

Bagworm

Donald C. Booth, Ph. D., Entomologist



Bagworm on Arborvitae

The bagworm, *Thyridopteryx ephemeraeformis*, (Haworth), is an unusual and serious defoliating pest of many ornamental trees and shrubs throughout the eastern half of the United States. The bagworm receives its name from the bag-like structure constructed from leaf fragments that are bound together with silk produced by the larva. Most of this insect's

life is spent within the bag, which serves as a protective structure. Bags blend in with the host and infestations often go unnoticed until significant defoliation has occurred.

FOOD PLANTS

Bagworms feed on more than 125 species of trees, shrubs and herbaceous plants. Conifers, especially arborvitae, juniper, cedar, cypress and white pine are preferred hosts in most areas. In parts of the Midwest, deciduous trees, particularly maple, sycamore and locust, are frequently infested. Favored species are identified readily in the dormant season by the presence of bags on the plant.

DESCRIPTION

The presence of spindle-shaped bag structures is the principal evidence of a bagworm infestation. Bags are approximately 1/8 inch long when first visible and will reach approximately two inches long and 1/2 inch in diameter when fully developed. Larvae are about one inch long when fully grown. The body is dark brown with a yellow head region and is hairless. The female moth is worm-like and lacks wings, legs, antennae, and eyes. The body is yellowish white and nearly hairless. The male moth resembles a wasp with a black body and dense hairs. Wings are clear and about one inch across.



done in the dormant season before eggs hatch.

On large trees and with heavy infestations, chemical control must be employed. Insecticides must be applied when bags are small, usually in June. Large larvae are more resistant to insecticides than early instar larvae. Systemic pesticides generally provide better control than contacts, especially on large larvae. Consult the Bartlett Tree Research Laboratories Insect Control Recommendations or local state guidelines for specific insecticides, rates and timing for controlling this pest.

LIFE CYCLE

The bagworm overwinters as yellowish eggs within the bag. Some bags contain only male larvae, and subsequently eggs will not be found in every bag. Eggs hatch from late-May through mid-June, and larvae emerge and begin feeding and constructing new bags. As larvae continue to feed and grow, they enlarge the bag to accommodate their increased body size.

In late-July through early August, fully-grown larvae secure their bags to a twig with silk and pupate within the bag. Male moths emerge in about one month and fly to a bag containing a female, and mating occurs. Yellowish eggs are deposited within the bag, and then female the wriggles out and dies. One generation occurs each year.



Male Moth

CONTROL

Removing and destroying the bags can control light bagworm infestations on shrubs and small trees. This should be