

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PDASC050V0

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Cynanchum ligulatum*

COMMON NAME: Mexican swallow-wort

SYNONYMS: *Ensenia ligulata* (Basionym), *Ampelamus ligulatus*, *Mellichampia ligulata*, *Roulinia ligulata*.

FAMILY: Apocynaceae

AUTHOR, PLACE OF PUBLICATION: Woodson, Robert Everard. Annals of Missouri Botanical Garden 28(2) 1-210. 1941.

TYPE LOCALITY: Mexico: Guadalajara (Palmer specimen).

TYPE SPECIMEN: Kew Royal Botanic Gardens: K 197205 (Holotype of *Ensenia ligulata*). Hartweg #1612. No date. Conservatoire et Jardin botaniques de la Ville de Geneve: G 176938 (Isotype of *Cynanchum ligulatum*. E. Palmer #280. July-October 1886.

TAXONOMIC UNIQUENESS: There are 16 species of *Cynanchum* found in the United States and Canada, and four of these species occur in Arizona: *C. arizonicum*, *C. ligulatum*, *C. utahense* and *C. wigginsii*. *C. ligulatum* and *C. wigginsii* occur only in Arizona.

DESCRIPTION: Perennial herbaceous vine; **Stems** pubescent in lines above the petioles; milky sap **Leaves:** ovate-cordate, 2-13 cm long, less than 2 times longer than broad, glabrate above, sparsely pubescent on the veins beneath; petioles pubescent above, shorter than to about as long as the blades **Inflorescence:** racemose, tardily elongating to ca. 6 cm, the peduncles mostly 1-3 cm long **Flowers:** 9-11 mm long; calyx lobes 3-5 mm long; corolla white (in ours), broadly open-campanulate, the tube 2-3 mm long, the lobes oblong, spreading-recurved, 6-9 mm long, sparsely pubescent inside; crown whitish, 8-9 mm long, the segments 6-8 mm long, erect and conspicuous, ovate with attenuate-ligulate tips exerted ca. 4-5 mm beyond the stigma-head, united at their base into a ring 1-2 mm high; anther wings ca. 1 mm long; corpusculum ca. 0.3 mm long, the pollinia ovoid-ellipsoid, ca. 0.4 mm long; stigma head apically rounded **Fruit:** Follicles 8-9 cm long (Sundell 1993).

AIDS TO IDENTIFICATION: *C. ligulatum* is separated from the three other *Cynanchum* species found in Arizona by its cordate leaves (not oblong to linear), to 13cm long and flowers 9-11mm long (not to 5cm long leaves and flowers 3-4 mm long), from Sundell 1993.

ILLUSTRATIONS:

Photos: http://swbiodiversity.org/seinet/taxa/index.php?taxon=Cynanchum_ligulatum.

Photos: <http://www.conabio.gob.mx/malezasdemexico/asclepiadaceae/cynanchum-ligulatum/fichas/pagina1.htm>.

TOTAL RANGE: Mexico, eastern Sonora and south to Sinaloa, with a second concentration from Guadalajara to Morelos. Extends north into south-central Arizona.

RANGE WITHIN ARIZONA: South-central Arizona. Collection sites range about 50 miles NW of Nogales to just west of the Baboquivari Mountains, 50 miles NE to the Santa Cruz River, and 70-80 miles north to the Santa Catalina Mountains, both east and west sides. The plant has been collected in Pima, Santa Cruz and Cochise Counties.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial herbaceous vine; sometimes blanketing other vegetation.

PHENOLOGY: Flowers: August – September. Collections in Arizona yielded flowers in August and fruits in October, but one site, in a steep shaded canyon, recorded flowers in late March.

BIOLOGY:

HABITAT: In general, roadsides, arroyos, stream sides, valleys, mesas, and slopes (Fishbein). Arizona collections were made in mesic settings such as the edge of a stream channel or swamp, a shaded canyon, the sandy banks of a wash, and also from an upper river terrace - mesquite transition environment.

ELEVATION: Range-wide, from Fishbein: 820 – 5250 feet (250-1600m). Arizona collections range from 2750 – 4900 feet (840-1490m).

EXPOSURE: Although not specified, the collections made in Arizona indicated a preference for more shady settings (at least where the plant is rooted), but the vines tend to grow to the top of the canopy.

SUBSTRATE: Not specified. Arizona collections reported both clayey and sandy soils.

PLANT COMMUNITY: Tropical deciduous forests, oak woods, rarely pine-oak forests. Plants associated with Arizona collections include: *Salix goodingii*, *Lagascea decipiens*, *Dodonea viscosa*, *Prosopis velutina*, *Lycium andersonii*, *Celtis reticulata*, *Ziziphus obtusifolia*, *Sporobolus wrightii*, *Rhynchosia*, *Clematis*.

POPULATION HISTORY AND TRENDS: Unknown for Arizona. South-central Arizona defines the northern-most extension of *Cynanchum ligulatum*, but there are only six known collection sites and another two that are too general to actually map. The earliest

collections date to 1927 and 1936, and the species has been documented as recently as 2005. None of the sites have been collected on multiple dates, nor is it known if the earlier sites are still extant, so any interpretation of population trends is not possible. At one site, however, it noted that the population was marginal, and very few fruits were observed. Due to the rarity of known collections within Arizona, the species is listed as critically imperiled by NatureServe. However, throughout the remainder of the species' range in Mexico it is considered to be apparently secure.

SPECIES PROTECTION AND CONSERVATION

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

MANAGEMENT FACTORS: None specified.

PROTECTIVE MEASURES TAKEN: Although the plant has no status and official protection, two of the six known sites are on lands owned and managed for conservation by The Nature Conservancy, and another two are within the San Pedro Riparian National Conservation Area.

SUGGESTED PROJECTS: Verify if the species is still extant at known collection sites.

LAND MANAGEMENT/OWNERSHIP: The Nature Conservancy Bingham Cienega Natural Preserve and the Canelo Hills Cienega; the BLM San Pedro Riparian National Conservation Area; the BIA Tohono O'odham Indian Reservation, and a private land holding.

SOURCES OF FURTHER INFORMATION

REFERENCES:

Fishbein, Mark, accessed 9/4/2014, Asclepiadoideae of the Rio Mayo (updated from Gentry 1998), http://botany.okstate.edu/people_research/Fishbein/index.php?go=RioMayo.

JStor| Global Plants, accessed 9/3/2014,
<http://plants.jstor.org/search?plantName=%22Cynanchum+ligulatum%22&syn=1>.

Sundell, Eric. 1993. Asclepiadaceae: Milkweed Family. Jour. AZ-NV Acad. Sci. 27(2): 169-187.

Tropicos, accessed 9/3/2014, <http://www.tropicos.org/Name/2609335>.

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ADDITIONAL INFORMATION:

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