

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

Plant Abstract

Element Code: PMORC1C080

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Hexalectris parviflora* L.O. Williams

COMMON NAME: None

SYNONYMS: None

FAMILY: Orchidaceae

AUTHOR, PLACE OF PUBLICATION: L.O. Williams. 1940. American Orchid Society Bulletin 9(5): 126, figures 1-4.

TYPE LOCALITY: Curohoi, Rio Mayo, Sonora, Mexico.

TYPE SPECIMEN: Holotype - AMES-49661. *Gentry 3670*.

TAXONOMIC UNIQUENESS: The genus *Hexalectris* contains 10 species, all of which occur in North America. Four species in the genus occur in Arizona. Of the four *Hexalectris* species in Arizona, *H. parviflora* has the smallest flowers. Williams wrote that this species is “not closely allied to any other species of the genus” (Williams 1940). However, Kennedy and Watson (2010) show *H. fallax* to be conspecific with *H. parviflora*, though the new treatment has not yet been published.

DESCRIPTION: Herbaceous perennial, mycoheterotrophic, arising from an underground corm. The above-ground portion consists of a colored spike about 1 cm in diameter, with 4-5 scarious bracts. Dorsal and lateral sepals are similar in size, roughly 10-12.5 mm long and 2.7-3.5 mm broad, lateral sepals curved. Flower width 2 cm or smaller, 3-nerved. Lip 12-14 x 6-7 mm, obovate, 3-lobed, lateral lobes smaller than the mid lobe, which has 5-7 ridges, solid magenta. Column 7-9 mm long. Pollinia 8, four in each anther cell, subequal, waxy. Fruit a capsule, downturned, containing seeds 0.5-0.7 mm in length. At maturity, the fruit dehisces and releases the seeds.

AIDS TO IDENTIFICATION: Smallest flowers of the genus. Mid lobe of the flower is solid magenta in color, whereas other *Hexalectris* species in Arizona have colored mid lobes with a white background (Coleman and Fox 2015).

ILLUSTRATIONS: Black and white drawings (Williams 1940, Figs. 1-4):
<https://ids.lib.harvard.edu/ids/view/5193299>
Holotype: Harvard University Herbaria (HUH) AMES: 00002594

TOTAL RANGE: United States (southern Arizona) to Guatemala. There are less than 5 known occurrences of this species (NatureServe 2020).

RANGE WITHIN ARIZONA: Cochise Co. (Dragoon and Peloncillo Mountains)

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Mycoheterotrophic orchid from an underground corm.

PHENOLOGY: Individuals remain underground for most of the year, emerging as above-ground spikes in May. Flowers are produced during the month of May, while fruit set is presumably in May-June. Plants may not flower every year.

BIOLOGY: As with other species in *Hexalectris*, *H. parviflora* is an obligate mycoheterotrophic, meaning they obtain carbon exclusively from mycorrhizal fungi. Many of these mycorrhizal relationships are species specific, which seems to be the case within the genus *Hexalectris*. No known pollinators for the entire genus of *Hexalectris* (Argue 2011).

HABITAT: Dry oak woodland.

ELEVATION: 1580 m (within Arizona).

EXPOSURE: Unknown

SUBSTRATE: Broken limestone slopes (Ames and Correll 1953).

PLANT COMMUNITY: Madrean oak woodland, near or under *Quercus arizonica*.

POPULATION HISTORY AND TRENDS: Unknown. Only recently discovered in Arizona in 2015 (Coleman and Fox 2015).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None

STATE STATUS: None

OTHER STATUS: None

MANAGEMENT FACTORS: These orchids are extremely cryptic and may not flower every year, so surveys across multiple seasons/years should be conducted.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Survey for additional localities. Monitor known localities. Identify threats and record and monitor the impact of management decisions upon species.

LAND MANAGEMENT/OWNERSHIP: USFS Coronado National Forest (Nogales district)

SOURCES OF FURTHER INFORMATION**REFERENCES:**

- Ames, O., and D.S. Correll. 1953. Orchids of Guatemala. *Fieldiana: Botany* 26(2):399-727.
- Argue, C.L. 2011. *The Pollination Biology of North American Orchids: Volume 2: North of Florida and Mexico.*
- Coleman, R.A. and Janet Fox. 2015. *Hexalectris parviflora* L.O. Williams (Orchidaceae) new to the United States flora. *The Native Orchid Conference Journal.* 12(4):15–21.
- Kennedy, A.H., and L.E. Watson. 2010. Species delimitations and phylogenetic relationships within the fully myco-heterotrophic *Hexalectris* (Orchidaceae). *Systematic Botany* 35(1): 64-76.
- NatureServe. 2020. NatureServe Explorer: An online encyclopedia of life [web application]. NatureServe, Arlington, Virginia. Available: <https://explorer.natureserve.org> (Accessed: September 9, 2020).
- Williams, L.O. 1940. Two New Species of *Hexalectris* From Mexico. *American Orchid Society Bulletin.* Vol 9: pg. 126.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

Teague Embrey, Tucson, Arizona
Janet Fox, Tucson, Arizona

ADDITIONAL INFORMATION:

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