

Update on crapemyrtle bark scale[©]

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INTRODUCTION

Crapemyrtle (*Lagerstroemia*) is a \$46M (farmgate wholesale value) crop. It is the number one deciduous flowering tree in the nursery trade. In the summer, crapemyrtle is one of the main flowering trees and flowers for 2-3 months. Except for minor problems such as crapemyrtle aphids and powdery mildew, the plant has been generally considered as low maintenance, and used extensively in landscape in the Southeastern United States and other regions. A new, highly unsightly pest, the crapemyrtle bark scale (CMBS), threatens to change the low maintenance reputation of this plant. The crapemyrtle bark scale (*Eriococcus lagerstroemia*) is a felt scale (*Coccoidea: Eriococcidae*) identified in 2014 through DNA work and morphological studies. It was first observed in 2004 in Richardson, Texas, a suburb of Dallas.

DESCRIPTION OF THE PROBLEM

In its native range in China, CMBS has been observed as north as Liaoning, Shanxi, Hebei and Beijing and as south as Sichuan, Jiangsu, Zhejiang, Guizhong, and Guangdong (Jiang and Xu, 1998; Luo et al., 2000; Chen and Zhang, 2011). There are as many as four generations per year for CMBS. In Guiyang, Guizhou Province, immature crawlers could be observed on branches in March before plants leaf out. The CMBS population fluctuates throughout the year, but the peak of nymph was observed in August and peak of pupae in June (Luo et al., 2000). In addition to crapemyrtle, pomegranate is also a host to CMBS.

Since its first sighting in 2004 in Texas, CMBS has been reported in 10 other states including Oklahoma, Arkansas, Louisiana, Tennessee, New Mexico, Georgia, Alabama, Mississippi, South Carolina, and Virginia. Sighting could be reported here <https://www.eddmaps.org/cmbs/>. At the end of October 2015, there were 85 county and 27 specific location reports (Figure 1).

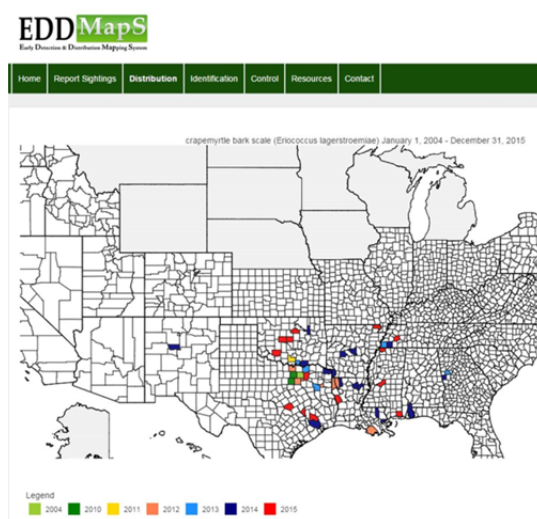


Figure 1. Reporting of crapemyrtle bark scale on early detection and distribution mapping system.

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Infested crapemyrtle trees often harbor overlapping generations of scale insects, including all life stages from eggs to adults (Figure 2). A good confirmation of CMBS presence is the “pink blood” (Figure 3) that oozes from the scale when crushed. Adult female scales look superficially similar to mealybugs, being white and fuzzy. Mature females are 2-3 mm long and can be found from the youngest shoot tips to the base of trunks (Figure 4), and frequently under peeling bark, a common trait of many crapemyrtle trees. The adult male scale has wings and may not be present. Scales produce honeydew which leads to growth of black sooty mold on the bark. Under severe infestations whole plants can be covered by black sooty mold, reducing the appearance quality of the plants (Figure 5). Overall impacts on plant health by CMBS have not been measured, but it appears that flower size and number are reduced with heavy infestations. Plants may leaf out later in the spring, and dieback of branches and entire plants has been observed on occasion.



Figure 2. Different stages of crapemyrtle bark scale found on this twig.



Figure 3. Infestation of crapemyrtle bark scale can be confirmed by the “pink blood” when crushed.



Figure 4. Crapemyrtle bark scale could be found any part of the trunk of a crapemyrtle.



Figure 5. Black sooty mold caused by crapemyrtle bark scale infestation was covering all parts of the crapemyrtle.

Adult female CMBS do not have wings, so long distance spread is thought to be due to the transportation of infested plants. Short distance spread could be due to wind, rain, birds, squirrels or ants. Ants have been observed on many trees when CMBS is present (Figure 6). For some scales, ants play a role in moving scales to fresh locations within a plant or to new plants.



Figure 6. Ants are often found at crapemyrtle infestation sites.

Crapemyrtle plants should normally be planted in full sun conditions. Observations suggest that levels of CMBS infestation may be correlated to shade levels, if other conditions were similar. This may provide additional support to the full-sun-planting recommendation for crapemyrtle plants.

Crapemyrtle bark scale could overwinter on trees, in forms of nymphs, pupae and adults. Activities of CMBS were seen as early as in February in Arkansas and Texas. Peak of crawler activity is has been seen in May, with additional peaks in March, June, July and August.

Natural enemies may have a significant impact on CMBS activity. We have observed formerly heavily infested plants with almost no trace of scale activity following high populations of predatory lady beetles. The two most common natural enemies we have observed include twice-stabbed ladybeetle (*Chilocorus cacti*) and *Hyperaspis* sp. No research has been conducted on using natural enemies to control CMBS in the United States.

Management of CMBS could also involve careful cultivar selection and use of chemicals. High infestation has been observed on 'Tuscarora', 'Lipan', 'Pink Ruffles', 'Tuskegee', 'Acoma', 'Velma', 'Choctaw' and 'New Orleans'. Neonicotinoids are effective in controlling CMBS when used as soil drench before the peak activity in May. However, bees are attracted to crapemyrtle pollen at certain times of year. Thus foliar application may not be a desirable option when crapemyrtles are in bloom. Physically removing or power-washing infested branches may reduce insect pressure, however the value of this tactic has not been evaluated. Generally speaking, a holistic management strategy for CMBS has not yet developed and is needed.

Literature cited

Chen, Y., and Zhang, J. (2011). Control experiment on *Eriococcus lagerstroemiae* Kuwana in Guangdong area. Hubei For. Tech. 174, 26–27.

Jiang, N., and Xu, H. (1998). Observation on *Eriococcus lagerstroemiae* Kuwana. J. Anhui Ag. Univ. 25, 142–144.

Luo, Q., Xie, X., Zhou, L., Wang, S., and Xu, Z. (2000). A study on the dynamics and biological characteristics of *Eriococcus lagerstroemiae* Kuwana population in Guiyang. Acta Entomol. Sin. 43, 35–42.