

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

Plant Abstract

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CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Mariosousa millefolia*
COMMON NAME: Milfoil Prickle-Free, Milfoil Acacia
SYNONYMS: *Acacia millefolia*, *Senegalia millefolia*
FAMILY: Fabaceae

AUTHOR, PLACE OF PUBLICATION: Seigler, David Standley, John Edwin Ebinger and Joseph T. Miller. Novon 16(3): 419. 2006.

TYPE LOCALITY: For *Acacia millefolia*: Mexico (Chihuahua, Sinaloa).

TYPE SPECIMEN: LT: The Gray Herbarium (GH), GH00058244. E.J. Palmer 45; Aug 1885. Mexico: Chihuahua: Hacienda San José, near Batopilas. LT designated by Isely, Sida 3: 379 (1969)

TAXONOMIC UNIQUENESS: Prior to being assigned to the new genus *Mariosousa* in 2006 by Seigler and Ebinger, this species was considered to be an *Acacia*, and although the new name is taxonomically accepted, some treatments still consider *M. millefolia* to be *Acacia millefolia*. Including *A. millefolia*, NatureServe (2019) lists 34 species of the genus *Acacia*, and another 10 varieties. Seven of these species are found in Arizona, along with another seven of the varieties. SEINet (2019) lists 12 species of *Mariosousa*.

DESCRIPTION: General: Shrub or small tree 1-3 m tall, with slender, sparsely puberulent, but becoming glabrate branchlets and weak, needle-like straight stipular spines 2-3 mm long, ascending and persistent. Leaves: Leaves in 5-10 pairs of pinnae and 20-40 small pairs of leaflets, each 1.5-3 mm long, linear, acute to apiculate, 2-3 mm long; petioles u-shaped in cross section, puberulent but glabrate with age. Flowers: Cream colored flowers in spikes 2.5-5 cm long; flowers sessile, calyx broadly cup-shaped, 0.5-1 mm deep, glabrous or margins ciliolate, petals 2 mm long, glabrous. Fruits: Flat, veiny pods 7-15 cm long, 1-1.8 cm wide, slightly constricted between seeds or margins straight (SEINet 2019).

AIDS TO IDENTIFICATION: Distinguished as a medium shrub with semi-weak, sometimes whitish, waving branches; small, straight, paired spines at some nodes but otherwise spineless; finely divided bright green leaves with many leaflets; elongated white flower clusters; and wide, flattened pods (SEINet 2019).

This species of *Acacia* differs from others by the following combination of characteristics: leaves bipinnate, flowers in spikes, plants unarmed or only slightly thorny, the pinnae in (4)6-10 pairs (New Mexico Rare Plants).

Mariosousa millefolia is distinct from other members of this genus, as it lacks a petiolar gland and possess a stalked rachis gland between the upper pairs of pinnae. The only other taxa of this group within the range of *M. millefolia*, are *M. willardiana* and *M. russelliana*. *Mariosousa millefolia* is easily distinguished from *M. willardiana*, which has papery, exfoliating bark and leaves with only 1-3 pinnae pairs. Leaflets with appressed hairs, the stalked rachis glands, and the persistent stipules of *M. millefolia* separate it from *M. russelliana*. In addition, *M. millefolia* is normally a shrub found at elevations above 700 m (2,296 feet) while the other species are trees and commonly occur at lower elevations (ANBG 2019).

ILLUSTRATIONS:

Photos and Herbarium Mounts: <http://swbiodiversity.org/seinet/taxa/index.php?tid=134887>.
Photos: <https://apps.cals.arizona.edu/arboetum/taxon.aspx?id=919>.

TOTAL RANGE: *M. millefolia* occurs from the Rincon and Santa Rita Mountains to a few other locations in southeast Arizona to the New Mexico boundary and south into northern Sonora, Mexico (northern Sierra Madre Occidental). There is a single record from New Mexico: Hidalgo Co.: Guadalupe Canyon and tributaries in extreme SW corner of county, on & in vicinity of Hadley Ranch, ca. 50 m N of Mexican border, ca. 1/2 mi E of Arizona, W edge S24, T24S, R22W, 17 Aug 1979, Spellenberg & Repass 5371 (NMC). Except for the type collection, there are no other records from Chihuahua, Mexico. This taxon may be extremely rare in southwestern Chihuahua, or it is possible that the collecting data on the type specimens is incorrect. The lectotype specimen, designated by Isley (1969), is more than 100 km east of any other specimens of *M. millefolia*.

RANGE WITHIN ARIZONA: Found in the Rincon and Santa Rita Mountains, south and east of the Cayetano Mountains, the Mule Mountains, the south end of the Swisshelm Mountains and west of the Peloncillo Mountains in Pima, Santa Cruz and Cochise counties.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial shrub or small tree.

PHENOLOGY: Flowers: July – September.

BIOLOGY:

HABITAT: Rocky canyon slopes, hillsides, ledges and ridges, in desert grasslands and open oak woodlands (NatureServe 2019, SEINet 2019, ANBG 2019, and New Mexico Rare Plants).

ELEVATION: Although both NatureServe (2019) and SEINet (2019) report an elevation range of 4,000 to 5,500 feet (1219-1676 m), actual collection records in the AGFD Heritage Data Management System indicate a slightly lower elevational band from 3,440 to 5,000 feet (1049 – 1524 m).

EXPOSURE: Not specified.

SUBSTRATE: Reported as limestone in NatureServe (2019) and igneous rock (New Mexico Rare Plants).

PLANT COMMUNITY: Desert grasslands and open oak woodlands. Some of the other associated plant species noted in collection records include: *Prosopis velutina*, *Gossypium thurberi*, *Eysenhardtia orthocarpa*, *Erythrina flabelliformis*, *Baccharis sarothroides*, *Bothriochloa barbinodis*, *Fouquieria splendens*, *Mandevilla brachysiphon*, *Ericameria laricifolia*, *Melinis repens*, *Bouteloua*, *Eragrostis lehmanniana*, *Artemisia ludoviciana*, *Mortonia scabrella*, *Dasyilirion wheeleri*, *Agave schottii*, *Opuntia santa-rita*, *Nolina microcarpa*, *Aloysia wrightii*, *Carnegiea gigantean*, *Celtis pallida*, *Agave palmeri*, and *Lysiloma*.

POPULATION HISTORY AND TRENDS: Unknown. There are only 14 known occurrences in Arizona and six of these are historical. NatureServe (2019) ranks the species as imperiled in Arizona and critically imperiled in New Mexico. *M. millefolia* is rarely a dominant member of the vegetation, with most collections indicating only scattered individuals (ANBG 2019). However, the New Mexico Rare Plants committee states that it is apparently rare but can be locally common in southeast Arizona.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None.

STATE STATUS: None.

OTHER STATUS: None.

MANAGEMENT FACTORS: None specified.

PROTECTIVE MEASURES TAKEN: Although there is no official listing or designation for the species, those plants found in USFWS Leslie Canyon NWR, Sonoita Creek State Natural Area and Saguaro National Park benefit from some additional protection.

SUGGESTED PROJECTS: Known occurrences, especially those that are historic, should be re-visited to ascertain whether or not the species is still extant.

LAND MANAGEMENT/OWNERSHIP: Private land holdings; USDI Bureau of Land Management and National Park Service (Saguaro National Park); US Forest Service (Coronado National Forest); US Fish and Wildlife Service (Leslie Canyon NWR); Arizona State Trust Land and Sonoita Creek State Natural Area.

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Australia National Botanic Gardens (ANBG). 2019. *Millefolia* Fact Sheet. Accessed July 9, 2019, <http://www.anbg.gov.au/jmiller/factsheets/AllSpecies/millefolia.htm>.
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- SEINet (SWBiodiversity.org), accessed July 8, 2019.
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<http://www.tropicos.org/Name/50302606>.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION: Etymology: *Acacia* is from Greek akakie taken from ake or akis, -a sharp point, *millefolia* means many leaved.

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