

# ENDANGERED FLORIDA: THE MIAMI BLUE BUTTERFLY

By Libby Hopkins



The Miami Blue Butterfly, or the *Cyclargus Thomasi* Bethune-bakeri as it's known by its scientific name, was once common throughout coastal southern Florida. The Miami blue butterfly now ranks among North America's rarest insects.

It is a small butterfly that has a forewing length of 0.4-0.5 inches. 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 Butterfly has four black basal spots and a wide white submarginal band on both the hindwing and forewing.

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 the mainland, Lower Keys, and Key West National Wildlife Refuge populations, respectively.

Miami Blue Butterflies' populations are capable of producing multiple generations each year between February and November. Their eggs are laid on the flowers, flower buds, and terminal growth of their 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 17 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.

The Miami Blue Butterfly inhabits tropical hardwood hammocks, tropical pine rock lands, and beachside scrub in Florida. It was historically known from the 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 Butterfly was thought extinct until it was rediscovered in 1999 in Bahia Honda State Park in the Lower Florida Keys. 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 Blue Butterflies had been discovered in Key West National Wildlife Refuge in

2006, and these are the focus of current surveys and conservation action.

The State Management Plan for the Miami Blue Butterfly 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 Butterfly 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. Due to its small range and geographical area, the species would seem to be especially vulnerable to extinction from hurricanes.

The Miami Blue Butterfly is protected as an Endangered species by the Federal Endangered Species Act and as a Federally designated Endangered species by Florida's Endangered and Threatened Species Rule. The Cassius Blue, Ceraunus Blue, and Nickerbean Blue Butterflies are listed as Federally Threatened by Similarity of Appearance to the Miami blue butterfly by the Endangered Species Act.

