

# SMALL BROOMRAPE

## *Orobanche minor* Smith

by:

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**Introduction:** The USDA Animal and Plant Health Inspection Service (APHIS) is proposing the eradication of the Federal Noxious Weed *Orobanche minor* Smith, small broomrape. This noxious weed has been found in several locations in Georgia, principally along state highway right-of-ways, and in other Southeastern states in recent years. Small broomrape is a parasitic weed that attaches to the roots of other plants for nutrients and water. It is native to the Middle East and North Africa. The leafless stem is yellowish-brown, often with a purple tinge, and up to 22" tall. The flowers are white or yellowish, and produce numerous dust-size seeds which are prolifically



produced, easily dispersed, and long-lived. *O. minor*, an introduced exotic plant, is an obligate parasite on many broadleaf plants. There is concern that this weed may spread from current infestations to surrounding crops such as tobacco, legume forages, and peanuts. However, no infestations in these

crops have been reported in Georgia to date. According to observations made by Extension and USDA weed scientists, small broomrape has not been observed to be a serious threat to any of the major crops currently grown in southwestern Georgia, possibly due to asynchrony of life cycles.

The self-pollinating flowers of *O. minor* are borne in an elongated terminal cluster. Petals are about 1.2 cm (0.5 in) long and are snapdragon-like. Flower coloration is off-white to yellowish, with violet markings. The flowering period is short, starting about 1 week following emergence, with seed release be-



**Plant Biology:** *O. minor* has a wide host range, although some researchers contend that serious economic damage is restricted mainly to clovers (*Trifolium spp.*). *O. minor* hosts most commonly found in southern Georgia along the roadsides are catsear, *Hypochaeris spp.*, and vetch, *Vicia spp.* Small broomrape has also been found parasitizing several other roadside plants.

*O. minor*, a member of the Orobanchaceae family, is a fleshy, herba-



ginning about 1 month following emergence. The minute, easily dispersed seeds are prolifically produced and long-lived; some remaining viable for 10 years or more.

It is believed that seed germination in the South takes place in January to March. *O. minor* is an obligate parasite, lacking chlorophyll; thus plants must obtain all their nutrients and water at the expense of a host plant. After germination, each seedling puts out a root-like growth which attaches to the roots of nearby broadleaf host plants. This process disrupts the nutrient and water transport in the host root system and causes damage or death to the host.



#### **Strategies for the Detection and Maintenance Control:**

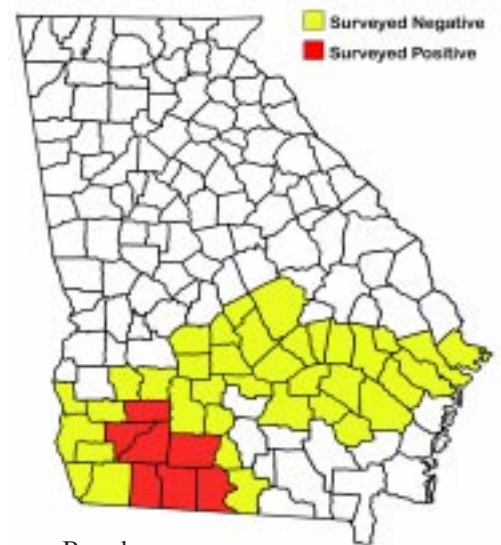
Some southwestern Georgia populations of small broomrape appear to be well established, primarily along DOT maintained roadsides, thus presenting a potential threat to crops. USDA-APHIS-PPQ, the Georgia Cooperative Extension Service, the Georgia Department of Agriculture and the Georgia Department of Transportation are cooperating in a biologically sound project to detect and eliminate infestations of small broomrape in southwestern Georgia.

Strategies employed in the detection effort include roadside surveys, distribution of brochures, and investigation of sites where the plant has been collected by botanists.

Procedures to achieve control include: Surveys to determine the extent of the infestation, measures to prevent the spread of the parasite, control activities to stop reproduction (fumigants or false host plantings to devitalize/deplete seeds in the soil), and herbicidal control before seed production.

**Containment of Infestations:** All persons visiting or working on the infested site should observe the following precautions to minimize the possibility of spreading the parasite:

1. Do not take soil from the site.
2. Do not mow infested sites before contacting appropriate personnel (USDA-APHIS-PPQ or the Cooperative Extension Service) about necessary precautions.
3. Equipment used on the site must be thoroughly washed or treated with a germicidal detergent such as Process NPD.
4. Visitors must brush their shoes to remove soil prior to leaving the site.



Based on surveys  
conducted from 1993 to 1996



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