

# Loretta Shigo: Trailing the monarchs III

## The hunt is afoot

The season is upon us – finally. Summer got off to a wet start, delaying the growth and blossoming of nectar plants. As a result, the butterfly season has moved slowly.

Reports from the butterfly discussion lists show sparse sightings of monarchs on the wing. However, in this neck of the woods, egg laying has commenced. In my own small garden, milkweed patch there are about 20 *Asclepias syriaca*, common milkweed plants, and 40 *Asclepias curassavica*, tropical milkweed plants.

The Carversville General Store field, which I am monitoring, has an abundant supply of *Asclepias syriaca* and *Asclepias incarnata*. The first two eggs of 2009 were found there on June 29. Since then, 63 eggs have been gathered from various milkweed patches and eight butterflies have been released.

How does one find Monarch butterfly eggs? What does an egg look like?

Let us start with a little egg biology. A female monarch in the wild lays about 100-200 eggs in her two- to six-week lifespan. All her energy upon emerging is spent in feeding and laying eggs. She seeks out the right milkweed plant upon which to deposit her contribution to the next generation.

The female is selective in her choices, seeking out young plants with tender leaves that will grow with her offspring. This behavior helps to ensure that the newly hatched caterpillars will have enough food to live to adulthood. About two percent of all eggs laid in the wild survive to become adult butterflies.

Predation takes its toll. It is an insect-eat-insect world out there in the milkweed patch. The monarch lays hundreds of eggs one at a time, generally one per leaf per plant. However, there are variations in this behavior. Last week, I found three eggs on a tiny leaf, which also hosted a just hatched first instar caterpillar taking its first bites.

Curling her abdomen in a C- shape, the female butterfly glues the egg to the underside of a milkweed, leaf usually near the central vein and generally close to the top



*A monarch just hatched.*



*A caterpillar egg.*

of the plant. Small round blobs of white dried milkweed sap sometimes speckle the underside also.

The pinhead-sized egg can be determined to be that of a monarch by holding the leaf in a profile view, which will show the egg's football shape. A protective hard outer shell, the chorion, surrounds the egg and a waxy layer inside the shell keeps it from drying out. Upon close inspection, vertical ridges can be seen from top to bottom.

A freshly laid egg is creamy white in color; an egg about to hatch has a black dot on top showing the head of the soon-to-emerge caterpillar. It will chew its way out of the egg case in three to five days. Often the newly emerged caterpillar will turn around and eat the case as its first meal. It will then eat the tiny fine hairs of the leaf, eventually taking its first bite of the milkweed.

To look for caterpillars, view the leaf from the topside. Small crescent shaped holes indicate the presence of a caterpillar underneath. Another clue is fresh caterpillar droppings, or frass, on a leaf surface below. Look under the leaf above for a caterpillar. Larger fifth instar caterpillars will notch a leaf, causing it to droop. This is called flagging and helps to control the flow of sap. Look behind the leaf for a hun-

gry munching caterpillar.

It is the sap of the milkweed plant that provides the protection for the monarch caterpillar and butterfly from predators. The sap can be irritating to humans also, causing a skin reaction. When in the milkweed patch, be careful not to touch the face, especially the eyes or mouth. It can cause a chemical burn in the eye, which can be serious. Always wash hands thoroughly after handling milkweed of any kind. In addition, do a tick check when leaving the fields and gardens.

Milkweed sap contains cardenolides, which when ingested make the caterpillar toxic and distasteful. A bird dining on a monarch caterpillar or butterfly will vomit. Lesson learned, the bird would avoid the brightly colored insects in the future. The orange colors of the monarch butterfly are a signal to predators that danger exists: "Do not eat me" is the message. Happy hunting!

Future articles will feature amazing pupa biology; milkweed seed collecting and more. Until then – be part of the journey. Plant milkweed.

Visit [monarchjourney.com](http://monarchjourney.com) or [monarchjourney.blogspot.com](http://monarchjourney.blogspot.com) for time-lapse photography of the pupa dance and emerging butterfly, program information and more. Contact 267-614-3609 or [info@monarchjourney.com](mailto:info@monarchjourney.com).