



BRANCHING OUT

An Integrated Pest Management
NEWSLETTER
For Trees and Shrubs

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Conifers (As Christmas & Landscape Trees)

Pine Needle Scale (47)—Look for the crawlers of this scale now. Scots, mugo and white pine are common hosts. In addition, the scales may affect Austrian and red pines and less often, spruce, Douglas-fir and cedar. Many pesticides are registered for control of this insect but most infestations can be contained with applications of materials like horticultural oil or insecticidal soap at 298–448 GDD₅₀. Once the scales have settled and begun to form their protective covers, they will be much more difficult to eradicate and a horticultural oil may be your best management choice.

Conifers (As Landscape Ornamentals Only)

Elongate Hemlock Scale (45)—We recently found crawlers of elongate hemlock scale in Westchester County and Long Island. The crawlers are bright, lemon yellow and 0.1mm long. The insect is a serious pest of hemlock and it also attacks yew, spruce, and Douglas-fir. Feeding causes needles to turn yellow and drop prematurely. Treat heavily infested plants in late May through mid-June (360–700 GDD₅₀).

Juniper Scale (46)—We saw the yellow eggs of this scale in Westchester County, Orange County and Long Island. The yellow crawlers will emerge soon. Light infestations cause no apparent damage, while heavy feeding causes the foliage to turn yellow. Use of a dormant spray is usually enough. In the growing season, do not spray if there is an abundance of parasites and predators. For heavy infestations only, treat crawlers in mid-June to early July (707–1260 GDD₅₀).

Broad-leaved Trees and Shrubs

Apple Scab (42)—The lesions of this common disease, caused by the fungus *Venturia inaequalis*, are becoming quite obvious now. The lesions are olive green, circular with uneven margins. With time, the lesions enlarge, darken and turn velvety. With heavy infections, the leaves may curl, cup or become dwarfed. Lesions may also be seen on the fruit where they appear as rough, dark green areas. Although the first cycles of the disease have already caused significant infection some protection will be provided by applications of appropriate fungicides starting now.

Ash Anthracnose (48)—Symptoms of ash anthracnose were seen on our most recent scouting trip to Orange County. The disease is common on black, white and green ash. Early symptoms are water-soaked lesions that grow to irregular, necrotic blotches. The blotches enlarge and coalesce rapidly and the leaves drop. Entire flushes of shoots may be killed in wet years and the damage is often mistaken for late spring frost damage. In fact, anthracnose symptoms are so similar to those of frost and we've had so much occurrence of nighttime frosts lately, we're no longer sure without microscopic exam, which is which. In any case, defoliation from ash anthracnose or frost occurs so early in the season that affected trees seem to have plenty of stored reserves to produce a second flush of leaves. Repeat infections are made by the spores as long as the conditions are cool and wet, but as summer approaches disease incidence is usually reduced so we strongly advise against fungicide applications. Choose resistant green ash instead of highly susceptible white ash where disease pressure is high.



Cornell University
Cooperative Extension

Ash Plant Bug (193)—We saw ash plant bug nymphs on several ash trees in Orange County last week. They are similar in appearance to plant bug adults except that they are smaller and wingless. Some experts describe the nymphs as looking kind of like large aphids. The adults are $\frac{3}{16}$ – $\frac{1}{4}$ inch long, yellow and brown. Both the nymphs and adults feed on the underside of leaves where they suck out plant fluid. Yellow stippling occurs where there is light to moderate feeding but heavy feeding causes the young, tender leaf tissue to be more severely damaged and results in leaves that appear brown or scorched.



Yellow stippling due to ash plant bug feeding. Insert: Close-up ash plant bug nymph.

Although there is a second generation the first generation causes the most harm since the newly expanded leaves are easily damaged. This is usually an aesthetic problem, except perhaps on stressed or newly transplanted trees.

Azalea Leaf/Flower Gall (124)—Symptoms caused by a fungus from the genus

Exobasidium have begun to appear on azalea. The leaf and flower galls vary with the host plant and strain of fungus. Hosts include azalea, mock azalea, bearberry, blueberry, cranberry, huckleberry, mountain laurel, leucothoe, and rhododendron. We suggest that galls be picked and destroyed. Chemical recommendations are not available.



Azalea leaf gall

Black Spot of Rose (39)—Circular black spots, with fringed borders, have been seen on roses during our recent scouting trip to Long Island. The spots are found on the upper surfaces of leaves and can be up to $\frac{1}{2}$ inch in diameter. The area around these black spots or the entire leaf may turn yellow. Some

roses may defoliate prematurely and then re-leaf. Purplish-red, raised, irregularly shaped cankers on first year canes is another diagnostic symptom. These cankers usually remain small and turn black. Minute black blisters (the asexual fruiting structures) can be seen in the black spots and the cankers if you look closely with a hand lens. Cool, wet weather encourages unusually high incidence of this disease.

Control measures are available. Registered materials can be applied when leaves begin to expand and periodically thereafter as weather conditions and disease development dictate. Remove and destroy cankered canes. Place mulch underneath roses in autumn to cover old leaves and block the dispersal of spores. Do not mass susceptible varieties together. Promote good ventilation so leaves dry rapidly.

Boxwood Psyllid (137)—We saw a few boxwood psyllid adults in Long Island, but there were still many nymphs. The nymphs of this psyllid feed on newly expanding leaves of boxwood and are found on the insides of the cupped terminal leaves. Their feeding causes the leaves to cup upward and become stunted. The adults are light green, $\frac{1}{8}$ inch long and can be found jumping among the foliage. For that reason, adults are commonly known as jumping plant lice. Pesticides usage may be timed for the emergence of adult to prevent egg laying. Treatments for control of intolerable populations include insecticidal soap, horticultural oil or other registered pesticide. Make applications in late May (290–440 GDD₅₀).

Cedar-Apple Rusts (129–131)—These rusts were in full display on eastern red cedars in Ithaca on May 24. We were surprised to see the bright orange, gelatinous tendrils so late in the season. The unusually dry



A plentiful supply of cedar apple rust galls.

weather this spring seems to have retarded emergence of the spore bearing tendrils on juniper galls. (Note: George almost had to set up an anti-hyperventilation station near his favorite trees on our campus as he sent one student after another up to see the slimy explosion that he had promised all semester! Fantastic!)

Cicadas (236)—On our recent scouting trip to Rockland county we were lucky enough to see the beginning emergence of the periodical cicadas thanks to our colleague Amy Albam, extension educator formerly from Rockland county CCE, now at Westchester CCE. These 17 year cicadas had just started to emerge the morning of our scouting trip but numbered in the hundreds by the time we got there in the afternoon. They were still adjusting to their new environment above ground when we saw them so they were slow moving (great for taking photos!) and quiet. On our next scouting trip downstate we expect to see some damage showing up as dead twig tips on many different species of trees. Twigs and small branches with many bark slits from ovipositing females can sustain enough damage to cause them to wilt and die.



Periodical cicadas posing for a photo.

Cottony Taxus Scale (164)—The cottony egg masses from this scale are just becoming evident on yews on Long Island and Westchester. When complete, the egg masses will be $\frac{1}{4}$ inch long. This scale also can be found on holly, Japanese maple, euonymus, hydrangea, camellia and *Callicarpa americana*. The crawlers will hatch in June. Their feeding causes the foliage to become light green. Honeydew and sooty mold may be present. Apply



Cottony taxus scales with egg masses

horticultural oil as a dormant treatment next year to conserve beneficials. However, if the infestation is severe and the sooty mold is objectionable insecticidal soap, horticultural oil, neem oil or other registered pesticides can be applied from late June to mid-July (802–1388 GDD₅₀) to manage the crawlers.

Downy Leaf Spot of Hickory (125)—Symptoms of this disease are quite apparent on hickories at one of our scouting sites in central New York. The fungus sporulates on lower leaf surfaces on a dense white mat of fungal tissue that vaguely resembles erineum galls and results in conspicuous yellow spots as viewed from above. This disease is known as downy leaf spot and is caused by the fungus *Microstroma juglandis*. Its hosts include butternut and bitternut, pignut, and shagbark hickories amongst others. Premature defoliation may occur if conditions for disease development are especially favorable as they have been this year. Generally, it is of little consequence.

Elm Leafminer (85)—Elongate, interveinal blotch mines caused by the elm leafminer were reported by Don Gabel from New York Botanical Garden. Scotch, Camperdown, English, and American elms are hosts of this pest. If populations are at unacceptably high levels you can treat with registered materials in at 263–530 GDD₅₀. Alternatively an imidacloprid soil drench or injection can be done in late fall or early spring.

Euonymus Caterpillar (79)—We recently found this caterpillar on a euonymus in Central New York. These partially grown caterpillars were ½ inch long. Euonymus caterpillars feed gregariously and defoliate several species of euonymus, primarily *Euonymus europaea* (the tree form), *E. kiautschovicus*, and *E. alatus*. The colonies of larvae envelop the foliage in large silken webs. The mature larvae are about an inch long and greenish yellow. They have two rows of round black spots and black heads. If the population is low, prune out infested branches. High populations may require the use of a registered pesticide.



Mature euonymus caterpillars are about an inch long.

Euonymus Scale (186)—Don Gabel reports seeing euonymus scale crawlers. Their hosts include euonymus, pachysandra, holly and bitterweet. The crawlers are minute, oval, and amber colored. Adult females are brown, oyster-shell shaped, and ¼ inch long. The males are smaller, white, long and thin. The females are usually found on stems and males are usually found on leaves. Plants growing close to buildings seem to be damaged more than those growing where there is free air circulation. The pest frequents the stems at ground level, where they are well protected. With heavy infestations, yellow spots and dieback may occur. The coccinellid beetle, *Chilocorus kuwanae*, preys on euonymus scales and has shown considerable ability to decrease scale populations. (Chilocorus adults have shiny black, round shells with two reddish, laterally rectangular spots and are ⅜ inch long.) If the beneficials are not in abundance treatment may be necessary. The crawlers can be treated with horticultural oil, neem oil or insecticidal soap during early June (533–820 GDD₅₀) and again in mid-July (1150–1388 GDD₅₀).

Fletcher Scale (42)—Mature Fletcher scale females have laid their eggs at our scouting sites on Long Island and have likely done so around the state. Look for the yellowish crawlers to begin hatching soon. This native scale prefers arborvitae and yew and has been reported on juniper, and hemlock. These mature scales are medium brown and hemispherical in shape. All stages of this scale feed on stems and branches of the host and can be found at needle bases. It is more commonly a serious pest of yew than other hosts. Heavy infestations weaken affected plants and cause foliage drop. Fletcher scale produces copious amounts of honeydew which result in noticeable black sooty mold growth. Because there are several natural parasites, we suggest you use horticultural oil, insecticidal soap or neem oil so parasites are protected. Treat at 1029–1388 GDD₅₀.

Fourlined Plant Bug (190)—Fourlined plant bug nymphs are active and causing damage. The nymph's color ranges from bright red to yellow and the forewings on the adult are yellow turning to green. However, the four black stripes remain distinct. Woody ornamentals that serve as food for this insect include azalea, deutzia, dogwood, forsythia, viburnum, weigela, rose amur maple, and sumac. It also feeds on many herbaceous plants. Feeding injury to upper surfaces of leaves by both nymphs and adults generally takes the form of discrete circular spots that

may be visible from above. Injured areas may turn black or become translucent, and after several weeks the remaining necrotic tissue may drop out leaving small holes. On shrubby plants the topmost leaves are the first to be injured.



Fourlined plant bug adult and feeding damage. Inset: Close-up of fourlined plant bug nymph.

Native Holly Leafminer (95)—We found the adult native holly leafminers on American holly on Long Island. They are ⅛ inch long black flies and can be found around the newly expanded leaves. Although the larvae only mine the leaves of American holly (*Ilex opaca*) the adults do feed on English holly (*Ilex aquifolium*) and Japanese holly (*Ilex crenata*) as well, causing leaf punctures to all of them. Examine young foliage of American holly for tiny green blisters. The parasites can not be relied upon as a control because they do not reduce the area mined and the resulting aesthetic damage. Place sticky traps on the terminals of holly to detect the adults. To manage large populations, treat in mid-May (192–298 GDD₅₀).



Native holly leafminer damage and adult.

Oak Anthracnose (49)—Don Gabel writes that oak anthracnose is apparent in his area. In a given locality, this disease is innocuous in most years, but during outbreaks it can kill virtually all the foliage and many twigs. The most conspicuous symptom is leaf tip or margin discoloration and death. Oak leaves infected with anthracnose often die on the margins first. Oak anthracnose is caused by the fungus *Apiognomonia quercina*. Host plants in North America include many species of oak. Destroy fallen leaves in autumn. Chemical treatments cannot be made until next year.

Oystershell Scale (177)—The crawlers should hatch soon. Hosts include apple, lilac, ash, willow, poplar, maple and dogwood. The female scale cover is 1/8 inch long, dark brown to gray banded (varies depending on host), and shaped like an elongated oystershell. The male is the same color and shape but is considerably smaller. If necessary, treat in late May through mid-June (363–707 GDD₅₀). Several treatments may be required.

Rose Slug Sawfly (58)—Damage from the rose slug (*Endelomyia aethiops*) is becoming obvious on roses around the state. The larva of this sawfly is a greenish-yellow slug. Its feeding skeletonizes the upper surface of rose leaves and heavy infestations can cause the leaves to brown and curl. If the infestation is light, pick off and destroy the larvae. Washing the larvae from plants with a strong jet of water is one management option. Foliar sprays can also be made in the last of May through mid-June.

Phenology

- Long Island:** **Flowering**—Black Locust, Catawba Rhododendron, Cotoneaster, Deutzia, European Cranberry Bush Viburnum, Siebold Viburnum, Winter King Hawthorn
- Rockland County:** **Flowering**—Catawba Rhododendron, Cottonwood (seeds), Black Cherry, Golden Chain Tree, Scotch Broom
- Tompkins County:** **Flowering**—Black Locust, Beautybush, Double File Viburnum, Golden Chain Tree, Vanhoutte Spirea, Weigela

Growing Degree Days

As of May 28, 2013



Station	GDD ₅₀	Station	GDD ₅₀
Albany.....	311	Ithaca.....	276
Binghamton.....	252	New Brunswick,NJ.....	406
Boston, MA.....	292	Riverhead (5/27).....	318
Bridgeport, CT.....	306	Rochester.....	391
Buffalo.....	406	Syracuse.....	330
Central Park.....	470	Watertown.....	272
Farmingdale (5/27).....	287	Westchester.....	301
Hartford, CT.....	331	Worcester, MA.....	246

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