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

Plant Abstract

Element Code: PMAGA010D0

Data Sensitivity: Yes

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Agave mckelveyana*

COMMON NAME: McKelvey's Agave, McKelvey Agave, McKelvey's century plant

SYNONYMS:

FAMILY: Agavaceae

AUTHOR, PLACE OF PUBLICATION: H. Gentry, Cactus and Succulent Journal [U.S.]
42(5): 225-228, f. 3-6. 1970.

TYPE LOCALITY: USA: Arizona, Sitgreave Pass in Black Mountains, ca. 4 miles (ca. 6 km)
NE of Oatman. Gentry, 26 Jun 1966.

TYPE SPECIMEN: HT: US, Sheet No. A2574932. H.S. Gentry 21979, 26 Jun 1966.

TAXONOMIC UNIQUENESS: The species *mckelveyana* is 1 of 34 in the genus *Agave*.
"Some observers of *A. mckelveyana* have regarded it as a depauperate form of *A. deserti*"
(Gentry 1982). *Agave deserti* is confined generally to the Sonoran Desert at lower elevations.
The habitat of *A. mckelveyana* is cooler than that of *A. deserti*. (Gentry 1982).

DESCRIPTION: A small, single or suckering plant with rather few-leaved rosettes 20-45
cm (8-18 in.) tall and broad. Leaves are 17-40 x 3-5 cm (7-16 x 1-2 in.), linear or lanceolate
and broadest in the middle. Color varies from light glaucous green to yellowish green or dark
green, and firmly spreading, with the margin nearly straight or undulate with low teeth. The
spine is 1.5-4 cm (0.6-1.6 in.) long, shortly decurrent, subulate, rounded except for shallow
groove above at base, and castaneous to gray in color. The teeth are small to medium in size,
with the larger at mid-blade 4 - 8 mm long, grayish with reddish tips, downflexed and rather
friable. The flower stalk is narrowly paniculate, 2 - 5 m (6.6 - 16.4 ft.) tall, with 10 to 29
lateral ascending branchlets in upper half of shaft. Pedicels are short-bracteolate. The yellow
flowers are small, 3-4 cm (1.2-1.6 in.) long, in small congested clusters, with yellow stamens
openly spreading. Seed capsules are linear to oblong, 3-4.5 cm long and 1-2.4 cm wide.
Seeds are 5-6.5 mm long, and 4-4.5 mm broad.

AIDS TO IDENTIFICATION: *Agave mckelveyana* nearest relative appears to be *A. deserti*
and *A. subsimplex* Trel. It can hardly be separated except by the flower differences: *A.*
mckelveyana flowers differ from these two in smaller size, in the narrow spreading, thin,
linear, conduplicate tepals with sharply inflexed cucullate tips, and small ovary with
constricted neck.

ILLUSTRATIONS: Line drawing plant and parts (H. Gentry, 1982: Fig. 15.23, 15.24).

Color photo (P. Faucon, 1998-2003:

http://www.desert-tropicals.com/Plants/Agavaceae/Agave_mckelveyana.html).

TOTAL RANGE: Endemic to central part of western Arizona.

RANGE WITHIN ARIZONA: Hualapai and Black mountains (Sitgreave Pass), Mohave County (and possibly the Aquarius Mountains); Cedar and Smith mesas, Yavapai County (and possibly the Juniper Mountains).

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Succulent perennial shrub/subshrub.

PHENOLOGY: May to July, but varies with elevation and from year to year.

BIOLOGY: Lifespan is unknown. Usually propagates by seeds, but occasionally propagates by suckering offsets. Suckering offsets were observed on plants in the Black Mountains and again in the Hualapai Mountains (Gentry 1982). McKelvey's Agave grows in full sun, requires little water, has excellent heat tolerance, and is hardy down to 5° F (-15° C).

As with other Agaves, roots are shallow and spreading to derive maximum benefit from light rains and other habitat conditions that limit moisture to upper soil layers. The outwardly radial arrangement of leaves intercepts rainfall and conducts it toward the base and roots of the plant center. A thick waxy cuticle covering the leaves conserves moisture. Nighttime opening of leaf stomates also prevents water loss through transpiration during the hotter daylight hours.

HABITAT: Open rocky volcanic slopes in upper desert scrub, chaparral and juniper woodland.

ELEVATION: 3,000 - 6,000 ft. (915 - 1830 m). The Desert Botanical Garden (DBG 1999) reports elevation range of 2,787 – 7,213 ft (850-2200 m).

EXPOSURE:

SUBSTRATE: Sandstone, basalt, granite and rhyolite.

PLANT COMMUNITY: Upper desert scrub, chaparral and juniper woodland. Associated species may include: *Acacia greggii* (catclaw acacia), *Agave parryi* (Parry's agave), *Amsonia palmeri* (Palmer's blue-star), *Anisacanthus thurberi* (Thurber's anisacanthus), *Arabis perennans* (perennial rock-cress), *Arctostaphylos pungens* (Mexican manzanita), *Baccharis*

sergiloides (Squaw false-willow), *Berberis* (*Mahonia*) *haematocarpa* (Colorado mahonia), *Bouteloua gracilis* (blue gramma), *Cercocarpus montanus* (Colorado birch-leaved mountain-mahogany), *Dudleya collomia* (Gila County live-forever), *Eriogonum wrightii* (Wright's wild buckwheat), *Ferocactus cylindraceus* (barrel-cactus), *Garrya flavescens* (ashy silktassel), *Gutierrezia sarothrae* (broom snakeweed), *Juncus xiphioides* (iris-leaf rush), *Juniperus osteosperma* (Utah juniper), *Mimosa biuncifera* (*aculeaticarpa*) (cat's-claw mimosa), *Opuntia chlorotica* (dollar-joint prickly pear), *O. engelmannii*, *Penstemon barbatus* (beard-lip beardtongue), *Poa fendleriana* (a bluegrass), *Quercus emoryi* (Emory's oak), *Q. turbinella* (shrub live oak), *Rhamnus crocea* (red-berry buckthorn), *Rhus ovata* (sugar sumac), *Stephanomeria pauciflora* (prairie skeletonplant), *Tragia ramosa* (branching noseburn), and *Yucca baccata* (fleshy-fruit yucca).

POPULATION TRENDS: There are over 100 occurrences of *Agave mckelveyana* and it is not threatened (NatureServe 2002).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: Salvage Restricted (ARS, ANPL 1999)
 [Salvage Restricted (ARS, ANPL 1993)]
OTHER STATUS: None

MANAGEMENT FACTORS:

PROTECTIVE MEASURES:

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: USFS – Prescott National Forest.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

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ADDITIONAL INFORMATION:

“Gentry points out that Jones included *A. mckelveyana* in those plants which he named *Agave utahensis* var. *discreta*. Gentry indicates that not all of those specimens sited (sic) as *A. utahensis* var. *discreta* are *A. mckelveyana*. The type of the *discreta* variety is from Oatman and it would appear that *A. utahensis* var. *discreta* as described from the Oatman specimen should be listed in synonymy (sic) with *A. mckelveyana*” (Fletcher, 1978).

Revised: 1989-11-09 (ANHP)
 1991-10-20 (BKP)
 1992-12-14 (DBI)
 1997-04-18 (SMS)
 2003-05-08 (SMS)
 2004-02-24 (SMS)

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