

Bagworms

Identification, Damage and Control



Information researched by Parker County Master Gardeners

Excerpts from:

Ohio State University Extension Fact Sheet

Entomology

Bagworm And Its Control

D. J. Shetlar

The common bagworm, *Thyridopteryx ephemeraeformis* (Haworth), is an interesting caterpillar. The most commonly observed form of this pest is the spindle-shaped silk bag camouflaged with bits of foliage, bark and other debris (Fig. 1). Completed bags range from 1-1/2 to 2-1/2 inches long. The larva within the bag is brown or tan, mottled with black, and the bee-like adult males have clear wings and fur-covered bodies. The females remain larva-like and do not emerge from the bag. The larva may stick its head and front legs out of the top of the bag to feed and move. When disturbed, the larva immediately pulls its head into the bag and holds the opening closed. Mature larvae may stay on their host plant or drag their bags some distance before firmly attaching the bag for transformation into the adult stage.

The bagworm occurs in the eastern United States from New England to Nebraska and south through Texas. The larvae seem to prefer arborvitae and red cedar but many other conifers and deciduous trees are attacked. These include: pine, spruce, cypress, juniper, willow, black locust, sycamore, apple, maple, elm, poplar, oak, and birch.



Figure 1. Adult male bagworm (1.5X) mature bag (life-size)

A relative of the bagworm is the grass bagworm. This tiny caterpillar feeds on grasses and makes one-inch long silk bags with pieces of grass attached (Fig 2). When the grass bagworms pupate, the larvae may attach their bags to fences or the sides of buildings. No damage is done to the turf.



Figure 2. Grass bagworm case attached to wall (2X)

Types of Damage

Bagworm females cannot fly and local populations can build rapidly when established on preferred hosts, especially arborvitae, cedar and juniper. Crowded larvae may eat the buds on these conifers causing branch dieback and open, dead areas. Excessive defoliation of these conifers may cause entire plant death during the following season. Moderate defoliation is unsightly. This pest rarely builds up large populations in forested areas.

The mature larvae usually attach their bags to a branch by wrapping extra silk, which does not decay rapidly. This band of silk may girdle the branch as it grows, resulting in dead branches several years later. Be sure to cut off this silk band when removing bags from a plant.

Control Measures

Bagworms are difficult to control because they are often unnoticed until mature. Mature larvae will often pupate early if they detect pesticides on the plant foliage. Though there are a few known parasites and predators, they are often not adequate in urban habitats.

Option 1-Cultural Control-Mechanical Hand Picking If the bags are few in number and easily reached they may be picked off the plant and squashed. This can be done easily in the late fall when deciduous foliage has been dropped or the bits of plant material on the bags turn brown and can be easily located on evergreens. Be sure to cut the attachment silk band so that the branch will not be girdled in the future.

Option 2-Biological Control-Use the Bacterial Spray Bt The bacterium, *Bacillus thuringiensis* (Bt), is effective against bagworms if it is used against young larvae. Applications should be made in June after all the eggs have hatched and the larvae are through ballooning.

Option 3-Chemical Control-Insecticide Sprays

(Note-the next two paragraphs added by a Parker County Master Gardener) *As often happens, people have been caught off-guard by bagworms. Ideally, spray treatments should have been applied when bagworm larvae were smaller and less damaging.*

If the bagworms are actively feeding, it may not be too late to apply insecticide. Evidence of active feeding can be based on the presence of newly applied green foliar adornment on bags. Killing bagworms now would prevent their pupating and the eventual production of overwintering eggs.

Stomach insecticides are very useful for control of bagworms. Remember that the plant foliage is to be thoroughly covered because the larvae are protected from contact by being in the silk bag. Again, early sprays against young larvae are more effective than later applications. Products registered for bagworm control are: acephate (Orthene), bifenthrin (Talstar), carbaryl (Sevin), dimethoate (Cygon), Malathion, nicotine sulfate, pyrethrum.

Note from Parker County Master Gardener: I used Bacillus Thuringiensis and it worked great as will Orthene and hand picking. If you get to them early enough, hand picking will work. I did that last year and did not have any this year. But they are hard to see and you must get ALL of them. If you leave some they will overwinter and be back in late spring. To be on the safe side, spray and hand pick.

This publication contains pesticide recommendations that are subject to change at any time. These recommendations are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. Due to constantly changing labels and product registration, some of the recommendations given in this writing may no longer be legal by the time you read them. If any information in these recommendations disagrees with the label, the recommendation must be disregarded. No endorsement is intended for products mentioned, nor is criticism meant for products not mentioned. The author, The Ohio State University and Ohio State University Extension assume no liability resulting from the use of these recommendations.

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Keith L. Smith, Associate Vice President for Ag. Adm. and Director, OSU Extension.

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