

MOURNINGCLOAK BUTTERFLY

—the spring beauty

By Douglas C. Allen

This defoliator is the only species of butterfly considered a tree pest in the northeast. It gained notoriety in New York State in the late 1800s and early 1900s when it was a significant problem of American elm, willow and cottonwood. Another distinctive feature of the mourningcloak, also known as the spiny elm caterpillar or willow butterfly, is its world-wide distribution in the northern hemisphere. In North America, it is found throughout the United States and Canada, and as far north as the Arctic Circle.

Host plant - now that elm (its favored host) is relatively rare thanks to the ravages of Dutch elm disease, the principle hosts are cottonwood, trembling aspen, hackberry, willow, birch, and linden.

Appearance - adults are very attractive and are one of the largest butterflies in New York state (*Fig. 1*). Their wing span is 2.5 to 3.5 ". The velvety wings vary from blackish to a rich purple, and the end of each wing has a distinct cream colored border sprinkled with brown specks. Immediately interior to this border is a row of light, bluish-purple spots.

Full grown caterpillars are approximately 2" long (*Fig. 2*). The coal black body has numerous white specks and a distinct row of red spots along the middle of the back. In addition, it possesses several longitudinal rows of prominent black, branched spines.

Biology - unlike most butterflies, the mourningcloak overwinters as an adult. It seeks refuge during late fall in wood piles, tree cavities and other secluded spots. Because it overwinters in this stage, it is the earliest butterfly to take wing in the spring,



Fig.1 Mourningcloak butterfly.

usually during March in southern parts of our state and April further north. There are two generations each year, which means it also is one of the last butterflies we see in the fall.

The first generation usually causes the most damage, which becomes apparent in early to mid-June. By the time the second generation appears, natural enemies that exploited the first generation usually are numerous enough to significantly reduce population numbers.

Though adults are active in early spring, egg laying is delayed until May at which

time each female deposits a mass of 300 to 400 eggs on a host branch, at about the time buds are expanding. Caterpillars are gregarious throughout most of their life. Colonies usually feed at the tips of branches and defoliate one branch at a time. This makes feeding by just one or two colonies relatively conspicuous, unlike comparable numbers of a solitary defoliator whose damage is spread more evenly throughout the tree crown. Often branches infested with spiny elm caterpillars bend under the combined weight of individuals in the colony and this, too, makes the pest easy to spot.

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Management - mourningcloak infestations are very localized but are capable of causing noticeable defoliation in both woodlot and urban settings. Now that elm is so rare, trembling aspen and willow are the principle hosts under forest conditions, but significant damage is unusual. Defoliation is encountered most commonly in suburban situations.

A large complex of parasitic and predaceous insects is responsible for keeping populations low or quickly reducing high populations to innocuous levels.

However, it only takes one or two colonies to impair the visual quality of a shade tree.

The most effective means of preventing this (when affected trees are not too tall) is to physically remove the infested part of a branch in early stages of larval development. This reduces the likelihood of reinfestation and, if done early, will minimize impact on tree appearance. The com-

mercially available bacterium *Bacillus thuringiensis* ("Bt"), also is a very effective control. ▲

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Fig.2 Spiny elm caterpillar

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