



Butterflies of South Florida - Reading Comprehension

Butterflies are an important part of Florida's ecosystem. An abundance of butterflies usually indicates that an ecosystem is thriving. Butterflies are also pollinators, in that they carry pollen to a new plant helping it produce seeds and grow, giving us flowers and food to eat.

Directions: Read the article, [The Vanishing and Materializing Butterflies of South Florida](#) (attached below), then answer the [comprehension questions](#) (attached below).

Everglades Literacy Lesson Connections:

Grade 3 Lesson 1: Classifying Everglades Animals and their Habitats

<https://www.evergladesliteracy.org/third-grade>

-Students will learn that animals can be classified into six major animal groups and become familiar with representative Everglades animals from all the major groups and with five different habitats of the Everglades where these animals live

Grade 4 Lesson 2: Wanted-Alive!

<https://www.evergladesliteracy.org/fourth-grade>

-Students will read a book titled Everglades by Jean Craighead George. They will research a threatened or endangered animal species and create a poster of their findings.



THE VANISHING & REMATERIALIZING BUTTERFLIES OF SOUTH FLORIDA

THE MIAMI BLUE

The Miami blue, a beautiful silver and blue butterfly, has been flitting along the edge of extinction for decades. This Florida subspecies, endangered at both the federal and state levels, started declining in the 1980s and 90s. It was once found as far north as St. Petersburg and Daytona in tropical hardwood hammock, tropical pine rockland and beachside scrub habitats. Due to these areas being a great location for prime real estate, most of them have been developed. In addition, tropical storms, pesticide use and invasive species may have also contributed to their decline. By the early 90s, the only known Miami Blue population was on Key Biscayne.





The Miami Blue Butterfly

FUN FACT

If you're like me, you may be wondering why these dainty insects are associated with butter. One idea is that an Anglo-Saxon word, butterfloege, was inspired by the common, yellow brimstone butterflies in England. Another theory comes from early European colonists in the United States. They believed witches turned into butterflies at night and stole milk and butter. Rest assured, your dairy products are safe from butterflies, but mystical ideas about butterflies abound. Magical or not, they have been capturing our imagination for centuries.

In 1992 Hurricane Andrew hit, and the butterflies vanished. For seven long years, they were another species ignominiously driven to extinction. It wasn't until a British woman, Jane Ruffin, visited Bahia Honda State Park in the Florida Keys, and stumbled across a colony. Fortuitously, she was a butterfly photographer and recognized these butterflies were different. With the advice of county biologists, the location of the colony was kept a secret, in the hopes of protecting them from unethical collectors. Ultimately it was a short-lived secret and their efforts were in vain. Something else had already found the butterflies, green iguanas.

Predation from these non-native reptiles on one of the Miami Blue's host plants, the gray nickerbean, along with cold temperatures and drought conditions likely decimated the population by 2010. The butterflies had vanished again. But this time, they hadn't put all their eggs in one basket. The butterflies were found living at the Key West National Wildlife Refuge and a few years later, at the Great White Heron National Wildlife Refuge. But even in a tropical paradise all is not well. Sea level rise threatens these low-lying islands. And it's occurring more rapidly now than in the 1900s.

WHAT IS BEING DONE TO PROTECT THE MIAMI BLUE

Researchers from the University of Florida, along with the United States Fish and Wildlife Service and the Florida Department of Environmental Protection, are captively breeding butterflies and releasing the chrysalises to the Florida Keys. The idea is to boost their numbers and repopulate additional sites, which helps buffer the population from being wiped out by a storm or catastrophe. The outlook from this summer is tentatively hopeful. Just a short time after the release, the researchers found mating butterflies and eggs. Also, Miami Blues get a little help from the natural world too, several species of ant tend to butterfly caterpillars, protecting them from natural predators in exchange for sugar-rich excretions the larvae produce.

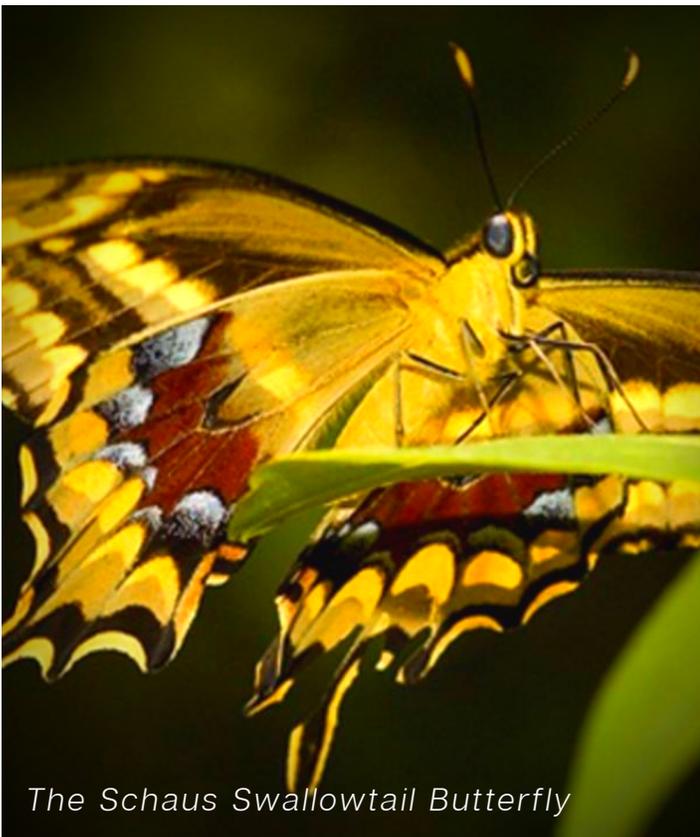
OTHER ENDANGERED SPECIES IN FLORIDA

The winking in and out of the Miami Blue across the Florida landscape may be unique to its history, but its status is not. Three other species of butterflies in Florida are endangered and numerous other species are declining.

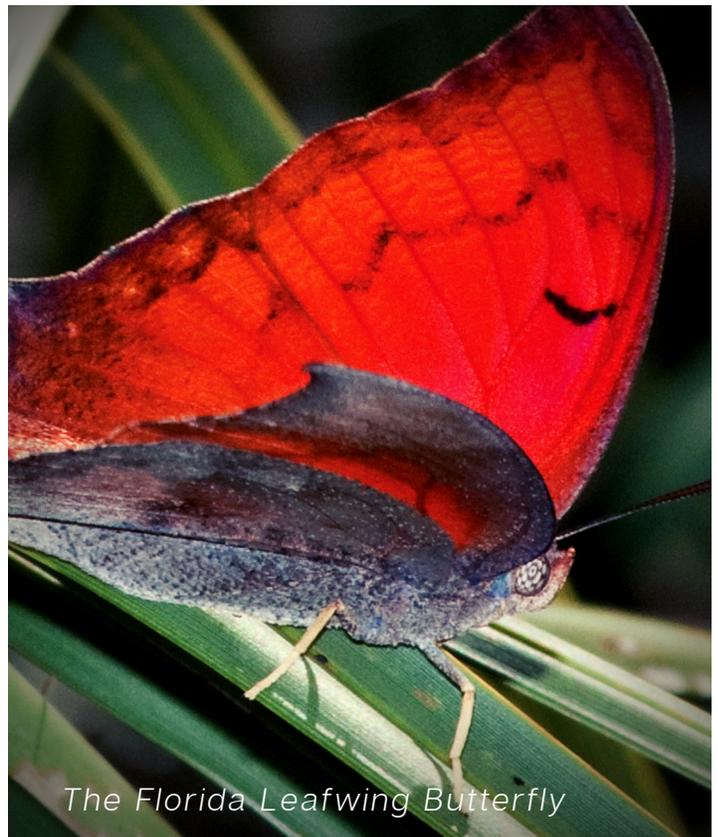
Schaus swallowtail butterflies were at death's door seven years ago with only four individuals remaining in the wild. Now, thanks to captive breeding, reintroduction and conservation efforts, these black and yellow beauties number in the hundreds in Key Largo and Biscayne National Park.



ANOTHER ENDANGERED SPECIES, the Florida leafwing butterfly, is found only in pine rockland habitat. Aptly named, this species conceals its bright orange coloration by folding up its wings and brown and gray on the undersides, to resemble a leaf. An impressive feat of camouflage, most of their native range of Miami-Dade and Monroe counties no longer conceals leafwing butterflies - this species hasn't been seen outside Everglades National Park since 2007. Bartram's scrub-hairstreak butterflies resemble an abstract painting with gray wings crisscrossed by white and black lines, orange blotches and white spots. These butterflies are found only in pine rockland habitat in Miami-Dade County, the Everglades National Park and Big Pine Key. With over 90% of their habitat cleared for development, it's no wonder their numbers have plummeted. Threats facing these imperiled species are habitat destruction and fragmentation, fire suppression, non-native species, storms and extreme climatic events, sea level rise, pesticide use and butterfly collecting.



The Schaus Swallowtail Butterfly



The Florida Leafwing Butterfly

Pineland Croton,
Exclusive food source for
Florida leafwing and Bartram's
scrub-hairstreak caterpillars



HOW TO ENGAGE WITH BUTTERFLIES

On a lighter note, butterfly viewing is a great outdoor activity to do in Florida. Our state has 187 species of butterflies, which can be found in tropical hardwood hammocks, pine rocklands, botanical gardens, corridors like forest trails and power line cuts, parks and yards. Butterflies are likely to be found by flowers, mud puddles, stream banks, larval host plants and nectar plants. Some butterflies are even attracted to rotting fruit, animal dung, dead animal remains or tree sap. Butterfly viewing in Florida is best in spring and fall from 10 a.m. to 5 p.m.. Alternately, you can create your own butterfly garden by planting native species in your yard. This is a great way to attract butterflies and create much needed habitat. If you want to avoid swarms of mosquitoes, but still see rare and imperiled butterfly species, then that experience is coming soon. A team of researchers at Florida International

University, Dr. Jaeson Clayborn and Alban Delamarre, have developed a virtual reality game where participants explore a dry forest ecosystem in the northern Florida Keys. You, the player, are armed with a net thrower, magnifying glass, and camera. These tools help you identify and record different species of butterflies before release back into the virtual dry forest world. Along the way, players must remove invasive ants (which eat butterflies) and identify host plants for caterpillars. Recently, I played the virtual reality game (Frontier Earth: Butterfly World 1.0), and despite my lack of gaming experience, I caught several butterflies, even a Schaus' swallowtail, and touched a poisonwood tree (don't do that in real life!). Their goal is to share this game at schools and for the public where players learn about different species of butterflies and plants, and conservation issues facing endangered species in a fun, interactive way.

[Visit Frontier Earth's Butterfly World](#)



Frontier Earth: Butterfly World 1.0, a virtual reality game created by researchers, at Florida International University.



Name: _____

Butterflies of South Florida Comprehensive Questions

Butterflies are an important part of Florida's ecosystem. An abundance of butterflies usually indicates that an ecosystem is thriving. Butterflies are also pollinators, in that they carry pollen to a new plant helping it produce seeds and grow, giving us flowers and food to eat. They're also an important part of the food chain. If butterfly populations decline, it can impact species higher up in the food chain.

1. List 3 threats that the Miami blue butterfly faces.

2. **True/False** (Choose one) - Butterflies prefer wet habitats in the Everglades such as cypress domes or mangrove swamps.

3. Which of the following is NOT a way to protect the Miami blue butterfly?
- Planting non-native flowers that attract butterflies
 - Captive breeding and releasing of chrysalises
 - Reducing pesticide use
 - Regulating butterfly collection

4. How did butterflies get their name?

5. What other animal is helping the Miami blue butterfly?
- Moths
 - Green iguanas
 - Scrub jays
 - Ants

6. What other butterflies in Florida are endangered?

7. What does the Florida leafwing butterfly exclusively eat?
- Milkweed
 - Pineland Croton
 - Gray nickerbean
 - Poisonwood tree

Name: _____

8. How many species of butterflies are there in Florida?
- a. 46
 - b. 187
 - c. 250
 - d. 3

9. **True/False** (Choose one) - The best time to view butterflies in Florida is in the spring and fall.

10. How can you help butterflies at home?

Butterflies of South Florida Comprehensive Questions - Answer Key

1. List 3 threats that the Miami blue butterfly faces.

Loss of habitat, pesticide use, invasive species.

2. **True/False** (Choose one) - Butterflies prefer wet habitats in the Everglades such as cypress domes or mangrove swamps.

3. Which of the following is NOT a way to protect the Miami blue butterfly?

a. Planting non-native flowers to attract butterflies

- a. Captive breeding and releasing of chrysalises
- b. Reducing pesticide use
- c. Regulating butterfly collection

4. How did butterflies get their name?

One idea is that an Anglo-Saxon word, butterflies, was inspired by the common, yellow brimstone butterflies in England, and another theory comes from early European colonists in the United States, where witches turned into butterflies at night and stole milk and butter.

5. What other animal is helping the Miami Blue butterfly?

- a. Moths
- b. Green iguanas
- c. Scrub jays
- d. Ants**

6. What other butterflies in Florida are endangered?

Schaus swallowtail butterfly, and the Florida leafwing butterfly.

7. How many species of butterflies are there in Florida?

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8. What does the Florida leafwing butterfly exclusively eat?

- a. Milkweed
- b. Pineland Croton**
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- d. Poisonwood tree

Name: _____

9. **True/False** (Choose one) - The best time to view butterflies in Florida is in the spring and fall.

10. How can you help butterflies at home?

Planting native species in your yard to create a much needed habitat.