyaline margins, ligules yellow to golden, tubular flowers golden; fruit an achene.

TAXONOMIC PROBLEMS: Obscure

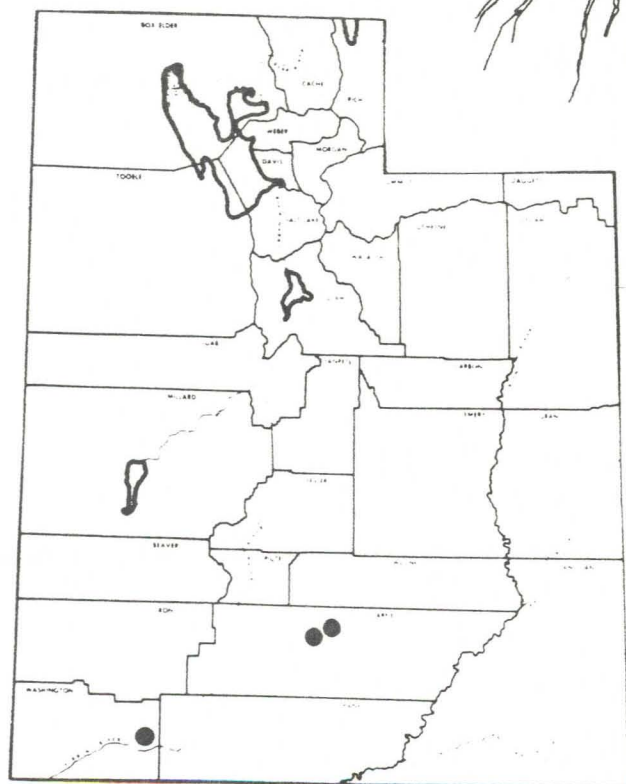
EXISTING OR POTENTIAL THREATS: Road construction is a potential danger.

LAND OWNERSHIP/MANAGEMENT: U. S. Forest Service

REMARKS: The Jones golden aster was previously known only from the type locality in Washington Co., but has not been collected there in many years.

RECOMMENDATIONS: The plant should be regarded as endangered, with one surviving population.

Heterotheca jonesii



SCIENTIFIC NAME: Psoralea pariensis Welsh and Atwood

FAMILY: Fabaceae

CITATION: Great Basin Naturalist 35: 353. 1975.

SYNONYMS: None

COMMON NAME: Paria breadroot

KNOWN DISTRIBUTION: Garfield and Kane cos., Utah

HABITAT: Wasatch Limestone Formation, alluvium or sandy alluvium; ponderosa pine woods community

ELEVATION: 5600 to 8000 feet (1700 to 2430 m)

DESCRIPTION: Acaulescent or subacaulous, 2-9 cm tall, from slender subterranean caudex branches arising from deep-seated tuberous roots; stems lacking or with very short internodes above ground, strigose; leaves mainly 3-foliate, petioles 1.3-7 cm long, strigose; leaflets 9-25 mm long, 7-22 mm wide, obovate or orbicular, cuneate, rounded to truncate or emarginate apically, gray green, glandular, strigose beneath, yellow green, glandular and strongly strigose along the veins above; stipules scarious, 4-10 mm long; peduncles 0.5-2.8 cm long, hairs appressed; racemes 6- to 15-flowered; calyx 8.6-11.4 mm long, lower teeth to 6.8 mm long; pods included in the calyx, about 9 mm long.

TAXONOMIC PROBLEMS: P. pariensis is related to P. megalantha, but differs in the shorter flowers and showy white veins on the upper side of the leaves.

EXISTING OR POTENTIAL THREATS: Land management policy changes and potential construction threaten this species.

LAND OWNERSHIP/MANAGEMENT: National Park Service; Bureau of Land Management

REMARKS: Although known from several localities, the Paria breadroot is still imperfectly known taxonomically.

RECOMMENDATIONS: This plant should be regarded as threatened.

SCIENTIFIC NAME: Penstemon bracteatus Keck

FAMILY: Scrophulariaceae

CITATION: Leaf1. W. Bot. 1: 82. 1934.

SYNONYMS: None

STATUS: Recommended as threatened by S. L. Welsh, 1978.

COMMON NAME: Red Canyon beardtongue

KNOWN DISTRIBUTION: Garfield Co., Utah

HABITAT: Pink Limestone Member of the Wasatch Formation in stone slides, gravelly soil; mixed ponderosa pine and pinyon pine communities

ELEVATION: 7800 to 8000 feet (2379 to 2440 m)

DESCRIPTION: Perennial herb, 6-18 cm tall; rhizomes slender from a stout caudex; stems few, erect, terminal; herbage glabrous and glaucous throughout; basal leaves with an oval or rotund blade and petiole as long, 2-3.5 cm long, cauline leaves lanceolate to lanceolate-linear, 1-1.8 cm long, equally spaced up the stem; bracts of the inflorescence conspicuous, cordate amplexicaul; inflorescence about one-half the stem height; corolla purple-blue, 12-20 mm long, glabrous; anther sacs widely divaricate.

TAXONOMIC PROBLEMS: This beardtongue may be distinguished from its near relative, P. acuminatus, by the smaller flowers, ovate basal leaves, slender stem, and geographical distribution.

EXISTING OR POTENTIAL THREATS: Recreation and the increased pressure of tourists on the habitat of this plant are threats.

LAND OWNERSHIP/MANAGEMENT: U. S. Forest Service; National Park Service

REMARKS: The nearest relative to P. bracteatus is in northern Nevada while less related species are geographically closer. Thus it becomes important in distribution and speciation studies within the genus.

RECOMMENDATIONS: A detailed survey of this area is needed to determine location and acquire population data of this beardtongue and other endemic species.



Penstemon bracteatus

cm

