

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

**Plant Abstract**

**Element Code:** PMORC1R090

**Data Sensitivity:** Yes

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Malaxis abieticola*

**COMMON NAME:** Slender adders mouth, Arizona adder's mouth, Arizona adder's-mouth orchid, Arizona addersmouth orchid, Thin Adder's-mouth

**SYNONYMS:** *Microstylis tenuis* S. Watson, *Malaxis tenuis* (S Watson)Ames

**FAMILY:** Orchidaceae

**AUTHOR, PLACE OF PUBLICATION:** *Microstylis tenuis* S. Watson, Proc. Amer. Acad. Arts Sci. 26: 152. 1891. *Malaxis tenuis* (S. Watson) Ames, Proc. Biol. Soc. Wash. 35(17): 85. 1922. *Malaxis abieticola* Salazar and Arenas, Lindleyana 16(3): 149. 2001.

**TYPE LOCALITY:** Mexico. Flor de Maria.

**TYPE SPECIMEN:** HT: US. C.G. Pringle 3186, 27 Jul 1890. IT: GH, MO, NY, MEXU.

**TAXONOMIC UNIQUENESS:** The species *abieticola* is 1 of 14 in the genus *Malaxis*, and 1 of 4 in Arizona. Coleman (2002) considers the former name *Malaxis tenuis* to be a synonym of *M. abieticola*. He reports in his 2002 publication, "While doing research on the Mexican Orchidaceae, Salazar and Arenas (2001) observed that the combination *Malaxis tenuis* used for one of the small green *Malaxis* in the southwestern United States and Mexico had been previously applied to an Asian species in 1861. They speculate that Oakes Ames was unaware of the earlier use when he transferred *Microstylis tenuis* to *Malaxis* in 1922. Hence a new specific epithet was required for the local taxon and they chose to name it *M. abieticola*."

**DESCRIPTION:** Perennial herb with fibrous roots, the stem grows up to 20 cm (8 in) tall from a swollen base (to 1 cm wide) that resembles a corm. The single oval leaf is bright green, shiny, to 8 cm (3 in) long and 4 cm (1.6 in) wide. Inflorescence is a cylindrical spike, from 3-5 cm (1.2-2.0 in) high, with up to 35 narrow green flowers. A tiny triangular bract is at the base of each petiole. Middle sepal light green, lance-shaped 6-10 mm long and 2 mm wide. Petals are extremely narrow (filiform), the lip (upper) petal oval-triangular, 3.5 mm long and 1.5 mm wide. The arrowhead-shaped lip has four dark green stripes, one at each margin and two toward the middle, and is covered with minute papillae (Coleman 2002). The dorsal sepal is solid green, but the lateral sepals have faint dark green striping and fold together behind the lip, forming an elongated hood (Coleman 2002). The column is less than 1 mm high with 2 pairs of bright yellow pollinia. Capsule elliptic, 12 mm long and 3 mm wide. Not every plant sets fruit, and those that do have 1 to 4 capsules (Coleman 2002).

**AIDS TO IDENTIFICATION:** This species is recognized by the single ovate leaf, the lax raceme with relatively large pale green flowers, and the narrow triangular lip with dark green margins and stripes.

**ILLUSTRATIONS:** Photos (C.A. Luer 1975: P. 298, Pl. 82).  
Line drawing (C.A. Luer 1975: Pl. 59).  
Color photos of type specimens (U.S. National Herbarium,  
<http://rathbun.si.edu/botany/types/fullRecords.cfm?myFamily=>)  
Color photos of synonym *M. abieticola* (Coleman 2002: Pl. 16)

**TOTAL RANGE:** Grows in much of Mexico, as far south as the state of Oaxaca and the southern tip of Baja California. In the United States, it occurs only in Arizona and New Mexico, where it is at its northern limit.

**RANGE WITHIN ARIZONA:** Occurs in the Santa Catalina Mountains, Pima County, and in the Chiricahua Mountains, Cochise County.

## **SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Herbaceous perennial.

**PHENOLOGY:** Flowers July – August. Growth of this plant above ground starts in midsummer right after the beginning of the monsoon season, and it blooms about 3 weeks later. If the rains are early, blooming begins in mid-July. Most often, the first flowers open in late July and plants remain in bloom until late August. (Coleman 2002).

**BIOLOGY:** The rate of fruit set for this species is very low, perhaps suggesting pollinators are few at the limits of the species' range. (Coleman 2002).

**HABITAT:** Terrestrial in humus, usually found in shaded places in oak-conifer forests, often in fairly open sites. Coleman (2002) indicates that this plant grows in damp mossy and grassy places in fir woods. It also grows near edges of meadows and sometimes out in the meadows, protected from the full sun by taller companion plants of the meadow. It grows on hillsides in the lee of rotting logs and under low-hanging branches of firs. (Coleman 2002).

**ELEVATION:** 7,000 feet (2,135 meters). Ranges from 8,000 - 9,200 feet (2400-2800 meters), according to Coleman (2002). Hagsater and Salazar (1990) report elevation range of 1900 to 3000 meters (6230 - 9835 ft).

**EXPOSURE:** Shade of trees.

**SUBSTRATE:** Rich humus soils.

**PLANT COMMUNITY:** Other orchids found blooming in the same areas as *Malaxis abieticola* include *M. porphyrea* (Cochise adder's-mouth orchid), *M. soulei* (*macrostachya*) [mountain adder's-mouth], *Platanthera limosa* (Thurber's bog orchid), *Listera convallarioides* (broad-leaved twayblade), and *Corallorhiza maculata* (spotted coralroot), *C. striata* (striped coralroot), and *C. wisteriana* (spring coralroot). (Coleman 2002). In the Chiricahua Mountains, found in mixed-conifer forest with *Pseudotsuga menziesii* (Douglas fir), *Abies concolor* (white fir), *Pinus ponderosa* (Ponderosa pine), and *Pinus strobiformis* (southwestern white pine).

**POPULATION TRENDS:** Unknown.

### **SPECIES PROTECTION AND CONSERVATION**

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

**MANAGEMENT FACTORS:** Management should be focused on preventing camping on meadow at Bootlegger Saddle, where there is a problem with campers parking and pitching tents on top of the plants.

**CONSERVATION MEASURES TAKEN:** In Arizona, some of its habitat is protected within wilderness areas, but in New Mexico, remaining habitat is threatened by logging.

**SUGGESTED PROJECTS:**

**LAND MANAGEMENT/OWNERSHIP:** USFS – Coronado National Forest.

### **SOURCES OF FURTHER INFORMATION**

#### **REFERENCES:**

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Arizona Revised Statutes, Chapter 7. 1999. Arizona Native Plant Law. Appendix A.  
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**MAJOR KNOWLEDGEABLE INDIVIDUALS:**

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**ADDITIONAL INFORMATION:**

**Revised:** 1991-04-xx (xxx)  
 1991-04-22 (BKP)  
 1998-12-04 (DJG)  
 2003-11-20 (SMS)  
 2015-09-30 (BDT)

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