Virginia Cooperative Extension
Virginia Tech • Virginia State University
www.ext.vt.edu

Euonymus Scale

Authored by Theresa A. Dellinger, Diagnostician, and Eric Day, Lab Manager, Insect ID Lab; and Alejandro Del-Pozo, Assistant Professor and Extension Specialist, Department of Entomology, Virginia Tech

Introduction

Euonymus scale (*Unaspis euonymi*) is an invasive pest of euonymus, bittersweet, pachysandra, Allegheny spurge, English ivy, and some flowering shrubs. It is an armored scale (Hemiptera: Diaspididae) that feeds on plant sap while protected under its waxy covering.

Damage

Euonymus scales infest leaves, twigs, and branches of host plants. Heavy infestations on twigs and branches can form dense crusts (Fig. 1). Light infestations on the underside of a leaf may produce yellow spots on the top of the leaf (Fig. 2). Infested plants lose their vigor and become spindly while leaves turn yellow and fall prematurely. Heavy infestations can kill plants.

Figure 1. Heavy infestation of euonymus scale on twig (Clemson University — USDA Cooperative Extension Slide Series, Bugwood.org).

Identification

Female scales have a pear-shaped, dark brown scale covering (Fig. 2). Male scales are slender, white, and have a tannish-yellow cap at one end. They have three ridges running down the length of the elongated scale covering. Both sexes are easily observable on plants (Figs. 2 & 3) and are normally 1.5 mm (0.6 inch) long. All stages are yellow under their protective scale covering.

Figure 2. Euonymus scale (John A. Davidson, University of Maryland, Bugwood.org).

Figure 3. Euonymus scale (Edward L. Manigault, Clemson University Donated Collection, Bugwood.org).

Life History

Adult females overwinter and lay eggs in early spring. These eggs hatch in early May to early June. The crawlers settle quickly and produce a second brood by mid-July. A third brood may occur in October. The broods overlap continuously, so that all stages may be found on a host plant during favorable conditions. Two to three generations occur in Virginia each year.

Control

Dormant oil sprays in late winter often provide control when directed at both the undersides of the leaves and the branches and trunk. Tender new growth may be damaged by dormant oil, so avoid applying dormant oil during the growing season.

The bodies of euonymus scales remain on the plant after the insect dies, giving the appearance that the applied treatment was not effective. Test for the presence of live scales by crushing the insects with your fingernail. Live insects will release fluid when crushed, while dead insects are dry and flake off easily.

If live scales persist after dormant oil application in winter, consider applying insecticide sprays when crawlers are found in mid-May and repeating in 7-10 days. Heavy infestations with live crawlers may require repeated insecticide sprays in mid-July and early October.

Severely infested shrubs can be pruned to the ground. Destroy any infested pruned material to limit the spread of this scale. Monitor the emerging new plant growth for scales and treat if found.

Mulch and water drought-stressed shrubs to reduce the impact of scale damage. Avoid applying too much fertilizer as this can trigger an outbreak in the pest population.

The biological control agent *Chilocorus kuwanae*, a small black lady beetle with two red spots, has been released in Virginia for control against scale insects (Fig. 4). At this time the species has had limited impact on pest populations. Insecticides, other than horticultural oils during the dormant period, should not be used when *C. kuwanae* beetles are present.

Remarks

We still lack a thoroughly effective control against euonymus scale. Scales located at the base of the plant at ground level are the most difficult to control, especially on the vining and ground cover types of euonymus.

Figure 4. *Chilocorus kuwanae*, a biological control agent against scale insects (Tom Murray, Bugwood.org).

Revised

Theresa A. Dellinger, April 8, 2022.

Visit Virginia Cooperative Extension: ext.vt.edu

2022 444-277 (ENTO-498NP)