

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PDPYR01010

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Chimaphila maculata*

COMMON NAME: Spotted Wintergreen, Striped Prince's-Plume, Striped Pipsissewa

SYNONYMS: *Pyrola maculata*, *Pseva maculata*

FAMILY: Ericaceae

AUTHOR, PLACE OF PUBLICATION: Pursh, Frederick Traugott. Flora Americae Septentrionalis 1: 300. 1814[1813].

TYPE LOCALITY: North America

TYPE SPECIMEN: Academy of Natural Sciences PH: 26962. F. Pursh, s.n. No date.

TAXONOMIC UNIQUENESS: The genus *Chimaphila* has three species and one subspecies in North America which are widely distributed within the United States and Canada. *Chimaphila maculata* and *C. umbellata* are both found in Arizona.

DESCRIPTION: **Plants** rhizomatous, 1-5.3 dm. **Leaves:** petiole 3-13 mm, terete or channeled adaxially, glabrous; blade maculate, dull and light green abaxially, shiny and green to dark green with white achlorophyllous tissue bordering larger veins adaxially, lanceolate or ovate-lanceolate to oblong-lanceolate or ovate, 20-100 × 8-31 mm, base rounded to obtuse or acute, margins coarsely serrate, apex acute to acuminate. **Inflorescences** (1-)2-5-flowered; peduncle 1(-2) per stem, 4-19 cm, papillose to hispidulous; inflorescence bracts acicular to linear-lanceolate, free portions shorter than pedicels from which they arise, 4-6 × 0.4-0.6 mm, membranous, margins entire. **Pedicels** (4-)8-25 mm. **Flowers:** calyx lobes spreading or reflexed in fruit, entirely greenish or margins whitish green, broadly ovate, 1.4-4.1 × 1.3-4.5 mm, margins erose-denticulate, apex rounded to obtuse; petals white or pink, often tinged violet, orbiculate, 6-12 × 4.5-8 mm, margins fimbriate to erose-denticulate; stamens 6-8 mm; filament base 1.2-1.6 mm wide, dilated basal portion densely villous; anthers 2-4 mm, thecae white to tan or pinkish, tubules tan to pinkish brown, 0.8-1.1 mm, abruptly narrowed from thecae, lateral walls not touching, pores 0.3-0.5 × 0.3-0.5 mm; ovary papillose in lines; style 0.5-1 mm; stigma 2-3.5 mm wide. **Capsules** depressed-globose, 5-10 × 5-10 mm. **2n** = 26, (Flora 2019).

AIDS TO IDENTIFICATION: Compared to *C. umbellata*, leaves are ovate, lanceolate or elliptic; veins white-margined; lower leaf surface commonly reddish. The differentiation of

Arizona plants as var. *dasystemma* (Torrey ex Rydb.) Kearney & Peebles on the basis of leaf shape and anther tube length, is not warranted (Haber 1992).

ILLUSTRATIONS:

Line drawing (Flora of North America website, accessed September 9th, 2019, http://www.efloras.org/object_page.aspx?object_id=115097&flora_id=1)

Color photos of plants, habitat and herbarium mounts (SEINet website, accessed September 9th, 2019, <http://swbiodiversity.org>)

Color photos of plants and habitat (Native Plant Trust, accessed September 10th, 2019, <https://gobotany.nativeplanttrust.org/species/chimaphila/maculata/>)

Color photos of plants and habitat (USDA, accessed September 10th, 2019, <https://plants.usda.gov/core/profile?symbol=CHMA3>)

Color photos of plants and habitat (Maine Natural Areas Program, accessed September 10th, 2019, <https://www.maine.gov/dacf/mnap/features/chimac.htm>)

Color photos of plants and habitat (NC State Extension, accessed September 10th, 2019, <https://plants.ces.ncsu.edu/plants/chimaphila-maculata/>)

TOTAL RANGE: Generally eastern United States and Canada from Quebec and Ontario south to the Gulf States. Also found in Arizona as a disjunct population. Another population center ranges from Mexico south into Guatemala, Honduras, El Salvador, Panama, Nicaragua and Costa Rica.

RANGE WITHIN ARIZONA: Generally found in the Sky Islands, including the Chiricahua Mountains, Rincon Mountains, and Santa Rita Mountains (Pima and Cochise Counties).

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial subshrub

PHENOLOGY: Flowering May-July (-Aug)

BIOLOGY: It can reproduce either clonally or by seed. As stems arise from creeping rhizomes, clumps or contiguous grouping of stems likely represent ramets rather than unique genetic individuals. The tiny, dust-like seeds in this family are dispersed mainly by wind (Government of Canada 2018). A slow growing plant (NatureServe 2019).

HABITAT: Coniferous, mixed, and deciduous forests (e.g. shady slopes in *Pinus*, *Pinus-Quercus*, *Pinus-Quercus-Liquidambar*, *Abies*, *Pinus-Abies*, *Quercus*, *Quercus*-bamboo forest), xeric sand communities (in Canada). Grows in undisturbed habitats in leaf and needle mulch and on decomposing logs (NatureServe 2019).

ELEVATION: In Arizona, *C. maculata* is generally found between 6,500 – 8,000 ft. (1,980 – 2,440 m). However, one observation at Peppersauce Wash, Santa Rita Mountains is at 4680 ft. (1,430).

EXPOSURE: Not specified for Arizona. Seems to prefer shady slopes in Canada.

SUBSTRATE: Shady slopes; requires an organic litter layer of needles or leaves and grows best in rich, undisturbed soils

PLANT COMMUNITY: Coniferous, mixed, and deciduous forests, xeric sand communities. Two associated species include *Quercus hypoleucoides* and *Pinus ponderosa*

POPULATION HISTORY AND TRENDS: Abundance varies throughout its range, tending to be more common in the south. The species is endangered in Maine, common to occasional in Kentucky, common and widespread in South Carolina, very abundant in the Nantahala and Pisgah National Forests. Historically, it was more widely distributed in southern Ontario and into southwestern Quebec. It is now restricted to a few subpopulations in southern Ontario and is considered extirpated in Quebec. In Canada, there are currently five extant subpopulations. Surveys between 2011 and 2014 show a total Canadian population of at least 3587 (~3600) stems (Government of Canada 2018).

In Arizona, found in the Santa Rita Mountains, Rincon Mountains, and Chiricahua Mountains. There are seven known occurrences. It was noted as being common in the Chiricahua Mountains in the 1970s and 1980s, but was recently re-collected in the Rincon Mountains.

NatureServe reports that short-term trends are relatively stable; no population inventories reporting major decline; however some experts in the medicinal plant industry have suggested that populations have declined over the past ten years.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS:	None
STATE STATUS:	None
OTHER STATUS:	Schedule 1, E (Gov. of Canada 2019) Threatened (COSEWIC 2017)

MANAGEMENT FACTORS: This species is vulnerable to soil disturbance, moderate to high intensity fires, and logging. According to NatureServe (2019), any activities resulting in soil disturbance or soil compaction – even walking – can be a threat.

PROTECTIVE MEASURES TAKEN: Monitoring projects continue in Ontario, and a new population was discovered in 2004 (Government of Canada 2018). No measures taken in

Arizona, but the species occurs in some wilderness areas and within Saguaro National Park, which offers some level of protection.

SUGGESTED PROJECTS: It would be useful to update surveys that were conducted in the Sky Islands of Arizona during the 1970s and 1980s to see if the populations remain extant (AZGFD).

LAND MANAGEMENT/OWNERSHIP:

USDA Forest Service (Coronado National Forest), USDI Saguaro National Park; and Private ownership.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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Stephen Young. Chief Botanist. New York Natural Heritage Program.

ADDITIONAL INFORMATION:

This plant was used as a poultice for pain and rheumatism, as a wash for cancer, ulcers, eczema and ringworm, and taken as an infusion to treat colds and fevers, and urinary problems. It was also used as an enema (SEINet).

Revised: 2019-09-12 (CBF)

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Arizona Game and Fish Department. 20XX (= **year of last revision as indicated at end of abstract**). X...X (= **taxon of animal or plant**). Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. X pp.