

Honduran flies take aim at destructive weevils

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Friday, October 12, 2007

For 120 Honduran flies, destiny came in a cypress swamp near Boynton Beach as morning melted into sultry afternoon.

Senior biological scientist Michael Burton had lovingly reared the flies at a University of Florida lab near Fort Pierce, using discarded pineapple tops from local supermarkets. Researchers believe the flies could help control the Mexican bromeliad weevil, which threatens to knock the once-ubiquitous air plant from its perch in Florida's trees.

Fighting invasive species has become a top priority in the Arthur R. Marshall Loxahatchee National Wildlife Refuge and across the state in recent years, as millions of dollars have been allocated to stopping the spread of melaleuca trees and old-world climbing ferns.

As Burton opened a white mesh cage called a "bug dorm" to usher his winged charges to freedom earlier today, Cindy Fury, the refuge's senior biologist, could not contain her excitement.

"Save the bromeliads!" she chanted with a group of fourth-graders from Orchard View Elementary School. "Save the bromeliads!" The Florida Council of Bromeliad Societies hopes the fly will do just that. Jay Thurrott, chairman of the council, which represents 10 societies throughout the state, has watched bromeliads decline in recent years. Cut down by weevils, they littered the boardwalk through the cypress swamp.

Bromeliads play a vital role in the South Florida ecosystem and, with water-filled centers supporting frogs, birds and insects, form a kind of microecosystem themselves. Keeping the plants healthy is also important to tourism, Thurrott said.

"People come to Florida and they have this idea of trees draped with air plants," Thurrott said. "We're very hopeful the flies do what they're supposed to do."

Discovered more than a decade ago in Honduras, the *Lixadmontia franki* fly is named for Dr. Howard Frank, who has spent 17 years researching the Mexican bromeliad weevil.

"What I try to do," he told the children, "is develop good bugs, beneficial bugs, to kill the bad bugs."

Burton, he said, has eclipsed him in managing to successfully rear the fly in captivity.

"It's very tricky," Frank said. "I tried, and I failed. You know the saying, 'Die like flies?' Well, that's what happened when I brought the flies back from Honduras. They died."

With enough flies on hand, researchers released them in four parks this summer. This is the second time they've released flies in the Loxahatchee wildlife refuge. The flies survived, reproduced, and attacked the weevil in the wild, Frank said. Now researchers must determine whether the flies can kill enough weevils to make a dent in the population.

The fly lays its eggs inside the weevil larva, and the fly maggots destroy the weevil. Researchers believe the fly will not harm other species native to Florida. Attempts to trick the fly into attacking a similar weevil did not work, Frank said.

"We didn't fool the fly," he said. "They're very highly specialized."

The flies, which aren't as skittish as common houseflies, don't bite humans, Burton said.

"They're friendly little flies," Burton said. "You stick your head in the cage, and they like your nose and ears."

In about a year, doctoral student Teresa Cooper will know whether or not the flies have done their job.

"We'll know whether it's been able to become established in Florida, and how efficient it is," Cooper said.

The South Florida Water Management District contributed \$17,000 to support Cooper's work. Biological control, along with fire and pesticides, has promise as part of an integrated approach to managing invasive species, said LeRoy Rodgers, senior environmental scientist with the district's Vegetation Management Division. "This is a rather eloquent solution to the problem," he said.

"When," Frank chimed in, "we can get it to work."

This project is important, Rodgers said, because one of the most destructive invasive plant species, the old-world climbing fern, kills bromeliads first when it covers the canopy.

It would be a shame to have worked so hard to eliminate the fern only to have bromeliads wiped out by the weevil, he said. The weevil and the Burmese python top the water management district's hit-list of invasive species.

"The python is an easy sell," Rodgers said. "The weevil, a little less so. But when people come out and see the beauty and uniqueness of air plants, they appreciate it."



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