ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract **Element Code:** PDLOA02020

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Eucnide rupestris*
COMMON NAME: Rock Stingbush, Rock Nettle
SYNONYMS: *Loasella rupestris*, *Sympetaleia rupestris*
FAMILY: Loasaceae

AUTHOR, PLACE OF PUBLICATION: Thompson, Henry Joseph and Wallace Roy Ernst. Journal of the Arnold Arboretum 48(1): 86. 1967.

TYPE LOCALITY: Mexico: Sonora: Guaymas.

TYPE SPECIMEN: New York Botanical Garden: NYBG 112254 (Type?). E. Palmer, #325. 1887.

TAXONOMIC UNIQUENESS: There are three species of *Eucnide* in the United States: *E. bartonioides*, *E. rupestris*, and *E. urens*. The latter two species are found in Arizona.

DESCRIPTION: **Plant**: Suffrutescent perennial herb; hairs barbed, some stinging; **Stems**: 1-several, 4-35 cm long **Leaves**: ovate to suborbicular; petiole 1-6 cm long; blade 1.5-7 cm long, 1.5-8 cm wide; margin short-toothed, usually lobed; uppermost leaves short-petiolate **Inflorescence**: cymose **Flowers**: inconspicuous; calyx lobes oblong, 0.8-1 cm long; corolla sympetalous, tubular, 9-18 mm long, the tube 6-14 mm long, yellowish, the lobes 3-4 mm long, green, erect; stamens epipetalous, included; filaments to 2 mm long; style included, not exceeding stamens **Fruit**: capsules reflexed, to 1 cm long excluding calyx lobes; **Seeds**: numerous, 0.5-1.5 mm long, parietal; testa longitudinally striate; endosperm lacking (Christy 1998).

AIDS TO IDENTIFICATION: *E. urens* is a plant of the Mohave Desert and its distribution does not overlap that of any other species of *Eucnide*. *E. rupestris* is found in the Sonoran Desert in parts of California, Sonora and extending into Arizona (Thompson and Ernst 1967).

The genus *Eucnide* can be distinguished from the other genera of Loasaceae by its fruit being a capsule and stamens of 10-many (verses the fruit being an achene and stamens of 5), and with seeds on many rows on each of 5 placentae, and stinging hairs (verses seeds in 1-2 rows on each of 3 placentae, and stinging hairs absent).

E. rupestris can be distinguished from *E. urens* from the latter's showy flowers, funnelform corolla, white to cream, while *E. rupestris* has inconspicuous flowers, a tubular corolla, with

the tubes yellow and the lobes green (Christy 1998).

ILLUSTRATIONS:
Photo: http://swbiodiversity.org/seinet/taxa/index.php?taxon=Eucnide rupestris.

TOTAL RANGE: Known from San Diego and Imperial Counties in southern California, from Pima County, Arizona, south to San Pablo in Baja California and in the Pinacate Mountains of northwestern Sonora (Reiser 1994). It is interesting to note that *Eucnide rupestris* has also been found on San Marcos, Tiburon and San Esteban Islands.

RANGE WITHIN ARIZONA: Known from only two collections: near Cabeza Prieta Tanks in Yuma County, and Rancho Bonito, La Abra Valley (near Kino Peak) in Pima County.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Suffrutescent perennial, 1 to several stems to 35 cm (Christy 1998). Reiser (1994) considers it a robust annual.

PHENOLOGY: Flowers December – February range-wide (Christy 1998) and December - April in California (Jepson e-Flora 2014).

BIOLOGY: *E. rupestris*, with its small greenish flowers, is the strictest inbreeder in the section Sympetaleia of the genus. The species of this genus have a unique adaptation to their preferred habitats of cliffs and rocky slopes. The negatively phototropic and elongating pedicels function by turning away from the light and assuring that the opening of the capsule is directed towards the face of the cliff when the seeds are shed. This increases the chance that the falling seeds are lodged in a crack in the rocks (Thompson and Ernst 1967).

HABITAT: Sonoran Desert Scrub in rock or talus is the preferred habitat (Reiser 1994), also crevices of rock faces or on very steep rocky slopes (Christy 1998).

ELEVATION: Range-wide (from Christy 1998): 1100 – 1500 feet (350-500 m), but the Pima County collection was made at 2900 feet (884m).

EXPOSURE: The Arizona collection near Kino Peak in Pima County was from a NNE facing cliff.

SUBSTRATE: Not specified, although the collection site at Indian Gorge in San Diego County, CA was from acid igneous rock land.

PLANT COMMUNITY: Sonoran Desertscrub.

POPULATION HISTORY AND TRENDS: Unknown for Arizona. This species is known from very few collections throughout its range (two each from California and Arizona; more from Mexico). The Arizona collections were made in 1959 and 1990, from two different localities. It is not known if the species is still extant in the State. Due to the very limited collections, NatureServe lists the species as critically imperiled. Reiser (1994) states that while little information is known about this plant, it is presumed to be stable in its "little developed desert habitat" in Indian Gorge, San Diego County, CA.

SPECIES PROTECTION AND CONSERVATION

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

MANAGEMENT FACTORS: Unknown. Uniquely adapted to its rocky cliff or steep slope habitat.

PROTECTIVE MEASURES TAKEN: None specified. One collection site is within the USNPS Organ Pipe Cactus National Monument; the other is within the USFWS Cabeza Prieta Game Reserve.

SUGGESTED PROJECTS: Verify if the species is still extant within Arizona, at least at the Pima County collection site.

LAND MANAGEMENT/OWNERSHIP: U.S. National Park Service, Organ Pipe National Monument, and U.S. Fish and Wildlife Service, Cabeza Prieta Game Reserve.

SOURCES OF FURTHER INFORMATION

REFERENCES:

Christy, Charlotte M. 1998. Loasaceae. J. Ariz. - Nev. Acad. Sci. 30(2): 96.

Jepson e-Flora, accessed 8/29/2014, http://ucjeps.berkeley.edu/cgi-bin/get_IJM.pl?tid=25302.

JSTOR| Global Plants, accessed 8/28/2014, http://plants.jstor.org/specimen/ny00112254?s=t.

Reiser, C.H. 1994. Rock Nettle [Eucnide rupestris (Baill.) Thompson & Ernst]. Craig H. Reiser's rare plants of San Diego County. http://sandiego.sierraclub.org/rareplants/095.html, accessed 8/29/2014.

Thompson, Henry J. and Wallace R. Ernest. 1967. Floral Biology and Systematics of Eucnide (Loasaceae). Jour. Arnold Arboretum, 48(1): 56-88.

Tropicos, accessed 8/28/2014, http://www.tropicos.org/Name/18900197.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

Dr. Charlotte M. Christy, Dept of Biology, Georgia Regents University, Augusta GA.

ADDITIONAL INFORMATION:

Revised: 2014-09-02 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. 20XX **(= year of last revision as indicated at end of abstract)**. X...X **(= taxon of animal or plant)**. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. X pp.