

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PDAST3G010

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Enceliopsis argophylla* (D.C. Eaton) A. Nelson

COMMON NAME: Silverleaf sunray, Silver-leaf sunray, Silver-leaf enceliopsis, Panamint daisy

SYNONYMS: *Tithonia argophylla* D.C. Eaton

FAMILY: Asteraceae

AUTHOR, PLACE OF PUBLICATION: *Enceliopsis argophylla* (D.C. Eaton) A. Nelson, Bot. Gaz. 47(6): 433. 1909. *Tithonia argophylla* D.C. Eaton, Rep. U.S. Geol. Explor. 40th Parallel 5: 423. 1871.

TYPE LOCALITY: U.S.A., Utah, Washington County, from near St. George, or more likely from southern Nevada.

TYPE SPECIMEN: HT: YU (s.n.). E. Palmer s.n., 1870.

TAXONOMIC UNIQUENESS: Species *argophylla* is 1 of 3 species in the genus *Enceliopsis* (ITIS 2021).

DESCRIPTION: Scapose, caespitose perennials from a superficial branching caudex, 20-60 cm (7.87-23.62 in) tall. The herbage tomentulose, silvery white. Leaf blades are broadly rhombic-ovate to orbicular, 4 to 12 cm (1.57-4.72 in) long, gradually tapering to a winged petiole. Scapes stout, often with a reduced foliose bract. Disks 3.5-5.0 cm (1.4-1.97 in) in diameter; rays mainly 20-34, yellow, to 4 cm (1.57 in) long. Achenes are 10-12 mm long, broadly obovate, and silky villous; pappus lacking or of 2 subulate awns.

AIDS TO IDENTIFICATION:

ILLUSTRATIONS:

Color photos of flower and plant (in <http://www.csupomona.edu/~jcclark/encelia/graphics/arg-p.jpg>)

Color photo of plant (Christopher Christie, in <http://www.rangenet.org/directory/christiec/plants/asteraceae/ENAR.jpg>)

Color photo of plant in habitat (Sharon Johnson, 1978)

TOTAL RANGE: Almost entirely confined to Clark County, Nevada, Mohave County, Arizona, and Washington County, Utah.

RANGE WITHIN ARIZONA: Mohave County: Lake Mead vicinity; Grapevine Mesa area; below Hurricane Cliffs; south of Hoover Dam; Boulder Dam area; Gyp Hills area; east of Littlefield. A specimen collected by R.H. Peebles (#14654) in 1940 near Navajo Bridge in Coconino County (ARIZ 92987) was determined to be *Enceliopsis nudicaulis*.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Caespitose perennial forb/herb.

PHENOLOGY: Flowers April to June.

BIOLOGY: *Enceliopsis nudicaulis*, a congener, was used by the Shoshone Indians to treat a variety of ailments; both the root and leaves were used (Gucker and Shaw 2020).

HABITAT: Warm desert shrub community on dry slopes and sandy washes. Clay and gypsum cliffs to gravelly slopes, and sandy washes.

ELEVATION: Ranges from about 705 – 3,400 ft (215-1036 m) in Mohave County, Arizona. Collected in 1940 in Coconino County at 3700 feet (1129 m). Elevation about 4,100 ft (1250 m) in Washington County, Utah (Welsh et al., 1993). In Nevada, collected at 1800 feet (549 m).

EXPOSURE: Northeast 10 +/- % slopes in Arizona.

SUBSTRATE: Clay and gypsum cliffs to gravelly slopes, and sandy washes. In Arizona, collected on limestone substrate. Dry slopes and sandy washes in Arizona (McDougall 1973). In Washington County, Utah, on Schnabkaib member of Moenkopi Formation (Welsh et al., 1993).

PLANT COMMUNITY: Desert shrub. Associated species include: *Arctomecon* (bearpoppy), *Atriplex* (saltbush), *Chilopsis linearis* (desert-willow), *Coleogyne ramosissima* (blackbrush), *Dalea* (prairie-clover), *Ephedra* (Mormon-tea), *Hymenoclea* (burrow-brush), *Larrea tridentata* (creosotebush), *Lepidium* (pepper-grass), *Pediocactus* (pincushion-cactus), and *Prunus*. In Nevada, associated with *Ambrosia dumosa* (white bursage), *Larrea tridentata*, *Lepidium fremontii* (Fremont's pepper-grass), and *Peucephyllum schottii* (Schott's pigmy-cedar).

POPULATION HISTORY AND TRENDS: Unknown.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None

STATE STATUS: None

OTHER STATUS:

Bureau of Land Management Sensitive (USDI, BLM AZ 2008, 2010, 2017)
[Not BLM Sensitive (USDI, BLM AZ 2005)]
[Bureau of Land Management Sensitive (USDI, BLM AZ 2000)]

MANAGEMENT FACTORS: In Nevada, threats are from recreational use of state and national park lands (NatureServe 2005). As it is a gypsophile, and gypsum is a limited geologic feature, it follows that *E. argophylla* habitat is inherently limited. Recent work in Spain on gypsum has demonstrated that water held in gypsum crystals is used by shallow-rooted gypsum plants, accounting for 70-90% of the water used during the summer months (Palacios et al. 2014).

PROTECTIVE MEASURES TAKEN:**SUGGESTED PROJECTS:**

LAND MANAGEMENT/OWNERSHIP: BLM – Arizona Strip and Kingman Field Offices; NPS – Lake Mead National Recreation Area; State Land Department; Private.

SOURCES OF FURTHER INFORMATION**REFERENCES:**

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

Revised: 2002-05-30 (SMS)
2005-04-28 (SMS)
2021-08-22 (TME)

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