

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PMORC2B0V0

Data Sensitivity: Yes

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Spiranthes romanzoffiana* Chamisso

COMMON NAME: Hooded Ladies'-tresses, Hooded Ladiestresses, Hooded Lady's tresses, Ladies' Tresses

SYNONYMS: *Spiranthes spicata* Rydb., *Ibidium strictum* (Rydb.) House, *Gyrostachys stricta* Rydberg

FAMILY: Orchidaceae

AUTHOR, PLACE OF PUBLICATION: Chamisso, *Linnaea* 3(1): 32-33. 1828.

TYPE LOCALITY:

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: One of three species of *Spiranthes* in Arizona and New Mexico, growing at the highest elevation range.

DESCRIPTION: Herbaceous perennial, with blooming size starting below 10 cm (4 in) and rarely exceeds 40 cm (16 in) in the Southwest, but to nearly 60 cm (24 in) tall elsewhere; glabrous below, pubescent above. Thick, fibrous roots number two or three, 5-10 cm (2-4 in) long. Alternate leaves are mostly basal, but scattered on lower stem on largest plants, with leaflike bracts above. Three to six lanceolate leaves measure 18 x 1.1 cm; margins smooth. Floral bracts are green to whitish, triangular to 1.6 cm long x 0.8 cm wide. Inflorescence a spicate raceme, of up to 60 flowers in three dense spirals. Flowers are white, tubular, with a sweet aroma (vanilla-like), with the sepals and petals forming a tight hood over the downward curving spreading lip. The lateral sepal is white with green suffusion near the base, lanceolate, 1.2 x 0.4 cm; the dorsal sepal is lanceolate, 1.0 x 0.5 cm. White, linear petals have three faint green stripes, measuring 1.0 cm long x 0.3 cm wide. The lip is white with five pale green stripes in the center, pandurate or fiddle-shaped, with two minor tubercles at the base; measures 1.0 cm long x 0.6 cm wide at the widest part near the base. The slender column is green, 3 mm long x 1 mm wide, with yellow pollinia. Capsule is ellipsoidal, held in a semierect position (Coleman, 2002), up to 10 mm long, many-seeded.

AIDS TO IDENTIFICATION: "Plants of *Spiranthes romanzoffiana* vary considerably in habit but are usually quite consistent in floral morphology. The strongly hooded, ascending flowers with abruptly reflexed lips provided a distinctive geometric precision. The pandurate lip with typically three veins, the lateral with abruptly wide-spreading branches, is a key feature. In some

areas, however, especially at the edges of the range of the species, some variation is apparent and is sometimes coincident with variability in ploidy level.” (FNA 1993+). *S. romanzoffiana* appears superficially similar to *S. magnicamporum* (Great Plains ladies’-tresses), but can be separated by flower structure. The spirals of *S. romanzoffiana* are neat and tidy because the sepals and petals are tightly connivent to form a hood over the column and basal half of the lip. The sepals and petals in *S. magnicamporum* are free and spreading, resulting in a much fuller-appearing inflorescence. The lip is the best feature by which to distinguish *S. romanzoffiana*. The lip turns down as it exits the hood formed by the sepals and petals, and the apex curves for more than 180 degrees, sometimes nearly forming a complete circle. The fiddle-shaped lip narrows noticeably about two-thirds the distance from the base before spreading at the apex. (Coleman, 2002).

ILLUSTRATIONS: Line drawing (FNA 1993+, in http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242101965)
Color photos of plant, flowers, and habitat (in Coleman, 2002: Pl. 31)
Color photo (John Game 1999, in CalFlora 2005 at <http://www.calflora.org/>).
Color photo (NRCS Plants Database, in Nearctica at <http://www.nearctica.com/flowers/orchid/Sroman.htm>).
Color photo (in http://montana.plant-life.org/species/spir_roma.htm).
Color photos (Richard Reeves 2001, in <http://www.nativeorchid.org/hooded.htm>)
Color photo (in <http://www.nfalpines.homestead.com/spiranthes.html>)
Color photos (many photos in CalPhotos at <http://dlp.cs.berkeley.edu/cgi/>)
Color photos (in <http://www.mountainnature.com>)

TOTAL RANGE: Canada, and the much of the United States from Maine across the northern states to Washington, including Alaska, and from the western states down to Texas. Not found in the south mid-west states and the southern and eastern states of the U.S. In New Mexico, plants occur in Cibola, Mora, Rio Arriba, Sandoval, Santa Fe, and Taos counties. A widely, disjunct population in Ireland, was reported by Godfrey in 1992 (Coleman, 2002).

RANGE WITHIN ARIZONA: Apache, Coconino and Graham counties. Plants in Graham County appear relatively isolated from others in the state, but their presence suggests *S. romanzoffiana* may eventually be found in Greenlee County (Coleman, 2002).

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial herb.

PHENOLOGY: Late bloomer, with leaves sprouting in midsummer, and spikes showing mid to late July. It starts blooming in the first week of August and will continue until the end of September. June to August in other areas.

BIOLOGY: Pollination of *S. romanzoffiana* was studied by Larson and Larson (1987, 1990, in Coleman 2002), and identified 11 pollinators, mostly species of *Bombus* (bumble bees) such as *Bombus bifarius*. After pollination, the seed capsules dehisce in about 6 weeks.

HABITAT: Requires damp to almost wet soil in high mountain meadows, and along the banks of streams. Man-made conditions that mimic its natural habitats may also support this species, including moist areas below check dams and along roadside ditches. (Coleman, 2002).

ELEVATION: 7,400 – 11,000 feet (2257-3355 m). CalFlora (2005), reports elevation range between 0 and 10,000 feet (0-3050 m).

EXPOSURE: Full sun.

SUBSTRATE:

PLANT COMMUNITY: In Arizona, collected in meadow of spruce-fir zone, along with meadow opening in ponderosa pine-fir forest (SEINet accessed 2005). Plant communities reported by CalFlora (2005) include Redwood Forest, Mixed Evergreen Forest, Yellow Pine Forest, Red Fir Forest, Lodgepole Forest, Subalpine Forest, and Douglas-fir Forest. In meadows, may be found with *Dodecatheon pauciflorum* (shooting star), and *Gentiana thermalis* (western fringed gentian). During blooming, the following species may also be found: *Platanthera* (in fruit), and in bloom in the forest surrounding the meadows, *Goodyera oblongifolia* (giant rattlesnake-plantain), *G. repens* (lesser rattlesnake plantain), and *Malaxis soulei* (= *M. macrostachya*, Chiricahua adder's-mouth orchid). (Coleman, 2002).

POPULATION HISTORY AND TRENDS: According to Coleman (2002), "*Spiranthes romanzoffiana* is well distributed in the Southwest and exists in sufficient numbers to be safe from immediate threats. Its apparent ability to colonize roadside ditches suggests it is adaptable and a willing occupant of disturbed sites."

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None

STATE STATUS: None

OTHER STATUS: None

MANAGEMENT FACTORS: The species is well distributed in the Southwest and exists in sufficient numbers to be safe from immediate threats. Its apparent ability to colonize roadside ditches suggests it is adaptable and a willing occupant of disturbed sites. (Coleman, 2002).

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS:**LAND MANAGEMENT/OWNERSHIP:****SOURCES OF FURTHER INFORMATION****REFERENCES:**

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

Ron Coleman – Tucson, Arizona.

ADDITIONAL INFORMATION:

“The specific epithet is in honor of Nicholas Romanzof, a Russian minister of state. The species was discovered during the period when Alaska was Russian territory.” (Coleman, 2002).

The Gosiute Indians in Utah used this plant as a treatment for venereal disease.

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