

PEST ALERT

FDACS-P-01954

Pest Alert created June 2021

Florida Department of Agriculture and Consumer Services Division of Plant Industry

Acanthococcus lagerstroemiae (Kuwana), crapemyrtle bark scale, detected in the Florida Panhandle

Susan E. Halbert, Ph.D., Matthew Moore, Lily Deeter and Douglass R. Miller, Ph.D., Bureau of Entomology, Nematology and Plant Pathology

Dyrana N. Russell, DPM, Bureau of Plant and Apiary Inspection

Xavier Martini, Ph.D., University of Florida, IFAS

DPIHelpline@FDACS.gov or 1-888-397-1517

INTRODUCTION

The crapemyrtle bark scale, originally from Asia, was found in North America for the first time in Texas in 2004 (Borden et al. 2018). Since then, it has been reported in all southeastern states except Florida (Williamson 2021). There are several excellent extension publications about crapemyrtle bark scale in the southern USA (e.g. Borden et al. 2018, Vafaie et al. 2018, Williamson 2021).

In the summer of 2020, homeowners in Pace, Florida (Santa Rosa County) noticed an unusual insect infestation on crape myrtle (*Lagerstroemia* spp.) plants. In April 2021, a homeowner notified the University of Florida IFAS Extension office. A sample was collected and submitted to the Florida Department of Agriculture and Consumer Services, Division of Plant Industry (DPI) for identification. The scales proved to be *Acanthococcus lagerstroemiae* (Kuwana), the crapemyrtle bark scale (Fig. 1), a new record for Florida. The identification was confirmed via molecular analysis.

Crapemyrtle bark scale belongs to a family of scale insects known as Eriococcidae, or “felt scales.” Infestations are characterized by the conspicuous white felted ovisacs (“felt”) produced by adult females. The felt is made of wax secreted by glands on the skin of the adult female.

DESCRIPTION AND FIELD SCREENING

Crapemyrtle bark scales appear as small white masses on the bark of crape myrtle trees (Fig. 1). Eggs inside the felt coverings are watermelon pink (Fig 3). These insects feed by sucking on the phloem (sap) of the tree. In order to get enough protein, they consume high quantities of sap with more sugar than they need. The extra sugar is excreted as honeydew. Heavy infestations produce copious honeydew, which provides a substrate for dark sooty mold that stains the bark of the tree. The dark stained trunks and relatively sparse branches of heavily infested trees sometimes can be seen from a distance (Fig. 4). If sooty mold is seen, inspect the bark of the tree for scales. Note that crapemyrtle aphid (*Sarucallis kahawaluokalani* (Kirkaldy)) also can cause sooty mold problems. Crapemyrtle aphids feed on the leaves, whereas crapemyrtle bark scales are on the bark.

Light infestations can be more difficult to see, because the scale insects hide in notches in the bark, forks in the branches and old pruning wounds (Fig. 5). Crape myrtle trees often are over-pruned, providing ideal habitat for the scales.

There are several other felt scales in Florida, but this one is the only one known on crape myrtle. A morphologically similar species that has been in North America since the 1800s primarily infests Ericaceae (azaleas, *Lyonia* etc.). If you suspect you have crapemyrtle bark scale, please send a sample to DPI for identification. Members of the public can send a photo to the DPI Helpline (number listed above) for initial screening that could eliminate unnecessary shipping expenses. For samples, please complete the form on our website and include it with the insect sample www.FDACS.gov/DPIsamples.



BIOLOGY AND HOSTS

The eggs of crapemyrtle bark scales (Fig. 3) hatch into crawling nymphs (Fig. 6) that exit through a small hole in the ovisac. Females settle and molt twice to the second-instar female then to the adult female. The felted ovisac is produced by the adult female soon after she molts. After male first-instars molt, the second-instar males also produce a felted sac, but it is smaller than that of the adult female. Second-instar males molt three times in the sac to the prepupa, pupa, and winged adult male. After mating occurs, eggs are produced (Vafaie et al. 2018). A female can produce 114–320 eggs in her lifetime (Vafaie et al. 2018). The host list for crapemyrtle bark scale is long. So far in North America, damaging infestations have been observed only on crape myrtle and American beautyberry (*Callicarpa americana* L.) (Wang et al. 2019, Xie et al. 2020, Xie et al. 2021). Other suitable host plants might be discovered as the range expands in North America, but reported economic plant hosts like soybean, apple and pomegranate do not appear to be damaged by the North American population of crapemyrtle bark scale.

Biological control is an attractive option for management. Currently in Florida, lady beetles have been observed preying on crapemyrtle bark scale; however, this predation is insufficient to prevent significant aesthetic damage. In time, local parasites and predators might respond.

POTENTIAL ECONOMIC IMPACT IN FLORIDA

Crape myrtle is a popular ornamental tree. Although crapemyrtle bark scale may not kill trees, it does cause reduced flowering and, in heavy infestations, an unsightly mess (Williamson 2021). Management strategies can be found in the available extension publications (Borden et al. 2018, Vafaie et al. 2018, Williamson 2021). As previously mentioned, crapemyrtle bark scale also can live on American beautyberry, a common plant in Florida woods. Thus, once an area is infested, it is unlikely that the infestation can be eradicated. Movement of crapemyrtle bark scales occurs only via crawling nymphs and human transport, since only males can fly. Thus, sanitation and inspection of plants for sale is an important part of limiting the spread of this pest.

REFERENCES

- Borden, M., Martini, X., and Dale, A. (2018).** Crapemyrtle Bark Scale *Acanthococcus* (=Eriococcus) *lagerstroemiae* (Kuwana) (Insecta: Hemiptera: Eriococcidae). EENY-711 Department of Entomology and Nematology, UF/IFAS Extension. [IN121800.pdf \(ufl.edu\)](#). (Last accessed 14 May 2021.)
- Vafaie, E., Merchant, M., and Gu, M.-m. (2018).** Crapemyrtle bark scale. Texas A&M Extension Entomology. [Crapemyrtle bark scale \(tamu.edu\)](#). (Last accessed 14 May 2021.)
- Wang, Z.-n., Chen, Y., and Diaz, R. (2019).** Temperature-dependent development and host range of crapemyrtle bark scale, *Acanthococcus lagerstroemiae* (Kuwana) (Hemiptera: Eriococcidae). *Florida Entomologist* 102: 181–186.
- Williamson, J. 2021.** Crapemyrtle bark scale Factsheet. Clemson Cooperative Extension Home & Garden Information Center. [Crapemyrtle Bark Scale | Home & Garden Information Center \(clemson.edu\)](#). (Last accessed 14 May 2021.)
- Xie, R.-s., Wu, B., Dou, H.-j., Liu, C.-y., Knox, G.W., Qin, H.-m., and Gu, M.-m. (2020).** Feeding preference of Crapemyrtle bark scale (*Acanthococcus lagerstroemiae*) on different species. *Insects* 11: 399; doi:10.3390/insects11070399. [Insects | Free Full-Text | Feeding Preference of Crapemyrtle Bark Scale \(Acanthococcus lagerstroemiae\) on Different Species \(mdpi.com\)](#). (Last accessed 14 May 2021.)
- Xie, R.-s., Wu, B., Qin, H.-m., and Gu, M.-m. (2021).** Summary of crapemyrtle bark scale hosts. [Summary of Crapemyrtle Bark Scale Hosts – Crapemyrtle Bark Scale \(stopcmbs.com\)](#). (Last accessed 14 May 2021.)



Figure 1. Crapemyrtle bark scale infestation.
Photo by Dyrana Russell, FDACS-DPI.



Figure 2. Felted ovisac of crapemyrtle bark scale.
Photo by Lily Deeter, FDACS-DPI.



Figure 3. Eggs of crapemyrtle bark scale in inverted "felt" ovisac.
Photo by Lily Deeter, FDACS-DPI.



Figure 4. Heavy infestation of crapemyrtle bark scale that can be seen from the road.
Photo by Dyrana Russell, FDACS-DPI.



Figure 5. Light infestation of crapemyrtle bark scale in crevices and old pruning wounds.
Photo by Dyrana Russell, FDACS-DPI.



Figure 6. Crawlers of crapemyrtle bark scale emerging from "felt" ovisac.
Photo by Lily Deeter, FDACS-DPI.