

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PMORC67020

Data Sensitivity: Yes

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Schiedeella arizonica* P.M. Brown

COMMON NAME: Fallen ladies'-tresses

SYNONYMS: *Spiranthes parasitica* A. Richard & Galeotti, *Schiedeella parasitica* (A. Richard & Galeotti) Schlechter, *S. fauci-sanguinea* (Dod) Burns-Balogh

FAMILY: Orchidaceae

AUTHOR, PLACE OF PUBLICATION: P. M. Brown, North American Native Orchid Journal 6(1): 3-14, f. 1-2. 2000.

TYPE LOCALITY: Santa Catalina Mountains, Pima County, Arizona.

TYPE SPECIMEN: J. Thornber, 1906.

TAXONOMIC UNIQUENESS: Distinct species and genus in the family Orchidaceae. According to the Flora of North America Editorial Committee (1993+), "Plants of *Schiedeella arizonica* from the southwestern United States were originally identified as *Spiranthes parasitica* A. Richard & Galeotti by C. A. Luer (1975), and as *Schiedeella parasitica* (A. Richard & Galeotti) Schlechter by J. Liggio and A. Liggio (1999). Meanwhile P. M. Brown (1996) treated them as *S. fauci-sanguinea* (Dod) Burns-Balogh. Neither of those species actually occurs in the United States, and Brown later described the taxon as *Schiedeella arizonica*."

DESCRIPTION: Slender herbaceous perennial, that when in bloom is leafless, 10-20(-30) cm (4-8(-12) in) tall, with green to tan to light rose stems. Two to five simple, ovate elliptic leaves, 1.5(3-) x 6 cm, appear in a basal rosette after flowering, petiolate; blade deep green. Roots are a spheroidal, corm-like rhizome (thickened tuber), with a few fibrous roots, to 3 cm. Stems are greenish yellow to rosy, slender; stem bracts several, prominent, 10-15 mm. Three to fourteen flowers occur on top third of stem; floral bracts are lanceolate, appearing dried or translucent at flowering. The small flowers are whitish, rose, or tan; 6 mm long x 4 mm wide x 4 mm high; petals and the dorsal sepal form a hood over the lip, resulting in a narrow tubular flower; sepals and petals are so thin as to be translucent. As indicated, the sepals and petals are whitish, rose, or tan in color. The lateral sepal is linear, 6 mm long x 1.5 mm wide, the outer third curls inward to touch the lip; the dorsal sepal is linear to very slightly elliptic linear. The lip of the flower is whitish, rose, or tan; 5 to 6 mm long x 4 mm wide; oblong, nearly quadrate, constricted above the middle and near the apex. It narrows to a slight claw near the column; the apex is crenulate; it's thickened in the center with a red to red-orange spot. Three green stripes run the length of the lip, with an additional stripe at each side of basal two-thirds. The center portion of the lip is finely

pubescent, and the tip curls back completely. The flower column is green, 4 mm long x 1.5 mm wide, with two pairs of yellow pollinia, each pair banana-shaped; anther cap is brown; stigma dark green. The ovary is green, 3-5 mm, pubescent. The capsule is upright, ellipsoidal, 8 x 2 mm. (FNA 1993+; Coleman 2002).

AIDS TO IDENTIFICATION:

ILLUSTRATIONS: Color photos (Coleman, 2002: Pl. 27 and 28)
Line drawing (FNA 1993+, *in*
http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242101880)

TOTAL RANGE: Widely distributed in the southwestern United States in Arizona, New Mexico, and Texas. Not known if it occurs in Mexico.

RANGE WITHIN ARIZONA: Occurs in Apache, Cochise, Graham, Greenlee, Pima, and Santa Cruz counties. The northern limit of its range in Arizona is, southern Apache County.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial.

PHENOLOGY: Leafless flower spikes emerge in late April and mature into early May. Flowering occurs from mid May until late June; seed capsules mature and dehisce within 4-5 weeks. FNA (1993+) reports flowering from May to early June.

BIOLOGY: Leaves sprout within 6 weeks after plants bloom, with non-blooming plants putting up leaves first. Only 10-15% of plants bloom in any given year, and only a few bloom several years in a row. The low percentage of flowering is not unique to *S. arizonica*, but characteristic to several species in the genus *Schiedeella*.

Originally thought to be parasitic, *S. arizonica* is photosynthetic. The small rosette of leaves appears about the beginning of the monsoon season in midsummer, shortly after the capsules dehisce. The leaves persist until fall, when they die back for the winter. (Coleman, 2002).

HABITAT: Usually found in heavy forest duff in flat to very steep terrain, in mesic, mixed, coniferous-deciduous forest. It grows among rocks or in bare soil on some slopes. FNA (1993+) reports the habitat as "Dry coniferous forest, hillsides, creek canyons."

ELEVATION: 6,450 – 9,300 feet (1960-2830 meters) in Arizona and New Mexico (Coleman, 2002). Based on records in the HDMS (AGFD, unpublished, accessed 2005), elevation in Arizona ranges from 7,300-9,400 feet (2225-2865 m). FNA (1993+) reports elevation range for Arizona, New Mexico, and Texas as 4,916 – 15,082 feet (1500-4600 meters).

EXPOSURE: North slopes, in shade of trees.

SUBSTRATE: On some slopes it grows among rocks or in bare soil, but usually it is in heavy forest duff in flat to very steep terrain. Found on granite, gneiss

PLANT COMMUNITY: Mesic, mixed coniferous-deciduous forest. Common companion herbaceous plants include lupines, violets, and ferns. *Schiedeella arizonica* blooms the same time as other orchids, and within inches of *Corallorhiza wisteriana* (spring coralroot). Late in its season, it may bloom with early plants of *C. maculata* (spotted coralroot) and *C. striata* (striped coral-root). It grows with *Platanthera purpurascens* (slender bog orchid) and *Goodyera oblongifolia* (giant rattlesnake-plantain) at higher elevations. In southeastern Arizona, it may grow intermixed with *Malaxis corymbosa* (Huachuca Mountain adder's-mouth), *M. porphyrea* (Cochise adder's-mouth orchid), *M. soulei* (= *macrostachya*, mountain adder's-mouth), and *M. abieticola* (slender-flowered malaxis), although the *Malaxis* species do not bloom until after the leaves of *S. arizonica* appear. (Coleman, 2002). Other associated species include: *Abies concolor* (white fir), *Pinus ponderosa* (ponderosa pine), *P. strobiformis* (Southwestern white pine), *Populus tremuloides* (quaking aspen), *Pseudotsuga menziesii* (Douglas-fir), and *Quercus gambelii* (Gambel oak).

POPULATION HISTORY AND TRENDS: Unknown. Although unknown until 1906 (discovered by John Thornber in the Santa Catalina Mts.), and thought to be rare in the United States, *S. arizonica* is actually plentiful in Arizona and New Mexico. Its presumed rarity is due more to its flowering habits than lack of numbers. Its small size and habitat-matching colors camouflage it among debris on the forest floor. Also, since only a small percentage of plants bloom each year, population estimates based on blooming plants may be low by an order of magnitude. (Coleman, 2002). The HDMS currently has 10 records in their database, all on USFS land (AGFD, unpublished, accessed 2005).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: Salvage Restricted (ARS, ANPL 1999)
[Salvage Restricted (ARS, ANPL 1993)]
OTHER STATUS: None

MANAGEMENT FACTORS:

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: USFS – Apache-Sitgreaves and Coronado National Forests.

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Arizona Revised Statutes, Chapter 7. 1993. Arizona Native Plant Law. Appendix A:2.
Arizona Revised Statutes, Chapter 7. 1999. Arizona Native Plant Law. Appendix A:2.
Coleman, R. A. 2002. The Wild Orchids of Arizona and New Mexico. Comstock Publishing Associates, a division of Cornell University Press. Ithaca and London. Pp. 185-191.
Flora of North America Editorial Committee, eds. 1993+. Flora of North America North of Mexico. 7+ vols. New York and Oxford.
Missouri Botanical Garden – TROPICOS, Nomenclatural Data Base. *Schiedeella arizonica* P.M. Br. http://mobot.mobot.org/cgi-bin/search_vast. Accessed: 9 Feb 2005.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

Ron Coleman – Tucson, Arizona.

ADDITIONAL INFORMATION:

The species *Schiedeella arizonica* is named for the state in which the plants were first observed.

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