

# Monarch Butterfly Fact Sheet

Common Name: Monarch Butterfly (sometimes called the Milkweed Butterfly)

Scientific Name: *Danaus plexippus*

## Special Characteristics:

The monarch needs no camouflage because it is poisonous to predators; in fact, its vivid colors are designed to ward off critters that may want to eat it. The monarch is poisonous because the developing larvae ingest toxins from the milkweed plant as they feed on the leaves. These chemicals remain permanently in the monarch's system, even after the caterpillar metamorphoses to a butterfly. The monarch's survival is closely linked to the chemical defense system derived from the milkweed toxins and the nutrition supplied to the developing larvae.

Diet: Caterpillars eat only milkweed leaves. Adult monarch butterflies eat nectar from flowers, which consists of about 20% sugar.

Habitat: Monarchs live mainly in prairies, meadows, roadsides, and grasslands. The larvae live and feed exclusively on milkweed plants, but the butterflies hang out on a variety of different plants. The monarch eggs are deposited on the milkweed plant, and the caterpillars live on the plant, eating the leaves.

## Range:

Monarch butterflies live all over North America, and the northernmost populations migrate south for the winter. Entomologists (scientists who study insects) have divided the migrating populations of monarch butterflies into two groups, one west of the continental divide, which the butterflies can not fly over, and all the territory eastward. The butterflies wait out the winter in large colonies south of the freeze line (often Mexico and California), and then return home.

## Migration:

Monarchs, like many other animals, migrate to warmer climes for the winter. These little butterflies fly up to 6,000 miles round-trip between their summer homes in North America and their winter homes in South America and Mexico. It takes them up to two months to travel each leg of the journey. Each butterfly only makes the trip once, and then its great-grandchildren make the trip the following year.

But wait - monarchs don't have wristwatches, and they can't read maps, so how do they know when to leave and how to get to South America? Scientists think that monarchs use the position of the sun to tell them when to head for Mexico and how to get there. They think they also use the Earth's magnetic field to help them figure out where to go.

In Mexico, the monarchs sleep the winter away in the branches and the trunks of fir trees. Sometimes a branch gets so heavy with monarchs that it breaks off and falls to the ground, scattering sleepy monarchs everywhere.

### Reproduction:

You can tell the male monarch butterfly from the female by the two black spots on his hind wings and the thinner black webbing within the wings. The female's webbing is thicker and she has no identifying wing spot.

One female monarch can lay up to 400 eggs. The eggs are deposited on the underside of milkweed leaves and hatch, depending on temperature, in three to twelve days. The black-, yellow-, and white-striped larvae feed on the plant leaves for about two weeks and develop into chubby caterpillars about 5 cm long. The caterpillars shed their skin (molt) up to four times while they're growing.

Up to three or four generations of Monarchs may be born in one summer.

### Metamorphosis:

Monarch caterpillars metamorphose into butterflies. The caterpillar attaches itself head down to a twig, sheds its outer skin, and begins the transformation into a pupa (or chrysalis); a process which is completed in a few hours.

The pupa is a waxy, jade-green color, with gold trim. Packed tightly inside, the caterpillar metamorphoses into an adult butterfly in about two weeks. When the butterfly first emerges from its case, its wings are small and its body is large, filled with lots of fluid. Before it can fly away, the monarch has to wait until the fluid flows from its body into its wings, fully expanding them.

### Life Span:

Most monarch butterflies only live a few weeks. But the last generation of monarchs, born in late August, is the migratory generation. The shorter days and cooler temperatures of autumn prevent the butterflies from maturing enough to reproduce. This allows them to live for about eight to nine months – long enough to fly south for the winter and back again to reproduce the following summer.

### Threats to the Monarch:

Throughout its range, the monarch faces many potential threats to its survival:

- Many migratory resting sites are being logged or damaged by people. When the damage is severe, the monarchs don't have any place to stay.
- Pesticides, meant to kill some insects that attack crops, also kill other insects, including butterflies. Herbicides, used to kill milkweed and other wild plant species, reduce the plants and flowers available to feed the butterflies and caterpillars.
- Development, especially urban sprawl (expanding cities) takes over the fields of wildflowers on which butterflies depend.
- Ground-level ozone pollution (smog) damages milkweed plants. Scientists aren't sure whether this damage affects the larvae and life cycle of the monarch butterfly, but future studies may answer this question.