

MONARCHS 2019

I'm a committed pollinator garden enthusiast for our butterflies, birds and bees. After hearing about the March 2016 storm in Mexico that killed an estimated 90% of the Monarch butterflies, I wanted to help in some small way.

Did you know that <10% of monarch eggs laid survive to become adults? Scientists say it might be as low as 1%. They have many predators such as yellow jackets, mice, stink bugs, toads and frogs and mantids. Ants feed on monarch eggs. Birds try the caterpillars once before they learn that monarch caterpillars contain bad tasting chemicals from the milkweed plant called cardiac glycosides. Harsh weather, winds with heavy rain can also kill adult monarchs.

Experts say the best way to help is by planting milkweed. So in 2017, I planted *Asclepias tuberosa* (orange butterfly weed - an annual) and *Asclepias incarnata* (Swamp milkweed). This year I also planted some *Asclepias syriaca* (common milkweed) plants. More will be planted in 2020. Proper plant placement can also help reduce predator traffic. Experts note that if plants are in a scattered array, many caterpillars can go undetected and survive to their chrysalis stage. My husband Leslie noticed a pregnant Monarch flying over our front garden bed and wondered if she was searching for milkweed to lay eggs.

Days later, while out checking the garden for weeds, I noticed the orange butterfly weed was being eaten down and to my delight, there were several caterpillars (these are called instars 1 to 5) in various sizes and stages of development including newly hatched tiny instars.

I needed to help give these little ones a fighting chance since they would be the ones migrating to Mexico. Monarchs have a 28 to 38-day life cycle and rearing them is a worthwhile commitment.

I brought each of them inside and raised them in clear plastic containers with a screen top to monitor their progress and ease of cleaning their beds. Fine mesh tulle fabric can also be used as a cover. Some were transferred to an open mesh butterfly enclosure in a screened in sun porch in order to mimic the outdoors as close as possible. It's best to keep similar instar stages together away from the tiniest ones.

A week later, I also found two chrysalides attached to the underside leaves of my *Echinacea* so I brought these in as well. The screened sun room kept out the predators. Having run out of milkweed, I harvested leaves from nearby meadows and disinfected them. See Rich Lund's videos at <https://www.youtube.com/user/MrLundScience>. He's a chemistry teacher who raises Monarchs. One video shows how to disinfect leaves to save the caterpillars from parasite and viral disease. The leaves keep well in the fridge for 2 to 3 days. The instars spend about an hour cutting the latex canal in the milkweed so it's no longer flowing. Then they start eating the leaf on the opposite side of their cut.

I'm happy to say as of today Aug 27, almost all of the adult Monarchs have been successfully released to my pollinator garden. Just one more instar to reach chrysalis stage, a couple of chrysalides to eclose (emerge as butterflies), then get ready for their migration south. So 20 out of 21 Monarchs have been given a better chance. This project was so rewarding because in addition to what I learned, the 4-yr. old

and 2 yr. old neighbor got to see and learn about the life cycle of the Monarch and they participated in the release of the Monarchs.

You too, can help the Monarchs next year.

Further information:

<http://www.cornell.edu/video/milkweed-and-its-insects> Professor Anurag Agrawal shares research on the relationship between milkweed and the insects that rely on it.

Nature Conservancy <http://www.natureconservancy.ca/en/what-we-do/resource-centre/featured-species/insects-and-spiders/monarch.html>

<http://cwf-fcf.org/en/explore/monarchs/> Help the Monarchs.

Susan MacMillan. Secretary and Chairperson - Refreshment Committee

