

the TROPICAL GARDEN

WINTER 2016



Fairchild's Orchid Program:

The synergy of science education, outreach and the
beauty of the world's most coveted plant



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Kenneth Setzer joined Fairchild as a writer and editor with the marketing team in 2013. He contributes to print and digital media. Setzer enjoys writing about natural and human history and is an enthusiastic photographer, with a particular fascination with fungi. His educational background is in linguistics, with a B.A. from Queens College, City University of New York, and an M.A. from Florida International University.



Joyce Maschinski, Ph.D., is Fairchild's conservation ecologist. She leads the South Florida Conservation Team, which does both applied and theoretical research on rare plants of South Florida and the U.S. Caribbean. She received her B.S. and master's degrees at the University of Arizona and her doctorate from Northern Arizona University.

Cover

Phalaenopsis sp.

Come see this and many other beautiful orchids in our newest orchid exhibit: Orchid Odyssey in the Simons Rainforest.

Photo by Kenneth Setzer/FTBG



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Oriental Fruit Fly

The Redland Invasion

By Kenneth Setzer

By now you must have seen or read something about the Oriental fruit fly—certainly if you live in Southeast Florida. With its persistent threat of invasion, this fruit fly has the potential to devastate Florida's—as well as the country's—horticulture.

We are constantly hearing of new invasions threatening our crops and ornamentals. You name it: giant African snails, iguanas, whiteflies, scale insects, etc. They like our home for the reasons we do—mostly mild weather, sun, lots of fresh fruit and vegetables. But I knew this latest Oriental fruit fly (OFF) invasion was grave, and being taken very seriously, when I saw one of the many portable electronic roadside signs flashing the warning: "Fruit Fly Quarantine Area; Do Not Move Fruit." The quarantine area encompasses about 85 square miles; fruit and vegetables can only be transported out of the area with permission of regulators.

The OFF (*Bactrocera dorsalis*) lays eggs in its host plants' fruit, and once they hatch the larvae consume portions of the fruit, rendering it unusable. A frightening realization comes while perusing the list of the OFF's potential host plants. It is quite polyphagous, meaning it isn't a picky eater! The Florida Department of Agriculture and Consumer Services lists 435 OFF host plants, from *Acca sellowiana* (Guavasteen) to *Ziziphus oenoplia*. It will eat almost all of our beloved fruit, including ackee, papaya and mango, as well as many ornamentals, like areca palm, sea grape, coconut palm, even certain orchids, and also plants from which we derive vegetables and nuts.

The OFF has attempted to invade Florida before. What makes this time different is the quantity of flies discovered. There are more than 55,000 insect traps placed statewide to monitor the insects that frequent our plants. When checking traps back in September 2015 in the Redland (an agricultural area of South Florida), researchers found 45 flies in a single trap.

Soon thereafter, the Florida Department of Agriculture established a quarantine zone, regulating the movement of any possible host material—infested fruit and vegetables—into or out of the quarantine. In order to buy, sell or even

move plants, businesses needed to sign a compliance agreement to ensure they knew proper procedures to avoid spreading infested material. Homeowners, too, are prohibited from moving any fruit or vegetables off their property, and must follow strict disposal instructions, double bagging materials and placing them with household trash.

Other controls in the Redland area were immediately introduced to destroy the OFF infestation. One technique, called "male annihilation," involves using a pheromone to lure male fruit flies to a trap and kill them. Other treatments include foliar treatment with insecticide applied directly to leaves, stripping and destruction of preferred host fruit around sites where flies have been found and drenching of soil around infected host trees with a pesticide to destroy any subterranean pupae.

The Good News

These extreme actions are coupled with cooperation among the Florida Department of Agriculture and Consumer Services, University of Florida Institute of Food and Agricultural Sciences Extension, the U.S. Department of Agriculture, local government and local growers. It seems to be working. Jeff Wasielewski, a commercial tropical fruit crops extension agent at the University of Florida/IFAS Miami-Dade County Extension and formerly of Fairchild, says the quarantine will be lifted when no flies are found for the duration of three of its lifecycles. The length of lifecycle varies, with warmer temperatures resulting in a shorter life of around 30 days, while cooler temps lead to a life of about 45 days.

As of this writing, zero flies have been found during the past 71 days, and, fingers crossed, the quarantine will soon be lifted. February 20, 2016, is the current tentative end for the quarantine. Of course, since the OFF has invaded before, it may always do so again. We are constantly at risk, but there are many diligent professionals keeping an eye on things.

Find more information about OFF at www.freshfromflorida.com. 

Photos by Gary Steck, FDACS/Division of Plant Industry