



Signs of the Seasons: A Maine Phenology Program

Indicator Species Fact Sheets

Monarch Butterfly, *Danaus plexippus*

Nearly everyone has studied the Monarch at one time during his or her childhood. Not only is it a beautiful insect, the Monarch goes through a captivating metamorphosis and then tops it off with an unbelievable migration that can span all three North American countries. This insect has captured the fascination of the public to such an extent that a tourist industry has been built around migration routes and overwintering sites.

Life Cycle: The Monarch butterfly is easily recognizable due to its characteristic orange wings with black veins and black outer margins with white spots. However, the Monarch begins its life as a tiny fertilized egg carefully placed by its mother on the underside of a Milkweed leaf. After three to five days the Monarch caterpillar emerges from its egg and immediately starts to consume the milkweed leaf, which is the only food source for the caterpillar. Though the “milk” in Milkweed is toxic and distasteful to many animals, the Monarch concentrates these chemicals in its body as a means to protect itself from predators. Once the caterpillar reaches about two inches in length, 200 times as big as they were when they hatched, it forms a chrysalis, in which it makes its metamorphosis into a butterfly within two weeks time.

Migration: Sensing the shortening day length and cooler temperatures, Monarch butterflies throughout the US and Canada begin their migration to specific sites in the mountains of Mexico, where tens of thousands cluster together on a single Oyamel tree. Here, they hibernate until March, when environmental signals again tell them it is time to head north, back into the US in search of milkweed on which to lay their eggs as there is no milkweed at the overwintering sites. The generation

that completes the full southward migration and winter hibernation will die during their northward migration and their offspring continue the journey toward the breeding grounds. It takes two to three generations to complete the journey to the northern US and Canada. Scientists still don't fully understand how the Monarch knows when and how to migrate such long distances to a place they have never been.

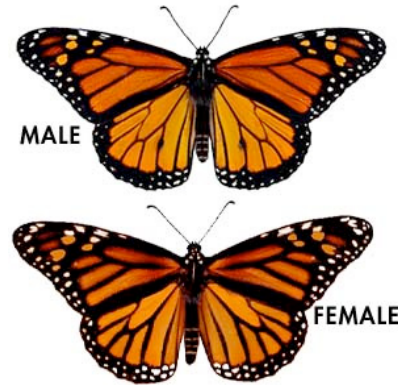


Image courtesy of Monarch Watch



Monarch caterpillar on Milkweed.
 J. Lovett, Monarch Watch



Monarchs clustered on Oyamel tree.
 A. Ryan, Monarch Watch



Newly formed chrysalis.
 J. Lovett, Monarch Watch

Habitat for milkweed and flowering plants is vital for the survival of the Monarch, both in their summer breeding grounds, as well as along their migration routes. Take a look at the sources below for more information, especially for tips on preserving/creating habitat for Monarchs in your area!

Sources and Additional Information:

USA Phenology Network – Observing Plants and Animals,
http://www.usanpn.org/Danaus_plexippus

USDA Forest Service – Monarch Butterfly: North America’s Migrating Insect,
http://www.fs.fed.us/wildflowers/pollinators/documents/Monarch_Butterfly.pdf

Monarch Watch – a cooperative network of students, teachers and researchers dedicated to the study of the Monarch, <http://www.monarchwatch.org/>