

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

Plant Abstract

Element Code: PDPAS01070

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CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Passiflora foetida* L. (AZ: *Passiflora foetida* var. *arizonica* Killip)
COMMON NAME: Foetid passionflower, scarlet-fruit passion-flower, stinking passionflower, fetid passionflower, love-in-a-mist, running pop, wild water lemon (*P. f.* var. *arizonica*: Arizona passionflower, White passionflower, Corona de Cristo)
SYNONYMS: *Dysosmia foetida* (L.) M. Roem., *Granadilla foetida* (L.) Gaertn., *Tripsilina foetida* (L.) Raf.
FAMILY: Passifloraceae

AUTHOR, PLACE OF PUBLICATION: L., Species Plantarum 2: 959. 1753.
(*P. f.* var. *arizonica*: E.P. Killip, Publ. Field Mus. Nat. Hist., Bot. Ser. 19: 490. 1938.).

TYPE LOCALITY: (*P. f.* var. *arizonica*: USA. Arizona. Fresno Canyon. Baboquivari Mountains).

TYPE SPECIMEN: Collector unknown s.n. (LT: LINN). (*P. f.* var. *arizonica*: HT: US-1365002. G.J. Harrison 4774, 26 Sep 1927. IT: ARIZ-101387).

TAXONOMIC UNIQUENESS: The genus *Passiflora* contains approximately 14 species in North America (Venning 1984). Three species of *Passiflora* are recognized by Lehr (1978) as occurring in Arizona. The species *Passiflora foetida* has 38 varieties according to the last monographer, Killip (MacDougal 2001); the var. *arizonica* Killip is the only one that occurs in Arizona. The variety *arizonica* might deserve recognition at the species level. It differs from other varieties in having leaves that are deeply lobed, with the central lobe often narrowed near its base, the lateral lobes themselves lobed, and the margins erose serrate. (MacDougal 2001).

DESCRIPTION: *P. foetida* is a soft downy or hairy vine with many intertangled, tendril-bearing stems to 8 feet (24.4 dm) long or longer. The leaves are three- or five-lobed, 2.5-3.8 cm (1-1.5 in) long and slightly wider, with the middle lobe generally the largest; they are often indented at the base. The flowers are 2.5-3.8 cm (1-1.5 in) across. MacDougal (2001) reports flower diameter from 4-5.5 cm (1.6-2.2 in). Sepals and petals are whitish, 6 mm wide, while sepals are greenish and hairy on back. The corolla is lilac, the androgynophore is yellow, and the corona is lilac and white, its many segments threadlike, about 10 mm long, but innermost a mere fringe 6 mm long. The stamens number 5, while the stigmas number 3, and all are arched outward. Under each flower has three bracts divided pinnately into very

narrow, hairy segments. The fruit is round, 2.5-3.2 cm (1-1.25 in) in diameter, longer than wide, lightly hairy, greenish or yellowish, but red at maturity (berry). Seeds are arillate, dark, and compressed. (Rickett 1970; Spellenberg 2003). An enormously varied group.

P. foetida var. *arizonica*: In Arizona, a vine that is about 0.5-3 m long, and densely pilose throughout. The leaves are palmately 3(-5) lobed, the margins usually erose serrate or incised serrate, ciliate with gland tipped cilia; the central lobe is narrowed near the base. Petioles have gland tipped cilia; stipules cleft to near base into numerous conspicuous gland tipped cilia. The bracts are 18-27 mm long and 7-15 mm wide (to 45 mm long, 27 mm wide in fruit), lightly pilose, deeply bipinnatifid, the segments, cilia or teeth are glandular tipped. Flowers are about 4-5.5 cm (1.6-2.2 in) in diameter, whitish, the corona whitish or purplish; sepals subequal to or slightly shorter than the petals. Coronal filaments are in about 6 series, lilac in color; ovary long pilose. The fruit is about 3 centimeters in diameter, globose or widely ellipsoid, greenish or yellowish, but red at maturity. Seeds are 5.6-6.3 mm long, 3.3-3.9 mm wide, pitted, apically tridentate. The plant has a very disagreeable odor (MacDougal 2001).

AIDS TO IDENTIFICATION: Only *Passiflora* found in Arizona, with a lilac-colored corona and its stipules are pinnatisect. Variety *arizonica* differs from other vars. In having leaves that are deeply lobed, and the margins erose serrate (MacDougal 2001).

ILLUSTRATIONS: Color photo (Rickett 1970)
Color photo (Spellenberg 2003: p. 108)
Line drawing (Puente, *in* MacDougal 2001: Fig. 2, P. 44)
Color photo of species (Lidia Perez de Molas 7547, *in*
http://mobot.mobot.org/cgi-bin/search_vast?w3till=24200152_002.jpg)
Color photo of species (A. Gray, MBG, *in*
http://mobot.mobot.org/cgi-bin/search_vast?w3till=MOA-04950_001.jpg)
Color photo of variety *arizonica* type (Killip, *in* MGB
http://mobot.mobot.org/cgi-bin/search_vast)
Color photo of variety Holotype (*In* USNM
<http://rathbun.si.edu/botany/types/fullRecords.cfm?myFamily=>)

TOTAL RANGE: Southeastern Texas and the Rio Grande Valley, southern Arizona, and southward throughout Mexico, Central and South America, and the West Indies. (*P. f.* var. *arizonica*: Southern Arizona and Mexico (Sonora)).

RANGE WITHIN ARIZONA: Central part of state, southward. From Arivaca, and Baboquivari, Las Guijas, and Pozo Verde mountains in Pima County, and Bartlett Mountain and California Gulch, in Santa Cruz County.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous annual vine.

PHENOLOGY: The species flowers March-October through its range; in Arizona, the variety flowers from August-September. MacDougal (2001) reports the flowering period for the variety *arizonica* as June-October with fruiting occurring from August-October.

BIOLOGY: The flowers open in the evening and close early in the morning. Flowers have a rank, disagreeable odor.

HABITAT: Lower Sonoran Zone to Tropical Zone (*P. f.* var. *arizonica*: inhabits rocky desert hillsides, limestone outcrops, canyons cliffs, and arroyos, in the Lower Sonoran Zone, between 3000-5000 feet).

ELEVATION: *P. f.* var. *arizonica* ranges from 3,500 to 5,600 feet (1068-1708m); Spellenberg (2003) reports the range as 3,000-5,000 feet (915-1525 m). In Mexico, they have been found from 328-3,800 feet (100-1159 m), in Missouri Botanical Garden (2000).

EXPOSURE: South

SUBSTRATE: Rocky, sandy soil.

PLANT COMMUNITY: Desert grasslands in the Lower Sonoran Zone. Associated species include: *Acacia constricta* (Mescat acacia), *Agave schottii* (Schott agave), *Anisacanthus thurberi* (Thurber's Anisacanthus), *Artemisia ludoviciana* (white sagebrush), *Brickellia* sp. (Brickell-bush), *Carnegia gigantea* (saguaro cactus), *Celtis pallida* (spiny hackberry), *Dasyilirion* sp. (sotol), *Dodonaea viscosa* (varnish-leaf), *Ericameria laricifolia* (turpentine-bush), *Eysenhardtia lagascea*, *Fouquieria splendens* (ocotillo), *Garrya wrightii* (Wright's silktassel), *Gossypium thurberi* (Thurber's cotton), *Lagascea decipiens* (Beguiling Mexican Daisy), *Mimosa biuncifera* (= *M. aculeaticarpa*: cat's-claw mimosa), *M. dysocarpa* (velvetpod mimosa), *Prosopis velutina* (velvet mesquite), *Quercus* sp. (oak), *Waltheria* sp., and grasses.

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).

MANAGEMENT FACTORS:**PROTECTIVE MEASURES TAKEN:**

SUGGESTED PROJECTS: Taxonomic studies to determine if the elevation of the variety *arizonica* to species level, is warranted.

LAND MANAGEMENT/OWNERSHIP: BIA - Tohono O'Odham Nation; BLM - Tucson Field Office; USFS - Coronado National Forest; USFWS - Buenos Aires National Wildlife Refuge; State Land Department; Private.

SOURCES OF FURTHER INFORMATION**REFERENCES:**

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

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ADDITIONAL INFORMATION:

According to Spellenberg (2003), “Spanish Catholic missionaries in South America used the flowers to refer to Christ’s passion: 3 stigmas symbolize nails of Crucifixion; 5 stamens, his wounds; corona, the crown of thorns; 5 sepals and 5 petals, the apostles, minus Peter and Judas; lobed leaves and tendrils the hands and whips of Christ’s tormentors.”

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