



# Entomological Notes

Department of Entomology

## SNAILCASE BAGWORM (ALSO KNOWN AS “GARDEN BAGWORM”)

*Apterona helix* (Siebold)

At first glance, these odd-looking insects resemble small coils of fecal matter or clumps of dirt (Fig. 1). They are most often seen hanging from the exterior of houses, sheds, fences, and the like. Although snailcase bagworms do no direct damage to these structures, their presence is considered unsightly and the removal of their cases is difficult, sometimes resulting in loss of paint at the site of attachment.

The snailcase bagworm is a moth (family Psychidae) that was accidentally introduced into the United States from Europe during the 1940s. The bagworm was discovered in Albany, New York, in 1962 and has since been found in many mid-Atlantic states, including Pennsylvania. As of this writing, it has also been reported in the Pacific coastal states, as well as Colorado, Michigan, Nevada, Utah, and Idaho or the interior states. It has an extensive host range, which includes most vegetables, ornamentals, legumes, fruit and other trees, and many species of annual herbs. Occasionally, the snailcase bagworm will cause economic losses to commercial vegetable or horticultural crops, but normally the damages, and the small bagworms themselves, go unnoticed.

### LIFE HISTORY

This insect reproduces parthenogenetically (no males); is wingless in all stages, including the adult; and spends its entire existence within its case, which it constructs using silk, soil particles, and fecal matter. The young caterpillars survive the winter within the case of the mother insect. In mid-spring, they drop to the ground on silken threads, construct C-shaped cases around themselves, and begin to feed on many different native and cultivated plants. The feeding damage appears as small excavated areas on the leaf surface, but it seldom results in serious injury.

The bagworm case expands in a helical or coil-spring fashion as the larva grows. The completed bagworm case typically has three whorls or coils and is approximately 4 mm in diameter. When it reaches maturity around the first week of July, the larva, carrying its case, will climb any available tree, shrub, fence, building, or vehicle; attach itself to the surface with silk;

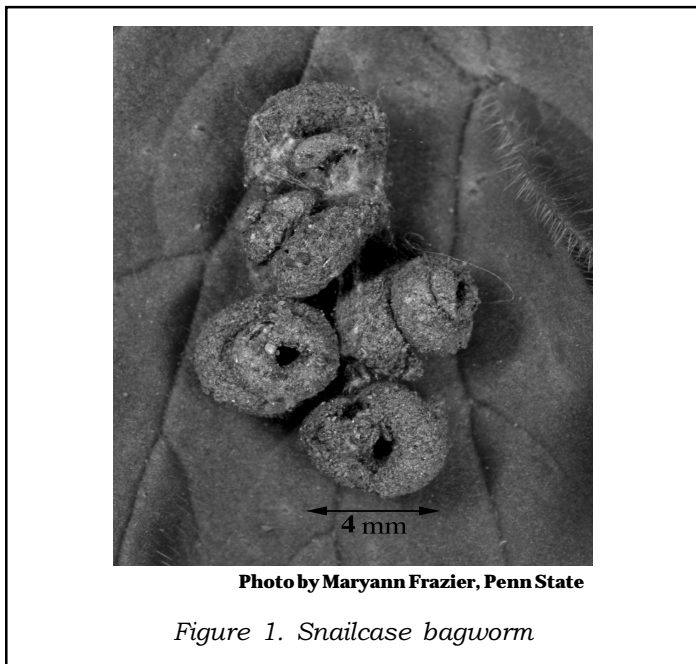


Figure 1. Snailcase bagworm

and pupate within the case. In August, the adult emerges, lays eggs in the case, and then crawls out of the case to die. The first-instar larvae hatch in late summer and, as previously noted, remain within their mother's case throughout the winter.

### DAMAGE

Early-instar larvae will chew small holes in the surface layers of leaves and excavate the tissue between the two leaf surfaces. These holes resemble feeding damage caused by a variety of leaf-mining insects. Later instars will produce irregular surface excavations, which resemble feeding damage caused by slugs.

The host range for the snailcase bagworm is extensive. However, the bagworms' activity rarely causes economic losses due to harvest reduction. Some growers of ornamental plants and Christmas trees have experienced large amounts of bagworm attachment to plants for pupation purposes, which may reduce the salability of those plants.

In addition to the many native herbaceous plants singled out as hosts, several cultivated plants have also exhibited damage. In the western states men-

tioned above, the host list includes alfalfa, apple, barley, cherry, corn, cruciferous vegetables, sweet clover, and plants grown for dried-flower arrangements. In New York, the bagworms heavily infest Douglas fir trees planted as Christmas trees.

The attachment of bagworms to buildings, fences, and other structures may result in damage when the cases are removed. Frequently, the larval silk, which holds the case firmly to the surface of the host structure, will remove a chip of paint as the case is pulled free. Attempts to remove the bagworms utilizing other techniques, such as high-pressure water sprays, have failed.

## MANAGEMENT

Bagworms should be controlled on the host plant prior to their migration to a pupation site. Chemical controls directed at the bagworms after pupation will not be successful. Consult the labels of ornamental and vegetable insecticides (e.g., Bt, carbaryl, or acephate) to determine if it is safe to apply a certain insecticide to the host plant in question. Currently, handpicking is the only way to remove attached, pupated bagworms from buildings, fences, mailboxes, vehicles, and other locations.

## WARNING

Pesticides are poisonous. Read and follow directions and safety precautions on labels. Handle carefully and store in original labeled containers out of the reach of children, pets, and livestock. Dispose of empty containers right away, in a safe manner and place. Do not contaminate forage, streams, or ponds.

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