

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

Plant Abstract

Element Code: PDASTDZ030

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Thymophylla concinna*
COMMON NAME: Sonoran Pricklyleaf, Sonoran Dogweed
SYNONYMS: *Hymenatherum concinnum*, *Boeberastrum concinnum*, *Dyssodia concinna*
FAMILY: Asteraceae

AUTHOR, PLACE OF PUBLICATION: Strother, John Lance. Sida 11(4): 376. 1986.

TYPE LOCALITY: Arizona: Mesas near Tucson.

TYPE SPECIMEN: Kew (K) #1065672. C.G. Pringle (s/n). April 5, 1884.

TAXONOMIC UNIQUENESS: There are eight species in the genus *Thymophylla*, and eleven varieties. Although three species occur in Arizona, *T. concinna* is only found in the state (and Mexico).

DESCRIPTION: Annuals, green, 3–12+ cm, glabrous. Stems spreading to ascending or erect. Leaves alternate; blades 10–15 mm overall, lobed, lobes (3–)5–9, linear to filiform. Peduncles 1–5+ mm, glabrous. Calyculi 0, or of 1–2 subulate bractlets, lengths less than 1/2 phyllaries. Involucres obconic to campanulate, 5–6.5 mm. Phyllaries 8–16, margins of outer distinct less than 1/2 their lengths, abaxial faces glabrous. Ray florets 9–12; corollas white to pale yellow, laminae 3–4 × 1–3.5 mm. Disc florets ca. 25; corollas pale yellow, 3–4.5 mm. Cypselae 2.5–3 mm; pappi of 10–15 scales (each comprising 5–9 basally connate bristles) 1–2.5 mm. 2n = 16 (Flora of North America).

AIDS TO IDENTIFICATION: The following highlights from the taxonomic key by Strother in the Flora of North America can be used to separate *T. concinna* from the other species:

- Leaf blades usually lobed (lobes 3–15+, linear to filiform, blades linear, usually entire in *T. tenuiloba* var. *wrightii*); calyculi 0, or lengths of bractlets less than 1/2 phyllaries.
- Annuals (rarely persisting); leaves mostly alternate (sometimes opposite at 1–3 proximal nodes).
- Calyculi 0, or of 1–2 bractlets; disc florets 25–45.
- Margins of outer phyllaries distinct less than 1/2+ their lengths.....*T. concinna*

The plump, thinly-lobed leaves of this small annual appear to stand erect along the stems, giving this plant a somewhat bristly or bottle-brushish look; the singular heads at the branch tips have fairly large white ray flowers surrounding a center of bright yellow disk flowers and the involucre has somewhat conspicuous phyllaries; other good identifiers for this species are the annual life-span, the involucre essentially naked at the base, and the phyllaries untiend to three-fourths of their length or more, their surfaces with conspicuous small, roundish glands. Look for this species under *Dyssodia concinna* in older texts.

ILLUSTRATIONS:

Photos and Herbarium Mounts: <http://swbiodiversity.org/seinet/taxa/index.php?tid=374>.

Photos: https://cabezaprieta.org/plant_page.php?id=1474.

TOTAL RANGE: Arizona and Sonora, Mexico. It appears to be widely distributed in Sonora as far south as Guaymas.

RANGE WITHIN ARIZONA: There are three documented population centers in Arizona. There is a single collection at the southern end of the Tucson Mountains near Tucson in Pima County. There is another series of collections and observations between the southwest foothills of the Santa Rita Mountains and the Santa Cruz River in the vicinity of Tubac-Tumacacori, Santa Cruz County. The main area of collections is Organ Pipe Cactus National Monument, in Pima County.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Annual herb.

PHENOLOGY: Flowers in the spring, following rains. Collections in Arizona define a flowering period from very early March to towards the end of April.

BIOLOGY: The ephemeral life strategy of a desert annual.

HABITAT: Occurs in sandy washes and dry open desert flats, upper bajadas and rocky hillslopes and mesas (NatureServe 2019, Flora of North America). Felger and Rutman (2016) report habitat as gravelly, sandy, granitic or volcanic soils; valley plains and bajadas, and sometimes on rocky hill slopes. Most collection records from Arizona note upper bajadas, rocky hillsides or desert flats/desert pavement.

ELEVATION: In Arizona, Kearney and Peebles (1951) for *Dyssodia concinna* lists elevations from 1,000 - 2,500 feet. Actual collection records from SEINet define a range from 1,080 to 2,700 feet (330-820m). Although Flora of North America reports 50-100m, this is presumed to be an error.

EXPOSURE: Not specified, but probably open.

SUBSTRATE: Gravelly, sandy, granitic or volcanic soils (Felger and Rutman 2016).

PLANT COMMUNITY: Sonoran desertscrub. Key species noted in collection records include Paloverde, Saguaro, and Creosotebush; also Mesquite, Organpipe cactus, Bursera, and Bursage. The records near the southwest end of the Santa Rita Mountains note the community as Mesquite grassland with *Prosopis velutina*, *Parkinsonia florida*, and *Cylindropuntia fulgida*.

POPULATION HISTORY AND TRENDS: Unknown. Although the species is ranked as imperiled in Arizona due to its limited distribution and number of occurrences, its global ranking is listed as vulnerable. The species has a much wider distribution in Sonora, Mexico (NatureServe 2019). Many of the collection records note that the Sonoran Pricklyleaf is common, very common or even abundant when found. This however, may be only a reflection of good spring rains and favorable conditions for a strong cohort to germinate from seeds already resident in the seedbank.

SPECIES PROTECTION AND CONSERVATION

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

MANAGEMENT FACTORS: None specified.

PROTECTIVE MEASURES TAKEN: *Thymophylla concinna* has no protection at the federal, state or any other level. The fact that its distributional center in the United States lies within and immediately adjacent to Organ Pipe Cactus National Monument, however, does serve to provide a safe refuge for the species.

SUGGESTED PROJECTS: The collection near Tucson has not been re-verified for over 100 years and the site area should be visited during the mid-March to early April window following suitable spring rains. More accurate location information should be obtained for the sites southwest of the Santa Rita Mountains.

Given the annual life strategy of this species, it can be assumed that seed bank viability is a critical component of this strategy. However, there is no published information about its seed bank, seed longevity, parameters for germination, etc. This should be evaluated in a systematic manner, with the possibility of initiating ex-situ seed storage as a back-up method for species preservation.

LAND MANAGEMENT/OWNERSHIP: The majority of collections are on USDI NPS Organ Pipe Cactus National Monument lands. Other collections are from USFWS

Cabeza Prieta National Wildlife Refuge, USDI Bureau of Land Management, and private lands.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION: Etymology: *Thymophylla* comes from the Greek thymos, "thyme," and phyllon, "leaf," meaning "thyme-leaved", while *concinna* means neat, well-made, elegant.

The plant was boiled to produce a tea that was used as a medicine for colds and by women right after childbirth (Betty Melvin in Zepeda 1985, p.54, cited in Felger and Rutman 2016.)

Revised: 2019-06-05 (BDT)

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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.