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"SP290-W-Euonymus Scale," The University of Tennessee Agricultural Extension Service, SP290-W 1M 6/03(Rev) E12-4615-00-035-03, http://trace.tennessee.edu/utk_agexgard/55

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Agricultural Extension Service
The University of Tennessee
SP 290-W

Insects

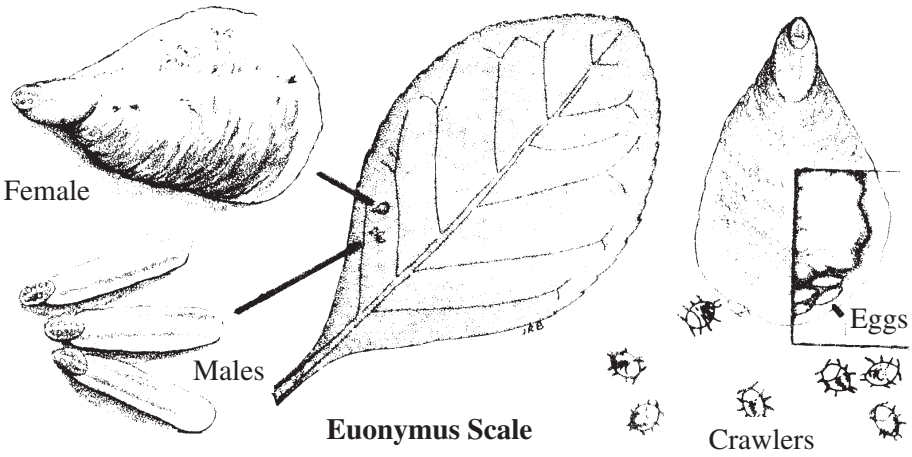
Euonymus Scale

Frank A. Hale, Associate Professor
originally developed by Jaime Yanes Jr., former Assistant Professor,
and Harry Williams, Professor Emeritus
Entomology and Plant Pathology

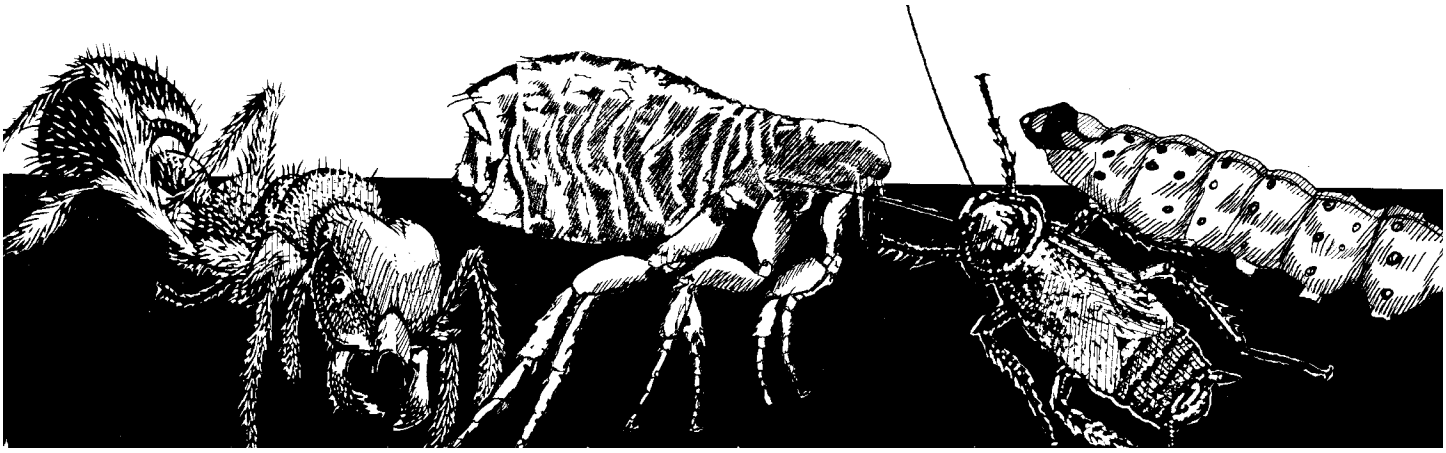
Euonymus scale, *Unaspis euonymi* (Comstock), is the most reported insect pest of euonymus, pachysandra and American bittersweet species in the Southeast. Other known host plants for this insect include hollies, camellia, twinberry, boxwood, *Daphne*, English ivy, hibiscus, jasmine, privet, honeysuckle, *Pachistima* and *Prunus*. Winged euonymus is usually free from this scale.

Damage

Damage is first seen as yellow spotting on the upper surface of the leaves. The scale insect sucks sap from the leaves and stems. As the populations increase in number, stems and leaves become encrusted with the scales. Leaves may drop as a result of serious feeding damage. Whole branches or the entire plant may die.



Center: Euonymus leaf showing yellowish spots on the upper surface and four scales. Left: Female and male scales. Right: Female scale with portion of protective covering removed to show eggs. Crawlers emerge from under the protective covering and search for a feeding site.



Description and Life Cycle

Male scales are white and about 1/32 inch long. Mature males are small, two-winged insects. The female is 1/16 inch long, oystershell-shaped and dark brown. Winged males emerge and mate with non-mobile females. Eggs are laid under the scale covering. First generation crawlers hatch in late April-May, second generation crawlers emerge in early July and a third brood may appear in August. Crawlers emerge from under the mother's covering and crawl to the leaves and stems before inserting their sucking mouthparts to feed. Crawlers then begin to secrete their protective covering.

Stems and leaves are covered almost entirely with white males and a few brown females. Euonymus growing alongside building are often hardest hit by this scale. This scale species overwinters as a fertilized, adult female scale on the plant.

Control

The application of a dormant oil spray during late winter or early spring before bud break can aid in control. Remove heavily infested branches. The crawler stage is the easiest stage to control. Begin treatments using one of the insecticides listed below around late April or as soon as crawlers are seen on the new foliage. Several additional applications may be needed during the season, targeting the crawlers of subsequent generations.

Insecticide	Formulation	Gallon	Amount per 100 Gallons
dimethoate			
Dimethoate 2.67EC	2.67 lb./gal. EC	1 Tbsp.	1.56 qt.
Dygon 400	4 lb. /gal. EC	1 tsp.	1 pt.
malathion			
Malathion	50% EC	1.5 tsp.	1.5 pt.
	57% EC	2 tsp.	1.5 pt.
horticultural oil			
Sunspray Ultra-Fine Spray Oil	98% EC	5 Tbsp.	2 gal.
chlorpyrifos			
Dursban 50W	50% WSP	—-	2 lb. (eight 4 oz. packets)
Chlorpyrifos 4E AG	4 lb./gal. EC	1/3 fl. oz.	1 qt./acre
acephate			
Orthene, Turf, Tree & Ornamental Spray	75% SP	2 tsp.	0.67 lb.
Address T/O	75% SP	2 tsp.	0.67 lb.
Orthene	9.4% EC	3 Tbsp.	4.69 qt.
carbaryl			
Sevin	2 EC	4 tsp.	66.7 fl. oz.
insecticidal soap			
M-Pede	49% a.i.	2.5-5 Tbsp.	1-2% insecticidal soap in finished spray mixture (i.e. 2 gal. soap in 98 gal. water)
Safer Insecticidal Soap	49% a.i.	5 Tbsp.	___

In order to protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label. Persons who do not obey the law will be subject to penalties.

Disclaimer Statement

Pesticides recommended in this publication were registered for the prescribed uses when printed. Pesticides registrations are continuously reviewed. Should registration of a recommended pesticide be canceled, it would no longer be recommended by The University of Tennessee.

Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others which may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product.

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SP290-W 1M 6/03(Rev) E12-4615-00-035-03
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The University of Tennessee Institute of Agriculture, U.S. Department of Agriculture, and county governments cooperating in furtherance of Acts of May 8 and June 30, 1914.
Agricultural Extension Service Charles L. Norman, Dean