

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Plant Abstract

Element Code: PDSCR1L0S2

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Penstemon bicolor* ssp. *roseus*

COMMON NAME: Cerbat Beardtongue, Rosy Bicolored Beardtongue

SYNONYMS: *Penstemon pseudospectabilis* ssp. *bicolor*, *P. palmeri* ssp. *bicolor*.

FAMILY: Scrophulariaceae

AUTHOR, PLACE OF PUBLICATION: Clokey and Keck, Bulletin of the Southern California Academy of Sciences 38: 8. 1939.

TYPE LOCALITY: Near Nelson, Eldorado Canyon, Good Springs, Clark County, Nevada (Clodey #5850) in 1938.

TYPE SPECIMEN: *Penstemon bicolor* types, Herbarium of the University of California #178265 (yellow) and #178259 (purple).

TAXONOMIC UNIQUENESS: *Penstemon bicolor* ssp. *roseus* is the only subspecies of *Penstemon bicolor* in the state of Arizona, although it is morphologically the same as *Penstemon bicolor* ssp. *bicolor*. According to NatureServe (2003), *Penstemon bicolor* ssp. *roseus* is lumped with ssp. *bicolor* in Jepson Manual, but taxa appears distinct in Nevada. Also, according to Sue Rutman (1992), "The only difference between the two subspecies is a color difference. The flowers of subspecies *bicolor* are yellow; those of subspecies *rosea* are rosy. Both subspecies occur together, but you can also find pure populations of only yellow-colored flowers. *Penstemon bicolor* also hybridizes with *Penstemon palmeri*. The two species are sympatric. The only morphological difference between the two species is that *Penstemon palmeri* flowers have veins on the throat, but flowers of *Penstemon bicolor* do not".

DESCRIPTION: Perennial herb to about 5 feet (1.5 m) tall, with thick and leathery leaves that have strongly toothed margins; the teeth often somewhat spiny. Bases of the paired leaves are united around the stem. Inflorescence densely glandular-hairy. Corolla is trumpet-shaped, abruptly swelling above the tube. Flowers are rose to rose-purple colored in this variety. Lips of the corolla lobed, 4.5-7 mm long.

AIDS TO IDENTIFICATION: Flowers rose colored, while ssp. *bicolor* has yellow flowers.

ILLUSTRATIONS:

Photograph (Holland et al, 1980: plate 8)

Line drawing (Mozingo and Williams, 1980: 214)

Color photo (Monroe in <http://plants.usda.gov>)

Color photo (Monroe in <http://elib.cs.berkeley.edu/photos/flora/sci-P.html>)

TOTAL RANGE: Southern Nevada to northwestern Arizona and California.

RANGE WITHIN ARIZONA: Mohave County in the Black Mountains and near Wilson Ridge.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial.

PHENOLOGY: Flowers in May and June.

BIOLOGY:

HABITAT: Gravel washes and disturbed roadsides, to outwash fans and plains. In Nevada, this plant is found on rocky calcareous, granitic, or volcanic soils in washes, roadsides, scree at outcrop bases, rock crevices, or similar places receiving enhanced runoff, in the creosote-bursage, blackbrush, and mixed-shrub zones.

ELEVATION: 1,970-5,480 feet (600-1,670 m).

EXPOSURE: Open.

SUBSTRATE: Well drained soils, limestone or igneous bedrock. In Nevada, found on rocky calcareous, granitic, or volcanic soils.

PLANT COMMUNITY: Creosotebush desertscrub. Common associated species include: *Larrea tridentata* (creosote bush), *Ambrosia dumosa* (white bursage), *Hymenoclea Salsola* (white burrow-bush), *Eriogonum fasciculatum* (California wild buckwheat), *Coleogyne ramosissima* (blackbush), and *Salazaria mexicana* (Mexican bladder-sage). In Nevada, found in creosote-bursage, blackbrush, and mixed-shrub zones.

POPULATION TRENDS: This subspecies has active reproduction and may extend its range by occupying disturbed areas. An estimate by the Nevada Natural Heritage Program is 6049+ individuals.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None, (USDI, FWS 1996)
[Category 2, (USDI, FWS 1990, 1993)]

STATE STATUS:

[Category 2, (USDI, FWS 1985)]
Salvage Restricted (ARS, ANPL accessed 2011)

OTHER STATUS:

[Salvage Restricted (ARS, ANPL 1993, 1999)]

Not FS Sensitive (USDA, FS Region 3 1999)

[Forest Service Sensitive (USDA, FS Region 3, 1990)]

Bureau of Land Management Sensitive (USDI, BLM AZ 2000, 2005, 2008, 2010 at full sp.)

MANAGEMENT FACTORS: Disturbance of the habitat tends to increase the number of individuals in populations. Horticultural collection and feral burros are threats to this species.

CONSERVATION MEASURES TAKEN:**SUGGESTED PROJECTS:**

LAND MANAGEMENT/OWNERSHIP: BLM – Kingman and Phoenix Field Offices; NPS - Lake Mead National Recreation Area; Private. In Nevada it is found on land owned by BLM, Private, State, NPS, USFWS, DOD.

SOURCES OF FURTHER INFORMATION**REFERENCES:**

- Arizona Revised Statutes. 1993. Arizona Native Plant Law, Appendix 5.
Arizona Revised Statutes. 1999. Arizona Native Plant Law, Appendix A.
Brandegee, T.S. 1916. Species novae vel minus cognitae. University of California Publications in Botany 6(12): 357-361.
Clokey, I.W. 1937. Madrono 4: 128-130.
Clokey, I.W., D.D. Keck. 1939. Reconsideration of certain members of *Penstemon* subsection *spectabilis*. Bulletin of Southern California Academy of Sciences 38: 8-13.
Holland, J.S., W.E. Niles, and D.R. Schram. 1980. A guide to the threatened and endangered vascular plants of the Lake Mead National Recreation Area. LAME technical report #4. Prepared for the National Park Service/University of Nevada, Las Vegas.
Kartesz & Meacham. 1999. Synthesis of the North American Flora. Copyright 1999 John T. Kartesz and Christopher A. Meacham. All Rights Reserved.
Kearney, T.H., R.H. Peebles with collaborators. 1951. Arizona flora. Second edition with supplement by J.T. Howell, E. McClintock and collaborators. 1960. University of California Press, Berkeley. P. 775.
Lehr, J.H. 1978. A Catalogue of the Flora of Arizona. Desert Botanical Garden. Pp: 141.

- McDougall, W.B. 1973. Seed Plants of Northern Arizona. The Museum of Northern Arizona. Flagstaff, Arizona. Pp. 448-449.
- Monroe, G.A. 2003. In <http://plants.usda.gov>.
- Monroe, G.A. In <http://elib.cs.berkeley.edu/photos/flora/sci-P.html>.
- Mozingo, H. and M. Williams. 1980. Threatened and Endangered Plants of Nevada: an illustrated manual. Prepared for the U.S. Fish and Wildlife Service and Bureau of Land Management, Nevada.
- NatureServe Explorer: An online encyclopedia of life [web application]. 2003. Version 1.6. Arlington, Virginia, USA: NatureServe. Available: <http://www.natureserve.org/explorer>. (Accessed: November 20, 2003).
- Nevada Natural Heritage Program. Available: <http://heritage.nv.gov/atlas/penstbicoloroseu.pdf>.
- Rutman, S. 1992. Memo on the Rare Plants of Lake Mead National Recreation Area.
- USDA, Forest Service Region 3. 1990. Regional Forester's Sensitive Species List.
- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
- USDA, NRCS. 2002. The PLANTS Database, Version 3.5 (<http://plants.usda.gov>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.
- USDI, Bureau of Land Management. 2000. Arizona BLM Sensitive Species List. Instruction Memorandum No. AZ-2000-018.
- USDI, Bureau of Land Management. 2005. Arizona BLM Sensitive Species List.
- USDI, Bureau of Land Management Region 2. 2008. Arizona BLM Sensitive Species List.
- USDI, Bureau of Land Management Region 2. 2010. Arizona BLM Sensitive Species List.
- USDI, Fish and Wildlife Service. 1985. Endangered and Threatened Wildlife and Plants; Review of Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review. Federal Register 50(188): 00028.
- USDI, Fish and Wildlife Service. 1990. Endangered and Threatened Wildlife and Plants; Review of Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review. Federal Register 55(35): 6207.
- USDI, Fish and Wildlife Service. 1993. Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review. Federal Register 58(188): 51168.
- USDI, Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants; Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species; Notice of Review. Proposed Rule. Federal Register 61(40): 7595-7613.

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ADDITIONAL INFORMATION:

- Holland et al (1980): both subspecies may grow sympatrically.

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