is a favored landscape shrub, this pest could have significant impact in this state. If left untreated, a bush can be killed if it is defoliated for 2 to 3 years.

trilobum (American highbush cranberry), *V. lantan* (wayfaring tree), *V. rafinesquianum* (rafinesque viburnum), and *V. lentago* (nannyberry).

Symptoms

The first signs of infestation are leaves with small shot holes. As infestation progresses, leaves can be completely skeletonized. Larvae are greenish-grey with small black dots and reach almost 1/2 inch long when full grown. They often feed on the undersides of leaves. Adults are brownish-grey with antennae about half the length of the body (1/4 inch long). Egg sites, about the size of a match head, occur on the undersides of the current year's growth.

Life Cycle

Viburnum leaf beetles overwinter as eggs, hatching early to mid-May. They feed on newly expanded leaves, completing development by mid-June. Larvae drop to the soil, pupate, and emerge in late June to early July as adult beetles. These adults return to the same shrub or fly to a nearby host to feed on the leaves. The females lay eggs in late summer and fall. Eggs are deposited in chewed-out cavities, capped fiber, and excrement, and appear as a row of bumps along the undersides of the twigs of current year's growth.

Control

The least toxic method of control is to inspect the shrub between late October and early April for egg sites, then prune out and destroy those twigs affected. Aggressive pruning during the dormant season can do much to control larval damage. Control of flying adults starts in late June or early July by hand picking (place a hand below, as they roll off the foliage) during the cooler early morning hours. They have a tendency to fly away if the day is warmer. If manual control is not feasible, or if large or adult populations are high, insecticides may be required. For homeowners with large plantings of viburnums, horticultural oil or insecticidal soap may eliminate larvae if applied in their early stages. At later stages, products containing pyrethrins plus POB (piperonyl butoxide) are probably the least toxic control option. For control of the adults, there are several broad spectrum insecticides available for beetles on ornamental shrubs, but effectiveness is spotty since they fly away when disturbed, and beneficial insects

will be affected also. In the long run, planting less susceptible varieties will be the best management tool. These include Korean spice viburnum (*V. carlesii*), Judd viburnum (*V. x juddii*), lantanaphllum viburum (*V. x rhytidiophylloides*) and leatherleaf viburnum (*V. rhytidiophyllum*).

Reviewed and edited in October 2003.

Contact the Vermont Master Gardener Program at 1-800-639-2230 or *www.uvm.edu/mastergardener*

Visit University of Vermont Extension on the Web at *www.uvm.edu/extension*

Warning! All pesticides are poisons. Use them only as a last resort!

Before using any insecticide, herbicide or fungicide: 1) Know your problem. Positively identify the insect or disease. 2) Monitor the problem. Is treatment necessary? 3) Use non-chemical cultural controls first. 4) If you must use a chemical control, *carefully follow all directions and safety precautions on the label*!