



# Pest e-alerts



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## Pest Status Update for Crapemyrtle Bark Scale

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Crapemyrtle bark scale (CMBS), *Acanthococcus lagerstroemiae* (Fig. 1), an exotic invasive insect pest from Asia, continues to wreak havoc on crapemyrtles planted in ornamental landscapes across Oklahoma. First detected in northern Texas in 2004, CMBS is spreading throughout much of the southern U.S. This scale pest is now found in nineteen Oklahoma counties including Bryan, Canadian, Carter, Cleveland, Comanche, Garfield, Grady, Johnston, Kingfisher, Logan, Marshall, McClain, Oklahoma, Payne, Pottawatomie, Pushmataha, Rogers, Stephens, and Tulsa (Fig. 2).

Crapemyrtle is a popular landscape plant throughout the southern U.S., generating \$46 million in wholesale farm revenue each year. Crapemyrtle bark scale diminishes the appearance of infested trees and shrubs by depositing honeydew on the branches and foliage, which encourages the growth of black sooty mold (Figs. 3 and 4). Although CMBS is not fatal to affected trees and shrubs, infested plants exhibit inferior aesthetic quality due to the presence of scale bodies, black sooty mold, and a reduction in flower size and quantity. Crawlers (nymphs) are spread throughout the landscape readily via wind, so once CMBS is established in a new area it can move quickly. However, rapid spread of CMBS throughout the southern U.S. is mainly due to movement of infested nursery stock.



Figure 1. Crapemyrtle bark scale. Photo credit: Rick Grantham, Oklahoma State University.

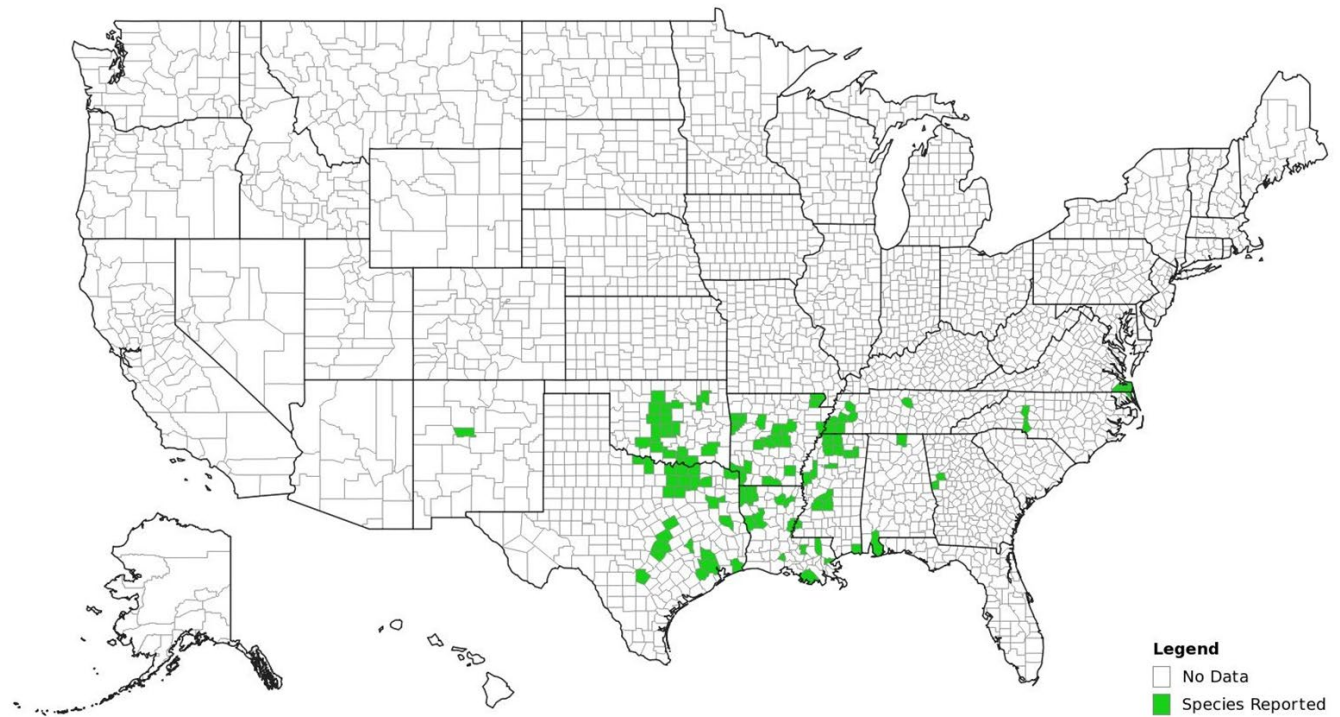


Figure 2. Current distribution of crapemyrtle bark scale in the U.S. Map downloaded from Early Detection and Distribution Mapping System (EDDMaps) on July 2, 2019 ([www.eddmaps.org](http://www.eddmaps.org)).



Figure 3. Black sooty mold on crapemyrtle leaves. Photo credit: [extension.org](http://extension.org).

### Identification and Life Cycle

Crapemyrtle bark scale is closely related to azalea bark scale, both of which occur in the family Eriococcidae (bark or felt scales). Adult females are white to gray and felt like (Fig. 1). They can be found encrusting twigs and trunks of crapemyrtles, and they exude a pink blood-like liquid when crushed (Fig. 5). Initial detections are usually made by homeowners who notice the presence of black sooty mold on their crapemyrtles. This often leads to the initial diagnosis as crapemyrtle aphid, another sucking pest of crapemyrtles that is prevalent in some areas of the southern U.S. However, the

appearance of white scale bodies on bark and the pink liquid associated with crushed scales are diagnostic characteristics of CMBS. Under magnification, adult females are pink and measure about 2 mm (~ 0.8 inches) long, and pink eggs and crawlers may be present (Fig. 6).



Figure 4. Black sooty mold on crapemyrtle trunks. Photo credit: Jim Robbins, University of Arkansas, bugwood.org.



Figure 5. Pink liquid from crushed crapemyrtle bark scales and egg sacs. Photo credit: Mengmeng Gu, Texas A&M AgriLife Extension Service, bugwood.org.



Figure 6. Eggs (top) and crawlers (bottom) of crapemyrtle bark scale. Photo credit: Rick Grantham, Oklahoma State University; and Helene Doughty, Virginia Tech, bugwood.org, resp.

As they mature, crapemyrtle bark scales secrete waxy deposits that become felted or matted into a thick white or gray scale covering. When the waxy scale cover is removed, adult females are wingless and sessile (i.e., permanently attached to the host plant). Females lay eggs under the scale cover from May through September. Crawlers emerge from under the scale cover within a day or two, and disperse to new areas of the same plant or are windblown to new host plants. There may be as few as two generations in USDA Hardiness Zone 8 and up to four generations in Zones 9 and 10, based on observations from similar climatic zones in China (see Gu et al. 2014 for details). This means that two generations of CMBS are likely for areas of Oklahoma north of I-40 but areas south may experience three and possibly four generations.

Crapemyrtle bark scale occurs almost exclusively on the bark, and research in Texas shows that crawlers are similarly distributed on upper and lower branches. In the U.S., CMBS has been reported infesting many varieties of crapemyrtle, although recently the scale pest was found on American beautyberry, *Callicarpa americana*. Although not yet confirmed, according to the literature CMBS may be found infesting additional plants including pomegranate (*Punica granatum*), axlewood (*Anogeissus* sp.), Japanese/littleleaf box (*Buxus microphylla*), Chinese hackberry (*Celtis sinensis*), Sissoo/Indian rosewood (*Dalbergia* sp.), Japanese/Kaki/Asian persimmon (*Diospyros kaki*), common fig (*Ficus carica*), needlebush (*Glochidion puberum*), soybean (*Glycine max*), border privet (*Ligustrum obtusifolium*), *Mallotus japonicas*, paradise apple (*Malus pumila*), myrtle (*Myrtus* sp.), and raspberries, blackberries, dewberries, etc. (*Rubus* sp.). It is clear that this scale has potential to affect many cultivated plants throughout the U.S.

## Management

Crapemyrtle bark scale is difficult to control without the use of systemic insecticides, which are used to control most sucking pests. However, at this time I am not recommending use of systemic, neonicotinoid insecticides (i.e., products containing imidacloprid, dinotefuran, clothianidin, and thiamethoxam) for control of CMBS because of the risk these active ingredients pose to pollinating insects such as honey bees and bumble bees and the long flowering period of crapemyrtles that extends throughout most of the growing season. Therefore, current management recommendations for CMBS infestations in Oklahoma include the following:

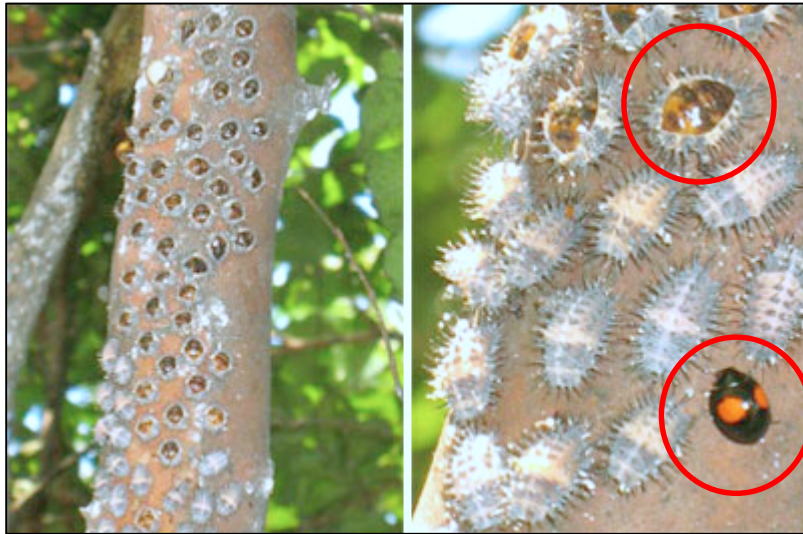


Figure 7. Lady beetles in the genus, *Chilocorus*, are predators of crapemyrtle bark scale. Shown are pupae (left), pre-pupae and one adult (right). Photo credit: Texas A&M AgriLife Extension Service.

1. Carefully inspect crapemyrtles prior to purchase for signs and symptoms of CMBS, including the presence of white to gray scale bodies on bark, honeydew, and/or black sooty mold. Always buy plants that are free of mechanical damage such as bark wounds that may serve as “points of entry” for CMBS.
2. The bark of infested plants can be scrubbed with a soft brush and a mild solution of dishwashing soap and water. Washing removes many of the female scales and egg masses as well as buildup of black sooty mold on branches and trunks.
3. Horticultural oil may be effective when applied during the winter at a dormant application rate. Ensure adequate coverage of the entire tree and use enough oil to reach behind loose bark, branch crotches, and other crevices.
4. Research in Texas shows promising results from using insect growth regulators to target crawlers in early spring as they emerge from eggs. Treatment decisions should be based on monitoring for crawler activity. When crawlers are detected, apply products containing buprofezin or pyriproxyfen to the bark of affected plants.
5. Lady beetles in the genus, *Chilocorus* (Fig. 7, red circles), are effective predators of many scale insects. However, predation of CMBS occurs too late in the season for effective reduction in the growth of black sooty mold. Over time, additional predators and parasitoids may be discovered attacking CMBS and contributing to natural control of this pest.

For a complete list of products available for managing scale insects in nurseries, see Oklahoma Cooperative Extension Service publication, CR-7092: Management of Insects and Mites in Tree Nurseries. If you observe crapemyrtles showing signs and symptoms of CMBS infestation, please notify Dr. Eric Rebek ([eric.rebek@okstate.edu](mailto:eric.rebek@okstate.edu)), State Extension Specialist for Horticultural Insects, or contact your local county extension educator.

## References

Gu, M., M. Merchant, J. Robbins, and J. Hopkins. 2014. EHT-049: Crape Myrtle Bark Scale, A New Exotic Pest. Texas A&M AgriLife Extension. Available at: [www.eddmaps.org/cmbs/Resources/TAMUCrapemyrtlebarkscaleEHT-049.pdf](http://www.eddmaps.org/cmbs/Resources/TAMUCrapemyrtlebarkscaleEHT-049.pdf).

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