

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

**Plant Abstract**

**Element Code:** PMPOA48350

**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Muhlenbergia palmeri* Vasey

**COMMON NAME:** Palmer's Muhly, Southwestern Muhly, Box Canyon Muhly

**SYNONYMS:** *Muhlenbergia dubioides* C. Goodding

**FAMILY:** Poaceae

**AUTHOR, PLACE OF PUBLICATION:** Vasey, G. 1886. Bull. Torrey Bot. Club 13(12): 231

**TYPE LOCALITY:** Mexico: S.W. Chihuahua.

**TYPE SPECIMEN:** HT: US. E. Palmer 16. Aug-Nov. 1885.

**TAXONOMIC UNIQUENESS:** There are approximately 160 species of *Muhlenbergia*, with 44 of these occurring in Arizona (Lehr 1978, Lehr and Pinkava 1980, Lehr and Pinkava 1982). This genus is distributed in North America, South America, and southern Asia (Hickman 1993).

*Muhlenbergia dubioides* is no longer considered distinct from *M. palmeri*; as such, the taxon is more widespread than previously thought (previously was considered an Arizona endemic) (Arizona Rare Plant Committee 2001).

**DESCRIPTION:** Densely tufted, erect perennial; stems up to 100 cm; leaves up to 50 cm long, 1-2 mm wide; panicle up to 35 cm long, 1.5 cm wide, densely-flowered with appressed branches; spikelets about 4 mm long, about equal; glumes 2-3 mm long, erose at apex, slightly roughened above; awn straight, 3-10 mm long.

**AIDS TO IDENTIFICATION:** *Muhlenbergia rigens* (Benth.) has panicles which are seldom over 1 cm wide and is awnless (Bertelsen 2000).

**ILLUSTRATIONS:** Line drawing of panicle, glume, and floret (Hitchcock 1971).  
Line drawing (Arizona Rare Plant Committee 2001).

**TOTAL RANGE:** Southern Arizona, New Mexico, Sonora and Chihuahua, Mexico.

**RANGE WITHIN ARIZONA:** Pima County: Santa Rita, Santa Catalina and Baboquivari Mountains; Santa Cruz County: Sycamore Canyon of the Pajarito Mountains; Cochise County: Canelo Hills and Huachuca Mountains. Expected in the Peloncillo Mountains as it was collected by E. Makings (3352) from the New Mexico portion of the Peloncillo Mountains (just east of the AZ-NM border) (SEINet 2022).

**SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Perennial clump with erect stems.

**PHENOLOGY:** August to November.

**BIOLOGY:** Stems are erect when flowering but droop considerably by the next spring.

**HABITAT:** Rocky slopes in canyons and along stream courses, often on cliffs.

**ELEVATION:** 2,750 - 6,000 ft (839 - 1830 m).

**EXPOSURE:** Various.

**SUBSTRATE:** Shallow soil pockets, rocky areas, gravelly soil, and crevices in cliffs.

**PLANT COMMUNITY:** Occurs in riparian communities with cottonwood, willow, and ash dominated overstory within Arizona upland Sonoran desertscrub communities, and in riparian communities within Madrean evergreen woodland and semi-desert grassland communities (Brown 1994). This species has also been collected, less frequently, in adjacent upland habitats/canyon slopes within these communities.

**POPULATION TRENDS:** Unknown

**SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None

**STATE STATUS:** None

**OTHER STATUS:** Forest Service Sensitive (USDA, FS  
Region 3, 1999, 2013)

**MANAGEMENT FACTORS:** Maintaining moderate to low levels of grazing will curtail erosion and prevent scouring of populations and habitat.

**CONSERVATION MEASURES TAKEN:** This species was listed as "Forest Service Sensitive" in 1999.

**SUGGESTED PROJECTS:** Search areas of suitable habitat for this species, especially canyons adjacent to known populations. Monitor known populations to some extent.

**LAND MANAGEMENT/OWNERSHIP:** BIA - Tohono O'Odham Nation; USFS - Coronado National Forest (Nogales, Sierra Vista, and Santa Catalina Ranger Districts).

## **SOURCES OF FURTHER INFORMATION**

### **LITERATURE CITATIONS:**

- Arizona Rare Plant Committee. Circa 2001. Arizona Rare Plant Field Guide: A Collaboration of Agencies and Organizations. Arizona Heritage Data Management System, Arizona.
- Bertelsen, C. D. 1999. Unpublished abstract prepared for the Arizona rare plant field guide. 1 pp.
- Bertelsen, C. D. 2000. Personal communication in review of AGFD, HDMS draft abstract of *Muhlenbergia dubioides*.
- Brown, D. E. ed. 1994. Biotic communities: southwestern United States and northwestern Mexico. University of Utah Press. Salt Lake City. 342 pp.
- Gould, F. W. 1951. Grasses of southwestern United States. University of Arizona Press. Tucson. p. 191, 217.
- Hitchcock, A.S. 1971. Manual of the grasses of the United States, 2nd edition, Vol. 1. Dover Publications, Inc. New York. p. 404-405, 407.
- Lehr, J. H. 1978. A catalogue of the flora of Arizona. Desert Botanical Garden, Phoenix, AZ. p. 18-19.
- Lehr, J. H. and D. J. Pinkava. 1980. A catalogue of the flora of Arizona. Supplement I. Journal of the Arizona-Nevada Academy of Science 15:19.
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- Southwest Environmental Information Network (SEINet). 2022. <http://southwestbiodiversity.org/index.php>. Accessed February 28, 2022.
- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
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### **MAJOR KNOWLEDGEABLE INDIVIDUALS:**

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### **ADDITIONAL INFORMATION:**

**Revised:** 1991-10-19 (ANHP)  
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