

Lobate Lac Scale Invades Southern Florida

By F. W. Howard

A new threat to urban landscape plants as well as to native plants in natural areas is a scale insect known as the lobate lac scale. This scale insect, known scientifically as *Paratachardina lobata lobata*, is exceptional in its wide host range, rapid rate of spread, and lethal effects on the hosts that it infests.

During the few years since its initial dis-

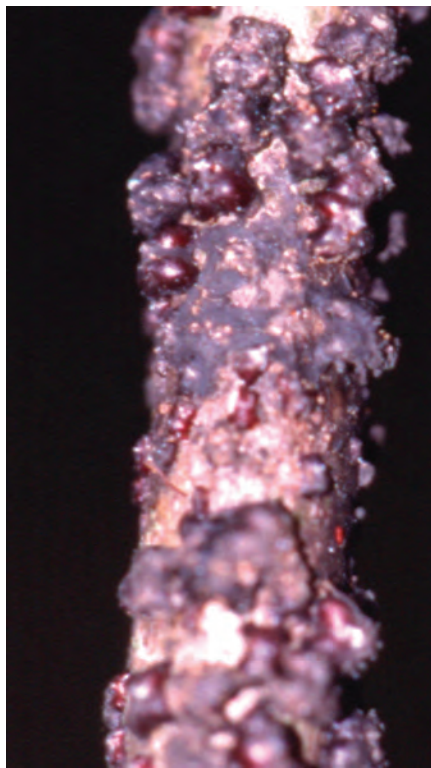


Native shrubs like cocoplum, myrsine, wild coffee and wax myrtle (pictured here) are extremely susceptible to the lobate lac scale. Heavy infestations on these and certain other native species eventually causes branch dieback and in many cases death of the shrub. Photo by F.W. Howard.

covery in Florida in 1999, this scale insect has been detected on more and more sites, and is now found throughout large areas of Miami-Dade, Broward, and Palm Beach counties. It has been identified on more than 120 species of plants, including valuable shade trees, flowering trees and shrubs, fruit trees, and at least 40 native plant species. Unfortunately, the host list continues to grow.

The scale insect infests twigs and small branches, and is generally found on the woody portions, not on green growth or foliage. Only females of this species have been seen in Florida. Many species of scale insects can reproduce by a process called parthenogenesis, that is, by unmated females, and the lobate lac scale probably has this adaptation. Parthenogenetic scale insects are able to reproduce very rapidly.

The immature scale insects are very difficult to detect without magnification, but the mature females are very conspicuous. They may appear as dark little lumps along the twig. Upon



Discovered in 1999, the lobate lac scale insect shown here is spreading rapidly in southeast Florida. The insect is known to attack more than 120 species of shade trees, flowering trees, fruit trees, woody shrubs, and more than 40 species of native plants. Photo by F. W. Howard.

closer inspection, each lump will be seen to be X-shaped, this characteristic being due to their four prominent lobes. They remind some observers of tiny bow ties. Their color is a deep reddish-brown.

All scale insects live by piercing into plant tissue and sucking the juices. In many kinds of scale insects, the alimentary track is built to filter and absorb the plant sugars. Such insects give off a watery waste called 'honeydew'. Although not rich in sugars, the honeydew contains enough to support the growth of certain fungi that form a black coating known as "sooty mold." The sooty mold associated with lobate lac scale forms a particularly heavy crust, and commonly covers the scales themselves.

Most of its hosts are woody, broad-leaved trees and shrubs. The insect has not been in Florida long enough for researchers to gauge its effects on different kinds of plants with any degree of certitude, but it is already known that certain native shrubs, including cocoplum, myrsine, wild-coffee and wax-myrtle, are extremely susceptible. The lobate lac scale builds up heavy infestations on these and certain other native species and eventually causes branch dieback and in many cases death of the shrub. Heavy infestations have been observed on a large array of exotic landscape plants, including several species of Ficus, silver button-wood, and black-olive.

The host plant picture has been changing rapidly. For example, a few months ago, the lobate lac scale was found on mango trees, but the infestations on this host were extremely light. More recently, heavy infestations of this scale insect were observed on mango trees in one grove. Willows in a natural area where many native plants were highly infested were only lightly infested in August. The same willows were heavily infested when inspected again in November.

The species belongs to the insect family *Kerriidae*, or lac scale family. The true lac scale insect has been cultured for centuries in southern Asia as a source of raw material for making shellac. Most species of *Kerriidae* are native to the eastern hemisphere. The lobate lac scale has no known commercial value, nor is it known to be a pest in its native home. In fact, it has not even been collected very often in India or Sri Lanka.

In chemical trials under way at the University of Florida's Fort Lauderdale Research & Education Center, a high degree of control of lobate lac scale on large ficus trees was obtained with a root drench of Merit. These experiments are being continued to find the most effective and economical dosages and treatment intervals. A foliar spray with horticultural oils is another option being tested. University of Florida and U.S. Department of Agriculture entomologists are cooperating in designing a research project to develop biological control for this pest and have applied for grants to support a major effort.

For information about the author, see inside cover.

Web Information

Information is available on the Internet in the University of Florida Department of Entomology and Nematology online publication Featured Creatures: http://creatures.ifas.ufl.edu/om/scales/lobate_lac.htm.