

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

Plant Abstract

Element Code: PDONA03070

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Chylismia brevipes*

COMMON NAME: Golden Suncup, Bunch Flower Evening Primrose

SYNONYMS: *Oenothera confertiflora*; *Camissonia confertiflora*, *Camissonia brevipes*

FAMILY: Onagraceae

AUTHOR, PLACE OF PUBLICATION: Raven. 1964. Brittonia 16:281.

TYPE LOCALITY: Vicinity of Vulcan's Throne, Toroweap Valley, Grand Canyon National Park, Mohave County, Arizona.

TYPE SPECIMEN: CAS 373,481: E. McClintock (52-294). April 30, 1952.

TAXONOMIC UNIQUENESS: Distinct species in a genus of 16 species mostly of subarid habitats in far western U.S. and adjacent Canada and Mexico. Species placed in *Chylismia* by W.L. Wagner, P.C. Hoch and P.H. Raven (2007) upon the revised classification of the family *Onagraceae*. Comprised of three subspecies, *C.b. arizonica*, *C.b. brevipes*, *C.b. pallidula*.

DESCRIPTION: Stout, annual herb 15.0-5.0 cm (6.0-20.0 in.) tall. Stems branch at base and above, densely hairy below with short, stiff hairs which combine with soft, glandular hairs above. Basal leaves in well-developed rosette, oblanceolate in shape, 7.0-20.0 cm (2.8-8.0 in.) long, pinnate arrangement. Lateral pinnate leaves have small leaflets alternating with shorter pinnules. Sparsely hairy terminal leaflet is lance-ovate with inconspicuous yellowish-brown oil cells underneath. Flowers are dense, flat-topped or convex in bud. Mature flowers are elongate with glandular hairs. Sepals have conspicuous free tails which arise below apices. Tails have a median row of light brown oil cells. Petals are bright yellow, 12.0-18.0 mm (0.48-0.72 in.) long, 12.0-17.0 mm (0.48- 0.68 in.) wide, as are stamens, style and inside of hypanthium, red dotted at base, with color fading to purple. Stamens in two sets, longer with filament, 6.0-8.0 mm (0.24-0.32 in.) long, shorter 4.0-5.0 mm (0.16-0.2 in.) long. Style exceeds anthers at maturity. Ovary slender, 15.0-25.0 mm (0.6-1.0 in.) long, on pedicel 5.0-15.0 mm (0.2-0.6 in.) long, glandular pubescent, immature capsule to 35.0 mm (1.4 in.) long, seeds not known (Holland et al. 1979; Phillips et al. 1982).

AIDS TO IDENTIFICATION: "The free caudate tips and the densely packed flowers (as referred to in the specific epithet) are diagnostic features" (Phillips et al. 1982). *Chylismia*

brevipes can be distinguished from *C. multijuga* by its larger flowers, drooping inflorescence, and larger buds.

ILLUSTRATIONS: Line drawing (USFWS 1994).

TOTAL RANGE: Vicinity of Vulcan's Throne, Toroweap Valley, Mohave County, Arizona.

RANGE WITHIN ARIZONA: See "Total Range."

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous annual

PHENOLOGY: Flowers observed April - May (AGFD, HDMS).

BIOLOGY: Weather may be the major influential factor in the continued existence of this species. Above average rainfall seem to positively affect this species (Phillips et al. 1982).

HABITAT: Shallow soils on basalt and cinder uplands in Mohave Desertscrub communities. (Phillips et al. 1982).

ELEVATION: Approximately 4200 - 4400 ft. (1280-1341 m).

EXPOSURE: East - Southwest (?)

SUBSTRATE: Parent material-lava; soil texture-cinders (Phillips et al. 1982).

PLANT COMMUNITY: Mohave Desertscrub communities with *Baileya multiradiata*, *Eriogonum inflatum*, *Tetradymia canescens*, *Salazaria mexicana*, *Lycium andersonii*, *Gutierrezia sarothrae*, *Atriplex confertifolia*, *Quercus turbinella*, *Ephedra nevadensis*, *Prunus fasciculata*, *Thamnosma montana*, *Yucca baccata*, *Artemesia tridentata*, *Camissonia multijuga*, *Opuntia erinacea*, *Larrea tridentata*, *Phacelia glechomaefolia*, *Mimulus bigelovii*, *Salvia dorrii*, *Astragalus lentiginosis*, *Linum lewisii*, *Delphinium scaposum*, and *Castilleja chromosa* (Warren et al. 1982, Phillips et al. 1982).

POPULATION TRENDS: There is only one known population of this species, and this one seems to only appear during years of abnormally high winter precipitation (Phillips et al. 1982). This species was originally known only from the type collection, when it was identified as a common species. After its identification as a new species in 1962 it was not recollected until 1991, when 50 plants were observed during a winter of abnormally high rainfall (Brian 1994). In 1997, about 50 plants, in poor condition, were observed.

SPECIES PROTECTION AND CONSERVATION

- ENDANGERED SPECIES ACT STATUS:** None (USDI, FWS 1996)
 [Category 2 USDI, FWS 1993]
 [Category 2 USDI, FWS 1990]
 [Category 2 USDI, FWS 1985]
 [Category 2 USDI, FWS 1980]
 [PTN-T USDI, FWS 1975]
- STATE STATUS:**
- OTHER STATUS:** Forest Service Sensitive (USDA, FS Region 3 1990)
- MANAGEMENT FACTORS:**
- CONSERVATION MEASURES TAKEN:** No grazing allowed within park. Collecting permits required by National Park Service for specimen removal.
- SUGGESTED PROJECTS:** Survey area around Vulcan's Throne during years of above average rainfall.
- LAND MANAGEMENT/OWNERSHIP:** Grand Canyon National Park, National Park Service.

SOURCES OF FURTHER INFORMATION**LITERATURE CITATIONS:**

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- Warren, P. L., K. L. Reichhardt, D. A. Mouat, B. T. Brown, and R. R. Johnson. 1982. Vegetation of Grand Canyon National Park. Technical Report No. 9. Cooperative National Park Resources Studies Unit, University of Arizona, Tucson. p. 118.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

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ADDITIONAL INFORMATION:

"The critical habitat should be revisited after abnormally wet winters and wet springs, with the yearly precipitation greater than or equal to 15 inches" (Phillips et al. 1982).

Revised: 1992-12-14 (DBI)
 1995-06-20 (DBI)
 1998-12-18 (DJG)
 1999-01-06 (DJG)
 2020-06-11 (KSL)

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