

Viburnum Diseases & Insect Pests

In general, most viburnums are relatively pest-free. Occasionally disease or insect pest problems do occur, and usually it is during those times that the plants are under stress or growing in less than ideal conditions.

Fungal Leaf Spots

A variety of leaf spots caused by the fungi *Cercospora* spp., *Phoma* spp. and *Phyllosticta* spp. and the disease anthracnose, that appears as black, sunken lesions and is caused by various fungi, are fairly common on viburnum foliage. These foliar diseases are not usually serious.

Fungal leaf spots on viburnum typically are angular to irregular-shaped, and the leaf tissue in the spots is sunken and dry. Spots may begin small, but enlarge or merge together, and may be reddish to grayish brown. Fungal leaf spots typically occur during warm, moist summer months, and initially will occur on older foliage.

Prevention & Control: Many foliar problems can be prevented by keeping leaves as dry as possible. Avoid overhead irrigation and improve air circulation with adequate plant spacing and selective branch pruning. Prune overhanging trees around diseased shrubs to reduce humidity levels and speed the drying of foliage. Hand remove spotted leaves on lightly diseased plants. Rake up and destroy infected fallen leaves. The removal of this leaf material will minimize the chances of the disease reoccurring the next season.

If chemical control is needed, most fungal leaf spots and anthracnose can be controlled with sprays of fungicides containing chlorothalonil, thiophanate-methyl, myclobutanil or mancozeb. Apply when

symptoms first appear and repeat every 10 to 14 days as needed.

Algal Leaf Spot

Algal leaf spot, caused by *Cephaleuros virescens*, may occur especially during cool, moist conditions. Leaf spots start as small, pale green circular spots, and eventually become light brown or reddish brown with age. Often the spots appear raised and velvety with feathered edges. When the spots become reddish-brown, they are producing their reproductive structures called sporangia. These sporangia are spread to adjacent foliage by wind and splashing rain. This pathogen will overwinter in leaf spots.

Prevention & Control: Algal leaf spots are common on several ornamental shrubs and trees, including camellias, magnolias, azaleas, aucubas, gardenias and rhododendrons. Monitor the plants for disease problems, practice good sanitation as stated with fungal leaf spot control, and treat any other landscape plants in the area that have algal leaf spot.

Algal leaf spot can be controlled with sprays of copper fungicides (see Table 1 for specific products). Apply when symptoms first appear and repeat every 10 to 14 days as needed.

Powdery Mildew

Viburnum species may become diseased with powdery mildew, caused by the fungus, *Erysiphe sparsa* (formerly *Microsphaera sparsa*). The occurrence and spread of this disease is favored by a combination of warm days, cool nights, and humid conditions, but is inhibited by rain. Powdery mildew is worse on plants in the shade.

Powdery mildew of viburnum primarily affects young leaves and shoots. Affected plant tissues develop a powdery white to light gray growth of fungal mycelia. The fungus is mostly found on the upper leaf surface, but also may be found on the lower leaf surface. The disease typically appears in the summer and reaches its peak in late summer. Developing leaves may be deformed by severe infections.

Prevention & Control: Since high relative humidity is an important factor favoring disease development, certain cultural practices can help prevent the disease or decrease its severity. Sanitation and measures discussed for fungal leaf spot control will aid in powdery mildew control. Additionally, some cultivars, such as *Viburnum burkwoodii* 'Mohawk' and *V. carlecephalum* 'Cayuga' exhibit some resistance to powdery mildew.

Powdery mildew can be controlled with sprays of fungicides containing myclobutanil, propiconazole, thiophanate-methyl, or horticultural oil (see Table 1 for specific products). To prevent foliar injury, apply horticultural oils for powdery mildew control only if temperatures are below 85 °F. Although sulfur is sometimes used for powdery mildew control, it is not recommended for sulfur-sensitive plants such as viburnums.

Downy Mildew

Downy mildew on viburnum is caused by the fungus, *Plasmopara viburni*. This foliar disease occurs and spreads rapidly during cool to warm weather conditions coupled with periods of leaf wetness. Initially, this disease appears as light green spots on the upper leaf surfaces. The spots enlarge to form angular patches between the leaf veins. On the lower leaf surfaces downy grayish white fungal growth appears.

Downy mildew disease is different from powdery mildew in that the fungal growth is observed on the lower rather than on the upper leaf surface. The infected areas redden and then turn brown as the leaf tissue dies. Infections of the foliage in the spring can result from splashing spores produced by the diseased foliage remaining on the ground from the previous year.

Prevention & Control: As with other foliar diseases, downy mildew can be prevented by keeping the foliage as dry as possible. When planting viburnum or other nearby plants, allow for adequate plant spacing. Prune back adjacent shrubs or overhanging tree limbs. These steps will improve air circulation around the plants and aid in the drying of foliage. Rake up and destroy infected fallen leaves.

If fungicides are necessary, sprays should adequately cover both the upper and lower leaf surfaces. Fungicides labeled to control downy mildew include mancozeb, chlorothalonil, or copper fungicides (see Table 1 for specific products).

Botryosphaeria Dieback & Canker

The fungal disease called Botryosphaeria dieback and canker, caused by *Botryosphaeria* spp., is most likely to occur on plants suffering from drought stress, bark injuries, pruning wounds or other environmental stresses. Healthy plants are much more resistant to infection by *Botryosphaeria* spp., as they will wall off the fungus and prevent its spread through the branch.

Upon entry via a wound, the fungus kills cambium and sapwood tissue, causing sunken dead areas called cankers. The cankers are small initially, but enlarge or coalesce (merge) into large areas that girdle the branch or trunk. Water movement is stopped beyond that point and results in a rapid wilting or browning of foliage. Branches with cankers may fail to leaf out in the spring.

Prevention & Control: Water shrubs weekly during the growing season if insufficient rainfall occurs (see [HGIC 1056, Watering Shrubs & Trees](#)). Mulching shrubs helps to avoid mechanical injury to trunk and limbs by weed trimmers and lawn mowers. Mulch shrubs with a 2- to 4-inch layer of bark, pine needles or ground leaves, and avoid piling the mulch against the trunk.

Prune any branches with cankers back to green healthy wood. If entire branches must be pruned, cut the limb just outside the branch collar and not flush with the trunk. Disinfest pruners between every cut with a 70% alcohol or 10% bleach solution. Dispose of all prunings, as this plant material is a potential source of disease for

viburnums as well as other woody shrubs. No fungicides are recommended for the control of fungal cankers, but pruning wounds may be sprayed for protection with a benzimidazole fungicide, such as thiophanate methyl (see Table 1 for specific products).

Armillaria Root Rot

Armillaria root rot is also known as shoestring root rot, mushroom root rot, and oak root rot. It is caused by the fungus *Armillaria mellea* which is common in landscape and garden settings. This fungus can rot the roots of many different kinds of plants. Most often this disease is found on trees and shrubs such as oak, pine, rhododendron and dogwood, but hundreds of plant species, including viburnums, are susceptible. Typically the symptoms of this root rot occur over the whole plant. Above-ground parts of the shrub generally appear stunted and yellowed, and leaves may drop. The unhealthy foliage may become more sparse over a period of several years. However, there may be no evidence of any problems, and suddenly the shrub will die. The cause of the unhealthiness or death may be difficult to determine, as similar symptoms may be caused by environmental factors such as weather stress or a general lack of plant care.



Armillaria root rot (*Armillaria* spp.)
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Armillaria root rot can be distinguished from other root rots, or from drought or excess moisture injury, by examining the crown (lower trunk) and upper roots of the plant. If *Armillaria* is responsible for the plants decline, white felt-like fungal growth can be seen under the bark if the bark is carefully peeled back. If sufficient bark is removed, the leading edge of the fungal growth will be found, and this white

growth has a characteristic fan-shape. The *Armillaria* root rot fungus also forms black, string-like fungal strands about $\frac{1}{16}$ -inch in diameter or less. These strands may often be seen between the bark and the wood, or on the surface of the roots, or in the nearby soil. These string-like fungal strands are called shoestrings, and look very similar to roots.

Prevention & Control: Provide good growing conditions for the viburnum, especially additional water during droughts, good soil drainage, and proper fertilization.

An infected shrub whose entire root system or trunk is diseased cannot be saved. When a shrub dies from *Armillaria* root rot, the large roots in the vicinity of the trunk as well as the trunk itself should be removed and destroyed. Soil in the immediate vicinity should also be removed. Avoid replanting the same species as the one removed.

Aphids

Snowball aphids (*Neoceruraphis viburnicola*) most often occur on European cranberry bush and snowball viburnums. They can cause twisting and curling of the young growth. These aphid are gray to dark green and feed in clusters at the tips of the branches, causing leaf curl. They feed by piercing plant tissue and sucking plant sap.

Prevention & Control: They usually cause little or no appreciable damage. Viburnums can be sprayed with insecticidal soap or horticultural oil to control aphids. Soaps and oils must be sprayed onto the aphids to be effective. Spray the foliage thoroughly, including the upper and lower leaf surfaces. Repeat spray three times at 5- to 7-day intervals. Only apply horticultural oils or insecticidal soaps if temperatures are below 85 °F.

If higher toxicity insecticides are deemed necessary, sprays containing acephate, bifenthrin, carbaryl, cyfluthrin, lambda cyhalothrin, malathion, neem oil, permethrin or pyrethrin will control aphids. Soil drenches or granular applications of imidacloprid or dinotefuran will control aphids and last longer within the plant to prevent future infestations (see Table 1 for specific products).

Flower Thrips

Flower thrips (*Frankliniella tritici*) and various other thrips species are pests of viburnums. Thrips are slender, dark-colored insects, with fringed wings. Adults are less than 1/16-inch in length. To see these fast-moving pests, you need a magnifying lens. Thrips are typically found on leaves and between flower petals. Both adults and nymphs (immature insect stage that resemble the adult, but are smaller) feed by scraping surface cells to suck plant sap. Thrips feed on expanding leaves, which creates purplish red spots on the undersurfaces and causes foliage to severely curl or roll, then drop prematurely.



Flower thrips (*Frankliniella* spp.)
Jack T. Reed, Mississippi State University, Bugwood.org

When they feed on flower buds, the flower may die without opening. With a light infestation, their feeding causes leaves to have silvery speckles or streaks. With severe infestations, leaves and flowers are stunted and distorted and may turn brown and die. As a result of their small size, thrips are difficult to detect before damage is obvious. To sample for thrips on viburnum foliage, hold a sheet of stiff white paper under injured leaves, and then shake or tap the branch. Gently tip the paper to remove any bits of trash and then examine the paper in bright sunlight. Any thrips present will move around on the paper.

Prevention & Control: Several naturally occurring enemies feed on thrips. To avoid killing these beneficial insects which reduce thrips populations, insecticides should be avoided as much as possible. Grass and weeds in the area should be kept mowed or removed when possible.

If it becomes essential to spray an insecticide, the following are available in homeowner size packaging: acephate, bifenthrin, cyfluthrin, lambda cyhalothrin, permethrin or spinosad. Spray when thrips are present and again in 7 to 10 days. Insecticidal soaps will help control thrips, but thorough coverage is necessary. The soap spray must contact the pest to be effective, and may require three sprays at 5- to 7-day intervals. Soil drenches or granular applications of dinotefuran or imidacloprid will give some thrips suppression. See Table 1 for specific products.

Spider Mites

The southern red mite (*Oligonychus illicis*) is a dark reddish or brown-colored mite that is a common pest in the eastern US. Azaleas, camellias and hollies are the primary hosts for this mite, but it has been found on many other species including viburnums. The southern red mite is active in the cool weather of spring and fall, and overwinters as eggs.

Mites have needle-like piercing-sucking mouthparts. Damage to the foliage begins on the lower leaf surface where feeding begins, but as populations increase, the upper leaf surface is fed upon as well. Over time the leaf tissue collapses, the foliage turns grayish-brown, and the damaged foliage drops.

Prevention & Control: Spider mites can be removed with strong sprays of water, if applied on a regular basis. Insecticidal soap or horticultural oil are the least toxic alternatives to beneficial insects, people and the environment and can provide control when applied before population numbers get too high. Both the lower and upper leaf surfaces must be sprayed for good control. Two or three applications may be required at 7- to 14-day intervals. To determine if additional spray treatments are needed, shake or tap branches over a piece of white paper. Then look for reddish-brown specks that move around.

The following pesticide is labeled for use by homeowners against spider mites: tau-fluvalenate (see Table 1 for specific products). These miticides should be applied when mites are present and again in 7 to 10 days.

Scale

Armored scales, such as the oystershell scale (*Lepidosaphes ulmi*), can infest viburnum and cause branch dieback. If the infestation is severe enough, they may kill the shrub.

The oystershell scale can overwinter as full grown females that are attached to the bark, or as eggs that are beneath the adult scale covering. The adult female is 1/8-inch long, brown or gray, and generally the shape of an oyster shell.



Oystershell scale (*Lepidosaphes ulmi*)
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Crawler (immature stage) activity often coincides with the flush of new plant growth in the spring. These crawlers are pale, smaller than a pinhead and are the only mobile stage of the scale life cycle. Within a few hours the crawlers will settle in a suitable spot to begin feeding and excreting a waxy covering for protection.

Prevention & Control: Light infestations of scale can be scraped off by hand. Prune out and dispose of any heavily infested branches. A 2% horticultural oil can be sprayed in the early spring before new growth begins to kill overwintering adults and eggs. Horticultural oil may be sprayed when temperatures are between 40 and 85 °F.

Monitor the crawler emergence in the spring with sticky cards, double-faced tape wrapped around a branch, or by putting an infested shoot or leaf into a baggie and watching for crawler movement. Spray with horticultural oil in the spring after the plants begin growing and the danger of cold weather has passed. Repeat this application after 10 days to

better control the crawlers, adults and eggs by smothering them.

Avoid using more toxic insecticides unless the plant is seriously damaged from the scale infestation. These insecticides will often kill the naturally occurring predators of scale. If insecticides are going to be used, spray when crawlers are observed, as this is the only stage in the life cycle that is controlled by contact insecticides. Insecticides labeled for homeowner use against scale crawlers include acephate, malathion, cyfluthrin and carbaryl (see Table 1 for specific products).

Root Weevils

Root weevil adults, such as the black vine weevil (*Otiorhynchus sulcatus*), feed on foliage, and the injury shows up as ragged notches on the leaf edges. Although the foliar damage is not generally severe, it can be very unsightly. The adult weevil is a black, wingless weevil about 3/8-inch long. The adults are nocturnal feeders and move up onto the plant at sundown. On sunny days they are found in the leaf litter beneath the viburnum canopy.

Root weevil larvae cause damage by chewing and girdling roots, and damage usually begins in spring to early summer and continues through the growing season. The larvae are white, legless grubs with a brown head and C-shaped appearance. They are found in the soil around the viburnum roots.

The grubs cause more significant damage than do the adults. Plant growth may become stunted, and the foliage may become pale green or yellow. Root and crown feeding by the grubs may kill the shrub.

Prevention & Control: For successful control, treatments should be directed at the adult weevils. Once foliar damage is observed, insecticidal sprays should be made at 2- to 3-week intervals, where three sprays are usually sufficient. Along with the foliar applications, also treat the surface of the soil or mulch immediately beneath the plants (as a spray, not a drench) because this is where the adults will hide during the day. Insecticides labeled for adult weevil control include bifenthrin, acephate, permethrin, and cyfluthrin. A soil drench around the base of the shrub with imidacloprid or dinotefuran can be used to control the larvae (see Table 1 for specific products).

Table 1. Insecticides and Fungicides for Viburnum Insect Pest and Disease Control.

Active Ingredient	Brand Names and Products
Acephate	Bonide Systemic Insect Control Concentrate
Bifenthrin	Ortho Bug-B-Gon MAX Insect Killer for Lawns & Gardens Concentrate Hi-Yield Bug Blaster II Bifen 2.4 Concentrate Bifen I/T Concentrate Ferti-lome Broad Spectrum Insecticide Concentrate TalStar P Concentrate UpStar Gold Insecticide Concentrate
Carbaryl	Garden Tech Sevin Concentrate (also in RTS ¹)
Chlorothalonil	Hi-Yield Vegetable, Flower, Fruit & Ornamental Fungicide Concentrate Ferti-lome Broad Spectrum Landscape & Garden Insecticide Ortho Max Garden Disease Control Concentrate GardenTech Daconil Fungicide Concentrate Monterey Fruit Tree, Vegetable & Ornamental Fungicide Bonide Fung-onil Concentrate Southern Ag Liquid Ornamental & Vegetable Fungicide Tiger Brand Daconil
Copper	Camelot O Fungicide/Bactericide Concentrate Bonide Liquid Copper Concentrate Natural Guard Copper Soap Fungicide Monterey Liqui-Cop Fungicide Concentrate Southern Ag Liquid Copper Fungicide
Cyfluthrin	Bayer Advanced Garden Power Force Multi Insect Killer Concentrate Delete Bayer Advanced Vegetable & Garden Insect Spray Concentrate
Dinotefuran	Green Light Tree & Shrub Insect Control with Safari 2G Insecticide Delete Gordon's Zylam Liquid Systemic Insecticide Gordon's Zylam 20SG Systemic Turf Insecticide Valent Brand Safari 2G Insecticide Valent Brand Safari 20SG Insecticide Ortho Tree & Shrub Insect Control Granules
Horticultural oil	Ferti-lome Horticulture Spray Concentrate Southern Ag ParaFine Horticulture Oil Concentrate Bonide All Seasons Spray Oil Concentrate Monterey Horticultural Oil Concentrate
Imidacloprid	Bayer Advanced Garden Tree & Shrub Insect Control Conc. (drench) Bonide Annual Tree & Shrub Insect Control w/ Systemaxx (drench) Ferti-lome Tree & Shrub Systemic Insect Drench Gordon's Tree & Shrub Insect Killer (drench) Hi-Yield Systemic Insect Spray (drench) Monterey Once A Year Insect Control II (drench) Ortho Bug B Gon Year Long Tree & Shrub Insect Control (drench)
Insecticidal soap	Bonide Insecticidal Soap Concentrate Espoma Earth-tone Insecticidal Soap Concentrate Natural Guard Insecticidal Soap Concentrate Safer Brand Insect Killing Soap Concentrate Schultz Garden Safe Insecticidal Soap Insect Killer Concentrate
Lambda cyhalothrin	Spectracide Triazicide Insect Killer for Lawns & Landscapes Concentrate (also in RTS ¹)
Mancozeb	Bonide Mancozeb Flowable with Zinc Concentrate Southern Ag Dithane M-45

Malathion	Spectracide Malathion Insect Spray Concentrate Southern Ag Malathion 50% EC Hi-Yield 55% Malathion Insect Spray Concentrate Ortho Max Malathion Insect Spray Concentrate Tiger Brand 50% Malathion Concentrate Gordon's Malathion 50% Spray Concentrate Bonide Malathion Insect Control 50% Concentrate Martin's Malathion 50% Concentrate
Myclobutanil	Spectracide Immunox Multi-Purpose Fungicide Concentrate (also in RTS ¹)
Neem oil	Southern Ag Triple Action Neem Oil Concentrate Ferti-lome Rose, Flower & Vegetable Spray Concentrate Monterey 70% Neem Oil Fungicide/Insecticide/ Miticide Conc.; & RTS ¹ Garden Safe Neem Oil Extract Concentrate; & RTS ¹ Garden Safe Fungicide 3 Concentrate Safer Brand Neem oil Concentrate Natural Guard Neem Concentrate
Permethrin	Bonide Eight Insect Control Vegetable, Fruit & Flower Concentrate Bonide Borer Miner Killer Concentrate Delete Hi-Yield Kill-A-Bug II Concentrate Bonide Eight Yard & Garden RTS ¹
Propiconazole	Banner Maxx Fungicide Ferti-Lome Liquid Systemic Fungicide Monterey Fungi Fighter Fungicide Concentrate Bonide Infuse Fungicide Concentrate; RTS ¹
Pyrethrin	Southern Ag Natural Pyrethrin Concentrate Bonide Pyrethrin Garden Insect Spray Concentrate Monterey Bug Buster-O
Spinosad	Southern Ag Conserve Naturalyte Insect Control Concentrate Bonide Colorado Potato Beetle Beater Concentrate Bonide Captain Jack's Dead Bug Brew Concentrate; & RTS ¹ Ferti-lome Borer, Bagworm & Leafminer Spray Concentrate Monterey Garden Insect Spray Concentrate Natural Guard Landscape & Garden Insecticide RTS ¹
Tau-fluvalinate	Bayer Advanced 3-in-1 Insect, Disease & Mite Control Conc.
Thiophanate-methyl	Cleary's 3336 Turf & Ornamental Fungicide Southern Ag ThiomyI Systemic Fungicide
¹ RTS = Ready to Spray (hose-end applicator) Drench = Add to water and pour around base of plant Note: As with all pesticides, read and follow all label instructions and precautions.	

Pesticides updated by Joey Williamson, HGIC Horticulture Extension Agent, Clemson University, 10/16. Images added, 08/13. Prepared by Joey Williamson, HGIC Horticulture Extension Agent, Clemson University. New 12/07.

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