

The Bagworm Problem

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The bagworm moth (*Thyridopteryx ephemeraeformis*) has become a serious pest of many deciduous and evergreen trees and shrubs. Among the evergreens, junipers commonly suffer extensive damage. This insect occurs from the Atlantic states to the Mississippi Valley.

The dark brown larva feeds with its head protruding from a protective, spindle-shaped case that it constructs during the larval stage. This portable "bag" is well camouflaged with bits of plant material and may reach a length of two inches before the resident larva undergoes the change to become a moth. Unless a close examination is made early in the growing season, extensive damage can occur before a casual observer will notice the infestation.

The foliage of infested plants is usually ragged or stripped. The bags may be seen hanging from leaves, twigs, branches, and sometimes on the bark of larger trees. Heavy infestations often result in death to the host.

Life History

Some aspects of the life history of the bagworm are unique. The tough bag that the larva uses for protection is also used to house the pupa (the resting stage in which the larva undergoes physiological and morphological changes resulting in the adult form). The male moth has a black, hairy body and clear, transparent wings that have a span of one and one-half inches. The female moth is wingless and larva-like in appearance and typically remains in the bag until after mating and egg deposition. After depositing several hundred eggs in the pupal skin, the female crawls out of the bag, drops to the ground, and dies. Generally, the eggs hatch in late May to mid-June in central Illinois.

Upon hatching, the small larvae disperse from the bag by various methods. They may crawl to nearby foliage or lower themselves by silken threads to other parts of the host plant. Man, dogs, cats, or birds may accidentally carry larvae throughout a neighborhood. Wind currents sometimes transport larvae by their silken threads over long distances. This phenomenon is referred to as "ballooning." Many species of spiders effectively use this method of dispersal. Once the larvae find a suitable host, they spin small, protective bags and begin to feed.

The silken bag offers protection against the weather and some predators. However, the bagworm has many natural enemies. Birds, lizards, and some species of spiders feed on the insect at its various immature stages. Certain species of wasps and flies parasitize members of the bagworm family. Unfortunately, one cannot usually rely on the natural enemies to prevent damage to shrubbery.

Control Measures

Excessive damage to plant foliage can be avoided if control measures are taken in advance of the spring hatch. During winter months the bags are more easily seen, and at that time trees and shrubs should be thoroughly cleaned of the bags. The bags should be hand picked from the plants and burned. The mere removal of the bag from the plant will not prevent either the eggs from hatching or the larvae and pupae from completing their development. The bags must be destroyed. Effective control of new infestations can be accomplished by spraying *Bacillus thuringiensis* (Dipel 2X), 1 teaspoon per gallon of water. In order to keep ornamental shrubs reasonably safe from bagworm damage, constant vigilance is required.