

a guide to

# COMMON BACKYARD BUTTERFLIES IN SOUTHEAST ARIZONA



by  
Gregory Greene

# Intro

Butterflies: There are roughly 17,500 species of butterflies in the world and nearly 750 species have been found north of Mexico. Arizona has documented over 350 species, and of those around 270 species breed in the state or are regular visitors. One third of the butterfly species in North America (250 species) have been recorded within 100 miles of Tucson, which is due primarily to the region's highly varied ecosystems and unique flora.

Butterfly Gardening in Tucson: For any naturalist or plant lover, butterfly gardens are incredibly rewarding on so many levels. Developing a garden that possesses a variety of larval and nectar plants available at different times of the year can be visually appealing and also ensure butterfly activity throughout the year. There are few species of plants in which butterflies are the sole pollinator and so while our goal may be to increase the abundance of these beautiful creatures, developing a butterfly garden will also increase the number of pollinators unique to this region.

Arizona milkweed is a popular butterfly plant, used by monarchs and queens during their larval stage and as a nectar plant. A 2018-2019 study of 3 different gardens by Bob Behrstock showed that over 140 species of pollinators visited this species of milkweed. Utilization of this species in your garden will certainly bring butterflies to your yard but will also benefit the many other pollinators which are crucial to the flora of this region.

Due to the incredible diversity of butterflies in this area, a garden which provides adequate larval and nectar plants, can produce results unlikely in any other metropolitan city. A garden in Seattle may be lucky to record 15-20 species in as many years, whereas a small garden in Tucson may see double that number in 2 years, or less. In my small garden in midtown Tucson, I recently recorded my 80th species in less than 7 years of keeping count. Over the past few years, and as the garden has become more established, we typically record around 60 or more species per year, which is more than the number of species found in all of the UK (59 species). Similar gardens in the foothills of the Catalina and the Huachuca Mountains that have been monitored for over 20 years, have recorded well over 100 species.

# FAMILY PAPILIONIDAE: *Swallowtails*

Swallowtails are characteristically large, brightly colored, tailed butterflies. There are roughly 560 species worldwide with 30 species found in North America, half of which have been recorded in Arizona. Pipevine swallowtail and giant swallowtail are the most common species around Tucson, with black swallowtail sometimes found in vegetable gardens. Black swallowtail larval plants include parsley, dill, fennel, and rue. Two-tailed swallowtail is found at higher elevations and is the largest in the area. The two-tailed swallowtail is also Arizona's state butterfly.

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## PIPEVINE SWALLOWTAIL

(*Battus philenor*)

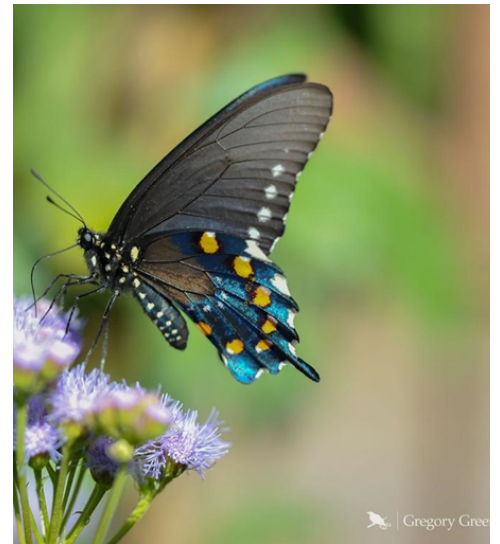
Size: 2.5 – 5"

Description: Large, black, tailed butterfly with iridescent blue/black upper hindwing. The ventral hindwings of both sexes possess a blue iridescent submarginal band with a row of seven bright orange spots. Caterpillars are black to deep red with bright orange or red tipped projections running down their backs.

Flight: Jan to Nov, peak early spring through late summer

Larval Plants: *Aristolochia watsonii* (Watson's dutchman's pipe, snakeroot, Southwestern pipevine)

Nectar Plants: Uses a variety of plants including thistle, lantana, petunias, verbenas, and lupines.



## GIANT SWALLOWTAIL

(*Papilio cresphontes*)

Size: 4 – 6"

Description: Large, swallowtail butterfly with yellow and black markings. Dorsal wings are black with a horizontal yellow line across the forewings, and a diagonal yellow line across the hindwing. The underside of the wings is yellow with accents of black. Caterpillars are brown with cream/white patches and mimic bird droppings.

Flight: Mid-Feb to Mid-Dec

Larval Plants: Citrus plants (Rutaceae sp.)

Nectar Plants: Variety of species including lantana, milkweed, penstemon, blanketflower, verbena, and butterfly bush. Also takes minerals from wet soil.

# FAMILY PIERIDAE: Whites & Sulphurs

Pieridae is a rather large family of butterflies consisting of over 1,100 species worldwide. There are roughly 70 species found in North America, 35 of which have been recorded in Arizona. Whites and sulphurs range in size from small to large and as the name suggests are primarily white, yellow, or orange, and may have some black markings. Some forms may also appear green and possess pink markings. Large numbers of the same species or mixed species can be found at puddles and identification can be difficult for beginners due to their similarity. The 6 species listed below are the most common and with some practice should be easy to recognize.

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## DAINTY SULPHUR

(*Nathalis iole iole*)

Size: .75 – 1.25"

Description: This is the smallest Pierid in North America. Its size and flight characteristics (low to the ground, usually < 2 feet) are the quickest ways to identify this species. Upper wings are black and yellow, with broad, black forewing tips and a black bar along the inner margin. Typical of most species in this family, dainty sulphurs keep their wings closed when perched. The ventral forewing can have a bright orange or yellow patch and black submarginal spots. The hindwing is pale, yellow and mottled.

Flight: All year, though most commonly from Mar – Nov.

Larval Plants: Low-growing plants in the aster family (Asteraceae), especially dysodia (*Thymophylla pentachaeta*), *Bidens* species, and *Helenium* species.

Nectar Plants: Asters, including those mentioned in the larval section as well as *Melampodium* and *Chrysothamnus*.



## SLEEPY ORANGE

(*Eurema nicippe*)

Size: 1.25 – 2.25"

Description: Small, bright orange butterfly. Upper forewing and hindwings possess wide black borders. The upper forewing has a small, narrow black spot. The underside of the wings varies seasonally: summer forms are bright yellow with brick-red markings, while winter forms are browner and more heavily marked.

Flight: All year, though most commonly from Mar – Nov.

Larval Plants: Desert senna (*Senna covesii*), *Senna* sp.

Nectar Plants: Nectar from many species of flowers including: asters, mistflower, penstemon, salvia, *Bidens* species.

## ORANGE SULPHUR

(*Colias eurytheme*)

Size: 1.25 – 2.75”

Description: Upper wings are yellow to orange with a wide black border and dark black cell spot at the top of the forewing. Females are yellow or white with an irregular black border with light spots. The underside of the forewing has a smaller silver spot bordered in black and the hindwing has one larger silver spot bordered in red or pink, with a much smaller circle just above it.

Flight: All year, though most commonly from Mar – Nov.

Larval Plants: Plants in the pea family (Fabaceae).

Nectar Plants: Uses many kinds of flowers including: milkweeds, verbena, lantana, salvia, clover, mistflower, and asters.



## SOUTHERN DOGFACE

(*Zerene cesonia*)

Size: 2.25 – 3”

Description: The forewing has a fairly distinct angle tip, unlike the rounded edges of other sulphurs. The upper side of the forewings of both sexes have a yellow "dog's head" that is surrounded by black. The "eye" does not touch the black border. There are two seasonal forms: underside hindwing of wet season "summer" form is yellow; that of dry season "winter" form is mottled with black and pink.

Flight: All year, though most commonly from Mar – Nov.

Larval Plants: Small-leaved plants in the pea family (Fabaceae) including Dalea species, Eysenhardtia species, and false indigo bush (Amorpha fruticosa).

Nectar Plants: Uses many kinds of flowers including: milkweeds, verbena, coreopsis, lantana, salvia, clover, and mistflower.

## CLOUDLESS SULPHUR

(*Phoebis sennae marcellina*)

Size: 2.25 – 3.25”

Description: The upper surface of the male is a lemon yellow color with no markings. The female is yellow or white; outer edges of both wings have irregular black borders; the upper forewing has a dark spot in cell. Male underwings have few markings, females typically have two large pink-rimmed forewing cell spots and a pale, broken, postmedian line. Hindwing shows two silver spots located in the center, and outlined in red.

Flight: All year, though most commonly from Mar – Nov.

Larval Plants: Senna species

Nectar Plants: Nectar from many species of flowers; asters, mistflower, salvia, and Bidens species.





(*Phoebis sennae marcellina*)

CHECKERED WHITE

Size: 1.5 – 2.5”

Description: The upper side of the male forewing has a black checkered pattern on the outer half. The female’s is more heavily patterned, but markings are more brown and diffuse. The hindwing of both the male and female are white. The underside of male hindwing has a pale checkered pattern, with females having yellow-tan markings on hindwing and tip of forewing. Short-day form has underside hindwing veins with heavy gray-green outlines.

Flight: All year, though most commonly from Mar – Nov.

Larval Plants: Plants in the mustard family (Brassicaceae) and caper family (Capparidaceae).

Nectar Plants: Generalist - nectars from many species of flowers; salvia, mistflower, lantana, and milkweed.

## FAMILY LYCAENIDAE: *Hairstreaks & Blues*

Lycaenidae is the second-largest family of butterflies with close to 6,000 species worldwide. There are roughly 100 species found in North America, 61 of which have been recorded in Arizona. Members of this family are extremely small (less than 1.75 inches) and possess intricate markings, hence their nickname “Gossamer-winged butterflies.” The Western pygmy lue is the smallest butterfly in North America (.5 - .75” wingspan) and in many instances can be identified by this feature alone. Most species in this family have unique natural histories and therefore require a bit more attention than “generalist species,” which can adapt to differing conditions by using a wide variety of host and nectar plants.

An interesting trend among this group is their association with ant species when in the larval stage. Roughly 75% of lycaenids rely on ants at some point whether it’s for food, protection, or a bit of both. In return many species of lycaenids produce a sugar-rich honeydew from pores in their skin which ants consume. The extent of each species’ interaction ranges from mutualistic (both ants and butterfly benefit) to parasitic (butterfly benefits at the expense of the ant).

### GRAY HAIRSTREAK

(*Strymon melinus*)

Size: 1 – 1.5”

Description: The most common hairstreak in North America and in gardens, and one of the few “generalist” hairstreaks. The upper side is blue-gray with a large red eye-spot near the tail on the hindwing. The underside is light to dark gray with a relatively straight white postmedian line, with an orange border. Male abdomen is orange.

Flight: All year, though most commonly in spring to late fall.

Larval Plants: Known to use a variety of plants in the pea (Fabaceae), mallow (Malvaceae), buckwheat (Polygonaceae), and buckthorn (Rhamnaceae) families, among many others.

Nectar Plants: Generalist - nectars from many species of flowers; mistflower, lantana, milkweed, buckwheat, and kidneywood.





MARINE BLUE  
(*Leptotes marina*)

Size: .8 – 1.2”

Description: The upper side is blue; male with a purple tinge, female with no white. The underside of the forewing has unbroken gray-brown and white bands. The ventral hindwing is zebra striped with white and gray-brown bands with a series of submarginal chevrons and a pair of blue-black spots at the distal end of the hindwing.

Flight: All year, though most commonly in spring to late fall.

Larval Plants: Acacia, Amorpha, Dalea, Lotus, Lysiloma, and Prosopis (mesquite).

Nectar Plants: Nectars from many different flowers

WESTERN PYGMY BLUE  
(*Brephidium exile*)

Size: .5 - .75”

Description: The western pygmy blue Smallest butterfly in North America. Its upper side is copper brown with dull blue at the bases of both wings. The underside of the hindwing is copper brown with white at the base; fringe is mostly white; 3 small black spots near base; row of black spots at outer margin.

Flight: Feb – Dec

Larval Plants: Saltbush species (*Atriplex*), and others in the goosefoot family (*Chenopodiaceae*).

Nectar Plants: Nectars on a variety of flowers typically close to the ground: *Asteraceae*; *Isocoma*, *Melampodium*, and *Thymophylla*.



REAKIRT'S BLUE  
(*Hemiargus isola*)

Size: .75 – 1.25”

Description: The upper surface of the male is blue and dusky with blue basally of the female; both sexes have two or three dark spots on the trailing margin of the hindwing (in anal angle). The undersurface of the forewings have an arced postmedian row of five or six prominent black spots ringed with white. The hindwings have smaller gray and white spots, bars and chevrons, with black and silver spots (two small, one large) in the anal angle and sometimes with pale orangish halos.

Flight: Feb – Dec

Larval Plants: *Acacia* sp., *Amorpha fruticosa*, *Astragalus arizonicus*, *Dalea* sp., *Desmanthus*, *Lotus*, *Mimosa*, and *Prosopis* sp.

Nectar Plants: Uses a wide variety of nectar plants.

## CERAUNUS BLUE

(*Hemiargus ceraunus*)

Size: .75 – 1.25”

Description: The upper side of the male is light blue with a darker narrow border; female's is dark brown, often with blue wing bases. The underside is gray; both wings with a row of dark postmedian dashes. There are two eyespots at the distal end of the hindwing.

Larval Plants: A variety of woody legumes including acacias and mesquite.

Nectar Plants: Uses a wide variety of nectar plants.



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## FAMILY RIODINIDAE: *Metalmarks*

The Rionidae family is one of the smaller families and believed to be quite closely related to Lycaenidae, which is where they were classified until rather recently. There are over 1,500 species of metalmark worldwide, and of this only 30 are found in North America, of which 13 of these have been recorded in Arizona. This group gets its name from the metallic-looking spots often found on their wings. All species found in North America are relatively small and range from .075 – 1.5 inches.

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## FATAL METALMARK

(*Calephelis nemesis*)

Size: .75 to 1”

Description: Small, brown butterfly with light metallic bands on the top and bottom of wings. Similar to the Arizona metalmark but possesses darker median bands. Both are often difficult to distinguish though the fatal metalmark tends to be more common in gardens and disturbed habitat. Usually found individually nectaring or sunning on low vegetation.

Flight: All year, though most commonly in spring to late fall.

Larval Plants: Seepwillow (*Baccharis* sp.), brittlebush, (*Encelia farinosa*)

Nectar Plants: Uses a variety of plants including *Conoclinium*, *Isocoma*, *Gaillardia*, *Ericameria*, and *Baccharis* among others.



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## PALMER'S METALMARK

(*Apodemia palmeri*)

Size: .75 to 1.20"

Description: Dark brown or gray butterfly with a copper tinge. Palmer's metalmark have many small white spots, some forming submarginal bands at the margins of both wings. The underside is orange with white spots and black submarginal spots. During flights and with decent nectar available, this species can be quite common and seen in large groups.

Flight: Multiple flights from Apr – Nov.

Larval Plants: Uses a variety of plants in the Fabaceae family including mesquites.

Nectar Plants: Uses a variety of plants including Baccharis, Eysenhardtia, and Mimosa, among others.

## FAMILY NYMPHALIDAE:

# Brushfeet

Nymphalidae is the largest family of butterflies with well over 6,000 species worldwide. There are roughly 220 species in North America and 93 of these have been recorded in Arizona. Most species in this family are medium-sized to large, and brightly colored. While there are a number of exceptions, most species in this family hold their wings flat when resting. The family gets its name from their greatly reduced front legs, which possess a brush-like set of hair. In some species the forelegs may be almost non-existent, and appear to only have 4 legs. The most famous member of this group is the Monarch.

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## AMERICAN SNOOT

(*Libytheana carinenta*)

Size: 1.25 – 2"

Description: This species gets its name from the prominent elongated mouth part (labial palpi) and can be identified solely by this characteristic. Overall, they are a well camouflaged species giving the appearance of a dead leaf. The forewings are elongated with squared-off wingtips. The dorsal wing pattern is orange with wide dark brown/black borders with white spots.

Flight: Double brooded; May-Jun and Aug. This species is known to be migratory, and during large flights a few hundred to several thousand can be seen.

Larval Plants: Hackberry (*Celtis* sp.)

Nectar Plants: Uses a variety of plants, including Asteraceae.





## MONARCH

(*Danaus plexippus*)

Size: 3.4 – 4.75”

Description: The monarch is a large orange butterfly that flies with its wings held in a “v” shape. The wings are bright orange surrounded by a black border and covered with black veins. The black border has a double row of white spots, present on the upper side of the wings. Adult monarchs are sexually dimorphic, with males having narrower wing venation and scent patches. The bright coloring of a monarch serves as a warning to predators that eating them can be toxic.

Flight: Spring and summer however can be found all year.

Larval Plants: Milkweeds (*Asclepias* sp.)

Nectar Plants: Milkweeds, thistles, lantana

## QUEEN

(*Danaus gilippus thersippus*)

Size: 2.5 – 4”

Description: Queen butterflies are orange or brown with black wing borders and small white forewing spots on its dorsal wing surface. They have a reddish ventral wing surface fairly similar to the dorsal surface. The ventral hindwings have black veins and small white spots in a black border.

Flight: Year-round

Larval Plants: Milkweed (*Asclepias* sp.)

Nectar Plants: Uses a variety of plants, including many Asteraceae species, *Asclepias* species, and *Lantana* species.





GULF FRITILLARY  
(*Agraulis vanillae incarnata*)

Size: 2.5 – 3.75"

Description: The upper side is bright orange with black markings; 3 black-encircled white dots on the forewing's leading edge. Underside is brown; forewing with orange at base; both wings with elongated, iridescent silver spots.

Flight: Year-round

Larval Plants: Passionflower (*Passiflora* sp.)

Nectar Plants: Uses a variety of plants, including many Asteraceae species, verbena, and lantana.



## HACKBERRY EMPEROR

(*Asterocampa celtis*)

HACKBERRY EMPEROR (*Asterocampa celtis*)

Size: 1.25. – 2.5"

Description: The upper side is orang-ish brown. The forewing cell has 1 solid black bar and 2 separate black spots. Similar to the empress leilia and has 2 solid (unbroken) cells.

Flight: Apr - Dec

Larval Plants: Solely on hackberry (*Celtis* sp.)

Nectar Plants: Sap, rotting fruit, dung, carrion. Will take moisture at wet spots along roads and streams.



## PAINTED LADY

(*Vanessa cardui*)

Size: 2 – 2.90"

Description: The painted lady is widespread and common throughout the US. Similar species found in southeast Arizona include West Coast lady (*Vanessa annabella*) and American lady (*Vanessa virginiensis*).

The upper side is orange-brown with darker wing bases; forewing with black apex patch and white bar on leading edge; hindwing submarginal row of 5 small black spots and sometimes has blue scales. Underside has a black, brown, and gray pattern with 4 small submarginal eyespots.

Flight: Year-round

Larval Plants: More than 100 host plants have been noted; favorites include thistles (Asteraceae), hollyhock and mallow (Malvaceae), and various legumes (Fabaceae).

Nectar Plants: Uses a variety of plants though prefers plants in the Asteraceae family, and milkweed (*Asclepias* sp.), among others.



## GRAY BUCKEYE

(*Vanessa grisea*)

Size: 1.75 – 2.75"

Description: The upper side is brown with 2 orange cell bars and 2 eyespots on the top of the upper forewing. The hindwing has 2 eyespots; the upper one is the largest and contains a magenta crescent. The underside of the hindwing is brown or tan. This species occasionally experiences eruptions and can be one of the most common species seen while in other years may be rather uncommon. Similar species include the closely related dark buckeye (*Junonia nigrosuffusa*) which is quite similar overall but much darker and lacks the pale tan forewing bands.

Flight: Year-round

Larval Plants: The larvae feed on the leaves of various low-growing plants of the family Acanthaceae: including *Anisacanthus*, *Justicia*, and *Ruellia* species.

Nectar Plants: Uses a variety of plants.

## TEXAN CRESCENT

(*Phyciodes texana*)

Size: 1.25 – 2"

Description: The upper side is black with small white spots and some rusty red near the wing bases. The hindwings have a median band of cream-colored spots.

Flight: Mar - Nov

Larval Plants: The larvae feed on the leaves of various low-growing plants of the family Acanthaceae: including desert honeysuckle (*Anisacanthus thurberi*), Arizona foldwing (*Dicliptera resupinata*), *Justicia*, and *Ruellia* species.

Nectar Plants: Uses a variety of plants.



# FAMILY HESPERIIDAE: *Skippers*

Hesperiidae, most commonly known as “skippers” for their quick, darting flight, comprises over 3,500 species, with the greatest number of species found in the tropics. There are roughly 275 species in North America and nearly half (135 species) have been recorded in Arizona. Most skippers are small to medium in size, usually orange, brown, black, white, or gray. A few have iridescent colors. Skippers have large eyes, short antennae (often with hooked clubs), stout bodies, and three pairs of walking legs. Their flight is often rapid, making wing movement appear blurred. Adults of most species have long proboscises and feed on floral nectar, but some also take up nutrients from animal droppings. Males have scent scales found in modified forewing patches. Males of most species locate mates by perching though some patrol, especially in the open-winged skippers.

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## COMMON/WHITE CHECKERED-SKIPPER

(*Burnsius sp.*)

Size: 1 – 1.5”

Description: Black and white checkered, spread-wing skipper.

Flight: Year-round

Larval Plants: Several plants in the mallow family (Malvaceae), including globemallow.

Nectar Plants: Uses a variety of plants, including many Asteraceae species, Conoclinium, Lantana, and Asclepias.



## ORANGE SKIPPERLING

(*Copaesodes aurantiaca*)

ORANGE SKIPPERLING (*Copaesodes aurantiaca*)

Size: .75 – 1”

Description: Small, orange skipper. Underwings are unmarked giving a clean appearance when perched. Upperwings have black edging on the forewing.

Flight: Feb – Dec

Larval Plants: Various grass species

Nectar Plants: Uses a variety of plants, including many Asteraceae species, Conoclinium, Lantana, and Asclepias.

## FIERY SKIPPER

(*Hylephila phyleus*)

Size: 1 – 1.5”

Description: Overall color can range from yellow to brown, but generally orange in appearance with small dots on the underside of the fore and hindwing. Antennae are short compared to other species.

Flight: Year-round, several broods

Larval Plants: Grasses including; Bermuda grass (*Cynodon dactylon*), crabgrass (*Digitaria* sp.), St. Augustine grass (*Stenotaphrum secundatum*), and other grasses.

Nectar Plants: Uses a variety of plants, including many Asteraceae species, *Conoclinium*, Lantana, and *Asclepias*.



# Checklist

## **FAMILY PAPILIONIDAE: PARNASSIANS & SWALLOWTAILS**

### **Subfamily PAPILIONINAE**

Pipevine Swallowtail      *Battus philenor*

Western Giant Swallowtail      *Papilio cresphontes*

## **FAMILY PIERIDAE: WHITES & SULPHURS**

### **Subfamily COLIADINAE: SULPHURS**

Dainty Sulphur      *Nathalis iole iole*

Mexican Yellow      *Eurema mexicana mexicana*

Sleepy Orange      *Eurema nicippe*

Orange Sulphur      *Colias eurytheme*

Southern Dogface      *Zerene cesonia cesonia*

Cloudless Sulphur      *Phoebis sennae marcellina*

### **Subfamily PIERINAE: WHITES**

Checkered White      *Pontia protodice*

## **FAMILY LYCAENIDAE: COPPERS, HAIRSTREAKS & BLUES**

### **Subfamily THECLINAE: HAIRSTREAKS**

Gray Hairstreak      *Strymon melinus*

### **Subfamily POLYOMMATINAE: BLUES**

Marine Blue      *Leptotes marina*

Western Pygmy-Blue      *Brephidium exile*

Reakirt's Blue      *Hemiargus isola*

Ceraunus Blue      *Hemiargus ceraunus*

## **FAMILY RIODINIDAE: METALMARKS**

### **Subfamily RIODININAE: TRUE METALMARKS**

Fatal Metalmark      *Calephelis nemesis*

Palmer's Metalmark      *Apodemia palmeri*

## **FAMILY NYMPHALIDAE: BRUSHFOOTS**

### **Subfamily RIODININAE: TRUE METALMARKS**

American Snout      *Libytheana carinenta*

### **Subfamily DANAINAE: MONARCHS & RELATIVES**

Monarch      *Danaus plexippus*

Queen      *Danaus gilippus thersippus*

### **Subfamily HELICONIINAE: LONGWINGS & FRITILLARY**

Gulf Fritillary      *Agraulis vanillae incarnata*

### **Subfamily APATURINAE: EMPERORS**

Empress Leila      *Asterocampa leilia*

### **Subfamily NYMPHALINAE: TRUE BRUSHFOOTS**

Painted Lady      *Vanessa cardui*

Gray Buckeye      *Junonia coenia*

## **FAMILY HESPERIIDAE: SKIPPERS**

### **Subfamily PYRGINAE: SPREADWING SKIPPERS - Pyrgini**

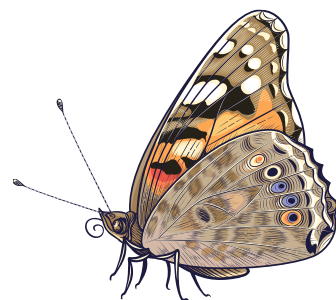
Common/White Checkered-Skipper      *Pyrgus* sp.

### **Subfamily HESPERIINAE: GRASS-SKIPPERS - Thymelicini**

Orange Skipperling      *Copaeodes aurantiaca*

### **Subfamily HESPERIINAE: GRASS-SKIPPERS - Hesperini**

Fiery Skipper      *Hylephila phyleus*





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