

Miami blue butterfly

Cyclargus thomasi bethunebakeri



(Photo by FWC)

Taxonomic Classification

Kingdom: Animalia

Phylum: Chordata

Class: Insecta

Order: Lepidoptera

Family: Lycaenidae

Genus/Species: *Cyclargus thomasi*

Subspecies: *Cyclargus thomasi bethunebakeri*

Common Name: Miami blue butterfly

Listing Status

Federal Status: Endangered

FL Status: State-designated Threatened

FNAI Ranks: None

IUCN Status: None

- Due to the change of federal status to Endangered, FWC will submit a rule change to list the species as Federal-designated Endangered in Florida.

Physical Description

The Miami blue butterfly is a small butterfly that has forewing length of 0.4-0.5 inches (1-1.3 centimeters). Both sexes are bright blue on the back with a gray underside. Males have narrow black margins, while females have a wide black margin and an orange eyespot near the hindwing outer angle. On the underside of the hindwing, the Miami blue has four black basal spots, and a wide white submarginal band on both the hindwing and forewing (Daniels 2006).

Life History

Recent populations of Miami blue butterflies are known to have fed primarily on three plant species: balloonvine (*Cardiospermum* spp.), gray nickerbean (*Caesalpinia bonduc*), and blackbead (*Pithecellobium* spp.). These species have been the major host plants for mainland, Lower Keys, and Key West National Wildlife Refuge populations, respectively.

Miami blue populations are capable of producing multiple generations each year between the months of February and November. Their eggs are laid on the flowers, flower buds, and terminal growth of its host plants. The larvae of Miami blue butterflies have a slug-like shape and are mainly green with a black head capsule, red to brown mid-dorsal line, and white lateral lines. Up to seventeen ant species have been found to tend to larvae, and may protect them from predators and parasitoids (like a parasite but it ultimately kills or consumes the host). The Miami blue's dark brown to black pupae develops into adults in 30 days (Zhong et al. 2009).

Habitat & Distribution

The Miami blue butterfly inhabits tropical hardwood hammocks, tropical pine rocklands, and beachside scrub in Florida (Daniels 2006). It was historically known from coastal mainland Florida as far north as Hillsborough County on the Gulf and Volusia County on the Atlantic, but disappeared from the mainland by the 1980s. The Miami blue was thought extinct until it was rediscovered in 1999 in Bahia Honda State Park in the Lower Florida Keys (Daniels 2006). Although subject to significant fluctuations, the Bahia Honda population persisted until 2010, when it disappeared, perhaps due to a combination of drought, cold temperatures, and predation by non-native green iguanas. Fortunately, additional populations of Miami blues had been discovered in Key West National Wildlife Refuge in 2006, and these are the focus of current surveys and conservation action.



Threats

The State Management Plan for the Miami blue lists four present threats: (1) habitat loss and degradation; (2) habitat fragmentation and group isolation; (3) mortality; and (4) invasive species. Some or all of these threats may have played a role in reducing the species' original range to its very small present range. However, it is not clear what caused the Miami blue to disappear from large conservation lands that it formerly occupied, including Everglades and Biscayne National Parks. Although pesticide use has been suggested as a threat, it would not explain the Miami blue's apparent loss from the fauna of national parks which were not sprayed (Zhong et al. 2009). Due to its small range and geographical area, the species would seem to be especially vulnerable to extinction from hurricanes.

Conservation & Management

The Miami blue butterfly is protected as an Endangered species by the Federal Endangered Species Act and as a State-designated Threatened species by [Florida's Endangered and Threatened Species Rule](#). A revised State Management Plan for the species is in effect. The Management Plan relies on captive propagation and reintroductions and/or translocations to expand the Miami blue back into parts of its historic range. However, because previous reintroduction attempts were not successful, the first steps will involve carefully monitored experimental releases to determine how to successfully reintroduce them. The recent Federal listing will also lead to the drafting of a Federal Recovery Plan.

[-Management Plan](#)

Other Informative Links

[Butterfly Conservation Initiative](#)

[FWC Petitions and Listing Actions](#)

[North American Butterfly Association](#)

[University of Florida Entomology and Nematology Department](#)

References

Daniels, J. C. (2006, September). *Miami blue butterfly*. Retrieved from The University of Florida Entomology and Nematology Department:
http://entnemdept.ufl.edu/creatures/bfly/miami_blue.htm

Zhong, H., L.J. Hribar, J.C. Daniels, M.A. Feken, C. Brock, and M.D. Trager. 2009. Aerial ultra low volume application of naled: impact on non-target imperiled butterfly larvae and efficacy against adult mosquitoes. Public Health Entomology Research and Education Center, College of Engineering Sciences, Technology and Agriculture, Florida A&M University, Panama City, Florida.