



Viburnum Leaf Beetle

Pest Alert

Viburnum Leaf Beetle (VLB)

Pyrrhalta viburni

Viburnum Leaf Beetle, was first discovered in North America in 1947 in the Niagara Peninsula of Ontario, Canada and first established in New York State in northern Cayuga County in 1996. The first positive specimen in NY was caught at Fair Haven Beach State Park in July on a native arrowwood planting found to be heavily damaged by larval feeding. Many of these shrubs were totally defoliated and only wisps of leaves remained on the branches. The native range of VLB includes most of Europe and Asia. In North America, this exotic leaf beetle is known to inhabit Ontario, the Canadian Maritime Provinces and portions of Maine and New York State.



ADULT

IDENTIFICATION

The beetle is extremely difficult to see, resembling a small dark-brown blotch, about the size of the head of a large kitchen matchstick. Both the larvae and the adult VLB are equally destructive to ornamental plants.



The adult VLB is approximately 4.5 to 6.5mm in length. The head, thorax and elytra are generally brown while the anterior edge of the elytra is slightly dark.

The dorsal surface is covered with dense golden-grey hair. Resembles the elm leaf beetle except for minor differences in size and color.



BIOLOGY



Adult females lay eggs from late June to October or until the first frost. During this life span, the adult female lays up to 500 eggs. After filling an egg cavity with five - eight eggs a piece. The beetle closes the opening with a lid or 'cap'. The cap not only protects the egg from predation but also absorbs water to maintain the humidity. The development period from egg hatch to larva emergence lasts eight - ten weeks but completes only one generation/year.

Larva that are newly hatched are greenish yellow and appear very small. As the beetle grows a pattern of dark spots make the body appear dark. Larva pass through three developmental stages called instars while attaining a length of 10 to 11 mm at maturity. Larval development is fast in the temperature range of 63-72 degree F and levels off at 81 degree F. Matured larvae enter the soil to pupate from early to mid-June and emerges in July as adults. The pupal stage lasts for 10 days with a day or two difference.



VIBURNUM LEAF BEETLE - LIFE CYCLE

Design by: New York State Department of Agriculture & Markets

ADULT FEMALES lay eggs from late June to October or until the first killing frost. During a females life span, she lays up to 500 eggs on viburnum twigs and small branches by excavating deep, rounded pinhead sized egg cavities in a straight row on the under surface of the terminal twigs.



After filling the egg cavity with five to eight eggs, the female closes the opening with a lid or "cap" made of excrement and chewed bark held together by a mucous secretion that hardens upon exposure. The cap not only protects the egg from predation, but also absorbs water to maintain the humidity.



VLB overwinters as **EGGS**, and requires a chilling period of approximately five months. Eggs hatch around May when leaf buds open.

LARVAE pass through three developmental stages attaining a length of 10 to 11mm (2/5") at maturity. Larval development is fast in the temperature range 63-72°F and levels off at 81°F.

1st Instar



The development period from egg hatch to adult emergence lasts eight to ten weeks.

2nd Instar



Larvae damage



The matured **LARVAE** enter the soil to pupate from early to mid-June and emerge as adults in July. The pupal stage lasts for about 10 days.



3rd & 4th Instars



VLB completes only one generation a year.

DAMAGE & MANAGEMENT

VLB causes severe defoliation of the popular European high bush cranberry viburnum, as well as arrowwood viburnum, American high bush cranberry viburnum and maple leaf viburnum. NY Inspectors will survey for damage of terminal twigs with characteristic egg "caps" arranged in straight rows, skeletonized leaves in the spring and heavily chewed leaves in the summer are the typical of VLB infestation.

Since there is no lure or trap, detection of VLB depends upon the participation of the Department of Environmental Conservation (DEC) foresters, horticultural service inspectors and Cornell Cooperative Extension master gardeners. NY CAPS (Cooperative Agricultural Pest Survey) will continue to map the spread and infestation of VLB in NY. Pruning and destroying infested twigs after egg laying has ceased in the fall is the most effective means of control. Another practical method is that a number of pesticides may be effective in controlling this pest. Consult pesticide labels before use.



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