

Monarch Butterflies



Monarch butterfly. Photo courtesy of Greg Kareofelas.

Monarch butterflies are iconic. These big, colorful insects are known to every school child in the U.S. The adults have brightly marked orange and black wings with white spots along the wing edges. Birds and most mammals including humans see these colors very clearly. However, insects, including other monarchs, see monarchs as black butterflies with white markings along the edge of the wings. Insects cannot see red to orange and it probably just looks black to them. So, monarch butterflies are telling potential predators to stay away.

Monarch butterflies are among the largest members of the family Nymphalidae in North America. Their caterpillars store toxic chemicals called cardiac glycosides in their bodies from the milkweed they eat. Cardiac glycosides make vertebrates like us quite sick, so don't eat a monarch butterfly or caterpillar if you can help it. The chemicals remain in the adult butterfly bodies as well but tend to be concentrated more in the wings than in the body. Interestingly, cardiac glycosides seem to have very little effect on insect predators and parasites.

Monarch caterpillars are brightly striped with white, black and yellow, with two long tentacles on the head end and two on the rear end. They only feed on milkweed plants. In many parts of the country milkweed plants are considered weeds and are removed with along roadsides and in agricultural lands. Even homeowners remove milkweeds and then wonder why they don't see any monarchs. There are more than 100 species of milkweed in North America,

very few are treated as garden or landscaping plants. This raises one of the issues with butterfly gardening. Everyone would like butterflies visiting flowers in their gardens but few seem to understand that to have butterflies you need to have caterpillars eating certain plants in your garden.

Adult monarchs typically only live a couple of months, so the individuals that emerge in early summer do not migrate. Each generation takes between 5 and 6 weeks from egg to adult. The last generation of the summer goes into migratory mode. They stop reproducing and fly to one of their overwintering sites. These individuals generally do not begin reproducing until the following spring in February or March when they leave these sites and move north from the Mexican site or north and east from the Pacific Coast.

The annual North American migration begins as early as August. Populations west of the Rockies migrate to the Pacific Coast with overwintering roosts along the central California coast. One of the best known of these is in Pacific Grove, California. Populations east of the Rockies migrate to central Mexico.

With this complicated life history it is easy to see how monarchs could run into trouble. It might take 2-3 generations to once more reach the northernmost parts of their range. Anything occurring along the way, a lack of nectar sources, storms and insecticides could cause a generation to fail. Failure of one of the generations moving northward could impact populations all along the migration path.



Monarch caterpillar. Photo courtesy of Kathy Keatley Garvey.