

Schaus' Swallowtail

Heraclides aristodemus ponceanus

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The critically endangered **Schaus' Swallowtail** (*Heraclides aristodemus ponceanus*) is a large, iconic butterfly found in South Florida. Historically, the butterfly inhabited dense upland forests called tropical hardwood hammocks from the greater Miami area south through the Florida Keys. Habitat loss and fragmentation over the past century have led to severe population declines and range reductions.

Today, Schaus' Swallowtail is restricted to only a few remaining sites in the northern Florida Keys, making it one of the rarest butterflies in the U.S. and our only federally listed swallowtail. Although small numbers occur on Key Largo, the main population resides on islands in Biscayne National Park. Because recent surveys indicate extremely small numbers of butterflies throughout its range, the risk of extinction is thought to be very high. Collaborative conservation and recovery efforts are underway for the Schaus' Swallowtail. They include regular population monitoring, captive breeding, organism reintroduction and habitat restoration.

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Southern Dogface

Zerene cesonia

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The **Southern Dogface** (*Zerene cesonia*) is a medium-sized yellow butterfly found throughout Florida. It is named for the distinctive black pattern on the upper side of the forewings which resembles the head of a dog in profile. Unfortunately, the butterfly rests and feeds with its wings firmly closed making its namesake markings only visible when in flight. The yellow wings below are seasonally variable; they are heavily infused with pink in winter-form adults. Luckily, identification is relatively easy as the Southern Dogface is the only Sulphur in Florida with pointed forewings.

While at home in pinelands and other somewhat open, dry sites, the Southern Dogface it is not a frequent garden visitor. Adults have a strong, rapid flight and are often a challenge to follow. Females lay small, spindle-shaped white eggs on the leaves of various Pea family plants including Summer Farewell (*Dalea pinnata*) and Bastard False Indigo (*Amorpha fruticosa*). Several generations are produced each year with adults overwintering until the following spring.

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Florida Leafwing

Anaea troglodyta floralis

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The **Florida Leafwing** (*Anaea troglodyta floralis*) is a federally endangered butterfly endemic to extreme South Florida. Adults have a brown, leaf-like appearance on the underside of their wings which aids in camouflage while at rest and gives the butterfly its distinctive name. In flight, however, they reveal the brilliant orange coloration of their wings above, making them easy to spot. The butterfly is closely associated with its sole larval host plant, Pineland Croton (*Croton linearis*), which is dependent on periodic fire or other disturbance to maintain suitable growing conditions. The Florida Leafwing shares its host and habitat preference with another federally endangered butterfly, Bartram's Scrub-Hairstreak. The two can occasionally be found together.

Historically, the Florida Leafwing occurred throughout pine rockland habitat in Miami-Dade and Monroe counties. Today, less than two percent of this globally imperiled ecosystem still exists in South Florida due to habitat loss and fragmentation, fire suppression and invasive species encroachment. Florida Leafwing populations have similarly declined over time throughout their historic range and now are extremely limited and teetering on the brink of extinction. Today, Everglades National Park is the only place in the world where the Florida Leafwing can be found.

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Palamedes Swallowtail

Pterourus palamedes

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The **Palamedes Swallowtail** (*Pterourus palamedes*) is a large black butterfly restricted to the Deep South. It is common in moist woodlands and swamps throughout Florida, but readily ventures into adjacent more open areas including yards and gardens. Adults have a strong, swift flight but are fond of flowers and readily pause at available blossoms to feed. Females deposit small, round cream-colored eggs singly on the new growth of various Laurel family plants including Red Bay (*Persea borbonia*). The sizeable green larvae have an enlarged thorax with a pair of prominent false eyes that resemble the head of a snake or lizard. This unique disguise may help startle would-be predators.

While generally a common butterfly, the Palamedes Swallowtail has likely suffered in recent years from the spread of Laurel Wilt, a deadly disease caused by a fungus that is introduced into host trees by the nonnative Ambrosia Beetle. The resulting outbreak has decimated bay populations across much of the Southeast. It is currently unknown what long term impacts the disease will have on the abundance of this butterfly.

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Common Buckeye

(*Junonia coenia*)

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As its name suggests, the **Common Buckeye** (*Junonia coenia*) has large, target-shaped eyespots on its wings. These distinctive markings help deflect attack away from the insect's vulnerable body or may startle would-be predators. Adults are fond of open, sunny locations and can be common in fields, pinelands and along roadsides. They frequently land on bare soil or low growing flowers but are extremely wary and difficult to closely approach. The spiny larvae feed on a wide variety of plants including Plantain (*Plantago* sp.), Toadflax (*Nuttallanthus* sp.) and False Foxglove (*Agalinis* sp.).

Adults display noticeably different seasonal forms. Individuals encountered during the summer or wet season are light brown on the wings below. By contrast, the undersides of winter or dry season forms are a rich, reddish-brown coloration. Each fall, individuals from more northern locations migrate back into the Deep South to escape freezing temperatures and overwinter as adults.

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Florida Duskywing

(*Ephyriades brunnea floridensis*)

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The **Florida Duskywing** (*Ephyriades brunnea floridensis*) is a small brown skipper restricted to extreme South Florida. Males are uniform dark brown above with small transparent spots on each forewing. Females have extensive brown mottling and larger forewing spots. Both sexes display a lovely purplish sheen on their wings when freshly emerged. Adults have a rapid, erratic flight but regularly pause to feed or perch with their wings open.

The Florida Duskywing inhabits pine rocklands that support populations of its larval host plant, Long Key Locustberry (*Byrsonima lucida*). The developing larvae construct individual shelters on the host by folding leaves together with silk. While rare throughout its range, this species can at times be locally somewhat common, particularly in Everglades National Park and the National Key Deer Refuge. It can also be found in many of the remaining pine rockland fragments within Miami-Dade County. Research efforts are underway to better understand the population biology of the Florida Duskywing and the overall connectivity of the remaining pine rockland conservation lands across the South Florida mainland and the Florida Keys.

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Miami Blue

(Cyclargus thomasi bethunbakeri)

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The **Miami Blue** (*Cyclargus thomasi bethunbakeri*) is a small, brightly colored butterfly nearly endemic to South Florida. It was once locally common across much of the South Florida mainland and adjacent coastal barrier islands south through the Florida Keys to the Dry Tortugas. Habitat loss and fragmentation associated with expanding coastal development over the last several decades led to a catastrophic decline in the butterfly's overall range. Today, the Miami Blue is currently restricted to only two or three small remaining remote island populations within the Key West and Great White Heron National Wildlife Refuges, making it one of the most critically endangered insects in North America.

The butterfly currently inhabits beachside scrub in close association with its two common larval host plants, Florida Keys Blackbead (*Pithecellobium keyense*) and Gray Nickerbean (*Caesalpinia bonduc*). The tiny, slug-like larvae are regularly tended by ants which provide protection from various insect predators in return for sugary food rewards. Collaborative conservation and recovery efforts are underway for the Miami Blue butterfly. They include regular population monitoring, captive breeding, organism reintroduction and scientific research.

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Bartram's Scrub-Hairstreak

(*Strymon acis bartrami*)



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Bartram's Scrub-Hairstreak (*Strymon acis bartrami*) is a small federally endangered butterfly endemic to extreme South Florida. While primarily unmarked dark gray on the wings above, adults have broad white bands that intersect a large orange patch and two distinctive white spots on the underside of the hindwing adjacent to two delicate hair-like tails. Like other hairstreaks, the hindwing tails resemble antennae and presumably help deflect the attack of predators away from the insect's vulnerable body. The butterfly is closely associated with its sole larval host plant, Pineland Croton (*Croton linearis*), which is dependent on periodic fire or other disturbance to maintain suitable growing conditions. Bartram's Scrub-Hairstreak shares its host and habitat preference with another federally endangered butterfly, the Florida Leafwing.

Bartram's Scrub-Hairstreak once occurred in pine rockland habitat throughout Miami-Dade and Monroe counties. Over time their populations have declined significantly, primarily due to habitat loss and fragmentation. Today, the butterfly is extremely limited in distribution. It occurs in the greatest numbers within the National Key Deer Refuge in the Lower Florida Keys and Everglades National Park on the southern Florida mainland.

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Silver-banded Hairstreak

(Chlorostrymon simaethis)



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The **Silver-banded Hairstreak** (*Chlorostymon simaethis*) is a small, flashy butterfly limited to the extreme southern portion of the Florida mainland and the northern Florida Keys. The wings above are brownish in females with males having some purple iridescence. The wings below are bright lime green with a prominent silvery-white band through the center for which the butterfly is named. Adults have a quick, erratic flight but frequently pause to nectar at available flowers or perch on low vegetation. Generally uncommon, the Silver-banded Hairstreak inhabits hardwood hammocks and their associated margins and openings. They are typically found in close proximity to Balloonvine (*Cardiospermum sp.*), their sole larval host in Florida.

The Silver-banded Hairstreak has a somewhat unique life history. Female butterflies lay eggs on young fruit. The resulting larvae then chew through the vine's distinctive inflated balloon-like capsules, and feed on the developing seeds inside where their presence often goes unnoticed.

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Monarch

(*Danaus plexippus*)

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The **Monarch** (*Danaus plexippus*) is one of the most beloved animals in North America. Beyond being a common garden visitor, it is well known for making an amazing annual migration. During spring and summer, monarchs breed throughout the U.S. and southern Canada. In the fall, adults of the eastern population migrate to Mexico, flying up to 3,000 miles. In the western U.S., monarchs migrate to scattered groves along the coast of California. The following spring, these butterflies leave their overwintering sites and fly northward in search of milkweed plants on which to lay their eggs. As monarchs spread across North America, several generations are produced. In Florida, some non-migratory individuals remain and breed year-round.

Sadly, population monitoring at overwintering sites in Mexico and California has documented a steady decline in recent years. Monarchs are threatened by loss and degradation of habitat, disease, adverse weather and the ongoing decline of native milkweeds (*Asclepias* sp.). Conservation efforts are underway in Florida to map naturally occurring native milkweed populations and expand the commercial availability of native milkweed for habitat restoration and home landscaping.

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Zebra Longwing

(*Heliconius charithonia*)

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The **Zebra Longwing** (*Heliconius charithonia*) is Florida's state butterfly. Aptly named, the adults have elongated black wings with pale yellow stripes. Found throughout Florida, it is a butterfly of woodlands, forest edges and adjacent open areas including gardens. Adults have a slow, graceful flight and readily visit available flowers where they are easy to closely observe. A year-round resident of the southern counties, it is sensitive to freezing temperatures and is most abundant in more northern portions of Florida in years with mild winters. Females deposit small, yellow eggs singly or in small clusters on the new growth or tendrils of passionflower vines. The resulting larvae are white with small black spots and black spines. Numerous generations are produced each year.

The Zebra Longwing feeds on both flower nectar and pollen. Adults gather pollen grains on their proboscis, amassing them into a large ball. They then secrete saliva to dissolve the pollen and drink the liquid. The resulting nutrient-rich diet enables individuals to survive for several months, far exceeding the typical few week life span of most adult butterflies. The adults are truly social butterflies and form roosting aggregations on branches or Spanish Moss at night. The same communal roost may be used for many nights.

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Frosted Elfin

(*Callophrys irus arsace*)

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The **Frosted Elfin** (*Callophrys irus arsace*) is a small, primarily brown hairstreak butterfly. It is widespread across the eastern half of the United States from the Northeast and Great Lakes south to Florida and west to eastern Texas. However, it is rare and in decline in most areas. In fact, the Frosted Elfin is listed as endangered, threatened or of conservation concern in 11 states and has been lost entirely from Canada. It reaches its southernmost distribution in northern Florida where only a handful of small remaining populations are known to occur.

The Frosted Elfin occurs in regularly disturbed habitats such as oak-pine barrens, oak savannahs and upland pine or sandhill where its larval host plants, Wild Indigo (*Baptisia tinctoria*) and Wild Lupine (*Lupinus perennis*), grow. These habitats have dwindled significantly due to land development and degradation of vegetation because of succession and fragmentation, resulting in continued declines of the butterfly. Fire, both natural and prescribed, is the major source of disturbance in these systems and is critical for maintaining optimal habitat quality. But fire also can be potentially harmful to small populations if improperly applied. Research at the University of Florida shows that fire management for the Frosted Elfin should only occur in a portion of a species occupied area, be rotated between years and be a fast moving fire to limit mortality.

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Atala

(*Eumaeus atala*)

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The **Atala** (*Eumaeus atala*) is a small, velvety-black, tailless hairstreak butterfly found in southeastern Florida. The hindwings below have scattered iridescent blue spots and a large red patch near the red abdomen. The color of the forewings above varies based on sex. Males have extensive iridescent green or blue scaling, while the color in females is limited to a narrow deep blue streak.

Although once called the most conspicuous insect in semitropical Florida, the Atala was nearly eliminated from the state due to overharvesting of its only native larval host plant, Coontie (*Zamia pumila*), for starch production by early settlers. In fact, it was thought to be extinct until a small population of the butterfly was discovered on a barrier island in Miami-Dade County in 1979. As far as is known, all current populations originated from that single colony. Today, the butterfly is still rare and has a limited distribution. However it has expanded into home landscapes, commercial nurseries and botanical gardens where cycads now abound, but is almost absent from its historic pine rockland habitat.

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Florida White

(Glutophrissa drusilla neumoenii)

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The **Florida White** (*Glutophrissa drusilla neumoenigii*) is a large, predominately white butterfly limited to coastal areas of the extreme South Florida mainland and the Florida Keys. Males are uniformly white on both wing surfaces while females have dark forewing borders above and some yellow scaling on the hindwing. The butterfly is primarily restricted to the shadier confines of hardwood hammocks, but may occasionally venture into adjacent open areas in search of available floral nectar. The greenish larvae feed on Guiana Plum (*Drypetes lateriflora*) and Bayleaf Capertree (*Cynophalla flexuosa*).

While historically much more common and widespread, the Florida White has continued to dwindle and is now only regularly found in a few isolated locations. The specific reasons for its alarming decline are not fully understood. Efforts are ongoing to monitor known populations and identify strategies to help reverse this downward trend.

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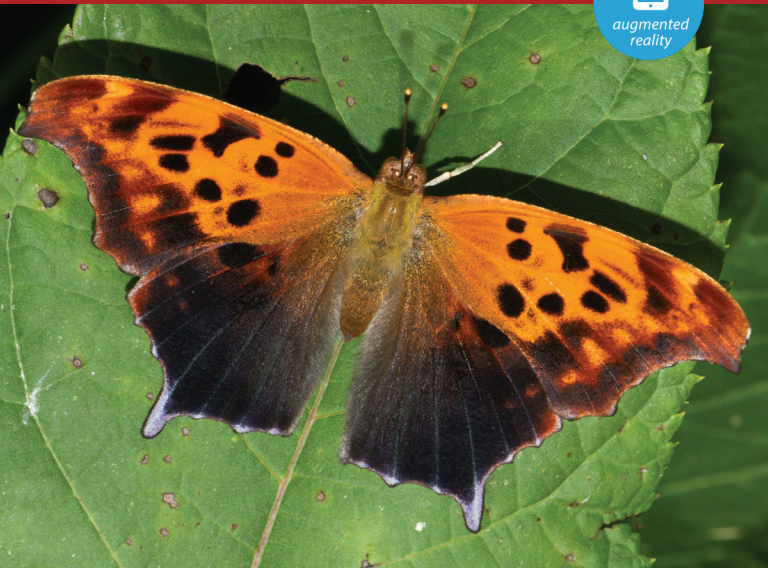
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Question Mark

(*Polygonia interrogationis*)

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The **Question Mark** (*Polygonia interrogationis*) is a distinctive orange and black butterfly of wooded habitats across much of Florida. Its odd name comes from the small silvery spots on the underside of the hindwing that, with some imagination, resemble the punctuation mark. The wings above are seasonally variable. Summer individuals have all black hindwings while those seen in winter are primarily orange. The wings below are mottled brown and resemble dead leaves, which aids in camouflage when the butterfly is at rest. The adults seldom visit flowers but instead feed on tree sap, animal dung, carrion or the juices from fermenting fruit. They have a rapid, erratic flight but frequently alight on overhanging branches, tree trunks or the ground.

The Question Mark utilizes trees in the Elm family as larval hosts, including Sugarberry (*Celtis laevigata*) and American Elm (*Ulmus americana*). Females lay small dark green eggs singly or in short stacks on top of one another on host leaves. The resulting larvae are black and orange with cream stripes and prominent branched spines. Several generations are produced each year in Florida. Adult butterflies overwinter in protected sites.

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