

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

**Plant Abstract**

**Element Code:** PDROS0X0C0  
**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Potentilla multifoliolata*  
**COMMON NAME:** Arizona Cinquefoil  
**SYNONYMS:** *Horkelia multifoliolata*; *Comarella multifoliolata*; *Ivesia multifoliolata*  
**FAMILY:** Rosaceae

**AUTHOR, PLACE OF PUBLICATION:** Kearney and Peebles. Jour. Wash. Acad. Sci. 1939.

**TYPE LOCALITY:** Western borders of New Mexico (now Arizona)

**TYPE SPECIMEN:** GH (isotype). October, 1851. Woodhouse.

**TAXONOMIC UNIQUENESS:** One of 23 *Potentilla* in the state of Arizona, *P. multifoliolata* is a distinctive species intermediate between the genera *Potentilla* and *Horkelia*. This species moved to *Ivesia* because of leaf morphology.

**DESCRIPTION:** Perennial herb with several radiating, slender stems. Up to 60.0 cm (23.6 in.) tall arising from thick tap root. Pinnately compound leaves; numerous small leaflets, 4.0 - 8.0 mm (0.16 - 0.31 in.) long and 2 - 4 lobed or toothed at apex. Flowers small, in open, flattened inflorescence; sepals 2.0 - 3.0 mm (0.08 - 0.12 in.); petals 5, dark purple (according to Phillips 1993, bright, blood red), 5 stamens; 1 - 5 pistils, styles terminal.

**AIDS TO IDENTIFICATION:** Small rosaceous flowers on slender stems radiating from central root together with numerous non-fan-shaped 3-lobed leaflets distinguish *P. multifoliolata* from other similar species. Has dark green non-*Potentilla*-like leaves. *Potentilla thurberi* has similar reddish flower but leaves are five lobed.

**ILLUSTRATIONS:** Line drawing of plant in flower (USFWS)

**TOTAL RANGE:** Central Arizona.

**RANGE WITHIN ARIZONA:** Top of Mogollon Rim in Coconino County, extending southward into Yavapai County including Tule Wash, Sycamore and Volunteer Canyons, Anderson Mesa and Garland Prairie.

**SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Herbaceous perennial

**PHENOLOGY:** June to August

**BIOLOGY:** Climax species: will not tolerate much disturbance. Prefers very gentle slope (0-5%) with litter depth of 2 cm. Where healthy populations occur, appears to be quite abundant (2.98 plants/square meter at Buck Mountain in 1980). Reproduction appears to be normal with 55 - 60% production rates in 1980. When left undisturbed, reproductive success reaches about 30%.

**HABITAT:** Areas that support this species have poor soil development with little vegetation and high percentages of rock or gravel. Species found in shallow, rocky drainage bottoms with intermittent surface flow

or shallow subsurface water in Ponderosa pine forests. Grows with sweet clover on Rim. May be scoured out by floodwaters from some places where it would be expected.

**ELEVATION:** 5,080 - 7,800 ft. (1549 - 2379 m)

**EXPOSURE:** Various

**SUBSTRATE:** Basalt boulders and sandstone bedrock. Moist gravelly loam and sand with a 30% mixture of clay and a pH range of 7.0 to 8.0.

**PLANT COMMUNITY:** Rocky Mountain Montane Conifer Forest (Ponderosa Pine forests).

**POPULATION TRENDS:** Some populations appear to have declined.

### **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None (USDI, FWS 1996)  
[3C USDI, FWS 1983]  
[C1 USDI, FWS 1980]

**STATE STATUS:** None

**OTHER STATUS:** Not Forest Service Sensitive (USDA, FS Region 3 1999)  
[Forest Service Sensitive USDA, FS Region 3 1990]

**MANAGEMENT FACTORS:** Natural rarity, very specific habitat requirements. Habitat threats include human disturbance, stock grazing and erosion due to logging.

**CONSERVATION MEASURES TAKEN:** Coconino and Kaibab National Forests attempting to protect recognized habitat.

**SUGGESTED PROJECTS:** Protect from grazing and conduct more field searches.

**LAND MANAGEMENT/OWNERSHIP:** USFS - Coconino and Kaibab National Forests (including Sycamore Canyon Wilderness Area); State Land Department; Private.

### **SOURCES OF FURTHER INFORMATION**

#### **LITERATURE CITATIONS:**

- Baker, M.A. and T. Wright. 1993. A botanical survey of the Apache Creek, Juniper Mesa, Sycamore Canyon and Woodchute wilderness areas of the Prescott National Forest, Arizona. Unpublished report for the Prescott National Forest, Chino Valley, Arizona.
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- Van Devender, T.R. 1980. Unpublished status report on *Potentilla multifoliolata* for the Arizona Natural Heritage Program. Tucson.

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**ADDITIONAL INFORMATION:**

- Fletcher (1979) states records from San Francisco Peaks and Oak Creek Canyon are in error.
- Brian, et al. (1982) recommended dropping from consideration for Federal listing.
- Phillips (1991) states that many new plants of the species have been located since 1982. The Coconino National Forest population is more numerous than previously thought; however, Kaibab NF localities are sparse.

**Revised:** 1992-04-24 (JSP)  
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