

Monarchs and Milkweeds :

Our Royal Butterfly and State Insect is Disappearing



“Butterflies are self propelled flowers.”

– R.H. Heinlein

The only insect that makes an annual, long distance trip to a warmer climate is the Monarch butterfly. In August, millions of these beautiful butterflies start a long trip to their winter home in the fir forests of central Mexico. They can travel up to 80 miles a day. It takes four generations of Monarchs to complete the journey, but even the newest generations somehow manage to find their winter home. In the spring, these over wintering butterflies head north from Mexico, reproducing as they advance.

In 2012, numbers of over wintering Monarch butterflies in Mexico were 58% less than numbers counted in 1999. Only sixty million Monarchs spent the past winter in Mexico; three hundred fifty million is normal. This year Minnesota gardeners from all over the state report fewer Monarch butterflies. What is happening?

One reason for the decline is loss of habitat, both in the US and in Mexico. Illegal lumber operations in Mexico have destroyed much winter habitat. Fortunately, recent strict enforcement by the Mexican government has stopped much of this illegal activity.

Another reason may be less milkweed plants. Milkweed is the ONLY food source for the Monarch caterpillar. Monarchs cannot survive without milkweed. The leaves of the milkweed contain poisonous substances called cardenolides. Monarchs are not affected by these chemicals. The cardenolides are stored in the bodies of both the caterpillar and adult, and make the Monarch distasteful to birds and field mice.

In this country, more homes, roads, roadside mowing, herbicide spraying, and commercial development are reducing the areas available for milkweed plants. Farmers are planting more of their fields, including formerly marginal land, to commercial crops and for ethanol production. Less room is available for milkweed. More and more acreage is now planted to genetically modified corn, soybean, and cotton. Genetic modification makes these agricultural plants resistant to the herbicide glyphosate (also known as Roundup). Farmers spray their fields with the herbicide, killing all weeds and plants except the Roundup-ready, glyphosate-resistant crops. Milkweed, which used to grow in crop fields, is now killed. It is estimated that the numbers of milkweed have dropped 68% since 1999, with an 81% drop in Monarch butterfly eggs.

Increased use of herbicides ->less milkweed ->less Monarchs.

Other causes for the recent Monarch decline include last year's long and severe drought which reduced the numbers of milkweed in the Midwestern and Southern states. In addition, the heat destroyed eggs and young larvae. This year's late, cold spring delayed mating, egg laying, and growth of the Monarch in Minnesota..

THE SURVIVAL OF THIS BEAUTIFUL SPECIES NOW DEPENDS ON US.

What can we, as gardeners, do?



We can plant and grow more native milkweed (the genus *Asclepias*). There are 107 species of milkweed in the United States; 14 are native to Minnesota. Milkweed has a rich, high-glucose nectar. Besides butterflies, milkweed will support such diverse pollinators as honey bees, native bees, wasps, many beetles, and hummingbirds. It is best to plant milkweeds that are native to our region. Many of these can be attractive, long-lived, low-maintenance, and long-blooming garden perennials. Little larvae have huge appetites; plant milkweed in groups of 6-12, or more to provide food for a bunch of caterpillars. Gardeners can increase milkweed habitat and thus have a positive impact on Monarch numbers. Yes, the remaining milkweed in prairies, roadsides, and in our personal gardens are now more important than ever, but we need even more milkweed plants. Gardeners and naturalists are setting up Monarch way stations, places where the female butterfly can lay its eggs and obtain nectar to continue its migration. We are encouraged to plant more milkweed, as well as other nectar plants.

Milkweed plants may be purchased as young plants, but for some varieties older plants are difficult to transplant because of a large taproot. Seeds of milkweed require a cold treatment (stratification) period before they will sprout. You can plant the seeds in late fall into prepared soil, in sunken pots or trays, or into milk jugs with soil for winter sowing. The seeds will sprout in the spring. The seeds may be stratified indoors by placing them in moist peat moss and refrigerating for a

minimum of 3 weeks up to 3 months. Sow the stratified seeds outdoors, or under lights in planting trays. A heating pad will speed germination. The plants will be ready to set outdoors in full sun in 6 weeks. During the first year water frequently and add mulch to conserve moisture.

The **common milkweed** (*Asclepias syriaca*), 48-60" high, may be too weedy and aggressive for most gardens. Some find it easy to keep under control, but most milkweed gardeners grow it in an out of the way area. The plant is easily divided and transplanted. The fragrance of the flowers is wonderful.

Butterfly weed (*Asclepias tuberosa*), 18-24", has stunning, bright orange flowers and looks great in any flower bed. Bloom time is from early July to late August. There is a yellow cultivar ('Hello Yellow') and a mixture of reds, yellows, and orange ('Gay Butterflies'). This plant does not bleed a milky sap as do other milkweeds. Excellent drainage is required for long term survival of the plant. Poor, sandy or gravelly soil is best. However, Prairie Nursery does sell a special selection of the native butterfly weed that is supposed to do well in clay soils. This long-lived plant is a clump former, but may spread by seed. Transplanting mature butterfly weed is very difficult, because of a long, woody taproot. It may be slow to emerge in the spring.

Do not confuse butterfly weed with butterfly bush. Butterfly bush (*Buddleia davidii*) is originally from China. Even with special care, the butterfly bush is only marginally hardy in Minnesota. Butterfly bush is a very rich nectar source and will attract hundreds of adult butterflies. Research at the University of Delaware shows that **ABSOLUTELY ZERO** butterfly larvae/caterpillars (in this country) eat butterfly bush leaves for food. Other non-native garden plants (exotics) suffer from the same shortcoming. **No food -> No baby caterpillars ->no adults.**

Swamp milkweed (*Asclepias incarnata*), 30-36", has beautiful pink or rose flowers. Cultivars have flowers of white('Ice Ballet'), cream, or shades of red. It is a well behaved clump forming plant, but self sows readily. It requires a moist site and does best in full sun to light shade. It is slow to pop out of the ground in the spring.

May the wings of the butterfly kiss the sun And find your shoulder to light on, To bring you luck, happiness and riches Today, tomorrow and beyond. ~Irish Blessing

Plant other wildflowers that bloom in the fall and which will provide nectar and energy for migrating Monarchs. These include the purple coneflower (*Echinacea purpurea*), rough blazing star (*Liatris aspera*), gayfeather (*Liatris spicata*), bee balm (*Monarda didyma*) and its cultivars, black-eyed susans (*Rudbeckia* species), ironweed (*Vernonia* species), and joe-pye weed (*Eupatorium purpureum*). Goldenrods attract hundreds of pollinators; the heavy pollen of goldenrod is carried by insects and is not allergenic; the windblown pollen of ragweed, often blooming at the same time as goldenrod, is highly allergenic.

Plant your butterfly garden in full sun in an area sheltered from wind. Plant native flowers in masses to attract butterflies and the widest number of pollinators. Do not plant sterile, double blooming plants; these tend to be low on nectar and pollen. Move bird feeders and water baths away from your butterfly garden; do not tempt the birds into snacking on a nearby butterfly. Do not deadhead your flowers; the seeds provide food for our native birds. Avoid the use of pesticides, which can kill both the larval and adult butterflies. Learn to tolerate a little bit of insect damage. More butterflies to you !

References:

Butterflies and Moths of North America, <http://www.butterfliesandmoths.org/>
Monarch Joint Venture, <http://Monarchjointventure.org/>
Monarch Watch, www.Monarchwatch.org
The Xerces Society for Invertebrate Conservation, <http://www.xerces.org/>

Plant and seed sources:

Glacial Ridge Growers, <http://www.glacialridgegrowers.com/>, (St. Paul Farmers' Market)
Landscape Alternatives, <http://www.landscapealternatives.com>
Prairie Nursery, www.prairienursery.com
Prairie Moon Nursery, www.prairiemoonnursery.com
The Herb Man, Jeff Adelman, (St. Paul Farmers Market)
The Vagary, <http://www.thevagary.com/>

Happy Gardening ,
Joe Baltrukonis

"We are all butterflies. Earth is our chrysalis."
— LeeAnn Taylor