ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract **Element Code:** PDEUP0X030

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Jatropha cinerea*
COMMON NAME: Sangre de Drago, Arizona Nettle-spurge
SYNONYMS: *Mozinna cinerea, Mozinna cancescens, J. canescens*
FAMILY: Euphorbiaceae

AUTHOR, PLACE OF PUBLICATION: Muller, Johannes (Jean) Argoviensis. In: (authors Candolle, Alphonse Louis Pierre Pyranmus de) Prodromus Systematis Naturalis Regni Vegetabilis 15(2.2): 1079. 1866.

TYPE LOCALITY: Mexico: Sonora: Mpio. Hermosillo, 140-180 m.

TYPE SPECIMEN: Zurich Herbaria, ZSS-020711. (Type specimen of *Mozinna cinerea*).

TAXONOMIC UNIQUENESS: There are about 175 species in tropical America, Africa and south Asia, with 11 species and seven varieties of *Jatropha* in the United States. Four of the species occur in Arizona, *J. macrorhiza, J. cardiophylla*, *J. cinerea*, and *J. cuneata*, with the latter three found exclusively in the State. Some authors think than *J. cinerea* is part of a species complex with great variation in both habitat and morphology. Another distinguished four races based on leaf shape and pubescence, and yet another segregated the sample material into three species, *J. giffordiana, J. canescens*, and *J. cinerea* (all cited in Turner et al 2005).

DESCRIPTION: Usually shrubs, 1-4m (3-14 feet) tall with several semi-succulent stems. Bark is smooth and grayish. Leaves are drought deciduous; blades are 1.6-6.5 cm (0.6-2.5 in) long, and are kidney- or heart-shaped with entire or shallowly lobed margins. Flowers are bell-shaped and pink, appearing primarily in the summer and autumn. The 2-3 seeded capsules ripen in the late summer and autumn (Johnson 1998).

AIDS TO IDENTIFICATION: Distinguishing traits: (1) leaves between kidney- and heart-shaped; (2) leaves felted with fine hairs, at least beneath, petioled; (3) capsule 2-sided and much broader than long, slightly winged on the backs of the two lobes (Benson and Darrow 1944).

ILLUSTRATIONS:
Herbarium Mounts: http://swbiodiversity.org/seinet/taxa/index.php?taxon=Jatropha cinerea.
Herbarium Mounts and Photos: http://eol.org/pages/1156130/media.
Photos: http://www.sci.sdsu.edu/plants/field/baja/plants/Jatropha_cinerea.html.

TOTAL RANGE: Essentially a Mexican plant that occurs both along the western side of Sonora south to Sinaloa and is scattered throughout the southern three-quarters of Baja. Its extension into Arizona within Organ Pipe Cactus National Monument defines the most northern extent of its natural distribution.

RANGE WITHIN ARIZONA: Known from five collections, all within Organ Pipe Cactus National Monument near the Mexican border in Pima County (Senita Basin and Quitobaquito Hills). Records from Tucson are from a specimen cultivated on the University of Arizona campus.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Mid-sized shrub, with several semi-succulent stems.

PHENOLOGY: *J. cinerea* may flower in any month, but the main flowering period is August through November. Plants are usually leafless in May and June, and the drought deciduous leaves usually appear after the beginning of the summer monsoons (Turner et al 2005).

BIOLOGY: The northernmost cluster of the species just enters Arizona at Senita Basin and near Quitobaquito. At this latitude, severe freezes occasionally kill the plants to the ground so low temperatures probably limit the northern expansion of this species. Most populations grow below 3000 feet (700 meters), rarely as high as 4265 feet (1300m). The fairly sharp eastern limit of the species in Sonora coincides well with the 1640 foot (500 meter) contour (Turner et al 2005). The species grows in areas which receive 6 – 14 inches (150-350mm) of rain per year (Johnson 1998).

HABITAT: Plains, hillsides, mesas, washes and roadsides. Lower Sonoran Desertscrub. In Arizona, most commonly found in valleys and along washes.

ELEVATION: Occurs predominantly below 3000 feet (700m), but has been found as high as 4265 feet (1300m), Turner at al 2005. Elevations at the five Arizona collections sites range from 1000 – 1700 feet (305-520m).

EXPOSURE: Not specified.

SUBSTRATE: More common in the deeper soils of valleys and plains (Johnson 1998). Sandy soils on flats and in washes (Bowers, Flora of Organ Pipe Cactus N.M. 1980). Arizona collections also note sandy silts and granitic sands.

PLANT COMMUNITY: In Arizona, Lower Sonoran Desertscrub (and also Coastal Thornscrub in Mexico). Other plant species associated with Arizona collections include:

Sapium biloculare, Lemaireocereus thurberi, Lophocereus schottii, Carnegiea gigantea, Cercidium microphyllum, Opuntia acanthocarpa, Fouquieria, Olneya, Ambrosia dumosa, Mammillaria thornberi, Proboscidea altheifolia.

POPULATION HISTORY AND TRENDS: The Arizona populations found in Organ Pipe Cactus N.M. (and just south of the border) represent the northernmost distribution cluster for this species. Due to these very few populations within this single locality in the United States, *J. cinerea* is listed as critically imperiled by NatureServe. These populations have been collected variously since 1939 and 1950 through 1990. While one population at Quitobaquito Springs has been reported as no longer extant, most of the other collections indicated that the species was common to locally abundant. The trend since these collections is not known. Although the stems are reported to die back to ground level during a freeze (e.g., 1978-1979), they seem to re-grow the following spring.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None.
STATE STATUS: None.
OTHER STATUS: None.

MANAGEMENT FACTORS: None specified.

PROTECTIVE MEASURES TAKEN: None specified, but the species is afforded protection by its presence within a USNPS National Monument.

SUGGESTED PROJECTS: Verify that species is still extant at the Organ Pipe Cactus N.M. sites. It has not been documented in the field since 1990.

LAND MANAGEMENT/OWNERSHIP: USDI National Park Service, Organ Pipe Cactus N.M.

SOURCES OF FURTHER INFORMATION

REFERENCES:

Benson, Lyman and Robert Darrow. 1944. A manual of southwestern trees and shrubs. Biological Science Bulletin No. 6, vol. XV, No. 2. University of Arizona, Tucson.

Johnson, Matthew B. 1998. Jatropha (Euphorbiaceae) in Southwestern United States and adjacent Northern Mexico. Desert Plants 14(2): pp. 21-23.

Tropicos, accessed 8/21/2014, http://www.tropicos.org/Name/12800202.

Turner, Raymond M., Janice E. Bowers and Tony Burgess. 2005. Sonoran Desert Plants: An Ecological Atlas. University of Arizona Press, Tucson. pgs. 504.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION: *J. cinerea* has been used as a mordant in dyeing, and has been used medicinally to treat warts and sore throats, and for hardening gums. The sap is used to treat hemorrhoids. The Seri use the plant for a variety of purposes including dolls and headdresses, and make an arrow poison from the sap. Debarked roots of young plants are crushed and made into a tea for dysentery (various authors cited in Johnson 1998).

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