

ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PDAST95022

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

**NAME:** *Tetradymia axillaris* var. *longispina*  
**COMMON NAME:** Longspine Cotton Thorn  
**SYNONYMS:** *Tetradymia spinosa* var. *longispina*, *T. longispina*  
**FAMILY:** Asteraceae

**AUTHOR, PLACE OF PUBLICATION:** Strother, John Lance. Brittonia 26(2) 177. 1974.

**TYPE LOCALITY:** Utah: Washington County: St. George.

**TYPE SPECIMEN:** Pomona College, POM: 30950 (holotype). M.E. Jones, #5110. April 26, 1894. [Note: The POM collections are now housed at the Rancho Santa Ana Botanic Garden in Claremont, CA.]

**TAXONOMIC UNIQUENESS:** Although there are some differences in the literature on the number of *Tetradymia* species and varieties, NatureServe (2014) list 10 species, of which four occur in Arizona: *T. argyrea*, *T. axillaris*, *T. canescens*, and *T. stenolepis*.

**DESCRIPTION:** *T. axillaris*: **Shrubs**, 50–150 cm. **Stems** 1–5+, erect or spreading, spiny, evenly pannose. **Leaves:** primaries forming straight, ± squarrose spines, 10–50 mm; secondaries filiform to clavate, 2–12(–20) mm, sparsely arachnose or glabrous. **Heads** 1–3 (in axils of spines). **Peduncles** 4–15 mm. **Involucres** turbinate to campanulate, 7–9 mm. **Phyllaries** 5, ovate. **Florets** 5–7; corollas pale yellow, 7.5–9 mm. **Cypselae** 4.5–5.5 mm, densely pilose (hairs 6–14 mm); **pappi** of ca. 25, subulate to setiform scales 6–7.5 mm.

There are two varieties of *T. axillaris* that are partially sympatric and intergrade in areas where they overlap.

Peduncles and phyllaries pannose to tomentose; hairs of cypselae 9-14mm: var. *longispina*

Peduncles and phyllaries glabrous, hairs of cypselae 6-8(10)mm: var. *axillaris*

**AIDS TO IDENTIFICATION:** The plant forms a sprawling thicket and is very spiny. The green leaves dry and their tissues fall away, leaving the veins as hard, sharp spines. When in foliage the bush has green, hairy stems and bears yellow daisylike flowerheads in the axils, or angles, of the newest branches. The fruits are released in masses of cottony seed.

To distinguish *T. axillaris* from other *Tetradymia* species:

Indumentum of stems evenly pannose; cypselae with white hairs that obscure or replace pappi; pappi 0 or of 20-30, subulate to setiform scales.

Primary leaves forming rigid spines; heads in clusters of 1-3 in axils of spines).

Spines straight, 10-50mm, glabrescent; involucre mostly turbinate, 7-9mm; cypselae 4-5mm.....*T. axillaris*

Spines recurved, 5-25mm, tomentose; involucre mostly campanulate, 8-12mm; cypselae 6-8mm.....*T. spinosa*

A key to distinguish the other eight species of *Tetradymia* can be found in Flora of North America 2014.

### ILLUSTRATIONS:

Photos, Herbarium Mounts: <http://eol.org/pages/503293/media>.

Photos: [http://calphotos.berkeley.edu/cgi/img\\_query?query\\_src=ucjeps&where-genre=Plant&where-taxon=Tetradymia+axillaris+var.+longispina&title\\_tag=Tetradymia+axillaris+var.+longispina](http://calphotos.berkeley.edu/cgi/img_query?query_src=ucjeps&where-genre=Plant&where-taxon=Tetradymia+axillaris+var.+longispina&title_tag=Tetradymia+axillaris+var.+longispina).

**TOTAL RANGE:** Mostly SE California, but extends into Nevada and Utah (Washington County), and Arizona.

**RANGE WITHIN ARIZONA:** Known only from three collections in the Mokaac Mountain locality of the Arizona Strip.

### SPECIES BIOLOGY AND POPULATION TRENDS

**GROWTH FORM:** Spiny shrub, 0.5 – 1.5m tall, erect or spreading.

**PHENOLOGY:** Flowering in spring. In California, from mid-April, into June. An Arizona collection made on May 20 included both flowers and fruits. Flower development is highly synchronized and almost all plants flower within a few days of each other; this extends to entire colonies.

**BIOLOGY:** The two varieties of *Tetradymia axillaris* are partially sympatric and intergrade in areas of overlap (see map in Strother 1974).

**HABITAT:** Collection sites in Arizona were on a steep, white, limestone hillside, and steep barren hillsides.

**ELEVATION:** Range-wide (Flora of North America, 2014): 1970 – 5900 feet (600-1800m). Jepson eFlora (California) notes higher elevations to 7545 feet (2300m), and in Utah (Welsh et al 1993) the species ranges from 2790 – 4510 feet (850-1375m). The collections in Arizona ranged from 3400 to 3500 feet (1035-1070m).

**EXPOSURE:** Not specified, but one Arizona collection was from a NW facing, 10-20% slope.

**SUBSTRATE:** Sandy soils, also gravelly loam.

**PLANT COMMUNITY:** Creosote bush scrub, Joshua tree woodlands, pinyon-juniper woodlands, sagebrush scrub. In Utah, salt and warm desert shrub communities (Welsh et al 1993). Plants associated with the collections in Arizona were *Larrea*, *Lycium*, *Grayia*, *Opuntia*, *Gutierrezia*, *Hilaria*, and *Ephedra*.

**POPULATION HISTORY AND TRENDS:** Unknown. There are only three collections from Arizona, all from the same locality near the Mokaac Mountains from 1978 to 1984. One collection noted the plant as occasional.

### **SPECIES PROTECTION AND CONSERVATION**

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

**MANAGEMENT FACTORS:** Unknown.

**PROTECTIVE MEASURES TAKEN:** None.

**SUGGESTED PROJECTS:** Verify if the species is still extant in the locality.

**LAND MANAGEMENT/OWNERSHIP:** BLM, Arizona Strip Field Office.

### **SOURCES OF FURTHER INFORMATION**

#### **REFERENCES:**

Encyclopedia of Life, accessed 8/6/2014, <http://eol.org/pages/503293/details>.

Flora of North America, accessed 7/31/2014,

[http://www.efloras.org/florataxon.aspx?flora\\_id=1&taxon\\_id=132557](http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=132557).

Jepson eFlora (California), accessed 8/8/2014, [http://ucjeps.berkeley.edu/cgi-bin/get\\_IJM.pl?tid=8478](http://ucjeps.berkeley.edu/cgi-bin/get_IJM.pl?tid=8478).

NatureServe Explorer, an online Encyclopedia of Life, accessed 8/8/2014,

<http://explorer.natureserve.org/servlet/NatureServe?searchSciOrCommonName=Tetradymia&x=13&y=9>.

Strother, John L. 1974. Taxonomy of *Tetradymia* (Compositae: Senecioneae). *Brittonia* 26: 177-202. April-June.

Tropicos, accessed 7/31/2014, <http://www.tropicos.org/Name/50064708>.

Welsh, S.L., N.D. Atwood, S. Goodrich and L.C. Higgins, eds. 1993, 2<sup>nd</sup> ed. A Utah Flora. Brigham Young University, Provo, Utah. p. 262.

**MAJOR KNOWLEDGEABLE INDIVIDUALS:**

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**ADDITIONAL INFORMATION:** The sharp spines were used as tattooing needles by the Kawaiisu Native Americans of California (EOL 2014). Some, and possibly all species of *Tetradymia*, are poisonous to livestock and especially sheep. Consumption results in a syndrome called “big head” (Welsh et al 1993).

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