

Biological Control of Crapemyrtle Bark Scale

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Crape myrtles (*Lagerstroemia* spp.) are one of the most popular ornamental trees in the southeastern United States. This is largely because of their beautiful flowers, bark, climate adaptation, and relatively easy maintenance. However, in the past years a new pest was first detected in Texas, the crapemyrtle bark scale (*Acanthococcus lagerstroemiae* [Hemiptera, Acanthococcidae], hereafter referred to as CMBS). CMBS is native to Asia and can be recognized by white circles along the branches. The first life stage of the scale is called a crawler, and crawlers are responsible for their spread. Crawlers will settle in the branch and will start feeding on the tree's sap. The adults have sexual dimorphism, the males turn into pupae and then hatch as winged small insects. Meanwhile, the females stay as immotile scales. Once they mate, the females produce eggs that stay protected under a layer of wax until they hatch. The scale can colonize different parts of the trees causing direct and indirect injury. Direct injury occurs because of its sucking sap behavior, leading to branch dieback, and indirect is because of honeydew excretion, which provides the substrate to black sooty mold that will cover the leaves. These injuries lead to a reduction in the size of the panicles and the unpleasant appearance of the tree. CMBS can also feed on beautyberry (*Callicarpa americana*), pomegranate (*Punica granatum*), henna tree (*Lawsonia inermis*), narrow-leaf heimia (*Heimia salicifolia*) and winged-lythrum (*Lythrum alatum*).

In Louisiana, several beneficial insects are found on crapemyrtle trees. They are mainly responsible for pollination and biological control. As biological control agents, they eat or parasitize the pests, leading them to death. Parasitoids have been found parasitizing the CMBS in the U.S., but not in Louisiana. Therefore, the key biological control agents against CMBS are predators such as ladybeetles, pirate bugs, and lacewings. However, only the pirate bugs and lacewings can be purchased. Avoiding unnecessary pesticide applications will decrease natural enemy mortality and prevent rapid growth of CMBS. To protect the ladybeetles, consider products with low impact to non-targets and follow product's label.

Predators of CMBS are the ladybeetles, *Chilocorus* sp. and *Hyperaspis bigeminata*, the minute pirate bug, *Orius insidiosus*, and lacewings, *Chrysoperla* sp. The *Chilocorus* sp. ladybeetles are black with two orange spots in the wings. Its body size can vary between 0.16 and 0.24 inches long, the larvae is also black with spine-looking structures around the body. The *H. bigeminata* ladybeetle is also black with orange spots on the wings and two other spots on the front part of the body. Its body size can vary from 0.09 to 0.13 inches, and the larvae is pink with a white wax coverage. Both ladybeetles can be observed during the day feeding on the scales from late spring until early fall. The minute pirate bug is small (around 0.08 inches) and black. The nymphs can be from yellow to orange and, as adults, have piercing-sucking mouthparts that can be used to feed on different kinds of pests, including CMBS. Adult lacewings are small (up to 0.8 inches) green or pale, winged, and with long antenna that feed on pollen or honeydew. The larvae are as small as 0.04 inches when they hatch, have long mandibles that resemble pincers and are active predators of several small insects and mites. These natural enemies are largely distributed through the United States and play a key role preventing scale's outbreaks.

CMBS can be managed by washing the trunk and reachable limbs with a soft brush and mild solution of dishwashing soap and water. This will remove many of the female scales and egg masses. Washing will also remove much of the black mold that builds up on the bark of infested trees. However, washing the trees can be time consuming and not feasible in areas with many crapemyrtles. Therefore, studies are being carried out to assess which are the best pesticide products to control the CMBS.

For more information, see the LSU AgCenter [crapemyrtle bark scale website](http://www.lsuagcenter.com/crapemyrtle) (<http://www.lsuagcenter.com/crapemyrtle>).

For managing resources, see LSU AgCenter [crapemyrtle bark scale management updates](http://www.lsuagcenter.com/articles/page1508343389870) (<http://www.lsuagcenter.com/articles/page1508343389870>).