

U.S. FISH AND WILDLIFE SERVICE
DIVISION OF ENDANGERED SPECIES

SPECIES ACCOUNTS

Source: *Endangered and Threatened Species of the Southeastern United States (The Red Book)* FWS
Region 4 -- As of 1/96

SMALL WHORLED POGONIA

Isotria medeoloides

FAMILY: Orchidaceae

STATUS: Threatened, *Federal Register*, October 6, 1994

DESCRIPTION AND REPRODUCTION: Small whorled pogonia is a perennial with long, pubescent roots and a smooth, hollow stem 9.5 to 25 centimeters (cm) tall terminating in a whorl of 5 or 6 light green, elliptical leaves that are somewhat pointed and measure up to 8 by 4 cm. A flower, or occasionally two flowers, is produced at the top of the stem. Small whorled pogonia's nearest relative is *I. verticillata*, which is similar looking but can be distinguished by its purplish stem and by differences in the flower structure. *I. verticillata* is much more common and widespread than the small-whorled pogonia. When not in flower, young plants of Indian cucumber-root (*Medeola virginiana*) also resemble small whorled pogonia. However, the hollow stout stem of *Isotria* will separate it from the genus *Medeola*, which has a solid, more slender stem.

Flowering occurs from about mid-May to mid-June, with the flowers apparently lasting only a few days to a week or so. Also, this plant doesn't necessarily flower annually. Usually only one flower is produced per plant. If pollination occurs, a capsule may be formed which can contain several thousand minute seeds. No evidence of insect pollination has been observed. This plant is believed to be self-pollinating by mechanical processes. The flower lacks both nectar guides and fragrance. There is no evidence for asexual reproduction. Individual plants may not flower every year; and extended dormancy, although not scientifically documented, is purported to occur under certain conditions.

RANGE AND POPULATION LEVEL: This plant formerly occurred in 48 counties in 16 eastern states and Canada, but when listed as endangered in 1982 it was known to exist in only 16 counties in 10 states, and one county in Ontario, Canada. By 1991, a total of 86 sites in 15 states were known, and by 1993, there was a known total of 104 sites in 15 states. Most populations are centered in the foothills of the Appalachian Mountains in New England and northern coastal Massachusetts. The 23 populations in the Southeast Region occur in North Carolina (5 populations); South Carolina (4 populations); Georgia (13 populations); and Tennessee (1 population). Most Southeastern populations number less

than 25 plants. South Carolina has one population of over 25 plants, and Georgia has two populations numbering about 100 plants. Small whorled pogonia is also known from Virginia, Delaware, and New Jersey, Pennsylvania, Ohio, Michigan, Illinois, and Ontario, Canada.

This plant was reclassified from endangered to threatened because the number of known populations increased from 34 in 1985 to 104 in 1993. Also, the species' 1992 revised recovery plan stipulates that at least 25 percent of the plant's self-sustaining populations were protected through public ownership or private landowner management agreement. According to the October 6, 1994 *Federal Register* notice which officially downlisted the species, a total of 46 small whorled pogonia sites are currently protected rangewide, 24 of which have self-sustaining populations. In the Southeast, North Carolina has two protected sites, both of which are viable; South Carolina has four protected sites, two of which are viable; and Georgia has seven protected sites, four of which are viable.

HABITAT: This species is generally known from open, dry, deciduous woods with acid soil. It occurs in habitat where there is relatively high shrub coverage or high sapling density, flowering appears to be inhibited.

REASONS FOR CURRENT STATUS: The current status of small whorled pogonia is attributed to loss of habitat and overutilization for scientific and private collections. However, some populations observed for a number of years have also declined for unknown reasons.

MANAGEMENT AND PROTECTION: Management needs are unknown, but some habitat manipulation, as determined by future research, may be necessary to maintain certain populations. Effective management will require more information on the method of pollination, identification of pollen vectors, pollen and seed viability, seed dispersal mechanisms, competing vegetation, and abiotic factors such as light, soil, moisture, and disturbance effects, including fire.

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