

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

Plant Abstract

Element Code: PDONA031J1

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Chylismia specuicola* ssp. *hesperia*

COMMON NAME: Kaibab suncup, Ditch evening primrose, Western cave dweller

SYNONYMS: *Oenothera speculicola hesperia* P.H. Raven, *Camissonia specuicola* ssp. *hesperia* (P.H. Raven) P.H. Raven

FAMILY: Onagraceae

AUTHOR, PLACE OF PUBLICATION: P.H. Raven. Brittonia 16(3): 281. 1964. *Oenothera specuicola* ssp. *hesperia* P.H. Raven, University of California Publications in Botany 34: 88. 1962.

TYPE LOCALITY: U.S.A., Arizona, Coconino County, Havasu Canyon, near Mooney Falls.

TYPE SPECIMEN: HT: CAS-359,774. J.T. Howell 26486, 23 May 1950. IT: ARIZ.

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* from *Camissonia* by W.L. Wagner, P.C. Hoch and P.H. Raven (2007) upon the revised classification of the family *Onagraceae*. Subspecies *hesperia* is 1 of 2 in the species *specuicola*.

DESCRIPTION: Species: Tufted perennial 10-50 cm (4-20 in) tall with numerous divergent branches from base. Stems and leaves glabrous or sparsely villous below. Leaves oblong, 3-20 cm (1.3-8 in) long, pinnate or often bipinnate, mostly in a basal rosette; lateral leaflets well developed, to 15 mm long and 7 mm wide, often further divided and alternating with smaller pinnules. Oil cells beneath, prominent, dark brown. Inflorescences erect, elongating in flower and fruit, mature buds individually drooping, 3-7 mm long; hypanthium 1.5-2 mm long, 1 mm across at the summit, glandular-pubescent without glabrous within. Sepals 2-5 mm long, 0.5-0.8 mm wide at the base, glandular pubescent, caudate with short appendages at the apices, these free in bud. Petals spreading in anthesis, 2-6 mm long, 1.5-4 mm wide, bright yellow, fading light purplish, red-dotted near the base, of the same color as inside of hypanthium, stamens, and style; stamens in 2 sets, the longer with filaments 1.5-3 mm long, the shorter 1-2 mm; anthers 1.2-2 mm long, glabrous. Style is 4-7 mm long, the stigma ca 0.8 mm thick at about the same level as the anthers at anthesis. Ovary glandular-pubescent or glabrous, on a pedicel 3-4 long. Capsule straight to slightly curved; spreading to ascending,

0.8-2 mm long, glandular-pubescent or glabrous, on a pedicel 6-10 mm long; seeds 0.6-1.0 mm long, to 0.6 mm wide. (Raven 1962).

Subspecies *hesperia*: Leaves are sparsely pubescent. The style is 5-7 mm long, pubescent at base. It is less densely tufted and not woody when compared with *C.s. ssp. specuicola*. (Raven 1962).

AIDS TO IDENTIFICATION: At south rim of Grand Canyon, *Chylismia specuicola* ssp. *hesperia* grows sympatrically with *C.s. ssp. specuicola* but is distinguished from it by having pubescent leaves and style, whereas *C.s. ssp. specuicola* has glabrous leaves and style. *C. s. ssp. hesperia* is also less densely tufted and not woody; leaves sparsely pubescent; style 5-7 mm long, pubescent at base (Falk et al. 2001). It is similar to *C. multijuga* and *C. walkeri* ssp. *walkeri*, but differs in being less densely tufted and not woody, and pubescent leaves and style. It also grows sympatrically with *C. walkeri* ssp. *walkeri* (Raven 1969).

ILLUSTRATIONS:

TOTAL RANGE: Two disjunct populations along the Colorado River, in Arizona. These include Havasu and Hualapai Canyons, Coconino County, and from Separation Canyon to Spencer Canyon, Mohave County.

RANGE WITHIN ARIZONA: See "Total Range."

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial.

PHENOLOGY: Flowers in May.

BIOLOGY:

HABITAT: Scattered on open slopes and rock crevices, and found in washes and dry streambeds, often on limestone.

ELEVATION: 1,240 – 4,500 ft (378-1373 m).

EXPOSURE:

SUBSTRATE: Limestone.

PLANT COMMUNITY: Associated species include: *Euphorbia* (= *Chamaesyce*) *fendleri* (Fendler's broomspurge), *Mirabilis pumila* (= *Oxybaphus pumilus*, Dwarf four o'clock),

Salvia davidsonii (Davidson sage), *Elymus elymoides* (= *Sitanion hystrix*, Bottle-brush squirrel-tail), and *Solidago velutina* (= *sparsiflora*, Three-nerve goldenrod).

POPULATION TRENDS: Unknown

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)]

STATE STATUS: None.

OTHER STATUS: None.

MANAGEMENT FACTORS:

CONSERVATION MEASURES TAKEN: At the Grand Canyon, this taxon is protected by Department of Interior regulations concerning collecting practices in National Parks. There is also no livestock grazing allowed within the park.

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: BIA - Hualpai and Havasupai Indian Reservations;
 NPS - Grand Canyon National Park.

SOURCES OF FURTHER INFORMATION

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ADDITIONAL INFORMATION:

“The distribution of this species and its close relatives along the Colorado River is most interesting. On the upper River, *C. walkeri* ssp. *walkeri* is common on limestone slopes and slides. At the south rim of the Grand Canyon, *C. specuicola* ssp. *specuicola* grows sympatrically with it, but occurs in more stable limestone. Lower on the River, at Havasu, *C. s. ssp. hesperia* grows sympatrically with *C. walkeri* ssp. *walkeri*. In the vicinity of Toroweap, *C. walkeri* is absent, but *C. multijuga* and *C. confertiflora* grow in adjacent sites, and the former extends down river to Diamond Creek, near the Mohave County Line. Below that point, *C. s. ssp. hesperia* reappears, extending from Separation Canyon to Spencer Canyon, of which Meri Witica Canyon is a branch. At Quartermaster Canyon, *C. multijuga* is again found and extends north, west, and south, away from the immediate vicinity of the river. Likewise, *C. walkeri* ssp. *tortilis* occurs far to the north and west of this area, where it grows sympatrically with *C. multijuga*. The variation pattern of *C. multijuga* suggests that it may at times have hybridized with both *C. confertiflora* and *C. specuicola*, and this would be possible with migration of these taxa along the Colorado River, with its nearly continuous limestone slides and banks.” (Raven 1962). This taxa appears to be an outcrosser, but it is probably not self-incompatible, judging from its relatively small flowers (Raven 1962).

The species name *specuicola* means cave dwelling (from *specui* meaning covered watercourse ditch, drain, pit, mine, sewer, hollow cavity, or cavern and *cola* meaning dweller); and *hesperia* meaning western. (Brian 2000).

Revised: 1992-12-23 (DBI)
1998-12-18 (JCP)
1998-12-30 (DJG)
2004-05-14 (AMS)
2004-12-16 (SMS)
2020-06-11 (KSL)

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