

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

Plant Abstract

Element Code: PDROS0X0C0

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Ivesia multifoliolata*

COMMON NAME: Arizona Cinquefoil

SYNONYMS: *Horkelia multifoliolata*; *Comarella multifoliolata*; *Potentilla 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). Woodhouse: October, 1851.

TAXONOMIC UNIQUENESS: *Ivesia multifoliolata* was formerly one of 23 *Potentilla* species found in Arizona. It is considered a distinctive species intermediate between the genera *Potentilla* and *Horkelia*. This species was moved to *Ivesia* in 2011 because of leaf morphology. There are three other *Ivesia* species found in Arizona.

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 *I. 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: Flowers June to August.

BIOLOGY: Climax species: This plant will not tolerate much disturbance. It prefers very gentle slopes (0-5%) with litter depth of 2 cm. Where healthy populations occur, it 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 the species is 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 inhabit shallow, rocky drainage bottoms with intermittent surface flow or shallow subsurface water in Ponderosa pine forests. It grows with sweet clover on the Rim. It 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, live 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

REFERENCES:

- 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.
- Brian, N., B.G. Phillips, A.M. Phillips, III, J. Mazzoni, and L.T. Greene, III. 1982. Unpublished status report on *Potentilla multifoliolata*, for U.S. Fish and Wildlife Service. Albuquerque, New Mexico.
- Fletcher, R. 1979. *Potentilla multifoliolata*. Unpublished status report for U.S. Forest Service.
- Kearney, T.H. and R.H. Peebles. 1939. Arizona plants: new species, varieties and combination. *Journal of the Washington Academy of Science*. 29(11):475-492.
- Kearney, T.H. and R.H. Peebles. 1960. Arizona flora (with supplement). University of California Press, Berkeley. p.481
- McDougall, W.B. 1973. Seed plants of northern Arizona. *The Museum of Northern Arizona*, Flagstaff. p. 232.
- Phillips, B.G. 1991. Prescott National Forest TE&S species summary. Unpublished species summary for the Prescott National Forest, Flagstaff.
- Phillips, B.G. 1993. Pers comm from South Kaibab Special Status Plant Workshop, conducted at the Williams Ranger District Office, 27 October, 1993.
- Torrey, J. 1853. Botany. p. 159. In: Sitgreaves, L. Report of an expedition down the Zuni and Colorado Rivers. Department of the Army. Washington, D.C.
- USDA, Forest Service Region 3. 1990. Regional Forester's Sensitive Species List.
- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
- USDI, Fish and Wildlife Service. 1980. Endangered and Threatened Wildlife and Plants; Review of Plant Taxa for Listing as Endangered or Threatened Species. Notice of Review. *Federal Register* 45(242):82486.
- USDI, Fish and Wildlife Service. 1987. Endangered Species Technical Bulletin. Kearney's Blue-Star (*Amsonia kearneyana*). 12(8):5
- USDI, Fish and Wildlife Service. 1989. Endangered and Threatened Wildlife and Plants; Determination of *Amsonia kearneyana* to be an endangered species. *Federal Register* 54(12):2131-2134.

- 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. Proposed Rule. Federal Register 61(40):7596-7613.
- Van Devender, T.R. 1980. Unpublished status report on *Potentilla multifoliolata* for the Arizona Natural Heritage Program. Tucson.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

- Greg Goodwin - U.S. Forest Service, Flagstaff, Arizona.
Reggie Fletcher - U.S. Forest Service, Albuquerque, New Mexico.
Sandy Nagiller - U.S. Forest Service, Flagstaff, Arizona.
Barbara Phillips - U.S. Forest Service, Zone Botanist, Flagstaff, Arizona.

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)
1993-11-09 (DBI)
1995-04-25 (DBI)
1997-04-08 (BGP)
2012-11-27 (BDT)

To the user of this abstract: you may use the entire abstract or any part of it. We do request, however, that if you make use of this abstract in plans, reports, publications, etc. that you credit the Arizona Game and Fish Department. Please use the following citation:

Arizona Game and Fish Department. 1997. *Ivesia multifoliolata*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 3 pp.