

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

**Plant Abstract**

**Element Code:** PMPOA48360

**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Muhlenbergia elongata*

**COMMON NAME:** Arid Muhly, Sycamore Muhly, Sycamore Canyon Muhly, Weeping Muhly

**SYNONYMS:** *Muhlenbergia xerophila* C. Goodding

**FAMILY:** Poaceae

**AUTHOR, PLACE OF PUBLICATION:** Beal, Grass. N. Ameri. 2:251 (1896).

**TYPE LOCALITY:** Near Chihuahua, Chihuahua, Mexico.

**TYPE SPECIMEN:** William and Lynda Steere Herbarium. New York Botanical Garden. C.G. Pringle #398. August 1885.

**TAXONOMIC UNIQUENESS:** There are approximately 154 species of *Muhlenbergia*, of which 147 species occur in North America, and 48 occur in Arizona. Species diversity is concentrated in the American Southwest and Mexico (Peterson et al. 2010). This genus is distributed in North America, South America, and southern Asia (Hickman 1993).

**DESCRIPTION:** Cespitose perennial. Culms 40-120 cm (16-47 in) tall, erect, not conspicuously branched. Internodes mostly smooth. Sheaths longer than the internodes, smooth or scabridulous, rounded towards the base, not becoming spirally coiled when old. Ligules 2-8 mm (0.1-0.3 in), firm below, membranous distally, obtuse to acute. Blades 15-50 cm (6-20 in) long, 0.3-1.5 mm (0.03-0.05 in) wide, flat to involute, smooth or scabridulous abaxially, hirtellous adaxially. Panicles 15-50 cm (6-20 in) long, 1-7 cm (0.4-2.8 in) wide, loosely contracted, not dense. Primary branches 1-8 cm (0.4-3.1 in), appressed or diverging up to 30° from the rachises, naked basally. Pedicels 1.3-8 mm (0.5-0.31 in), hispidulous. Spikelets 3-4.2 mm (0.1-0.2 in). Glumes subequal, 2-3 mm (0.1 in), exceeded by the florets, glabrous below, minutely pubescent or scabridulous distally, 1-veined, acuminate to acute, unawned or awned, awns to 1.6 mm (0.06 in). Lemmas 2.8-4.2 mm (0.1-0.2 in), narrow, lanceolate, calluses hairy, hairs to 1 mm (0.04 in), lemma bodies glabrous and smooth below, scabridulous distally, apices acuminate, awned, awns 8-40 mm (0.3-1.6 in), straight to flexuous, demarcation of the awns from the lemma bodies not evident. Paleas 2.8-4.2 mm (0.1-0.2 in), narrowly lanceolate, glabrous, acuminate. Anthers 1.4-2.2 mm (0.05-0.1 in), yellow. Caryopses 2-2.2 mm (0.1 in), fusiform, brownish (FNA, 1993+).

**AIDS TO IDENTIFICATION:** *Muhlenbergia elongata* is distinguished by its nodding habit, open panicle, and long awns on lemma. *M. pauciflora* has a compressed panicle with

appressed or somewhat spreading branches; the awn on the lemma is less than 25 mm long. *M. monticola* has shorter stems, leaves, and panicle, and the leaves are narrower (Bertelsen 1999, 2000, Gould 1951, Hitchcock 1971).

**ILLUSTRATIONS:** Line drawing of panicle, glume, and floret (Hitchcock 1971).

**TOTAL RANGE:** Southeastern Arizona, Chihuahua and Sonora, Mexico.

**RANGE WITHIN ARIZONA:** Pima County: Baboquivari, Empire, Rincon, Santa Catalina, and Santa Rita Mountains; Santa Cruz County: Santa Rita, Tumacacori, and Pajarito Mountains; Cochise County: Chiricahua Mountains.

### **SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Perennial herbaceous graminoid.

**PHENOLOGY:** August to November.

**BIOLOGY:** Occurs near stream sides, often

**HABITAT:** In seeps or associated with water. Typically occurs in pockets of soil in crevices of cliffs, rocks, and bedrock in seeps and in wet soil adjacent to bedrock streambeds in canyon bottoms, but also known from rocky canyon slopes in oak, pine-oak, and riparian woodlands.

**ELEVATION:** 3,520 - 6,000 ft. (1074 - 1830 m). Based on records in the Heritage Data Management System (HDMS), elevation ranges from 3,500-4,950 ft in Arizona (1068-1510 m) (AGFD, unpublished data accessed 2020).

**EXPOSURE:** Varies. In full sun in Box Canyon and heavily shaded in Finger Rock Canyon.

**SUBSTRATE:** Most often pockets of soil in crevices of cliffs, rocks, and bedrock; also gravelly loam soil of slopes and wet soil adjacent to bedrock streambeds.

**PLANT COMMUNITY:** This species has been collected in Madrean evergreen woodland communities, riparian woodland within Madrean evergreen woodland communities, and riparian woodland within the transition zone of Arizona upland Sonoran desertscrub and semi-desert grassland communities, as defined by Brown (1994).

**POPULATION TRENDS:** Apparently stable. Observations within the past 15 years across much of the species known area of occupancy in Arizona.

### **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None  
**STATE STATUS:** None  
**OTHER STATUS:** Forest Service Sensitive (USDA, FS Region 3, 2013)  
[Forest Service Sensitive (USDA, FS Region 3 1999)]

**MANAGEMENT FACTORS:** Palatable to ungulates. Some of the known populations are naturally protected from direct grazing because they are growing on cliffs. Others are more accessible, growing along the bottom of canyons.

**CONSERVATION MEASURES TAKEN:** This species was listed as “Forest Service Sensitive” in 1999. One population occurs in The Nature Conservancy’s Thomas Canyon Preserve. Two populations occur in Saguaro National Park. Majority of remaining observations occur on Forest Service Land.

**SUGGESTED PROJECTS:** Monitor existing populations to some extent. Search areas of suitable habitat, especially those canyons adjacent to canyons with known populations.

**LAND MANAGEMENT/OWNERSHIP:** BIA - Tohono O’Odham Nation; NPS - Saguaro National Park; USFS - Coronado National Forest (Nogales and Santa Catalina Ranger Districts); Private.

## **SOURCES OF FURTHER INFORMATION**

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**ADDITIONAL INFORMATION:**

In December of 1999, the University of Arizona had 24 specimens from the wild, representing about 10 different locations. This species will be in the Arizona Rare Plant Field Guide (in prep.), which will probably be printed in the year 2000. A line drawing and photo of the plant, as well as a habitat photo will be included.

**Revised:** 1991-10-18 (ANHP)  
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