



## Lobate Lac Scale and Melaleuca:

A Devastating Insect Aided  
by an Invasive Tree

For more information on melaleuca and its  
management, visit the TAME Melaleuca Web site

<http://tame.ifas.ufl.edu>

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### *Unintended Consequences and Accidental Introductions*

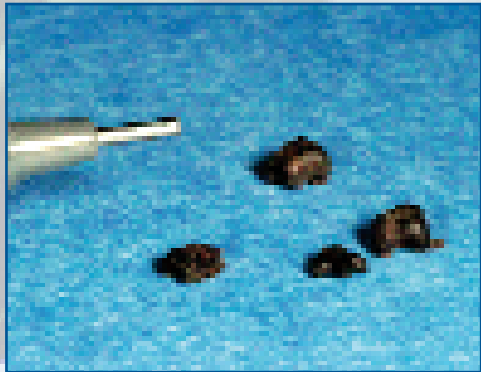
From the last ice age up to the time of Spanish settlement, the number of species in Florida remained relatively constant. However, when the Spanish arrived, new organisms from disease-causing microbes to feral hogs became established, and over the next 500 years humans continued to introduce new species. Some introductions have had enormous impacts, others have had none. Some introductions are accidental, and some have had unintended consequences. From fleas to flies, rabies to rodents and, more recently, melaleuca and the lobate lac scale, hundreds of species have been introduced in the last five centuries. We struggle to maintain fragments of something we call the real Florida, but it is a difficult battle. Melaleuca has overtaken thousand of acres of natural areas, but with an aggressive approach we might win that battle. The lobate lac scale is another alarming invasive pest that is killing trees and shrubs across South Florida. This tiny insect does not discriminate between natural vegetation, landscaped shrubs, or commercial fruit trees. If left unchecked, the effects of lobate lac scale, like those of melaleuca, will ripple across ecosystems and compromise habitat quality for all wildlife.



## The Invader

Like a hurricane in slow motion, the lobate lac scale is spreading across South Florida and destroying a variety of trees and shrubs in its wake. It congregates in large numbers and cloaks itself and its victims in black sooty mold. No larger

than a pin-head, this insect is poised to create big trouble – perhaps the most significant trouble yet for gardens and natural areas in South Florida.



*Lobate lac scales are tiny, even next to the lead in a mechanical pencil, yet they lead to death in trees that are highly susceptible to this pest.*

The lobate lac scale is a relatively new insect pest in Florida, but it already has an enormous presence. Native to India and Sri Lanka, it was first found in Broward County in 1999 and some of the heaviest infestations remain in that county. By 2002, it had spread north to Lake Worth, south to Homestead, and west into the Everglades. Lobate lac scale also occurs in the Bahamas, where a recent survey found that two-thirds of plant species examined were infested with lobate lac scale. This invasive pest has been found on over 200 species in Florida. Many important plants are highly susceptible, including native species such as wax myrtle, coco plum, red bay, wild coffee, and strangler fig, and commercially important species such as mango, ficus, lychee, and star-fruit. This widespread choice of hosts is what makes lobate lac scale particularly troubling. Evidence of their sap-sucking destruction includes blackened leaves and branches, branch dieback, and for susceptible species of shrubs and trees, death.

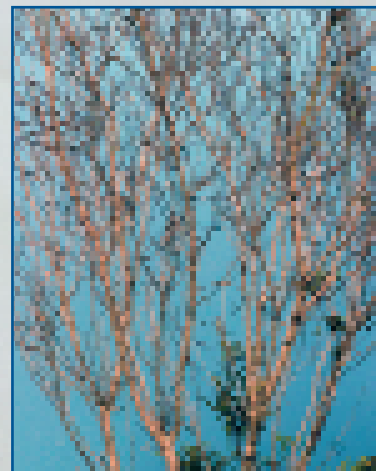
## Identification of Lobate Lac Scale

Scientific name: *Paratachardina lobata lobata*

The best known member of the lac scale family (Kerriidae) is the true lac scale of Asia, and while the true lac scale has been used since ancient times to produce shellac, the lobate lac scale has no commercial value. Lobate lac scales are dark brown but often appear dull black due to a covering of sooty mold. This mold also grows on the leaves of infested and nearby uninfested plants, feeding on the sugary waste (honeydew) excreted by the lobate lac scale. Measuring about 1/16 inch across, the adult lobate lac scale is visible to the naked eye, and looks like a tiny, four-lobed bump of bark. These hardshelled adults are usually surrounded



*Bumps on the stems and sooty mold on the leaves of this wax myrtle indicate a lobate lac scale infestation.*



*Wax myrtles are perhaps the most susceptible of all trees to lobate lac scale. Unfortunately, wax myrtles are one of the most important berry-producing trees for birds in South Florida.*

by dozens of other such bumps. They are found primarily on thin woody branches less than 1 inch in diameter.

Adults are immobile, but the red-colored larvae are not; it is at this stage of their life cycle that infestations spread. The larvae, sometimes called crawlers, often move or fall to new sites on their host plants or nearby plants. While their spread is often

aided by strong winds, much of their long-distance dispersal results from the actions of people, such as when a plant owner moves an infested plant from one location to another. You can help by not transporting any plants or plant material that you suspect of harboring lobate lac scale. Nurseries infested with lobate lac scale are quarantined until they are free of the pest.

## Double Trouble: Melaleuca and the Lobate Lac Scale

Melaleuca (MEL-ah-LUKE-ah) is an invasive weed that spreads into valuable wetlands and other natural areas in Florida. It easily outcompetes native vegetation and severely diminishes wildlife habitat quality. Melaleuca has infested hundreds of thousands of acres and has cost millions of dollars in control efforts. It is on the Federal Noxious Weed List and is illegal to possess in Florida. Furthermore, melaleuca serves as a good host for the lobate lac scale. Melaleuca trees infested with the lobate lac scale can act as a breeding ground where large numbers of larvae are free to spread onto valued landscape and native plants.

Melaleuca and other invasive weeds should be removed in order to protect Florida's natural areas and to help avoid or control lobate lac scale infestations. Contact your county's Cooperative Extension office for guidance on the removal of melaleuca.

## The Treatment

Because lobate lac scale is a relatively new pest, little research about it has been published. Even so, certain insecticides are effective in controlling lobate lac scale on ficus trees but are not currently legal to use on most fruit trees. Horticultural oils are generally effective on scale insects, and work is underway to determine their effectiveness against lobate lac scale.

The best long-term solution for controlling the lobate lac scale is using its natural enemies – a concept known as biological control. When plants or animals are introduced beyond their natural range, they are often without the associated

complex of insects and diseases that normally controls their numbers.

Biological control involves determining what organisms attack the pest in its native range, and then releasing these agents into the non-native range. For the lobate lac scale in Asia, some natural enemies are tiny non-stinging wasps. The wasps have a very narrow diet, but before these natural



*Lobate lac scale usually infests twigs and small branches that are less than 3/4 inch in diameter. It has not been observed on foliage.*

enemies can be used in Florida, research must confirm that they eat nothing but the lobate lac scale. Researchers with the USDA Agricultural Research Service, the University of Florida, and the Florida Department of Agriculture and Consumer Services are working with colleagues in India and Thailand to acquire and study these natural enemies.

Residents wishing to treat lobate lac

scale infestations may contact their county's Cooperative Extension office (see <http://extension.ifas.ufl.edu>) for more guidance (including publication #EENY-276). The state has also posted three lobate lac scale circulars online at

<http://edis.ifas.ufl.edu/IN471>,

[http://creatures.ifas.ufl.edu/orn/scales/lobate\\_lac.htm](http://creatures.ifas.ufl.edu/orn/scales/lobate_lac.htm),

<http://www.doacs.state.fl.us/~pi/enpp/ento/paratachardina.html>.