

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

Plant Abstract

Element Code: PPAD10G0D0

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE



ME: *Notholaena lemmonii*
COMMON NAME: Lemmon Cloak Fern, Lemmon's Cloak-fern
SYNONYMS: *Cheilanthes lemmonii* (D.C. Eaton) Domin., *Chrysochosma lemmonii*
(D.C. Eaton) Pichi-Sermolli
FAMILY: Pteridaceae (Polypodiaceae)

AUTHOR, PLACE OF PUBLICATION: D.C. Eaton, Bull. Torr. Bot. Club 7: 63. 1880.

TYPE LOCALITY: In a south canyon of Santa Catalina Mountains near Ft. Lowell and Tucson, Pima County, Arizona, United State of America.

TYPE SPECIMEN: HT: NY 144395 J.G. Lemmon s.n. April 1880. Type specimens also reported from GH (62438 and 62439) and US (62596). IT: GH 21685, NY (144394, 144396).

TAXONOMIC UNIQUENESS: The species *lemmonii* is 1 of 11 in the genus *Notholaena*, and according to Kearney and Peebles et al. (1951), is 1 of 8 species found in Arizona. "This genus contains an artificial assemblage of probably unrelated species and is difficult to define, for it merges with *Pellaea* on the one hand and *Cheilanthes* on the other. It has been united outright with *Cheilanthes* by some authors, but it seems best to retain the traditional grouping until a comprehensive survey of the entire group can be made."

DESCRIPTION: Small fern with 10.0-35.0 cm (3.8-13.8 in.) fronds arising from a short rhizome with shiny lance-shaped scales 2.0-2.25 mm long, about 0.5 mm broad at base. Stem scales weakly bicolored, margins brown, narrow, poorly defined, thin, and sparsely ciliate-denticulate. Petiole is black to dark brown, much shorter than blade, grooved or flattened adaxially, bearing scattered glands and a few oval scales near base. The blade is linear-lanceolate, 2-pinnate-pinnatifid, 3-6 times longer than wide, abaxially with conspicuous white or pale yellow farina, scales absent, adaxially glabrous at maturity; basal pinnae is usually slightly smaller than adjacent pair, proximal basiscopic pinnules not greatly enlarged. Stipe and rachis distinctly furrowed (not beadlike) along upper surface; indument (covering) pale to bright yellow. Pinnae 10-15 pairs, these dissected into 5-7 pairs of oblong lobes, lance-shaped, narrowing abruptly toward the tips. Underside of laminae sparsely to densely covered with white to pale cream ceraceous (powder); topside usually green and glabrous (Shreve and Wiggins 1964). Sporangia borne on the flabellately dilated tips (Tryon 1956), containing 64 spores. Sori borne continually along margins of lobes (Shreve and Wiggins 1964). These ferns will curl up when moisture is insufficient.

AIDS TO IDENTIFICATION: Sporangia contain 64 spores in *N. lemmonii* (Tryon 1956). “Much longer than broad (three to four times)” (Mickel). *N. lemmonii* is similar to *N. candida*, but with narrower leaf blades and the basal pinnae are nearly equilateral (Martin et al. 1998).

ILLUSTRATIONS: Line drawings (Tryon 1956: Fig. 32).
Color photo of Holotype (NY 144395, *in* http://scisun.nybg.org:8890/searchdb/owa/wwwcatalogrenz.detail_list)
Color photos of Isotypes (NY 144394 and 144396, *in* http://scisun.nybg.org:8890/searchdb/owa/wwwcatalogrenz.detail_list)

TOTAL RANGE: Southeastern Arizona to southern Baja California and south-central Sonora, Mexico. May be widely distributed in northwest Mexico, but has not been surveyed (Warren 1994).

RANGE WITHIN ARIZONA: Pima County: Coyote, Rincon, and Santa Catalina mountains. Santa Cruz County: Atascosa and Tumacacori mountains. Fairly restricted to Tucson Basin area, Santa Cruz River (Warren 1994).

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial fern.

PHENOLOGY: Sporulating from summer to fall.

BIOLOGY:

HABITAT: Limestone cliff crevices (Shreve and Wiggins 1964); slopes and cliffs of igneous rocks (Tryon 1956). Rock crevices, base of cliffs, very dry (Warren 1994), usually on granitic or volcanic substrates. In Mexico, found in shady canyons among rocks and outcrops, steep slopes and cliffs, at 200-850 m elevation (Martin et al. 1998).

ELEVATION: 2,840 - 6,000 feet (866 - 1830 m). In Mexico, found from 656 – 2,787 ft (200-850 m).

EXPOSURE:

SUBSTRATE: Igneous, calcareous and limestone rock. Usually on granitic or volcanic substrates (FNA committee, 1993).

PLANT COMMUNITY: Lower and Upper Sonoran Zones, in ranges bordering the deserts. Desert grassland, oak woodland. Associated species in Alamo Canyon vicinity (Santa Cruz Co.) include: *Euphorbia* sp. (Spurge), *Fouquieria splendens* (Ovotillo), *Opuntia* sp., and grasses.

POPULATION TRENDS: Unknown.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
[C2 USDI, FWS 1980]
[PTN-T USDI, FWS 1975]

STATE STATUS: None

OTHER STATUS: Not Forest Service Sensitive (USDA, FS
Region 3 1999)
[Forest Service Sensitive USDA, FS Region
3 1990]

MANAGEMENT FACTORS: Apparently not threatened, except for potential droughts.

PROTECTIVE MEASURES:

SUGGESTED PROJECTS: Surveys are needed to better define their range in Arizona.

LAND MANAGEMENT/OWNERSHIP: NPS - Saguaro National Park; USFS - Coronado National Forest. Possibly BLM.

SOURCES OF FURTHER INFORMATION

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ADDITIONAL INFORMATION:

Revised: 1991-10-18 (ANHP)
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