

Threatened butterfly vanishes from Florida refuge

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In this undated photo, two Miami blue butterfly are shown at Bahia Honda State Park in the Florida Keys. No confirmed Miami blues have been seen on Bahia Honda since July 2010. The U.S. Fish and Wildlife Service last August issued an emergency listing of the Miami blue as an endangered species. (AP Photo/Paula Cannon)

For more than a year, Bahia Honda State Park biologist Jim Duquesnel traversed the nature sanctuary with two hopes. He wanted to see a Miami blue butterfly and rid the Florida Keys outpost of as many iguanas as he could.

The reason: The Central American invader may be driving the Miami blue into extinction by eating the leaves where it lays its eggs - a bit of butterfly caviar in every bite.

No confirmed Miami blues have been seen on Bahia Honda since July 2010, and with each passing day it becomes less likely any exist there. The U.S. [Fish and Wildlife Service](#) last August issued an emergency listing of the Miami blue as an endangered species and three similar butterflies - cassius blue, ceranus blue and nickerbean blue - as threatened. The emergency listing continues through April, and [federal officials](#) may make it permanent.

In the listing, federal officials noted that the only surviving Miami blue population appears to be a few hundred living in the Key West National Wildlife Refuge, about 50 miles west of Bahia Honda.

Still, Duquesnel has tried to keep hope alive - and eradicate the iguana from his 600-acre park in the Middle Keys.

Perhaps, he says, a half dozen Miami blues survive on some corner of the island, waiting for the right weather to emerge.

"And if that happens and the weather starts changing and if Miami blues start breeding, we want them to find this a good place to be doing that like they used to," he says. "In this case, that means it will be lacking in [iguanas](#)."

If the Miami blue makes a comeback, it wouldn't be the first time.

The pale [blue butterfly](#) - about the size of a quarter - was once ubiquitous in the hardwood hammocks, pines and scrub along the Florida coasts from the Keys north to Tampa Bay on the Gulf Coast and [Cape Canaveral](#) on the Atlantic. But the region's development after World War II slowly shrank its habitat until by the early 1990s it was found only in the Keys.

After the monstrous winds of Hurricane Andrew blew through the islands in 1992, no Miami blues were to be found and many thought them extinct.

But seven years later, a colony of 50 was found in Bahia Honda and it slowly grew.

Their population grew into the hundreds, until they were easy to spot year round from public trails. Jaret Daniels, a butterfly specialist at the University of Florida, remembers Miami blues landing on his hat.

"You could always swat them away. There were hundreds," Daniels says. "I'm sure thousands of people walked by with Miami blues flying around them."

Daniels and other scientists collected Miami blues from the park for a captive breeding program at the University of Florida's Maguire Center for Lepidoptera and Environmental Research. Roughly 30,000 were bred in a lab from 2003 to 2010, and Florida scientists transplanted the butterflies in the Upper Keys to try to expand the Miami blue's geographic range.

None of those colonies survived, but scientists clung to hope for the species because a new population of Miami blues was discovered in 2006 on a remote island in the Key West refuge.

But then, after a 2008 drought followed by cold snaps in 2009 and 2010, the population in Bahia Honda began a significant decline. Green iguanas soon emerged as a likely suspect in their demise.

The large, vegetarian lizards, probably the descendants of pets released by their owners when they grew too big or burdensome, had developed a taste for the nickerbean leaves where Miami blues laid their eggs. The nickerbean was among the only plants to quickly recover from the cold snaps, and the iguanas chewed through them, likely eating any butterfly eggs clinging to the leaves.

Duquesnel got the news that the Miami blue had received an emergency endangered listing while making his way to the old Bahia Honda Rail Bridge, brandishing a noose at the end of a long pole, which he uses to catch iguanas. He had set metal traps baited with sliced cherries, nectarines and strawberries in more restricted areas of the park, and now he was stalking the lizard from the public trail.

That day, there was no shortage of butterflies flitting about Bahia Honda: cassius blues and one ceranus blue, rust-and-gray Eastern pygmy blues, gulf fritillaries, skippers, bright orange sulphurs, a black-winged swallowtail and a handful of other species that fluttered away before they could be identified. Duquesnel also caught four iguanas, but

saw no Miami blues.

In the winter, volunteer snowbirds help Duquesnel tally butterflies in the park. They carry clipboards with a picture of the Miami blue alongside pictures of the cassius blue, ceranus blue and nickerbean blue.

"I tell the volunteers you only need to identify one butterfly: the Miami blue. If you can do that, then you can help. Anything else is a bonus," Duquesnel says.

By helping to record what species are present in the park, the volunteers are supplying Duquesnel and other scientists with data that may help determine if something besides iguanas contributed to the Miami blue's disappearance. It could be the pressure from development eating up habitat, pesticides, droughts, the effects of climate change, over-collecting by butterfly enthusiasts, cold snaps or accidental harm caused by human behavior - or something else scientists haven't identified yet.

But iguanas are something Duquesnel can catch.

When Duquesnel was hired in November 2010, he saw 40 or 50 adult iguanas a day in the park. Now he sees just a couple big ones a day, and they're harder to catch because they've adapted to his hunting and trapping. To keep the lizards guessing, he tries to tag along with tourists walking along the trails.

"They know the difference between looked or gawked at and being stalked," he says.

It's too soon to say whether more than a year of trapping iguanas has had any significant impact other than reducing their numbers, Duquesnel said recently. The iguanas he catches now still have bellies full of nickerbean, and the plants show signs of being nibbled, but whether iguanas or insects are to blame, he can't say.

And if the Miami blue never returns to Bahia Honda, Duquesnel still wants to make the park's environment better for all butterflies landing there.

"Even if Miami blue goes extinct, we should still

remove iguanas," he says.

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