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Family: Brush-footed - *Nymphalidae*

Kingdom: *Animalia*

Phylum: *Arthropoda*

Subphylum: *Hexapoda*

Class: *Insecta Pterygota*

Order: *Lepidoptera*

Family: *Brush-footed Nymphalidae*

Subfamilies: *Admirals and Relatives Limenitidinae - Emperors Apaturinae - Longwings Heliconiinae - Milkweed Butterflies Danainae - Satyrs and Wood-Nymphs Satyrinae - True Brushfoots Nymphalinae*

Family Description: The Nymphalidae are members of the Superfamily Papilionoidea, the true butterflies. Distributed worldwide, butterflies of this family are especially rich in the tropics. They are highly variable, and there are more species in this family than in any other. Adults vary in size from small to large, and their front legs are reduced, unable to be used for walking. Wing shape is also highly variable: some species have irregular margins (anglewings and commas), and others have long taillike projections (daggerwings). Browns, oranges, yellows, and blacks are frequent colors, while iridescent colors such as purples and blues are rare. Adults of some groups are the longest-lived butterflies, surviving 6-11 months. Adult feeding behavior depends on the species, where some groups primarily seek flower nectar while others only feed on sap flows, rotting fruit, dung, or animal carcasses. Males exhibit perching and patrolling behaviors when seeking mates. Egg-laying varies widely, as some species lay eggs in clusters, others in columns, and others singly. Caterpillar appearance and behavior vary widely. Brushfoots overwinter as larvae or adults.

Subfamily Description: Admirals and Relatives (Limenitidinae) are members of the Family Nymphalidae. These admirals and relatives are found on most continents. Adults of most genera are characterized by their flap-and-glide flight. Caterpillar and chrysalis structure defines this group.

Red-spotted Purple Butterfly *Limenitis arthemis astyanax*

Identification: These two very different forms had once been considered separate species. **WHITE ADMIRAL:** Upperside is black with broad white median bands on both wings; hindwing has a marginal row of blue dashes and a submarginal row of red dots. Underside is reddish-brown with white median bands as on the upperside. **RED-SPOTTED PURPLE:** Upperside is blue to blue-green with much iridescence on the outer part of the hindwing. Underside is dark brown. Forewing has 2 red-orange bars near the base of the leading edge; hindwing has 3 red-orange spots near the base and a submarginal row of red-orange spots. The two forms hybridize where their ranges overlap, creating various intermediate forms which may be found in or near the overlap zone.

Life history: Males perch 3 feet or more above the ground on trees and tall bushes and rarely patrol for females. Eggs are laid singly on tips of host plant leaves; caterpillars eat leaves. Third-stage caterpillars hibernate.

Flight: Two broods from April-October.

Wing span: 2 1/4 - 4 inches (5.7 - 10.1 cm).

Caterpillar hosts: Leaves of many species of trees and shrubs including wild cherry (*Prunus*), aspen, poplar, cottonwood (*Populus*), oaks (*Quercus*), hawthorn (*Crataegus*), deerberry (*Vaccinium stamineum*), birch (*Betula*), willows (*Salix*), basswood (*Tilia*), and shadbush (*Amelanchier*).

Adult food: Sap flows, rotting fruit, carrion, dung, and occasionally nectar from small white flowers including spiraea, privet, and viburnum. White Admirals also sip aphid honeydew.

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Habitat: The White Admiral form is usually found in the north in deciduous broad-leaf or mixed evergreen forests dominated by aspen or birch. The **Red-Spotted Purple** form is usually found further south than the White Admiral, in deciduous or mixed forests, moist uplands, valley bottoms, and coastal plains.

Subfamily Description: Emperors (Apaturinae) are members of the Family Nymphalidae. Found worldwide, they are a closely related group. Adults are brightly colored and stout-bodied. They are most closely related to the Charaxinae and Satyrinae subfamilies, as evidenced by their early developmental stages. In North America, they are limited to the genus *Asterocampa*.

Hackberry Emperor Butterfly *Asterocampa celtis*

Identification: Extremely variable geographically. Upperside is reddish brown. Forewing has 1 submarginal eyespot, a jagged row of white spots, and the cell has 1 solid black bar and 2 separate black spots.

Life history: Hackberry Butterflies fly in a fast and erratic manner, and rest upside down on tree trunks. Males perch on tall objects in sunny areas to watch for females. Eggs are laid in clusters, and the young caterpillars feed communally. Caterpillars overwinter in groups gathered inside dead rolled leaves.

Flight: Two broods from May-October.

Wing span: 1 3/8 - 2 1/2 inches (3.5 - 6.3 cm).

Caterpillar hosts: Various hackberries (*Celtis* species) and sugarberry (*Celtis laevigata*).

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

Habitat: Along wooded streams, forest glades and river edges, wooded roadsides, towns.

Subfamily Description: Longwings (Heliconiinae) are members of the Family Nymphalidae. They are richest in the tropics, but several genera are prominent in the Northern Hemisphere, including the fritillaries or silverspots and the lesser fritillaries. The adults of several species are distasteful, and many other species mimic the distasteful butterflies of this subfamily. Adults are long-lived, with some as long as six months. Males patrol in search of females. The adults of genus *Heliconius* are unique in that they intentionally collect pollen in their proboscis and then absorb its proteins.

Gulf Fritillary Butterfly *Agraulis vanillae*

Identification: Upperside bright orange with black markings; 3 black-encircled white dots on forewing leading edge. Underside brown; forewing with orange at base; both wings with elongated, iridescent silver spots.

Life history: Males patrol for females, who lay eggs on many parts of the host plant. Caterpillars feed on most parts of the host. Adults overwinter in the south.

Flight: Throughout the year in south Florida and South Texas, January-November in the north. Number of broods has not been determined.

Wing span: 2 1/2 - 3 3/4 inches (6.3 - 9.5 cm).

Caterpillar hosts: Various species of passion-vine including maypops (*Passiflora incarnata*) and running pop (*P. foetida*).

Adult food: Nectar from lantana, shepherd's needle, cordias, composites, and others.

Habitat: Pastures, open fields, second-growth subtropical forest and edges, city gardens.

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Variegated Fritillary Butterfly *Euptoieta claudia*

Identification: Upperside tawny orange with thick dark veins and markings; black spots near margin. Hindwing margin angled and slightly scalloped. Underside of hindwing with a mottled pattern and no silver spots.

Life history: Males patrol short distances in flat, dry, open places. Eggs are laid singly on host plant stems and leaves; caterpillars eat leaves and flowers.

Flight: Three broods from April-October in the north, four broods from February or March-November or December in the south.

Wing span: 1 3/4 - 3 1/8 inches (4.5 - 8 cm).

Caterpillar hosts: A variety of plants in several families including maypops (*Passiflora incarnata*), may apple (*Podophyllum peltata*), violets (*Viola*), purslane (*Portulaca*), stonecrop (*Sedum*), and moonseed (*Menispermum*).

Adult food: Nectar from several plant species including butterflyweed, common milkweed, dogbane, peppermint, red clover, swamp milkweed, and tickseed sunflower.

Habitat: Open sunny areas such as prairies, fields, pastures, road edges, landfills.

Subfamily Description: Milkweed butterflies (*Danainae*) and Monarchs are members of *Danainae*, which is a subfamily of the Family *Nymphalidae*. The best known member of this family is the Monarch butterfly. Danaid females lay their eggs on the milkweed on which their larvae feed. The larvae and the butterflies retain the poisonous glycosides from the milkweed and are poisonous to predators.

Monarch Butterfly *Danaus plexippus*

Identification: Upperside of male is bright orange with wide black borders and black veins; hindwing has a patch of scent scales. Upperside of female is orange-brown with wide black borders and blurred black veins. Both sexes have white spots on borders and apex.

Life history: Adults warm up by basking dorsally (with their wings open and toward the sun). Females lay eggs singly under the host leaves; caterpillars eat leaves and flowers. Adults make massive migrations from August-October, flying thousands of miles south to hibernate along the California coast and in central Mexico. A few overwinter along the Gulf coast or south Atlantic coast. Along the way, Monarchs stop to feed on flower nectar and to roost together at night. At the Mexico wintering sites, butterflies roost in trees and form huge aggregations that may have millions of individuals. During the winter the butterflies may take moisture and flower nectar during warm days. Most have mated before they leave for the north in the spring, and females lay eggs along the way. Residents of tropical areas do not migrate but appear to make altitude changes during the dry season.

Flight: In North America during spring and summer there may be 1-3 broods in the north and 4-6 broods in the south. May breed all year in Florida, South Texas, and southeastern California.

Wing span: 3 3/8 - 4 7/8 inches (8.6 - 12.4 cm).

Caterpillar hosts: Milkweeds including common milkweed (*Asclepius syriaca*), swamp milkweed (*A. incarnata*), and showy milkweed (*A. speciosa*); and milkweed vine in the tropics. Most milkweeds contain cardiac glycosides which are stored in the bodies of both the caterpillar and adult. These poisons are distasteful and emetic to birds and other vertebrate predators. After tasting a Monarch, a predator might associate the bright warning colors of the adult or caterpillar with an unpleasant meal, and avoid Monarchs in the future.

Adult food: Nectar from all milkweeds. Early in the season before milkweeds bloom, Monarchs visit a variety of flowers including dogbane, lilac, red clover, lantana, and thistles. In the fall adults visit composites including goldenrods, blazing stars, ironweed, and tickseed sunflower.

Habitat: Many open habitats including fields, meadows, weedy areas, marshes, and roadsides.

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Subfamily Description: Satyrs and Wood-Nymphs (Satyrinae) are medium-sized species of the Family Nymphalidae. Members of this worldwide group are most often brown with one or more marginal eyespots. Males often have visible patches of specialized scales on the fore- or hindwings. Adults have short proboscises and rarely visit flowers, feeding instead on rotting fruit, animal droppings, or sap flows. Nearly all species feed on grasses and grasslike plants, including bamboos, rushes, and sedges. Adults usually perch with their wings closed, but open them wide when basking early in the morning or during cloudy weather. Most species have local colonies and are not migratory. Males patrol when searching for mates, flying in characteristic slow, skipping flight. Eggs are laid singly on the host leaves or stems, and caterpillars feed within shelters of several leaves sewn together with silk. Development from egg to adult can take two years in arctic and alpine species, and it is synchronized in some species. In those species, adult butterflies are only found every other year. Satyrinae typically overwinter as partially grown caterpillars.

Carolina Satyr Butterfly *Hermeuptychia sosybius*

Identification: Upperside is brown with no markings. Underside is brown; both wings have many small eyespots rimmed with yellow.

Life history: Adults have a slow, weak flight, and are usually found flying in the forest understory. Males patrol during the day to find receptive females. Caterpillars eat leaves.

Flight: Several broods throughout the year in South Texas and the Deep South; three broods from April-October in the northern part of the range.

Wing span: 1 1/4 - 1 1/2 inches (3.2 - 3.8 cm).

Caterpillar hosts: Carpet grass (*Axonopus compressus*), centipede grass (*Eremochloa ophiuroides*); probably St. Augustine grass (*Stenotaphrum secundatum*), Kentucky bluegrass (*Poa pratensis*), and others.

Adult food: Sap and rotting fruit.

Habitat: Grassy places and woodlands.

Creole Pearly-eye Butterfly *Enodia creola*

Identification: Male forewing is pointed; upperside is brown with raised patches of dark scales along veins. Underside of both sexes is tan; forewing has a straight submarginal row of 5 spots; dark line along inner side of spot row arches outwardly at the cell.

Life history: Adults perch on tree trunks during the day, up to 10 feet above ground. Males perch and wait for females in late afternoon or on cloudy days. Females lay eggs singly on or near the host plants; caterpillars feed on leaves at night and hide at the base of the plant during the day. Caterpillars hibernate.

Flight: Two broods in the north from June-September, three broods in the south from April-September.

Wing span: 2 5/16 - 2 3/4 inches (5.9 - 7 cm).

Caterpillar hosts: Switch cane (*Arundinaria tecta*) in the grass family (Poaceae).

Adult food: Rotting fruit, sap, dung, carrion; never flower nectar.

Habitat: Dense moist woods near large swamps, dense upland forests in the southern Appalachians.

Gemmed Satyr Butterfly *Cyllopsis gemma*

Identification: Wings are brown and lack eyespots. Underside of hindwing has a silvery patch at the outer margin which contains 4 black reflective spots.

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Life history: Males patrol for receptive females. Eggs are laid on or near the host plant. Caterpillars feed at night and hide at the base of the plant during the day. Fourth-stage caterpillars hibernate.

Flight: Several broods all through the year in South Texas; three broods from April-September elsewhere.

Wing span: 1 3/8 - 1 11/16 inches (3.5 - 4.3 cm).

Caterpillar hosts: Probably Bermuda grass (*Cynodon dactylon*).

Adult food: Not reported.

Habitat: Near open, wet woodland; grassy areas near water; near streams and ponds.

Little Wood-satyr Butterfly *Megisto cymela*

Identification: Light brown. Forewing has 2 yellow-rimmed black eyespots both above and below.

Hindwing has 2 eyespots on upper side; but may have smaller spots below.

Life history: In the early morning and late afternoon, Little Wood Satyrs bask with their wings open while perched on tree leaves or on leaf litter. Adults have a slow bouncing flight and will rise as far as the tops of tall trees. Males patrol in the shade to find females. Eggs are laid singly on grass blades. Fourth-stage caterpillars hibernate.

Flight: One brood from June-July in the north; two to three broods from March-September in the south.

Wing span: 1 1/2 - 1 7/8 inches (3.8 - 4.8 cm).

Caterpillar hosts: Orchard grass (*Dactylis glomerata*) and centipede grass (*Eremochloa ophiuroides*).

Adult food: Sap, aphid honeydew, and rarely flower nectar.

Habitat: Grassy woods and openings, old fields; especially in limey or basic soils.

Southern Pearly-eye Butterfly *Enodia portlandia*

Identification: Antennal clubs are orange. Upperside is brown with dark eyespots at the margins.

Underside is light brown; submarginal row of 4 spots (Florida females may have 5) on forewing is slightly curved and brown line inside this spot row is straight or zigzagged. Spots are encircled by diffuse white.

Life history: Males perch on tree trunks, sometimes head downward, to wait for females. Eggs are laid singly on or near the host plant; caterpillars feed on leaves. Older caterpillars hibernate.

Flight: Three broods from March-October.

Wing span: 2 3/16 - 2 3/4 inches (5.6 - 7 cm).

Caterpillar hosts: Bamboo switch cane (*A. tecta*).

Adult food: Sap, rotting fruit, carrion, dung.

Habitat: Shady, damp woods near stream-fed swamps.

Viola's Wood-satyr *Megisto viola*

Identification: Light brown. Upperside has 2 large eyespots on each wing. Underside of both wings has distinct markings; the dark postmedian line is strongly bowed.

Life history: Adults have a slow bouncing flight and will rise as far as the tops of tall trees. Males patrol in the shade to find females. Eggs are laid singly on grass blades, which the caterpillars eat.

Flight: One flight; April in Florida, later elsewhere.

Wing span: 1 11/16 - 1 15/16 inches (4.3 - 5 cm).

Caterpillar hosts: Orchard grass (*Dactylis glomerata*) and centipede grass (*Eremochloa ophiuroides*).

Adult food: Sap, aphid honeydew, rarely flower nectar.

Habitat: Grassy woods.

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Subfamily Description: True Brushfoots (*Nymphalinae*) are the most prevalent members of the Family Nymphalinae. Distributed worldwide, this is a diverse group that contains several tribes, each with somewhat different structural and biological features. Adults of North American species are predominantly orange, brown, and black. Wing shape and mating systems are variable. Most checkerspots and crescentspots patrol for mates, while the remainder of groups exhibit either perching or perching and patrolling. Migration varies widely; some strong migrants are found in the lady butterflies, tortoiseshells, and anglewings, while other species are local in occurrence. Most species limit their host plants to a few species, but the Painted Lady has one of the widest host palettes of all butterflies. Eggs are laid singly or clustered in groups, and caterpillars be found feeding alone or communally. Brushfoots overwinter as young caterpillars or hibernating adults.

American Lady Butterfly *Vanessa virginiensis*

Identification: Upperside with uneven brown, yellow, and orange pattern. Forewing with a black apical patch, a small white spot in the orange field below the patch, and a white bar at the leading edge of the forewing. Underside of hindwing with two large eyespots. Winter form is smaller and paler, summer form larger with brighter coloring.

Life history: During the afternoon, males perch on hilltops or on low vegetation if there are no hills. Females lay eggs singly on the top of host plant leaves. Caterpillars are solitary, living and feeding in a nest of leaves tied with silk. Adults hibernate.

Flight: Three to four broods from May-November, all year in the Deep South and South Texas. It is not known if adults can survive very cold winters; the East may have to be recolonized each year by southern migrants.

Wing span: 1 3/4 - 2 5/8 inches (4.5 - 6.7 cm).

Caterpillar hosts: Plants in the sunflower family everlasting (*Gnaphalium obtusifolium*), pearly everlasting (*Anaphalis margaritacea*), plantain-leaved pussy toes (*Antennaria plantaginifolia*), wormwood (*Artemisia*), ironweed (*Vernonia*), and burdock (*Arctium*).

Adult food: Flower nectar almost exclusively, including dogbane, aster, goldenrod, marigold, selfheal, common milkweed, and vetch.

Habitat: Open places with low vegetation including dunes, meadows, parks, vacant lots, forest edges.

Buckeye Butterfly *Junonia coenia*

Identification: Upperside is brown. Forewing with 2 orange cell bars and 2 eyespots; part of white subapical band appears in the largest, lower eyespot. Hindwing has 2 eyespots; upper one is largest and contains a magenta crescent. Underside of hindwing is brown or tan in the wet season (summer) form and rose-red in the dry season (fall) form.

Life history: Males perch during the day on low plants or bare ground to watch for females, flying periodically to patrol or to chase other flying insects. Females lay eggs singly on leaf buds or on upperside of host plant leaves. Caterpillars are solitary and eat leaves. Caterpillars and adults overwinter but only in the south.

Flight: Two to three broods from May-October, throughout the year in the Deep South.

Wing span: 1 5/8 - 2 3/4 inches (4.2 - 7 cm).

Caterpillar hosts: Plants from the snapdragon family including snapdragon (*Antirrhinum*) and toadflax (*Linaria*); the plantain family including plantains (*Plantago*); and the acanthus family including ruellia (*Ruellia nodiflora*).

Adult food: Favorite nectar sources are composites including aster, chickory, gumweed, knapweed, and tickseed sunflower. Dogbane, peppermint, and other flowers are also visited.

Habitat: Open, sunny areas with low vegetation and some bare ground.

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Eastern Comma Butterfly *Polygonia comma*

Identification: Small with short hindwing projections. Forewing above is brownish-orange with dark spots; one dark spot at center of bottom edge. Hindwing above has two patterns: summer form is mostly black, winter form is orange with black spots; both have a dark border containing pale spots. Underside is brown; hindwing with a central silver or white comma which is swollen at both ends.

Life history: Males perch on leaves or tree trunks to watch for females, flying aggressively to chase other insects or even birds. Eggs are laid singly or in stacks under host plant leaves or stems. Caterpillars are usually solitary and feed on leaves at night. Older caterpillars make daytime shelters by pulling leaf edges together with silk. Winter form adults hibernate, some first migrating to the south.

Flight: Overwintered adults fly and lay eggs in the spring until the end of April. The summer form emerges and flies from May-September, laying eggs that develop into the winter form. These adults appear in September or October and soon seek shelter in which to overwinter.

Wing span: 1 3/4 - 2 1/2 inches (4.5 - 6.4 cm).

Caterpillar hosts: All members of the elm and nettle families including American elm (*Ulmus americana*), hops (*Humulus*), nettle (*Urtica*), false nettle (*Boehmeria cylindrica*), and wood nettle (*Laportea canadensis*).

Adult food: Rotting fruit and tree sap.

Habitat: Deciduous woodlands; woods near rivers, marshes, swamps, and other water sources.

Mourning Cloak Butterfly *Nymphalis antiopa*

Identification: Short projections on both wings, borders irregular. Upperside is purple-black with a wide, bright yellow border on outer margins, and a row of iridescent blue spots at the inner edge of the border.

Life history: Overwintered adults mate in the spring, the males perching in sunny openings during the afternoon to wait for receptive females. Eggs are laid in groups circling twigs of the host plant. Caterpillars live in a communal web and feed together on young leaves, then pupate and emerge as adults in June or July. After feeding briefly, the adults estivate until fall, when they re-emerge to feed and store energy for hibernation. Some adults migrate south in the fall.

Flight: Usually one flight from June-July.

Wing span: 2 1/4 - 4 inches (5.7 - 10.1 cm). **Caterpillar hosts:** Willows including black willow (*Salix nigra*), weeping willow (*S. babylonica*), and silky willow (*S. sericea*); also American elm (*Ulmus americana*), cottonwood (*Populus deltoides*), aspen (*P. tremuloides*), paper birch (*Betula papyrifera*), and hackberry (*Celtis occidentalis*). Older caterpillars wander about and may be found on plants that they do not eat.

Adult food: Mourning Cloaks prefer tree sap, especially that of oaks. They walk down the trunk to the sap and feed head downward. They will also feed on rotting fruit, and only occasionally on flower nectar.

Habitat: Because Mourning Cloaks roam and migrate, they are found almost anywhere that host plants occur including woods, openings, parks, and suburbs; and especially in riparian areas.

Painted Lady Butterfly *Vanessa cardui*

Identification: Upperside 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 sometimes has blue scales. Underside has a black, brown, and gray pattern with 4 small submarginal eyespots.

Life history: Males perch and patrol during the afternoon for receptive females. In the West males usually perch on shrubs on hilltops, while in the East males perch on bare ground in open areas. Females lay eggs

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singly on the tops of host plant leaves. Caterpillars live in silk nests and eat leaves. Adults hibernate only in the South and in mild winters.

Flight: One to three flights in the East from May-October, three to four flights in South Texas from October-April.

Wing span: 2 - 2 7/8 inches (5.1 - 7.3 cm).

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

Adult food: The Painted Lady prefers nectar from composites 3-6 feet high, especially thistles; also aster, cosmos, blazing star, ironweed, and joe-pye weed. Flowers from other families that are visited include red clover, buttonbush, privet, and milkweeds.

Habitat: Almost everywhere, especially in open or disturbed areas including gardens, old fields, dunes.

Pearl Crescent Butterfly *Phyciodes tharos*

Identification: Quite variable. Males usually have black antennal knobs. Upperside is orange with black borders; postmedian and submarginal areas are crossed by fine black marks. Underside of hindwing has a dark marginal patch containing a light-colored crescent. Spring and fall broods (form *marcia*) have a gray mottled hindwing below.

Life history: Males patrol open areas for females. Eggs are laid in small batches on underside of host plant leaves. Caterpillars eat leaves and are gregarious when young. Hibernation is by third-stage caterpillars.

Flight: Several broods; from April-November in the north, throughout the year in the Deep South and Mexico.

Wing span: 1 1/4 - 1 3/4 inches (3.2 - 4.5 cm).

Caterpillar hosts: Several species of smooth-leaved true asters including *Aster pilosus*, *A. texanus*, and *A. laevis*.

Adult food: Nectar from a great variety of flowers including dogbane, swamp milkweed, shepherd's needle, asters, and winter cress.

Habitat: Open areas such as pastures, road edges, vacant lots, fields, open pine woods.

Phaon Crescent Butterfly *Phyciodes phaon*

Identification: Forewing is dark orange and black with a pale cream median band. Underside of hindwing is cream to yellowish; spring and fall butterflies (form *marcia*) have a gray hindwing.

Life history: Males patrol during daytime near the host plant. Eggs are laid in small groups on underside of host plant leaves; caterpillars eat leaves.

Flight: Many broods southern Florida; February-October in California; April-September in New Mexico.

Wing span: 1 - 1 1/2 inches (2.5 - 3.8 cm).

Caterpillar hosts: Fogfruit (*Lippia lanceolata*) and mat grass (*Lippia nodiflora*) in the verbena family.

Adult food: Nectar from flowers of *Lippia* and composites including shepherd's needle.

Habitat: Openings in thorn forest, open areas with closely cropped plants, dunes, pastures, road edges.

Question Mark Butterfly *Polygonia interrogationis*

Identification: Forewing hooked; upperside is red-orange with black spots. Upperside hindwing of summer form is mostly black with a short tail; that of winter form has much orange and a longer, violet-tipped tail. Underside is light brown; hindwing with pearly white question mark in center. **Life history:** Males find females by perching on leaves or tree trunks in the afternoon, flying to chase other insects and even birds. Females lay eggs singly or stacked under leaves of plants that are usually not the hosts.

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Caterpillars must find a host plant; they then eat leaves and live alone. Adults of the winter form hibernate; some staying in the north, many migrating to the south. **Flight:** Overwintered adults fly and lay eggs in the spring until the end of May. The summer form emerges and flies from May-September, laying eggs that develop into the winter form; these adults appear in late August and spend the winter in various shelters.

Wing span: 2 1/4 - 3 inches (5.7 - 7.6 cm). **Caterpillar hosts:** American elm (*Ulmus americanus*), red elm (*Ulmus rubra*), hackberry (*Celtis*), Japanese hop (*Humulus japonicus*), nettles (*Urtica*), and false nettle (*Boehmeria cylindrica*). **Adult food:** Rotting fruit, tree sap, dung, carrion. Only when these are unavailable do Question Marks visit flowers such as common milkweed, aster, and sweet pepperbush. **Habitat:** Wooded areas with some open space, city parks, suburbs, fencerows.

Red Admiral Butterfly *Vanessa atalanta*

Identification: Upperside is black with white spots near the apex; forewing with red median band, hindwing with red marginal band. The winter form is smaller and duller, summer form larger and brighter with an interrupted forewing band.

Life history: The Red Admiral has a very erratic, rapid flight. Males perch, on ridgetops if available, in the afternoon to wait for females, who lay eggs singly on the tops of host plant leaves. Young caterpillars eat and live within a shelter of folded leaves; older caterpillars make a nest of leaves tied together with silk. Adults hibernate.

Flight: Two broods from March-October in the north, winters from October-March in South Texas.

Wing span: 1 3/4 - 3 inches (4.5 - 7.6 cm).

Caterpillar hosts: Plants of the nettle family (*Urticaceae*) including stinging nettle (*Urtica dioica*), tall wild nettle (*U. gracilis*), wood nettle (*Laportea canadensis*), false nettle (*Boehmeria cylindrica*), pellitory (*Parietaria pennsylvanica*), mamaki (*Pipturus albidus*), and possibly hops (*Humulus*).

Adult food: Red Admirals prefer sap flows on trees, fermenting fruit, and bird droppings; visiting flowers only when these are not available. Then they will nectar at common milkweed, red clover, aster, and alfalfa, among others.

Habitat: Moist woods, yards, parks, marshes, seeps, moist fields. During migrations, the Red Admiral is found in almost any habitat from tundra to subtropics.

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Family: Gossamer-wing *Lycaenidae*

Kingdom: *Animalia*

Phylum: *Arthropoda*

Subphylum: *Hexapoda*

Class: *Insecta Pterygota*

Order: *Lepidoptera*

Family: Gossamer-wing *Lycaenidae*

Subfamilies: Blues *Polyommatae* - Hairstreaks *Theclinae*

Family Description: The *Lycaenidae* are members of the Superfamily *Papilionoidea*, the true butterflies. Worldwide in distribution, this family has approximately 4,700 species that are unevenly distributed. Coppers are especially dominant in north temperate regions, blues are richest in the Old World tropics and north temperate zones, and hairstreaks are particularly abundant in New World tropics. The adults are typically small to tiny and often brilliantly colored--iridescent blues, bright reds, and oranges. Adults of both sexes have three pairs of walking legs, though most males have fused segments in their front legs. Most adults visit flowers for nectar, but some harvesters feed on woolly aphid honeydew and some hairstreaks feed on aphid honeydew or bird droppings. Females lay single, sea urchin shaped eggs on host leaves or flower buds; the resulting caterpillars are typically slug-shaped. In many species, caterpillars depend on ants for protection, so caterpillars produce sugary secretions that are collected by the ants. Most species overwinter in either the egg or pupal stage.

Subfamily Description: Blues (*Polyommatae*) are tiny to small butterflies of the Family *Lycaenidae*. Distributed worldwide, they are most diverse in Southeast Asia, tropical Africa, and northern temperate regions. Most of the nearly 50 North American species are found in the west. Adult males are predominantly blue above, due to reflected light rather than pigmentation. Some males and most females are largely brown above. Below, wings of both sexes are usually gray-white with black spots or streaks. Adults in some genera (*Euphilotes*, *Lycaeides*, *Plebulina*, and *Icaricia*) have more or less prominent orange submarginal bands on their hindwings. Most adults are found near their host plants, and they do not fly long distances, though some tropical and subtropical species undertake long migrations. Adults visit flowers for nectar. Males frequent moist sand and mud, and females lay eggs singly on host plant leaves or flowers. As caterpillars, they secrete sugary secretions that attract ants, and caterpillars of some species are raised in ant nests. Blues usually overwinter in the pupal stage.

Ceraunus Blue Butterfly *Hemiargus ceraunus*

Identification: Upperside of male light blue with a darker narrow border; female dark brown, often with wing bases blue. Underside gray; both wings with a row of dark postmedian dashes. Florida butterflies have one submarginal eyespot on hindwing; Southwest butterflies have two.

Life history: Males patrol during warm hours of the day for receptive females. Eggs are laid singly on flower buds or leaves of host plant; caterpillars feed on flowers and seedpods.

Flight: Throughout the year in Texas and south Florida, late summer in other parts of its range.

Wing span: 3/4 - 1 1/8 inches (2 - 3 cm).

Caterpillar hosts: A variety of woody legumes including partridge pea (*Cassia brachiata*), mesquite (*Prosopis* species), and rosary pea (*Abrus precatorius*).

Adult food: Flower nectar.

Habitat: Open woodland, desert scrub, dunes, pastures, road edges, and vacant lots.

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Eastern Tailed-Blue Butterfly *Everes comyntas*

Identification: One narrow tail on hindwing. Upperside of male iridescent blue; summer females uniformly brown, spring females smaller with much blue at the wing bases. Underside of hindwing pale gray with black bar at end of cell, distinct black spots, and three large orange spots at outer margin near tail.

Life history: Males patrol near the host plants during daylight hours. Females lay eggs on flower buds; caterpillars eat buds, flowers, and seeds. The caterpillar hibernates, pupating the following spring. Although most Lycaenids do not perch with open wings, Eastern Tailed-Blues sometimes bask with their wings at a 45 angle.

Flight: Three broods from April-November in the north, many broods from February-November in the south.

Wing span: 7/8 - 1 1/8 inches (2.2 - 2.9 cm).

Caterpillar hosts: Many plants in the pea family including yellow sweet clover (*Melilotus officinalis*), alfalfa (*Medicago sativa*); various species of vetch (*Vicia*), clover (*Trifolium*), wild pea (*Lathyrus*), and bush clover (*Lespedeza*); and others.

Adult food: This butterfly has a low flight and a short proboscis, thus is found at flowers close to the ground which are open or short-tubed. These include white sweet clover, shepherd's needle, wild strawberry, winter cress, cinquefoils, asters, and others.

Habitat: Many open, sunny places including weedy areas and disturbed habitats.

Summer Azure Butterfly *Celastrina neglecta*

Identification: Upperside of male powdery blue often with ill-defined white patch on hindwing. Female with much white scaling on both forewings and hindwings. Underside of hindwing pale gray or white with small black dots and submarginal dark zigzag line.

Life history: Caterpillars eat flowers. Chrysalids overwinter until flower late spring or summer.

Flight: One flight from June to October.

Wing span: 15/16 - 1 1/8 inches (2.4 - 2.9 cm). **Caterpillar hosts:** Racemose dogwood, New Jersey Tea, and other plants.

Adult food: Flower nectar.

Habitat: Various habitats including stream valleys, powerline right-of-ways, gardens.

Subfamily Description: Hairstreaks (*Theclinae*) are members of the Family Lycaenidae. Richest in tropical habitats, hairstreaks are numerous in the Americas and comprise about 1,000 species. In tropical species, the upperside of small to medium-sized adults is often iridescent blue, due to reflected light from the wing scales. However, most of the North American species are brown above. Migration is rare, but a few species (such as the Gray Hairstreak) are good long-distance colonists. Males perch to await mates, and females lay eggs singly. Caterpillars usually feed on leaves or reproductive structures of woody trees or shrubs. Interestingly, the chrysalids of several species can produce sounds between their abdominal segments, likely related to their interactions with ants. Hairstreaks typically overwinter in the egg or pupal stage.

Gray Hairstreak Butterfly *Strymon melinus*

Identification: One tail on hindwing. Upperside blue-gray with large red spot near tail. Underside of spring/fall form is dark gray, summer form is paler gray. Relatively straight postmedian line is white, bordered with orange on the inside edge.

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Life history: Males perch all afternoon on small trees and shrubs to seek receptive females. Eggs are laid singly on flowers of host plant. Young caterpillars feed on flowers and fruits; older ones may eat leaves. Chrysalids hibernate.

Flight: Two flights from May-September in the north, three-four flights from February-November in the south.

Wing span: 7/8 - 1 3/8 inches (2.2 - 3.5 cm).

Caterpillar hosts: Flowers and fruits from an almost endless variety of plants; most often from pea (Fabaceae) and mallow (Malvaceae) families including beans (Phaseolus), clovers (Trifolium), cotton (Gossypium), and mallow (Malva).

Adult food: Nectar from many flower species including dogbane, milkweed, mint, winter cress, goldenrod, tick trefoil, and white sweet clover. **Habitat:** Open, nonforested sites; common in disturbed, weedy areas.

Oak (Northern) Hairstreak Butterfly *Satyrium favonius ontario*

Identification: Two tails on each hindwing. Underside of hindwing gray-brown; blue tail-spot capped narrowly with orange; white-edged black W near inner margin. In peninsular Florida and along the south Atlantic coast, the hindwing has longer tails and more extensive orange and blue markings on the underside.

Life history: Eggs are laid singly on host plant twigs and hatch the following spring. Caterpillars feed on leaves, buds, and male catkins

Flight: One flight from March-June.

Wing span: 7/8 - 1 1/2 inches (2.2 - 3.8 cm).

Caterpillar hosts: Various oaks (Quercus species).

Adult food: Flower nectar.

Habitat: Oak woodlands and edges, oak hammocks in the Deep South.

Red-banded Hairstreak Butterfly *Calycopis cecrops*

Identification: Two tails on the hindwing. Upperside brown, hindwing blue. Underside gray-brown with white postmedian line edged with red-orange.

Life history: Males perch on shrubs and low trees to watch for females. Females lay eggs singly on underside of fallen leaves near the host plant. Caterpillars feed on leaves and buds and probably detritus. Chrysalids and fourth-stage caterpillars hibernate.

Flight: All year in Florida, two broods northward from April-October.

Wing span: 7/8 - 1 1/4 inches (2.2 - 3.2 cm).

Caterpillar hosts: Fallen leaves of wax myrtle (*Myrica cerifera*), dwarf sumac (*Rhus copallina*), staghorn sumac (*R. typhina*), and several oaks.

Adult food: Flower nectar from yarrow, wild cherry, tickseed sunflower, sumac, sweet pepperbush, New Jersey tea, common milkweed, and dogbane.

Habitat: Coastal hammocks, overgrown fields, forest edges.

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Family: Skippers *Hesperiidae*

Kingdom: *Animalia*

Phylum: *Arthropoda*

Subphylum: *Hexapoda*

Class: *Insecta Pterygota*

Order: *Lepidoptera*

Family: *Skippers Hesperidae*

Subfamilies: *Grass Skippers Hesperinae - Spread-wing Skippers Pyrginae*

Family Description: The Hesperidae are members of the Superfamily Hesperioidea. Worldwide in distribution, skippers are richest in the tropics. More than 3,500 species are described, with approximately 275 in North America, many of which are found only in Arizona and Texas. Most skippers are small to medium, 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 bird droppings. Males have scent scales found in modified forewing patches. Males of most species locate mates by perching (grass and giant-skippers), though some patrol, especially in the open-winged skippers. Globular eggs are laid singly.

Subfamily Description: Grass Skippers (*Hesperinae*) are members of the Family Hesperidae. Distributed worldwide, they comprise more than 2,000 species, most of which are found in the American tropics. The small to medium-sized adults usually have abruptly angled antennae with an apiculus at the tip. Adults of many temperate species are predominantly orange, while brown is the most common color of the tropical species. Male forewings usually have a band or stigma with specialized scales. Most species have long proboscises and are avid flower-visitors. Adults flight is rapid, and perching posture is unique: the hindwings are opened at a wider angle than the forewings. Males of most species perch while looking for mates. Caterpillars feed on monocotyledons (grasses and allied plants) and live in silken leaf nests that sometimes extend underground. Grass skippers typically overwinter as caterpillars within their shelters.

Clouded Skipper Butterfly *Lerema accius*

Identification: Wings are dark brown. Upperside of male forewing has a dark black stigma; female forewing has transparent white spots. Underside of hindwing has dark and light patches and a violet-blue sheen.

Life history: To seek females, males perch on vegetation a few inches from the ground in the partial shade of forest edges or clearings.

Flight: Throughout the year in Florida and South Texas. Wing span: 1 1/4 - 1 3/4 inches (3.2 - 4.5 cm).

Caterpillar hosts: Various grasses including St. Augustine grass (*Stenotaphrum secundatum*), woolly beard grass (*Erianthus alopecturoides*), and *Echinochloa povietianum*.

Adult food: Various pink, purple, or white flowers including shepherd's needle, selfheal, vervain, buttonbush, and lantana.

Habitat: Forest edges and clearings near rivers and swamps.

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Crossline Skipper Butterfly *Polites origenes*

Identification: Upperside is dark brown with orange markings. Female usually lacks orange along the forewing costa and has a square spot below the end of the cell; male has a long, straight forewing stigma. Underside of hindwing is orange-brown with a faint band of spots.

Life history: Males perch in open grassy areas most of the day to await receptive females. Courtship occurs from midday to mid-afternoon. Third- and fourth-stage caterpillars hibernate.

Flight: One brood from June-August in the north, two broods from May-September in the south.

Wing span: 1 1/8 - 1 1/2 inches (2.9 - 3.8 cm).

Caterpillar hosts: Purpletop (*Tridens flavus*), little bluestem (*Andropogon scoparius*), and other grasses.

Adult food: White, pink, or purple flowers are preferred including purple vetch, red clover, selfheal, dogbane, shrub houstonia, New Jersey tea, and New York ironweed.

Habitat: Open grassy areas including prairies hills, barrens, power line cuts, old fields, forest openings.

Dun Skipper Butterfly *Euphyes vestris*

Identification: Upperside of head and thorax is yellow-orange. Wings are brown-black; male forewing has a black stigma, female forewing has very small cloudy white spots.

Life history: To find receptive females, males perch in low spots about 3 feet from the ground. Females lay eggs singly on leaves of the host plants. Caterpillars feed on leaves and make shelters of rolled or tied leaves. Third-stage caterpillars hibernate, emerge in the spring to complete their development, and pupate in silken tubes at the base of the plants.

Flight: One brood from June-early August in the north; two broods from May-September in the mid-South; several broods from March-October in the Deep South and Texas.

Wing span: 1 1/8 - 1 3/8 inches (2.9 - 3.5 cm).

Caterpillar hosts: Various sedges including chufa flatsedge (*Cyperus esculentus*) and sun sedge (*Carex heliophila*).

Adult food: Nectar from white, pink, or purple flowers including common milkweed, purple vetch, selfheal, peppermint, dogbane, New Jersey tea, and viper's bugloss.

Habitat: Wet areas near deciduous woods such as meadows, seeps, swamp edges, and streams.

Eufala Skipper Butterfly *Lerodea eufala*

Identification: Upperside is gray-brown; forewing has 3-5 small transparent spots; male has no stigma. Underside of hindwing is brown with heavy gray overscaling, only rarely with faint spots.

Life history: Males perch in flat grassy areas on low vegetation to wait for receptive females. Eggs are laid singly on or near the host plants. Caterpillars eat leaves and make shelters of rolled or tied leaves.

Flight: Two broods from February-October in the Deep South; several broods throughout the year in Florida, South Texas, and Arizona.

Wing span: 1 - 1 1/4 inches (2.5 - 3.2 cm).

Caterpillar hosts: Various grasses including Johnson grass (*Sorghum halepense*), Bermuda grass (*Cynodon dactylon*), and sugarcane (*Saccharum officinarum*).

Adult food: Nectar from flowers including croton, alfalfa, composites, lippia, and others.

Habitat: Open, sunny areas such as vacant lots, agricultural areas, road edges, and lawns.

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Firey Skipper Butterfly *Hylephila pjyleus*

Identification: Antennae are very short. Male wide black stigma. Underside of the hindwing is scattered with small black spots. Female: Upperside is dark brown with a very irregular orange band. Underside of hindwing is pale brown with paler checks.

Life history: Males perch in lawns and grassy swales to wait for receptive females. Eggs are laid singly under leaves and also on other plants and objects. Caterpillars eat leaves and roll and tie them to make shelters which lie horizontally in the sod.

Flight: Several broods from May-August in the north, all year in Florida and South Texas.

Wing span: 1 1/4 - 1 1/2 inches (3.2 - 3.8 cm).

Caterpillar hosts: Bermuda grass (*Cynodon dactylon*), crabgrass (*Digitaria*), St. Augustine grass (*Stenotaphrum secundatum*), and other grasses.

Adult food: Nectar from flowers of a variety of plants including sweet pepperbush, swamp milkweed, asters, sneezeweed, knapweed, ironweed, and thistles.

Habitat: Sunny, open areas such as fields, lawns, gardens, levees, roadsides, and second-growth scrub.

Northern Broken-dash Skipper Butterfly *Wallengrenia egeremet*

Identification: Upperside is dark brown. Male forewing has a cream spot at the end of the cell, and a divided stigma (the "broken dash"); female forewing has a few elongated cream spots. Underside is dark brown or purple-brown; hindwing has a pale band of spots.

Life history: Adults have a slow flight. Males perch up to 6 feet above ground to wait for females, usually in the early morning. Caterpillars eat leaves; half-grown caterpillars hibernate.

Flight: One brood from June-August; two broods from May-October in the Deep South and east Texas.

Wing span: 1 - 1 1/2 inches (2.5 - 3.9 cm).

Caterpillar hosts: Panic grasses including deertongue grass (*Panicum clandestinum*) and *P. dichotomum*.

Adult food: Nectar from white, pink, or purple flowers is favored including dogbane, red clover, New Jersey tea, and sweet pepperbush. Many other flowers are visited.

Habitat: Open places near woods or scrub.

Southern Broken-Dash Skipper Butterfly *Wallengrenia otho*

Identification: Upperside of male is brown with a few orange or red-oranges patches and a two-part black stigma (the "broken dash"). Female upperside is dark brown with pale orange spots. Underside of hindwing in both sexes is orange or red-orange and has a band of pale spots.

Life history: Males perch on vegetation within 2 feet of the ground to watch for females, usually in the early morning. Females lay eggs singly on or near the host plants. Caterpillars live in nests of silk-tied leaves; when they come out to eat they carry a piece of leaf over themselves for protection.

Flight: Two broods (sometimes a partial third) from April-October; all year in peninsular Florida and South Texas.

Wing span: 1 - 1 3/8 inches (2.4 - 3.5 cm).

Caterpillar hosts: Paspalum and St. Augustine grass (*Stenotaphrum secundatum*).

Adult food: Nectar from flowers including pickerelweed, selfheal, and sweet pepperbush.

Habitat: Openings near wooded rivers or swamps.

Twin-spot Skipper Butterfly *Oligoria maculata*

Identification: Wings are rounded and brown-black. Upperside of forewing has 4 transparent spots. Underside of hindwing has a pale red-brown overlay and 3 oval white spots, 2 of which are close together.

Life history: Not reported.

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Flight: Two broods from April-September, possibly three broods in Florida.

Wing span: 1 3/8 - 1 5/8 inches (3.5 - 4.2 cm).

Caterpillar hosts: Grasses.

Adult food: Nectar including that from pickerelweed flowers.

Habitat: Coastal swamps and pinewoods.

Subfamily Description: Spread-wing Skippers (Pyrgines) are primarily tropical American species of the Family Hesperidae. There are approximately 80 North American species. Most genera are tropical, but the duskywings and checkered-skippers are mainly temperate and also occur in Eurasia. Adults of many species land with their wings open, although some perch with their wings closed or half open. They imbibe nectar from flowers, and males of many species take in moisture from moist sand or mud. Some adults also feed on bird droppings. Many tropical species rest underneath leaves when inactive. Females lay eggs singly. Most species lay eggs directly on host-plant leaves, while others lay on nearby plants or objects. Almost all species use broad-leafed plants as their caterpillar hosts, and caterpillars live in rolled-leaf or webbed-leaf shelters.

Common/White Checkered-Skipper Butterfly *Pyrgus communis* / *Pyrgus albescens*

Identification: Upperside of male is blue-gray; female is black. Both sexes have large white spots which form median bands across both wings. Fringes of male checkered but black checks often reach only halfway to edge of fringe. Male has a costal fold enclosing scent scales on the upperside of the forewing. Underside is dull white with dark gray or olive bands. Spots of the hindwing marginal row are very small; spots of the submarginal row are larger. This species is separated from the white checkered skipper with confidence only by dissection and examination of the male genitalia.

Life history: Males patrol in swales most actively in the afternoon, and mating takes place then. Females lay eggs singly on leaf buds and tops of leaves. Adults roost exposed on a tall plant beginning in late afternoon. Caterpillars make folded-leaf nests in which they live and feed, and fully-grown caterpillars hibernate.

Flight: February-October in the Deep South, March-September in the north.

Wing span: 1 - 1 1/2 inches (2.5 - 3.8 cm).

Caterpillar hosts: Several plants in the mallow family (Malvaceae) including globemallows (*Sphaeralcea*), mallow (*Malva*), hollyhock (*Althaea*), alkali mallows (*Sida*), velvet-leaf (*Abutilon*), and poppy mallow (*Callirhoe*).

Adult food: Nectar from white-flowered composites including shepherd's needles, fleabane, and asters; also red clover, knapweed, beggar's ticks, and many others.

Habitat: Open, sunny places with low vegetation and some bare soil including prairies, meadows, fields, roadsides, landfills, yards, gardens, pastures, openings and trails in woods.

Confused Cloudywing Butterfly *Thorybes confusis*

Identification: Upperside is dark brown; forewing spots are transparent and elongated. Male lacks a costal fold. Underside of hindwing is dark brown with well-defined markings.

Life history: Not reported.

Flight: Two broods from April-August.

Wing span: 1 1/2 - 1 7/8 inches (3.8 - 4.8 cm).

Caterpillar hosts: Possibly bush clover (*Lespedeza*) in the pea family (*Fabaceae*).

Adult food: Flower nectar.

Habitat: Near swamps and marshes; woods in river valleys.

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Funeral Duskywing Butterfly *Erynnis funeralis*

Identification: Forewing is narrow and pointed, hindwing is somewhat triangular. Upperside of wing is black; forewing has a dull brown patch at the end of the cell. Hindwing has white fringe on the outer margin. Male has a costal fold containing yellow scent scales; female has a patch of scent scales on the 7th abdominal segment.

Life history: Eggs are laid singly under host plant leaves. Caterpillars feed on leaves and rest in shelters of rolled or tied leaves. Caterpillars from the last brood hibernate.

Flight: Three broods from March-December.

Wing span: 1 5/16 - 1 3/4 inches (3.4 - 4.5 cm).

Caterpillar hosts: Various legumes including New Mexican locust (*Robinia neomexicana*), bur clover (*Medicago hispida*), deerweed (*Lotus scoparius*), desert ironwood (*Olneya tesota*), and vetch (*Vicia* species).

Adult food: Flower nectar. **Habitat:** Deserts, warm or arid lowlands, roadsides.

Horace's Duskywing Butterfly *Erynnis horatius*

Identification: Fringes are brown. Upperside of male forewing is dark brown with little contrast and no white overscaling. Upperside of female forewing is light brown with a contrasting pattern and large transparent spots. Underside of hindwing is usually without 2 spots below the apex. Male has a costal fold containing yellow scent scales; female has a patch of scent scales on the 7th abdominal segment.

Life history: To seek females, males perch at the ends of twigs on hilltops or slopes about 1 foot above the ground. Mating has been observed around midday; females deposit eggs singly on new growth of the host. Caterpillars feed on young leaves and rest in leaf nests. Caterpillars of the last brood hibernate.

Flight: Two broods in the north from April-September, three broods in the Deep South and Texas from January-November.

Wing span: 1 7/16 - 1 15/16 inches (3.6 - 4.9 cm).

Caterpillar hosts: Both red and white oaks including willow oak (*Quercus phellos*), northern red oak (*Q. velutina*), scrub oak (*Q. ilicifolia*), water oak (*Q. nigra*), post oak (*Q. stellata*), and live oak (*Q. virginiana*).

Adult food: Horace's Duskywing visits flower up to about 4.5 feet tall including dogbane, buttonbush, sneezeweed, goldenrod, peppermint, boneset, and winter cress.

Habitat: Open woodlands and edges, clearings, fencerows, wooded swamps, power-line right-of-ways, open fields, roadsides.

Juvenal's Duskywing Butterfly *Erynnis juvenalis*

Identification: Upperside of male is brown with clear spots, indistinct dark markings, and scattered white hairs; female has larger markings and spots. Underside of hindwing has 2 round pale spots below the apex. Male has a costal fold containing yellow scent scales; female has a patch of scent scales on the 7th abdominal segment.

Life history: To wait for females, males perch in forest clearings or edges on bare twigs about 3-12 feet above the ground; they will often patrol from these perches. Females lay eggs singly on young leaves and seedlings of the host plants. Caterpillars feed on leaves and rest in nests of rolled or tied leaves; fully-grown caterpillars hibernate.

Flight: One brood from April-June, emerging as early as late January in peninsular Florida.

Wing span: 1 1/4 - 1 15/16 inches (3.2 - 4.9 cm).

Caterpillar hosts: Tree and shrub oaks (*Quercus* species).

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Adult food: Nectar from flowers of winter cress, dandelion, wild plum, wisteria, blueberry, Carolina vetch, redbud, and lilac. **Habitat:** Oak woods or scrub and associated edges or fields.

Long-tailed Skipper Butterfly *Urbanus proteus*

Identification: Tails are long. Upperside is dark blackish brown; body and wing bases are iridescent blue-green. Males have a costal fold enclosing scent scales on the leading edge of the forewing. Dark row on underside of hindwing is a complete band.

Life history: Adults roost upside down under leaves and limbs. To seek females, males perch 3-6 feet above the ground in sunlit openings. Females lay eggs under leaves in clusters of up to 20. Caterpillars feed on leaves and live in shelters of rolled leaves.

Flight: Two to three broods throughout the year in south Florida and South Texas.

Wing span: 1 3/4 - 2 5/16 inches (4.5 - 6 cm).

Caterpillar hosts: Vine legumes including various beans (*Phaseolus*), hog peanuts (*Amphicarpa bracteata*), beggar's ticks (*Desmodium*), blue peas (*Clitoria*), and wisteria (*Wisteria*).

Adult food: Flower nectar from a variety of plants including bougainvillea, lantana, and shepherd's needle.

Habitat: Brushy fields, edges of woods, gardens, and other disturbed open habitats.

Northern Cloudywing Butterfly *Thorybes pylades*

Identification: Upperside is dark brown; clear spots on forewing are small, triangular, and not aligned. Male forewing has a costal fold enclosing scent scales. Underside is brown with gray overscaling; hindwing has 2 dark bands.

Life history: Males perch on or near the ground in forest openings to wait for females. Eggs are laid singly under leaves of the host plants. Caterpillars feed on leaves and live in shelters of rolled or tied leaves. Fully-grown caterpillars hibernate.

Flight: One brood from May-July in the north, earlier in the south. Two broods from March-September in Texas.

Wing span: 1 1/4 - 1 7/8 inches (3.2 - 4.7 cm).

Caterpillar hosts: Various plants in the pea family (*Fabaceae*) including beggar's ticks (*Desmodium*), bush clover (*Lespedeza*), clover (*Trifolium*), lotus (*Hosackia*), and others.

Adult food: Usually nectar from blue, purple, pink, or white flowers including dogbane, selfheal, crown vetch, Japanese honeysuckle, thistles, common milkweed, Deptford pink, hoary vervain, and others.

Habitat: Open or scrubby boreal woodland and forest edges.

Silver-Spotted Skipper Butterfly *Epargyreus clarus*

Identification: Wings are brown-black; hindwing is lobed. Forewing has transparent gold spots; underside of hindwing has a metallic silver band.

Life history: Adults perch upside down under leaves at night and on hot or cloudy days. To seek females males perch on branches and tall weeds, and occasionally patrol. Females lay single eggs near the host trees, and the caterpillars must find their proper host. Young caterpillars live in a folded leaf shelter; older ones live in a nest of silked-together leaves. Chrysalids hibernate.

Flight: Two broods from May-September in most of the East, a single brood to the north and west, three-four broods from February-December in the Deep South.

Wing span: 1 3/4 - 2 5/8 inches (4.5 - 6.7 cm).

Caterpillar hosts: Many woody legumes including black locust (*Robinia pseudacacia*), honey locust (*Gleditsia triacanthos*) and false indigo (*Amorpha* species). Also selected herbaceous legumes such as *Glycyrrhiza* species.

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Adult food: The Silver-spotted Skipper almost never visits yellow flowers but favors blue, red, pink, purple, and sometimes white and cream-colored ones. These include everlasting pea, common milkweed, red clover, buttonbush, blazing star, and thistles.

Habitat: Disturbed and open woods, foothill streamcourses, prairie waterways.

Tropical Checkered-Skipper Butterfly *Pyrgus oileus*

Identification: Upperside is dark brown with pale markings; male forewing has a mat of long blue-gray hairs; hindwing of both sexes has marginal and submarginal bands made up of equal-sized spots. Underside of hindwing is pale, often with a strong brown overlay; not much contrast between bands and ground color.

Life history: Males perch and patrol for receptive females. Eggs are laid singly on the uppersides of host plant leaves. Caterpillars feed and live in the shelter of a webbed leaf.

Flight: Four to five broods throughout the year in South Texas and Florida.

Wing span: 1 1/4 - 1 1/2 inches (3.2 - 3.8 cm).

Caterpillar hosts: Several plants in the mallow family (Malvaceae) including axocatzin (*Sida rhombifolia*), mallow (*Malva*), hollyhock (*Althaea rosea*), velvet-leaf (*Abutilon*), and malva loca (*Malvastrum*).

Adult food: Nectar from flowers of *Sidas* and small-flowered composites such as shepherd's needles.

Habitat: Open, sunny areas including pastures, brushy fields, wooded trails, thorn-scrub, and roadsides.

Zarucco Duskywing Butterfly *Erynnis zarucco*

Identification: Forewing is narrow and pointed; hindwing is somewhat triangular. Upperside is dark brown with a reddish patch at the end of the forewing cell. Hindwing has brown fringes except for some individuals on the Florida Keys that have white fringes. Male has a costal fold containing yellow scent scales; female has a patch of scent scales on the 7th abdominal segment.

Life history: Eggs are laid singly under host plant leaves. Caterpillars feed on leaves and rest in shelters of rolled or tied leaves. Caterpillars from the last brood hibernate.

Flight: Three broods in the Deep South from March to early October, emerging as early as late January in Florida.

Wing span: 1 5/8 - 1 7/8 inches (4.2 - 4.8 cm).

Caterpillar hosts: Herbaceous legumes including black locust (*Robinia pseudacacia*), hairy bush clover (*Lespedeza hirta*), Colorado River hemp (*Sesbania exaltata*), and *Sesbania longifolia*.

Adult food: Flower nectar including that from shepherd's needle.

Habitat: Wood edges, open fields, scrub.

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Family: Parnassians and Swallowtails *Papilionidae*

Kingdom: *Animalia*

Phylum: *Arthropoda*

Subphylum: *Hexapoda*

Class: *Insecta Pterygota*

Order: *Lepidoptera*

Superfamily: *Papilionoidea*

Family: Parnassians and Swallowtails *Papilionidae*

Family Description: The Papilionidae belong to the Superfamily Papilionoidea, the true butterflies. Swallowtails are worldwide in distribution and comprise approximately 560 species. They are richest in the tropics, and their brilliant colors make them favorites of butterfly enthusiasts. Many swallowtail species, especially in the tropics, mimic other butterflies that are distasteful, while others are distasteful and cause birds and other vertebrate predators to regurgitate. Swallowtail adults are medium to large and may or may not have tails, while parnassian adults are medium, tailless, and have translucent wings. All adult parnassians and swallowtails have three pairs of walking legs, and adults of all species visit flowers for nectar.

Subfamily Description: Swallowtails (*Papilioninae*) are members of the Family *Papilionidae*. They comprise about 560 species, have a worldwide distribution, and are richest in the tropics. Many are brilliantly colored and are favorites of butterfly enthusiasts. Many species, especially those in the tropics, mimic other butterflies that are distasteful, while others are distasteful and cause birds and other vertebrate predators to regurgitate. Adults are medium to large, may or may not have tails, and have three pairs of walking legs. Adults of all species visit flowers for nectar. Males of most species patrol for mates, while males of one group (Black, Old World, Anise, and Indra Swallowtails) perch on hilltops or ridges instead of patrolling. Swallowtails lay globular eggs and overwinter as pupae. Some species spend more than one year in the pupal stage, likely to survive drought years when little caterpillar food is available. In arid areas, the Black, Anise, and Indra Swallowtails often display this strategy.

Black Swallowtail *Papilio polyxenes*

Identification: Upper surface of wings mostly black; on inner edge of hindwing is a black spot centered in larger orange spot. Male has yellow band near edge of wings; female has row of yellow spots. Female hindwing with iridescent blue band. In the Southwest, yellow forms predominate in the subspecies *P. coloro*.

Life history: Males perch and patrol for receptive females. Female lays eggs singly on leaves and flowers of the host, which are then eaten by hatching larvae. Hibernates as a chrysalis.

Flight: One-2 flights from April-October in northern regions of range; 3 flights in southern regions.

Wing span: 3 1/4 - 4 1/4 inches (8 - 11 cm).

Caterpillar hosts: Leaves of plants in the parsley family (*Apiaceae*) including Queen Anne's Lace, carrot, celery and dill. Sometimes plants in the citrus family (*Rutaceae*) are preferred.

Adult food: Nectar from flowers including red clover, milkweed, and thistles.

Habitat: A variety of open areas including fields, suburbs, marshes, deserts, and roadsides.

Eastern Tiger Swallowtail Butterfly *Papilio glaucus*

Eastern Tiger Swallowtail Dark Female

Identification: Male is yellow with dark tiger stripes. Female has 2 forms: one yellow like the male and the other black with shadows of dark stripes. Hindwing of both female forms has many iridescent blue scales

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and an orange marginal spot. On the underside of forewing of both female forms the row of marginal spots has merged into a continuous band.

Life history: Males patrol for receptive females. Females lay eggs singly on host leaves. Caterpillars eat leaves and rest on silken mats in shelters of curled leaves. Chrysalids overwinter.

Flight: 3 flights from February-November in Deep South; 2 flights from May-September in north.

Wing span: 3 5/8 - 6 1/2 inches (9.2 - 16.5 cm).

Caterpillar hosts: Leaves of various plants including wild cherry (*Prunus*), sweetbay (*Magnolia*), basswood (*Tilia*), tulip tree (*Liriodendron*), birch (*Betula*), ash (*Fraxinus*), cottonwood (*Populus*), mountain ash (*Sorbus*), and willow (*Salix*).

Adult food: Nectar of flowers from a variety of plants including wild cherry and lilac (*Syringa vulgaris*).

Habitat: Deciduous broadleaf woods, forest edges, river valleys, parks, and suburbs.

Giant Swallowtail Butterfly *Papilio cresphontes*

Identification: Forewing with diagonal band of yellow spots. Tails are edged with black and filled with yellow.

Life history: Males patrol for receptive females. Females lay single eggs on host leaves and twigs.

Caterpillars resemble bird droppings and eat leaves and young shoots. Chrysalids hibernate.

Flight: Two in the north from May-September; all year in Florida and the Deep South.

Wing span: 4 - 6 1/4 inches (10.2 - 16 cm).

Caterpillar hosts: Trees and herbs of the citrus family (*Rutaceae*) including Citrus species, prickly ash (*Zanthoxylum americanum*), and hop tree (*Ptelea trifoliata*).

Adult food: Nectar from lantana, azalea, bougainvillea, bouncing Bet, dame's rocket, goldenrod, Japanese honeysuckle, and swamp milkweed.

Habitat: Many locales including rocky and sandy hillsides near streams or gullies in the north; pine flats, towns, and citrus groves in the south.

Palamedes Swallowtail Butterfly *Papilio palamedes*

Identification: Upper surface of hind- and forewings with postmedian yellow bands; tails are filled with yellow. Lower surface of hindwing with thin yellow basal stripe and postmedian band of yellow-orange crescents.

Life history: Not reported.

Flight: Two flights, March-December in North; partial 3rd flight in South.

Wing span: 4 1/2 - 5 1/8 inches (11.4 - 13 cm).

Caterpillar hosts: Plants of the Laurel family (*Lauraceae*) especially redbay (*Persea borbonia*).

Adult food: Nectar from flowers of sweet pepperbush, thistles, blue flag, and azalea.

Habitat: Wet woods near rivers and broadleaf evergreen swamp forests.

Pipevine Swallowtail Butterfly *Battus philenor*

Identification: Upper surface of hindwing iridescent blue or blue-green. Underside of hindwing with submarginal row of 7 round orange spots in iridescent blue field.

Life history: Adult males patrol likely habitat in search of receptive females. Females lay batches of eggs on underside of host plant leaves. Caterpillars feed in small groups when young but become solitary when older. Wintering is by the chrysalis.

Flight: In the East and California, adults fly primarily in late spring and summer, but the butterfly is commoner in late summer and fall in the South and Southwest. Where lack of freezing temperatures permit, adults may fly continuously. In lowland tropical Mexico they may be found in any month.

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Wing span: 2 3/4 - 5 inches (7 - 13 cm).

Caterpillar hosts: Pipevines (*Aristolochia* species), including *Aristolochia californica*, *A. serpentaria* and others.

Adult food: Solely nectar from flowers including thistles (*Cirsium* species), bergamot, lilac, viper's bugloss, common azaleas, phlox, teasel, azaleas, dame's-rocket, lantana, petunias, verbenas, lupines, yellow star thistle, California buckeye, yerba santa, brodiaeas, and gillias.

Habitat: A wide variety of open habitats, open woodland, and woodland edges.

Spicebush Swallowtail Butterfly *Papilio troilus*

Identification: Upper surface of forewing is mostly black with ivory spots along margin. Upper surface of hindwing has orange spot on costal margin and sheen of bluish (female) or bluish-green (male) scales. Underside of hindwing with pale green marginal spots.

Life history: Males patrol in woods, roads and woodland edges to find receptive females. Females lay single eggs on underside of host plant leaves. Caterpillars live in shelters of folded-over leaves and come out to feed at night. Some chrysalids from each generation hibernate.

Flight: 2 generations per year from April-October. In Florida, several generations between March-December.

Wing span: 3 - 4 inches (7.5 - 10 cm).

Caterpillar hosts: Spicebush (*Lindera benzoin*), sassafras trees (*Sassafras albidum*); perhaps prickly ash (*Zanthoxylum americanum*), tulip tree (*Liriodendron tulipifera*), sweetbay (*Magnolia virginiana*), camphor (*Cinnamomum camphora*), and redbay (*Persea borbonia*).

Adult food: Nectar from Japanese honeysuckle, jewelweed, thistles, milkweed, azalea, dogbane, lantana, mimosa, and sweet pepperbush.

Habitat: Deciduous woodlands, fields, roadsides, yards, pine barrens, wooded swamps, and parks.

Zebra Swallowtail Butterfly *Eurytides marcellus*

Identification: Upper surface of wings with black stripes on pale whitish-green background; hindwings have very long tails. Early-spring form is smaller and lighter colored.

Life history: Adult males fly in the understory near host plants to find females. Females lay single green eggs on lower leaves of host plant. Caterpillars live and feed on the underside of these leaves, then pupate and hibernate there.

Flight: Two flights, April-August, in the northern part of its range; many flights, March-December, in the south.

Wing span: 2 1/2 - 4 inches (6.4 - 10.4 cm).

Caterpillar hosts: Shrubs of the genus *Asimina* (pawpaw) in the Annonaceae family. Young plants are preferred.

Adult food: Moisture from sand and nectar from flowers including blueberry, blackberry, lilac, redbud, viper's bugloss, verbena, dogbane, and common milkweed.

Habitat: Breeds in moist low woodlands near swamps and rivers. Adults fly to nectar plants in open fields and brushy areas.

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Family: Whites and Sulphurs *Pieridae*

Kingdom: *Animalia*

Phylum: *Arthropoda*

Subphylum: *Hexapoda*

Class: *Insecta Pterygota*

Order: *Lepidoptera*

Superfamily: *Papilionoidea*

Family: Whites and Sulphurs *Pieridae*

Subfamilies: Sulphurs *Coliadinae* - Whites *Pierinae*

Family Description: The Pieridae are members of the Superfamily Papilionoidea, the true butterflies. Worldwide in distribution, most species are found in the tropics. Adults have medium to small wings that are white, yellow, or orange, with some black or red, and many have hidden ultraviolet patterns that are used in courtship. Species with more than one generation usually have distinct seasonal variation in appearance. Adults of all species visit flowers for nectar, and adults of both sexes have three pairs of walking legs. Males patrol in search of receptive mates, and females lay columnar eggs on leaves, buds, and stems. The majority of caterpillars of North American whites and sulphurs feed on legumes or crucifers (members of the Mustard family). Typically, temperate species overwinter in the pupal or larval stage, while tropical species overwinter as adults.

Subfamily Description: Sulphurs (*Coliadinae*) are members of the Family Pieridae. In North America, sulphurs range from Mexico to northern Canada. Females of most species are distinctly different from males. Some species are mud-puddlers and will collect around muddy pools on dirt roads. Sulphurs overwinter as larvae.

Clouded Sulphur Butterfly *Colias philodice*

Identification: Upper surface of male wings bright, clear yellow with solid black edging; lower side of forewing with some dark submarginal spots; hindwing with silver cell spot rimmed with orange-pink, usually doubled. Female has 2 forms: yellow form with uneven black edging enclosing yellow spots, and a white form which is greenish-white rather than yellow. Spring and fall forms are smaller and less conspicuously marked.

Life history: Eggs laid singly on host; caterpillars eat leaves. Hibernation is by third-stage caterpillars.

Flight: Three flights in the north from May-October, 4-5 in the south from March-November.

Wing span: 1 1/2 - 2 3/4 inches (3.8 - 7 cm).

Caterpillar hosts: Plants in the pea family (Fabaceae) including alfalfa (*Medicago sativa*), white clover (*Trifolium repens*), and pea (*Pisum sativum*).

Adult food: Flower nectar of many plants.

Habitat: Many different open areas including fields, lawns, alfalfa and clover fields, road edges, meadows.

Cloudless Sulphur Butterfly *Phoebis sennae*

Identification: Upper surface of male is lemon yellow with no markings. Female is yellow or white; outer edges of both wings with irregular black borders; upper forewing with dark spot in cell. Lower surface of hindwing of both sexes with 2 pink-edged silver spots.

Life history: Males patrol with rapid flight, searching for receptive females. Eggs are laid singly on young leaves or flower buds of host plants; caterpillars eat leaves and rest on underside of leaf petioles.

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Flight: Many flights year around in the Deep South; may have one flight in late summer in other southern states; immigrants to northern states in August or September usually do not reproduce.

Wing span: 2 1/4 - 3 1/8 inches (5.7 - 8 cm).

Caterpillar hosts: Cassia species in the pea family (Fabaceae).

Adult food: Nectar from many different flowers with long tubes including cordia, bougainvillea, cardinal flower, hibiscus, lantana, and wild morning glory.

Habitat: Disturbed open areas including parks, yards, gardens, beaches, road edges, abandoned fields, scrub.

Dainty Sulphur Butterfly *Nathalis iole*

Identification: Small, with elongated forewings. Upperside yellow with black markings, female with more extensive black than male. White form very rare. Underside of forewing with orange or yellow patch at base of wing and black spots at outer wing edge. Winter form has dusty green hindwing, summer form hindwing is pale yellow.

Life history: Males patrol a few inches above the ground in low areas for females. Females lay eggs singly on leaves of host plant seedlings. Adults rest with wings closed and held perpendicular to the sun's rays to warm themselves.

Flight: Throughout the year in peninsular Florida and South Texas. After overwintering as adults in the South, some migrate north in spring and summer. Flight of about 6 months in the north.

Wing span: 3/4 - 1 1/4 inches (2 - 3.2 cm).

Caterpillar hosts: Low-growing plants in the aster family (Asteraceae) especially shepherd's needle (*Bidens pilosa*), sneezeweed (*Helenium*), fetid marigold (*Dyssodia*), and cultivated marigold (*Tagetes*).

Adult food: Nectars at Labrador tea, asters, wild marigold, rabbitbrush, and others.

Habitat: Open, dry places including coastal flats, weedy fields, grasslands, road edges, meadows, and hillsides.

Little Yellow Butterfly *Eurema lisa*

Identification: Upperside of male forewing yellow with wide black apex. Hindwing with black border. Female yellow or white (rare) with black borders. Both sexes with small black spot in forewing cell.

Life history: Males patrol for females during warm daylight hours. Females lay eggs singly on midveins or between leaflets of host plant leaves.

Flight: Four-five flights in South Texas and the Deep South; 1-3 flights in northern part of range, from late spring to early fall.

Wing span: 1 1/4 - 1 3/4 inches (3.2 - 4.4 cm).

Caterpillar hosts: Partridge pea (*Cassia fasciculata*) and wild sensitive plant (*C. nictans*) in the pea family (Fabaceae).

Adult food: Nectar from flowers in the aster family (Asteraceae) including goldenrods and asters.

Habitat: Dry, open areas including roadsides, sandy fields, abandoned fields, along railroad tracks, and occasionally open woods.

Lyside Sulphur Butterfly *Kricogonia lyside*

Identification: Tip of forewing square-shaped. Upperside forewing of male white with yellow basal area; often with vertical black bar at wing edge. Underside of hindwing has raised veins and satin sheen. Females occur in both yellow and white forms. Both sexes are extremely variable.

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Life history: Caterpillars hide in bark crevices during the day, and come out to feed at night. Adults periodically make huge migrations.

Flight: Throughout the year in South Texas, April-August in Florida and to the north and east.

Wing span: 1 1/2 - 2 3/8 inches (3.8 - 6 cm).

Caterpillar hosts: Plants in the Zygothylaceae family vitae (*Guaiacum sanctum*) in southern Florida and *Porlieria angustifolia* in Texas.

Adult food: Flowers of black mangrove and shepherd's needle have been used as nectar sources in southern Florida.

Habitat: Tropical scrub lowlands and seasonally dry forests.

Orange Sulphur Butterfly *Colias eurytheme*

Identification: Quite variable. Upperside of male yellow with orange overlay, yellow veins, wide black border, and dark black cell spot. Female yellow or white with irregular black border surrounding light spots. Underside hindwing spot silver with 2 concentric dark rings, and a spot above it.

Life history: Males patrol for receptive females, who lay eggs singly on top of host plant leaves. Most feeding takes place at night. Young caterpillars chew holes in the tops of leaves, then later feed from the leaf tip. Older caterpillars eat half of the leaf before moving to the other half. Chrysalids overwinter.

Flight: Two-three flights in the north from June-October, 4-5 in the south from March-November.

Wing span: 1 3/8 - 2 3/4 inches (3.5 - 7 cm).

Caterpillar hosts: Plants in the pea family (Fabaceae) including alfalfa (*Medicago sativa*), white clover (*Trifolium repens*), and white sweet clover (*Melilotus alba*).

Adult food: Nectar from many kinds of flowers including dandelion, milkweeds, goldenrods, and asters.

Habitat: A wide variety of open sites, especially clover and alfalfa fields, mowed

Sleepy Orange Butterfly *Eurema nicippe*

Identification: Upperside of wings orange in both sexes; orange-yellow form rare. Forewing with small black cell spot. Male with sharply defined black borders on outer and costal margins; female borders not so well-defined. In winter form, underside of hindwing is brick red, brown, or tan; in summer form it is orange-yellow.

Life history: Males patrol flats and gullies for females. Females lay eggs singly under host plant leaves. Caterpillars eat leaves. Dry season form overwinters and lays eggs in spring.

Flight: Four-five flights, all year long, in southern Texas and Deep South. Mid- to late summer in the north.

Wing span: 1 3/8 - 2 1/4 inches (3.5 - 5.7 cm).

Caterpillar hosts: Cassia species in the pea family (Fabaceae).

Adult food: Nectar from many species of flowers, including shepherd's needle (*Bidens pilosa*).

Habitat: Low elevation areas including pine flats, fields, desert scrub, gardens, vacant lots, road edges, and washes.

Southern Dogface *Colias cesonia*

Identification: Upperside forewings of both sexes have yellow "dog's head" surrounded by black. "Eye" does not touch black border. Female similar, with duller, more diffuse black areas and 2 seasonal forms: underside hindwing of wet season "summer" form is yellow; that of dry season "winter" form is mottled with black and pink.

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Life history: Males patrol open areas for females. Eggs are laid on the undersides of terminal leaves of host plants. Adults overwinter in reproductive arrest.

Flight: Three flights in the southern states from May-June, July-August, and September-April. Northern colonists have one generation per year, or do not reproduce at all.

Wing span: 2 1/8 - 3 inches (5.4 - 7.6 cm).

Caterpillar hosts: Small-leaved plants in the pea family (Fabaceae) including alfalfa (*Medicago sativa*); prairie clovers (*Pentalostemon*), indigo (*Dalea*), and clover (*Trifolium*) species.

Adult food: Nectar from flowers including alfalfa, coreopsis, houstonia, and verbena.

Habitat: Dry, open areas such as short-grass prairie hills, scrub oak groves, open woodland, washes, road edges.

Subfamily Description: Whites (*Pierinae*), marbles, and orangetips are members of the Family Pieridae. In North America, 31 species are included. Adults of most species are predominantly white above with some black pattern elements, and their hindwings often have a pattern of yellow and black scales that appear green. Sexes of most species are only slightly dimorphic, though male orangetips have bright orange wingtips. Nearly all adults are avid flower visitors. The males of almost all North American species patrol open, sunny habitats for females, although males of some tropical whites (e.g. Mexican Dartwhite) perch along ravines. Caterpillars of most western whites feed on mustards, though some use capers and others, pineneedles. All species overwinter in the chrysalis stage, and some orangetips and marbles may pass several unfavorable years in the chrysalis stage before hatching.

Falcate Orangetip Butterfly *Anthocharis midea*

Identification: Upperside of male forewing with orange, hooked tip; females hooked, but lack orange; both have round black spot in cell. Underside of hindwing has finely-patterned green marbling.

Life history: Males patrol for females. Only one egg is laid per host plant, singly on a flower stalk. Caterpillars feed on buds, flowers, and seed pods. Chrysalids hibernate.

Flight: One flight from March-June.

Wing span: 1 3/8 - 1 3/4 inches (3.5 - 4.5 cm).

Caterpillar hosts: Plants of the mustard (Brassicaceae) family including rock cress (*Arabis*) and winter cress (*Barbarea*) species.

Adult food: Flower nectar including flowers of mustards, violets, and others.

Habitat: Open, wet woods along waterways, open swamps, occasionally dry woods and ridgetops.

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Moths

Kingdom: Animalia

Phylum: Arthropoda

Subphylum: Hexapoda

Class: Insecta Pterygota

Order: Lepidoptera

Ailanthus Webwing Moth *Atteva punctella*

Superfamily: *Yponomeutoidea*

Family: Ermine Moths *Yponomeutidae*

Subfamily: Tropical Ermine Moths *Attevininae*

Tribe: *Lasiocampini*

Eastern Tent Caterpillar Moth *Malacosoma americanum*

Superfamily: *Lasiocampoidea*

Family: Tent Caterpillar and Lappet Moths *Lasiocampidae*

Subfamily: *Lasiocampinae*

Tribe: *Lasiocampini*

Giant Leopard Moth *Hypercompe scribonia*

Superfamily: *Noctuoidea*

Family: Tiger Moths *Arctiidae*

Subfamily: Tiger Moths *Arctiinae*

Tribe: *Arctiini*

Grape Leafroller Moth *Desmia funeralis*

Superfamily: *Pyraloidea*

Family: Crambid Snout Moths *Crambidae*

Subfamily: *Pyraustinae*

Tribe: *Spilomelini*

Imperial Moth *Eacles imperialis*

Superfamily: *Bombycoidea*

Family: Giant Silkworm and Royal Moths *Saturniidae*

Subfamily: Royal Moths *Ceratocampinae*

Tribe: *Hemileucini*

Identification: Females are larger than males. Upperside is yellow with pinkish brown to purple-brown patches, bands, and cell spots, and tiny brown spots scattered overall. Males have larger patches on the forewings than females, except for some subspecies *pini* males which have reduced purple and are mostly yellow.

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Life history: Adults emerge before sunrise and mate after midnight the next day. Females lay eggs at dusk singly or in groups of 2-5 on both surfaces of host plant leaves. The eggs hatch in about 2 weeks, and the caterpillars are solitary feeders. Pupation takes place in underground burrows.

Flight: One brood; in the north from June-August, in the south from April-October.

Wing span: 3 1/8 - 6 7/8 inches (8 - 17.4 cm).

Caterpillar hosts: Conifers and deciduous trees and shrubs including pine (*Pinus*), oak (*Quercus*), box elder (*Acer negundo*), maples (*Acer*), sweet gum (*Liquidambar styraciflua*), and sassafras (*Sassafras albidum*). Subspecies *pini* feeds only on conifers.

Adult food: Adults do not feed.

Habitat: Deciduous and evergreen forests.

Io Moth *Automeris io*

Superfamily: *Bombycoidea*

Family: Giant Silkworm and Royal Moths *Saturniidae*

Subfamily: *Hemileucinae*

Tribe: *Hemileucini*

Identification: Upperside occasionally males from the spring brood will be mostly brown. Female forewings are brown or brownish purple to red and the bands and eyespots may or may not be apparent. Hindwings of both sexes are yellow to brownish orange with yellow or orange margins. Each hindwing has a large black and blue eyespot with a white dash in the middle.

Life history: Adults emerge during late morning or early afternoon, and mating takes place in the late evening. Females lay clumps of eggs on leaves or stems of the host plants. Young caterpillars feed together as a group and move in long "trains" while older caterpillars feed alone. Papery cocoons are spun in litter under the host plant or in crevices.

Flight: One brood in the north from May-June, two to three broods in the south from February-September, several broods throughout the year in the Florida Keys.

Wing span: 2 - 3 1/8 inches (5 - 8 cm).

Caterpillar hosts: A variety of plants including hackberry (*Celtis*), willow (*Salix*), mesquite (*Prosopis*), redbud (*Cercis*), currant (*Ribes*), blackberry (*Rubus*), and pear (*Pyrus*).

Adult food: Adults do not feed.

Habitat: Deciduous forests, thorn scrub, and suburban areas.

Nessus Sphinx *Amphion floridensis* / *A. nessus*

Superfamily: *Bombycoidea*

Family: Sphinx Moths, Hawkmoths *Sphingidae*

Subfamily: *Macroglossinae*

Tribe: *Macroglossini*

Identification: Body is stout; abdomen has 2 bright yellow bands and a tuft at the end. Upperside of wings is dark red-brown. Hindwing has a red-orange median band and a yellow spot on the costal margin; in some moths the median band ranges from pale to almost absent.

Life history: Adults fly during the day and at dusk. Caterpillars pupate in shallow underground chambers.

Flight: . Several broods in Florida and Louisiana from February-September, two broods in coastal South Carolina from March-May and July-September, and one brood in New York and northward from April-July.

Wing span: 1 7/16 - 2 3/16 inches (3.7 - 5.5 cm).

Caterpillar hosts: Grape (*Vitis*), ampelopsis (*Ampelopsis*), and cayenne pepper (*Capsicum*).

Adult food: Nectar from flowers including lilac (*Syringa vulgaris*), herb Robert (*Geranium robertianum*), beauty bush (*Kolkwitzia amabilis*), mock orange (*Philadelphus coronarius*), and Phlox.

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Habitat: Forests, streamsides, and suburbs.

Orange-tipped Oakworm Moth *Anisota senatoria*

Superfamily: *Bombycoidea*

Family: Giant Silkworm and Royal Moths / Wild Silk Moths *Saturniidae*

Subfamily: Royal Moths *Ceratocampinae*

Identification: Females can be twice as large as males. Upperside of female is yellow-orange to yellow-brown; forewing has a white cell spot and varying amounts of scattered black specks. Upperside of male is reddish orange to brownish orange; forewing is narrow with a small white cell spot and a small whitish translucent patch.

Life history: Adults are day fliers. Mating takes place from late morning to early afternoon, and in late afternoon or dusk, females begin laying eggs in large clumps on the underside of oak leaves. Eggs hatch in about 2 weeks and are gregarious when young. Fully-grown caterpillars pupate and overwinter in shallow underground chambers.

Flight: One brood from June-July.

Wing span: 1 3/16 - 2 inches (3 - 5 cm).

Caterpillar hosts: Various oaks (*Quercus*) and perhaps chinquapin (*Castanea pumila*).

Adult food: Adults do not feed.

Habitat: Deciduous forests.

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