



This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

Fern

Fern scales, *Pinnaspis aspidistrae*, belong to the group of scale insects known as armored scales. The females have oyster-shaped armor that is flat, or pear shaped and light brown in color. Crawlers are a paler brown to yellow with red eyes. Male fern scales have armor that is white felted, three-ridged. Adult males are tiny, two-winged, gnat-like insects. The oval eggs are laid under the female armor. Scale insects are sap feeders. They use their piercing mouthparts to access the contents of plant cells. Symptoms are mottling, yellowing, browning, and when infestations are severe, plant death. Ferns are very sensitive to insecticides. Two treatments 2 weeks apart of fine horticultural oil give good control without damaging the fern.

Male fern scale- *Pinnaspis aspidistrae*



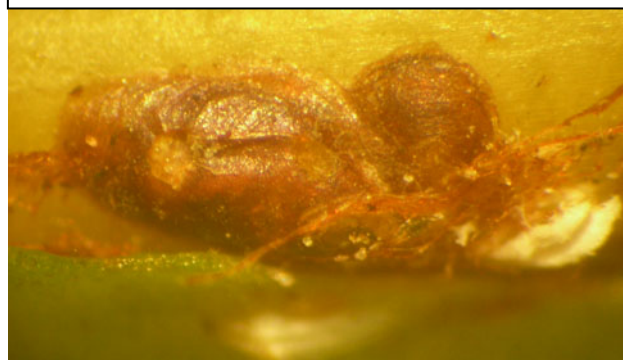
Sherrie Smith University of Arkansas Cooperative Extension

Fern scale damage- *Pinnaspis aspidistrae*



Sherrie Smith University of Arkansas Cooperative Extension

Female fern scale- *Pinnaspis aspidistrae*



Sherrie Smith University of Arkansas Cooperative Extension



Aucuba

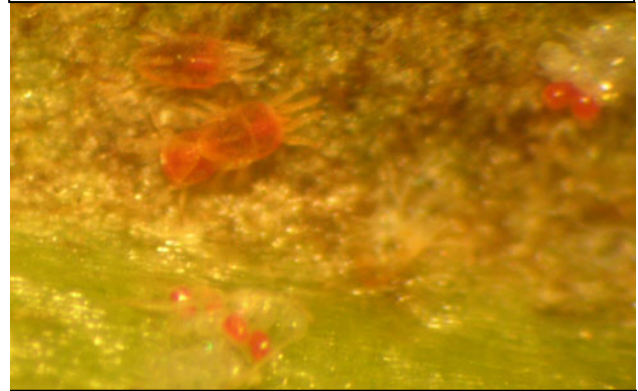
Aucuba japonica is an adaptable evergreen shrub for shade to part shade. Left unpruned, they grow 6-10 feet high and 4-6 feet wide. They are tolerant of almost any soil condition except soggy soils. Root rot followed rapidly by plant death occurs in waterlogged soil. When aucubas are unhappy, invariably the leaves start turning brown to black. Soggy soil, cold injury, (they are only hardy zones 7-10), or too much sun causes the leaves to discolor. Unhappy aucubas attract insects. This aucuba was heavily infested with false spider mites, genus *Brevipalpus*. These mites are reddish-colored with black markings. They do not produce webs like the true spider mites. However, they feed on plants in the same manner as spider mites, and can cause significant damage. False spider mites damage the plant by sucking the contents of plant cells. The foliage of badly infested plants turns reddish brown, or in the case of aucubas, black. Insecticides labeled for false spider mites include Shuttle, Floromite, TetraSan, Judo, Forbida, fine horticultural oils, and insecticidal soaps.

Aucuba with false spider mite- *Brevipalpus* sp.



Sherrie Smith University of Arkansas Cooperative Extension

False spider mite-*Brevipalpus* sp.



Sherrie Smith University of Arkansas Cooperative Extension

Blackberry

Crown gall is a serious disease of roots, stems, and crowns on a wide range of plants. Some of the most common hosts are apples grapes, plums, roses, blackberries, raspberries, muscadines, hollies, euonymus, and numerous other trees and shrubs. Crown gall is caused by the bacterium *Agrobacterium tumefaciens*. The bacteria enter through wounds made by animals, insects, grafting, pruning, transplanting, and cultivation tools. Rough, knobby galls develop on the crown at the soil line. Lateral roots and support roots may also develop galls. Some aerial galls may develop on heavily infected plants. Newly formed galls are light tan-colored and soft. Older galls become hard, woody, and dark brown to black. Galls vary in size from a few inches to more than a foot across. A few small galls do not seriously impact the plant. However, large numbers of galls can cause stunting, chlorosis, and eventual plant death. Infected plants in orchards and landscapes should be pulled up and destroyed. Care should be taken to avoid injury to plant when mowing or weed eating around them. Growing nonsusceptible crops such as grasses for three years will nearly eliminate the bacterium from the soil. Dipping the roots of new plants before planting in a product called Galltrol helps prevent infection.



**Blackberry Crown gall-
*Agrobacterium tumefaciens***



Allen Bates University of Arkansas Cooperative Extension

**Euonymus Crown gall-
*Agrobacterium tumefaciens***



Elizabeth Bush, Virginia Polytechnic Institute and State University,
Bugwood.org

**Blueberry Crown gall-
*Agrobacterium tumefaciens***



Sherrie Smith University of Arkansas Cooperative Extension