

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

**Plant Abstract**

**Element Code:** PDFAB1D150

**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Desmodium psilocarpum*  
**COMMON NAME:** Santa Cruz Tick-trefoil, Santa Cruz Island Tick-Trefoil  
**SYNONYMS:** *Meibomia psilocarpa*  
**FAMILY:** Fabaceae

**AUTHOR, PLACE OF PUBLICATION:** Gray, Asa. Smithsonian Contributions to Knowledge 5(6): 48. 1853.

**TYPE LOCALITY:** Mexico: Sonora. On detritus of a mountain ravine, near Santa Cruz, Sonora.

**TYPE SPECIMEN:** MO: #A-203335. Charles (Carlos) Wright (#1016). September 1851.

**TAXONOMIC UNIQUENESS:** NatureServe (2019) lists 49 species of *Desmodium* in the United States and Canada, with an additional eight varieties. Thirteen species and one variety are found in Arizona, and five of these species and the variety are found only in the State. *D. psilocarpum* is found in Arizona, New Mexico and northern Mexico.

**DESCRIPTION:** General: Perennial with stems erect to prostrate, from woody base to 1 m tall, the stems much branched and with puberulent to sparsely pilose stems, the stipules narrowly to broadly ovate-lanceolate, asymmetrical at base. Leaves: Trifoliate leaves on petioles 2.5-5 cm long, sparsely puberulent and pilose, leaflets bright green with reticulate veins, leaflets ovate, elliptic, or broadly ovate-lanceolate 1-6 cm wide and 1.5-10 cm long, rounded at base, obtuse at apex. Flowers: In terminal or axillary racemes, simple or compound, corolla rose purple, drying greenish with banner 3.5-5 mm long. Fruits: Flat loments with several single seeded segments, indehiscent, 3-6 jointed, 2.5-5 cm long, the joints elliptic-rhomboidal, 3-5 mm wide, 6-10 mm long, reticulate to glabrate (Shreve and Wiggins 1964).

**AIDS TO IDENTIFICATION:** The species is distinguished by the seed segments being equally notched, the segments not revolute, with the loment not appearing twisted, having little inconspicuous flowers, with wide ovate leaflets.

Kearney and Peebles (1960) provide the following key to the species:

- Leaves trifoliate

- Bracts not very conspicuous or densely imbricate, or if so, then not more than 7 mm long, or narrowly lanceolate or subulate.
- Plants annual or sometimes perennial (*D. psilocarpum*).
- Leaflets ovate, the larger ones 15 – 50 mm wide; segments of the fruit at maturity 6 – 10 mm long, sparsely pubescent, at least on the sutures.....*D. psilocarpum*

**ILLUSTRATIONS:**

Photos and Herbarium Mounts: <http://swbiodiversity.org/seinet/taxa/index.php?tid=2534#>.

**TOTAL RANGE:** South-central Arizona, also southeast Arizona near the boundary with New Mexico and east to near Las Cruces. Extends south in Mexico along the Sierra Madres as far south as Navojoa (SEINet collections records). Shreve and Wiggins (1964) also say the species ranges east into the Chihuahuan desert into Tamaulipas and south into Sonora to the very southern edges of the Sonoran Desert.

**RANGE WITHIN ARIZONA:** *D. psilocarpum* occurs in the Santa Catalina and Rincon Mountains near Tucson, and also the Baboquivari, Atascosa and Huachuca Mountains in Pima, Santa Cruz and Cochise counties. There is a collection on the border with New Mexico in the Peloncillo Mountains.

**SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Perennial herb.

**PHENOLOGY:** Flowers July to October (Shreve and Wiggins 1964), August and September (Kearney and Peebles 1960). Arizona collections records indicate flowering dates between August 13 and September 10, and seeds were noted between September 19 and October 7.

**BIOLOGY:**

**HABITAT:** Found on hillsides along streams and in canyons; often found in disturbed areas.

**ELEVATION:** Shreve and Wiggins (1964) report the elevation range is 3,000-5,000 feet (914-1524 m). Arizona Heritage Data Management (HDMS) records range from 3,500 to 6,250 feet (1067 – 1906 m).

**EXPOSURE:** Not specified.

**SUBSTRATE:** Not specified.

**PLANT COMMUNITY:** Variations of pine and oak woodlands, and associated grasslands. Also found in riparian settings. The following list of associated species was compiled from several collecting reports:

*Pinus cembroides, Pinus edulis, Pinus ponderosa, Quercus oblongifolia, Quercus emoryi, Cercocarpus montanus paucidentatus, Coreocarpus arizonicus, Rhus trilobata, Rhus choriophylla, Juniperus deppeana, Dasyilirion wheeleri, Nolina microcarpa, Garrya, Agave palmeri, Mimosa dysocarpa, Mimosa aculeaticarpa, Vauquelinia californica, Opuntia engelmannii, Opuntia spinosior, Yucca schottii, Opuntia chlorotica, Cyllindropuntia spinosior, Brickellia betonicifolia, Brickellia venosa, Brickellia baccharidea, Brickellia coulteri, Brickellia floribunda, Amaranthus palmeri, Amaranthus albus, Glandularia bipinnatifida, Viguiera cordifolia, Viguiera dentata dentata, Viguiera dentata lanceifolia, Euphorbia brachycera, Eragrostis cilianensis, Acacia angustissima, Carminatia tenuiflora, Brickellia californica, Lycurus setosus, Hedeoma dentata, Galium wrightii, Salvia subincisa, Artemisia ludoviciana, Bothriochloa barbinodis, Sanvitalia abertii, Bouvardia glaberrima, Isocoma tenuisecta, Hymenothrix wrightii, Zinnia grandiflora, Gnaphalium wrightii, Gymnosperma glutinosum, Echinocereus coccineus, Echinocereus pectinatus rigidissimus, Trichostema arizonicum, Eriogonum abertianum, Aloysia wrightii, Guardiola platyphylla, Alternanthera pungens, Fouquieria splendens, Eysenhardtia orthocarpa, Parthenium incanum, Heteropogon contortus, Heterotheca subaxillaris, Arctostaphylos, Baccharis thesioides, Bouteloua curtipendula, Eragrostis intermedia, Diplachne dubia, Eragrostis lehmanniana, Bouteloua gracilis, Datura wrightii, Erigeron oreophilus, Andropogon barbinadis, Selloa glutinosa, Echinochloa crusgalli, Bouteloua hirsuta, Aristida adscensionis, Gossypium thurberi, Heliomeris multiflora, Heliomeris longifolia, Tragia nepetifolia, Ipomoea hederacea, Melampodium longicorne, Porophyllum ruderale, Portulaca suffrutescens, Fouquieria splendens, Ipomoea thurberi, Ipomoea costellata, Ipomoea longifolia, Baccharis sarothroides, Ericameria laricifolia, Chamaecrista nictitans, Chenopodium, Pectis filipes, Portulaca umbraticola, Prosopis velutina, Bothriochloa barbinodis, Asclepias linaria, Schistophragma intermedia, Cucurbita digitata, Sanvitalia aberti, Physalis pubescens.*

**POPULATION HISTORY AND TRENDS:** Unknown. There are about 20 occurrences in Arizona, with six of these having been collected 2 – 10 years ago, and the remaining records are more than 15 years old. There is inadequate information available to determine population status or trend.

### **SPECIES PROTECTION AND CONSERVATION**

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

**MANAGEMENT FACTORS:** None specified.

**PROTECTIVE MEASURES TAKEN:** None.

**SUGGESTED PROJECTS:** Given that more than half of the known occurrences are historic records, efforts should be made to return to known collection sites to ascertain whether the species is still extant.

**LAND MANAGEMENT/OWNERSHIP:** Dept of Agriculture - US Forest Service (Coronado National Forest), Dept of Interior - US National Park Service (Saguaro National Park) and Bureau of Indian Affairs (Tohono O'odham Reservation), Dept of Defense (Fort Huachuca Military Reservation), Arizona State Parks, and private land holdings.

## **SOURCES OF FURTHER INFORMATION**

### **REFERENCES:**

- Kearney, Thomas H. and Robert H. Peebles. 1960. 2nd edition with Supplement. Arizona Flora. University of California Press, Berkeley. 1085 pp.
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<http://swbiodiversity.org/seinet/taxa/index.php?tid=2534#>.
- Shreve, F., and I.L. Wiggins. 1964. Vegetation and flora of the Sonoran Desert. 2 volumes. Stanford Univ. Press, Stanford. 1740 pp.
- Tropicos.org. Missouri Botanical Garden. Accessed June 28, 2019.  
<http://www.tropicos.org/Name/13017751>.

### **MAJOR KNOWLEDGEABLE INDIVIDUALS:**

**ADDITIONAL INFORMATION:** *Desmodium* is from the Greek desmos for chain, which is a reference to the jointed seed pods, while *psilocarpum* means with glabrous fruit.

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Abstract