

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PDLOA030U0

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Mentzelia lindheimeri*
COMMON NAME: Lindheimer Stickleaf
SYNONYMS: *Mentzelia texana*
FAMILY: Loasaceae

AUTHOR, PLACE OF PUBLICATION: Urban, Ignatz and Ernest Friedrich Gilg.
Nova Acta Academiae Caesareae Leopoldino-Carolinae Germanicae Naturae Curiosorum
76(1): 54-54. 1900.

TYPE LOCALITY: Texas, Uvalde County.

TYPE SPECIMEN: Lectotype: MO. Reverchon #1650. June 1885.

TAXONOMIC UNIQUENESS: The family Loasaceae has about 15 genera and 250 species, mostly in the New World. Arizona has four genera. The genus *Mentzelia* has 26 (Christy 1998) or 27 (NatureServe 2014) species in Arizona (two are found only in the State) plus another nine varieties.

DESCRIPTION: Plant: perennial herb; enlarged rootstock. STEMS several, often scandent, 30-70 cm or longer Leaves: 2.5-6 cm long, 1-4 cm wide; petiole 0.4-1.2 cm long; blade broadly lanceolate to ovate, with two large teeth near base; uppermost leaves similar to other leaves INFLORESCENCE: cymose Flowers: with pedicel 2-4 mm long; calyx usually deciduous; petals yellowish-orange, 12-14 mm long, 7-8 mm wide, with trichomes at apex only; staminodia 0; stamens all with linear filaments; style 8-11 mm long Fruit: capsules cylindrical, erect; body 10-14 mm long. SEEDS ca. 10, pendulous, not winged; blocky in outline except for the protruding hilum end; testa cells elongate, striate.

AIDS TO IDENTIFICATION: *Mentzelia* is distinguished from the other four genera found in Arizona from its capsule fruit (rather than an achene) and having 10 to many stamens. Its seeds are in 1-2 rows on each side of 3 placentae (rather than five placentae and numerous seed rows); stinging hairs are absent.

M. lindheimeri can be separated from the other 26 species by the following: 1. Seeds and ovules pendulous, parallel to the placentae, appearing as if one row per placenta; capsules more than five times as long as wide, rarely broader; 2. Placentae broad; testa cells markedly elongate; most leaves clearly petiolate, the blades often hastately lobed; annuals and perennials; 3. Perennials; rootstock thickened; main stems usually several, divergent to

scandent; 4. Seeds about 10 per capsule, constricted near hilum; fruits cylindric, erect; petals usually more than 1 cm long, with trichomes at apex only. Christy 1998.

ILLUSTRATIONS:

Herbarium Mounts: <http://eol.org/pages/486820/media>.

TOTAL RANGE: SE Arizona and Texas.

RANGE WITHIN ARIZONA: Six collections have been made in four of the Sky Island Mountain ranges in SE Arizona: Huachuca, Mule, Dragoon Mountains in Cochise County, and the Pinaleno Mountains in Graham County.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial herb with enlarged rootstock.

PHENOLOGY: Aug-Oct (Christy 1998). Three September collections in Arizona had flowers (and two also had fruits); an August collection recorded flower buds.

BIOLOGY:

HABITAT: Rocky slopes (Christy 1998). Most of the Arizona collections reflected this habitat, although one collection was made in a canyon bottom grassland.

ELEVATION: 5000 – 7500 feet (1500-2300 m).

EXPOSURE: Not specified.

SUBSTRATE: One collection noted the plant was on limestone.

PLANT COMMUNITY: Various grassland, oak-juniper woodland and pine-oak woodland. One collection noted *Cercocarpus breviflorus*, *Quercus arizonica* and *Pinus discolor* as associated species.

POPULATION HISTORY AND TRENDS: Unknown for Arizona. The six collections range from 1909 to 2008, however almost no information was recorded on abundance. One collection noted the species occurred in large clumps. NatureServe considers *M. lindheimeri* to be critically imperiled in Arizona because of the limited collections.

SPECIES PROTECTION AND CONSERVATION

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

MANAGEMENT FACTORS: None specified.

PROTECTIVE MEASURES TAKEN: None known. Four of the six known collections occur on either Forest Service or Department of Defense lands.

SUGGESTED PROJECTS: Re-visit the known collection localities to determine if the species is still extant. Field work should be conducted in September when the plant is flowering.

LAND MANAGEMENT/OWNERSHIP: Two collection sites are on DOD (Fort Huachuca) lands and two are on USDA Forest Service Coronado National Forest lands. The other collections represent State Land, BLM and private holdings.

SOURCES OF FURTHER INFORMATION**REFERENCES:**

Christy, Charlotte M. 1998. Loasaceae: Stickleleaf or Blazing-Star Family. Jour Ariz-Nev Acad. Sci. Vol 30: 2. 96-111p.

NatureServe Explorer, an online encyclopedia of life, accessed 12-18-2014, <http://explorer.natureserve.org/index.htm>.

Tropicos, accessed 12-19-2014, <http://www.tropicos.org/Name/18900021>.

Turner, Billie L. 2002. Lectotypification of *Mentzelia texana* and *M. lindheimeri* (Loasaceae) with an assessment of their biological status. SIDA, Contributions to Botany. Vol 20, No. 1: 157-159. July 19, 2002.

Turner, Billie L. 2011. A new gypsophilic *Mentzelia* (Loasaceae) from Nuevo Leon, Mexico. Phytoneuron 2011-7: 1-3.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

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ADDITIONAL INFORMATION:

Revised: 2014-12-19 BDT

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