RESEARCH LABORATORY TECHNICAL REPORT

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Ficus Whitefly

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Ficus whitefly (*Singhiella simplex*), also called fig whitefly, is an invasive pest of most *Ficus* species grown in urban landscapes throughout Florida and Southern California. A native of southeastern Asia, ficus whitefly was first detected in Florida in 2007 and in California in 2012. If not managed, this insect can cause severe defoliation and plant death (Figure 1).

Description

Adult ficus whiteflies resemble very small, white moths, typically taking flight when infested branches are disturbed. Adult females lay eggs mostly along the midvein of leaf undersides. Like scale insects, nymphs emerge as crawlers and walk a short distance before settling to feed on either side of the leaf surface. The nymphs are flattened and oval, developing from nearly transparent to light green in color, and have red eye spots. Populations of ficus whitefly can grow rapidly in a short period of time because they have multiple generations per year.

Hosts and Damage

Most *Ficus* species are affected by ficus whitefly. In the urban landscape, privacy screens of weeping fig (*F. benjamina*) are most commonly infested. Azaleas are also reported as a host, though this is likely an irregularity.

The insect uses piercing and sucking mouthparts to feed on foliage, removing chlorophyll and resulting in chlorotic (yellow) blotches and streaks on leaves (Figure 2). The most common indicator of a severe ficus whitefly infestation is a plant that has lost most or all of its foliage.

Figure 1: *Ficus* hedge with severe defoliation due to infestation of ficus whitefly in South Florida
Photo credit: Doug Caldwell, UF/IFAS

Figure 2: *Ficus* shrub with partial defoliation and chlorotic blotches and streaking
Photo credit: Emily Marcus, Laguna Beach CA, used with permission

Bondar's nesting whitefly (*Paraleyrodes bondari*, also known as the Brazilian whitefly) is another invasive whitefly in scattered parts of South Florida, active during the cooler months: December to February. This less-damaging pest can be distinguished from ficus whitefly by the waxy "nests" the adults produce, resembling spots of powdery mildew (Figure 3). It also produces enormous amounts of honeydew resulting in dense, velvet-like mats of black sooty mold that should be managed if present.

Management

Key tactics for managing ficus whitefly populations are early detection, systemic treatments, and conserving natural enemies. Regularly monitor for new infestations by checking the underside of leaves for nymphs or white pupal skins. Favor systemic treatments (as opposed to contact treatments) because they reduce impacts on non-target organisms such as natural enemies. Predatory and parasitizing insects are playing an increasingly important role in reducing ficus whitefly damage, especially in the Miami and Homestead region. Three natural enemies have been identified as exerting some control of ficus whitefly and should be conserved: a tiny parasitc wasp (*Baeoentedon balios*), a metallic blue lady beetle (*Curinus coeruleus*), and green lacewings (*Chrysopa nigricornis*). Dormant treatments in cooler months also help reduce ficus whitefly populations.

After ficus whitefly populations are reduced, prescription fertilizer treatments based on a soil analysis will help trees and privacy screens re-flush with new growth. Reducing pruning cycles after fertilization programs begin will allow plants to establish new growth and increase overall plant health. Proper water management is also key to encouraging new growth and reducing the likelihood of root disease.

Due to widespread pest damage on *Ficus* in recent years, especially defoliation in a privacy hedge, some homeowners are opting to remove and replace affected plants. *Clusia rosea* and *Clusia guttifera* are especially popular hedging alternatives.

Figure 3: Bondar's whitefly nests and dense sooty mold covering a *Ficus* shrub in Florida
Photo credit: Doug Caldwell, UF/IFAS

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