

Queen Butterfly

Danaus gilippus

The Queen Butterfly is a North and South American butterfly in the brush-foot family. It is a milkweed butterfly whose larval stages are on plants in the milkweed family (Whitevine in Corkscrew) as are two other milkweed butterflies, the Soldier (*Danaus eresimus*) and the Monarch (*Danaus plexippus*).

The Queen's range extends from Brazil to Florida and the Gulf Coast. It is also found in California, Texas, Arizona, and southern New Mexico.

Its favored habitats are open sunny areas including fields, deserts, roadsides, pastures, dunes, washes, and waterways. Queens are known to migrate like the Monarch, but to a lesser extent. They stay mainly in warm climates year round, and Florida is at the northern edge of their eastern range.

Adults roost communally.

To find females, male Queens patrol all day. They have pheromones, specific scents, which aid in mating and attracting females.

The Queen is known for its definite courtship display which must be rigidly followed by both sexes.

The male chases the female and overtakes her from above. He brushes

her antennae with his abdominal hairpencils, which disseminate scent, and induces the female to alight. The male continues to hover over the female, hairpencils still active, until the female becomes submissive. He alights alongside the female and copulation takes place.

Post-nuptial flights occur with the male pulling the female backwards through the air.

Females lay single egg on leaves, stems, and flower buds, which the larvae will eat.

After about four days, a little first instar caterpillar hatches, first eating its shell, then beginning its hunt for food. It feeds on the milkweed plants and stores chemicals that make it distasteful to some predators.

It doesn't take long before the first molt (shedding of skin) and the beginning of the very recognizable 'look' of the Queen larva to appear.

The Queen caterpillars appear similar to Monarch caterpillars, but Queens have three pairs of black filaments extending upwards, one pair at each end and one in the middle, while the Monarch only has two pair, one at



Queen



Soldier



Monarch

each end but none in the middle.

A caterpillar's main 'duty' is to eat and gather as much nutritional energy as possible. The time as a larva is critical; this is what will determine the health of the adult butterfly. A larva with a poor diet will result in a smaller adult butterfly. Larvae with abundantly healthy foliage will result in healthy butterflies.

The caterpillar goes through six instars before finding a good spot to pupate. The adult emerges seven to ten days afterwards. Multiple generations occur in a single year.

Predator avoidance: Müllerian mimicry vs. Batesian mimicry

Müllerian mimicry is a natural phenomenon in which two or more noxious species, that may or may not be closely related and share one or more common predators, have come to mimic each other's warning signals. It is named after the German naturalist Fritz Müller, who first proposed the concept in 1878.

Imagine two poisonous species that do not resemble one another but are prey to a common predator. Occasionally, the predator will encounter one or the other type of noxious prey, and thereafter avoid it. Predators that avoid only one type of harmful species provide no benefit to individuals of the species. So there is an advantage to a

similar appearance of two prey species so that predators learn to avoid both.

This strategy is typically contrasted with **Batesian mimicry**, named after English naturalist Henry Walter Bates, in which one harmless species adopts the warning signals of a harmful species to gain the advantage of predator avoidance.

Colors may vary from darker to lighter. Black dots on the hindwings indicate males. All four species are distasteful to predators.

QUEEN: solid dark orange-red; solid black border on hindwings

SOLDIER: black veins on wings; white spots on black hindwing border

MONARCH: wide black band between forewings and hindwings

VICEROY: thin black line across hindwing in addition to black border

