

Swallowtails



Named for the swallow-like "tails" that extend from the hindwings of most species, swallowtails are large butterflies that are members of the family **Papilionidae**, which consists of more than 600 species world wide. All are diurnal, striking in appearance, and most are boldly colored in patterns of black, yellow, or white. Furthermore, unlike the underdeveloped forelegs of the very similar brushfoot butterflies, those of the swallowtails are fully functional. Like all butterflies, they lack the frenulum utilized by their cousins, the moths, that connects the fore- and hindwings in flight, allowing both sets to act in unison.

In their larval form, they wield a retractable organ called an **osmeterium** on top of the thorax that is used to defend against predators by exuding a noxious chemical composed mainly of **terpenes**.

Only a few species occur in the Mojave Desert region, either as residents or migratory visitors.

Family PAPILIONIDAE (Swallowtails)

Desert Black Swallowtail (*Papilio polyxenes coloro*)

Measurements:

Average: Length: ~1.5" Wing Span: 3.5"

Distinguishing Field Characteristics:

large size; black head; black body with yellow flanks; dorsal wings black with 2 rows of yellow bars and dots; each hindwing also adorned with white dots in iridescent blue field, an orange eyespot with a black bullseye, and a long tail; ventral wings with rows of orange spots in blue areas; (m) brighter and larger yellow markings; (f) usually larger size and more prominent blue

Notes:

uncommon; 9 subspecies (1 extinct); western subspecies of *P. polyxenes* found in urban (e.g. gardens, lots, roadsides) and rural areas (desert and forest meadows, fields etc.) in sw US (mainly in the Mojave Desert); female lays singular eggs on plants of the carrot family (celery, parsley dill, etc.); 2 broods produced per year; larva grow through 5 instars and feed on foliage of host plant; adults emerge in spring and feed on nectar of flowering herbs; distinguished from the *Anise Swallowtail* mainly by environment (*P. zelicaon* prefers cooler habitats; some overlap in range); engages in "hilltopping" whereby males seek and establish mating territory on a summit (hill, outcrop, trees, etc.) in preparation of arriving females; adult lifespan up to 2 months

Mojave presence: native

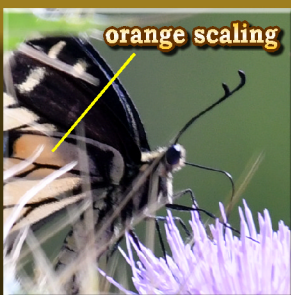
Comments:

These big, impressive butterflies are captivating to encounter, which is usually an uncommon occurrence in the Mojave region; and on those seldom times that you do, they are notoriously difficult to photograph as they are almost constantly on the move. The one at Corn Creek in the *Desert NWR* in August, 2021, visited a thistle long enough for me to get several good pics, but the one at Frenchman Mountain on the east side of the Las Vegas Valley in May, 2017, paused only briefly on a *Creosote Bush*, allowing for just one decent shot! The single "tail" (right) is characteristic of the

Sw2 species.



Cold Creek; Desert NWR



Cold Creek; Desert NWR



Cold Creek; Desert NWR



Cold Creek; Desert NWR



Frenchman Mtn; LV, NV



Meadview, AZ

Family PAPILIONIDAE (Swallowtails)

Western Tiger Swallowtail (*Papilio rutulus*)

Measurements:

Average Length: ~1.5" Wing Span: 3.5"

Distinguishing Field Characteristics:

large size; yellow wings with black borders; 4 stripes on forewings (innermost extend onto hindwings); single "tail" extends from each hindwing; orange spot in wash of blue near each tail; slight sexual dimorphism (**female** larger; thicker forewing stripes; more blue around orange spots; deeper yellow color overall)

Notes:

common locally; usually solitary; prefers open areas in urban and rural settings (riparian areas, meadows, oases, gardens, etc.) in most of the western US from the Pacific coast east to the western Great Plains, north into B.C., CAN; distinguished from **Eastern Swallowtail** *P. glaucus* by range; female lays singular eggs on a variety of host plants, mainly trees (cottonwood, aspen, ash, willow, etc.); large caterpillar (green turning brown with large yellow eyespots on bulbous head) feeds on host leaves; adult, on nectar of many flowers; up to 4 broods per year, though usually seen in June to July; adult lifespan about 2 weeks

Mojave presence: rare

Comments:

These active butterflies rarely rest for long, making them difficult to photograph. I tracked this specimen for over ten minutes along a trail at the **Maroon Bells Scenic Area** near Aspen, CO, in June of 2021 before losing him in the woods. It never stopped even once! These flight pics were the best I could get.

Despite being common in the western portion of the continent, these swallowtails are not particularly fond of arid environments such as offered by the Mojave Desert where they are quite rare.



single "tails"



four "tiger" stripes

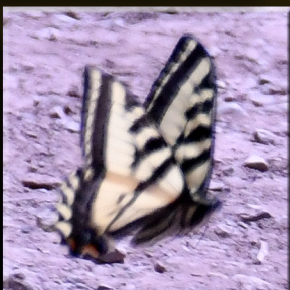


cute puppy

caterpillar



long, clubbed antennae



Family PAPILIONIDAE (Swallowtails)

Two-Tailed Swallowtail (*Papilio multicaudata*)

Measurements:

Average: Length: 2" Wing Span: 3 - 6.5"

Distinguishing Field Characteristics:

large size; yellow wings with black borders; 4 stripes on forewings (innermost extend onto hindwings); two "tails" extend from each hindwing; slight sexual dimorphism (**female** larger; thicker forewing stripes; more blue around orange spots; deeper yellow color overall)

Notes:

common locally; usually solitary; prefers moist areas in urban and rural settings (streams, springs, meadows, woodlands, gardens, etc.) in w NA from s CAN south to Central America; distinguished from **Western Tiger Swallowtail** *P. rutulus* by its twin "tails"; males patrol for females; female lays singular eggs on a variety of host plants, mainly single-leaf ash, sycamore, rosewood, etc.; caterpillar (orange body; black and yellow stripes around "neck") makes curled leaf tent and feeds on it; adults consume nectar from thistles, milkweeds, etc. (males "puddle" for nutrients); 1 brood per year; seen flying May to August in northern range, year-round in south; pupae overwinter; adult lifespan about 2 weeks

Mojave presence: rare

Comments:

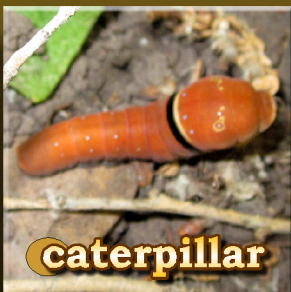
In the Mojave, two-taileds are almost always restricted to urban areas (e.g. Las Vegas, St. George, Kingman) since these locations provide more reliable access to water than the open desert. However, sightings have been recorded elsewhere, such as the **Mojave National Preserve** and at Darwin near **Death Valley National Park**--of all places! The male shown here at Diamond Creek Beach in the Grand Canyon in April of 2024 is the only one I have ever encountered, which I didn't realize until I got home to review the photos more closely. Quite the surprise indeed!



Diamond Creek; Grand Cyn; AZ



Diamond Creek; Grand Cyn; AZ



Diamond Creek; Grand Cyn; AZ



Diamond Creek; Grand Cyn; AZ



Diamond Creek; Grand Cyn; AZ

Family PAPILIONIDAE (Swallowtails)

Pipevine Swallowtail (*Battus philenor*)

Measurements:

Average: Length: ~1.5" Wing Span: 3.25"

Distinguishing Field Characteristics:

large size; blue-black body; forewings black, rimmed with white; hindwings iridescent blue (duller in females) with 8 large orange eyespots rimmed in black on ventral side, and elongated tails; white spots on back of head and lining the abdomen

Notes:

common locally; mostly solitary; inhabits a variety of rural and urban areas (meadows, gardens, etc., though mainly forests) throughout most of the US and south into MEX; female lays clusters of eggs on members of the pipevine plant family (*Aristolochiaceae*); large, spiny, black to reddish caterpillars feed on pipevine host plants, accumulating noxious chemicals (mainly *aristolochic acid*) used for defense against predators; adults feed on nectar of various plants, and males "puddle" on moist ground for nutrients; 2-4 broods produced per year; aka **Green Swallowtail**; numerous subspecies; adult lifespan up to 2 weeks; usually seen spring through summer

Mojave presence: rare



Great Smokey Mtns; TN



Great Smokey Mtns; TN



Great Smokey Mtns; TN

Comments:

The specimen pictured here was photographed at **Great Smoky Mountains NP** in May, 2021. He was quiescent and preoccupied with "puddling" for nutrients using his long black proboscis, paying no attention to my intrusion. He was still at it when I finally had enough pictures and moved on to the next adventure.

