Monarch / Butterfly Rescue
and
Butterfly Gardens

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Monarch Butterflies

Monarch butterflies are known for the incredible mass migration that brings millions of them to California and Mexico each winter. North American monarchs are the only butterflies that make such a massive journey—up to 3,000 miles (4,828 kilometers). The insects must begin this journey each fall ahead of cold weather, which will kill them if they tarry too long.

Monarch butterflies begin life as eggs and hatch as larvae that eat their eggshells and, subsequently, the milkweed plants on which they were placed. (Monarchs are dependent on milkweed plants, which larvae eat nearly exclusively.)

Fattening larvae become juicy, colorful caterpillars, then create a hard protective case around themselves as they enter the pupa stage. They emerge as beautifully colored, black-orange-and-white adults. The colorful pattern makes monarchs easy to identify—and that's the idea. The distinctive pattern warns predators that the insects are foul tasting and poisonous.

Butterflies that emerge from chrysalides (pupa state) in late summer and early fall are different from those that do so during the longer days and warmer weather of summer. These monarchs are born to fly, and know because of the changing weather that they must prepare for their lengthy journey.

Only monarchs born in late summer or early fall make the migration, and they make only one round trip. By the time next year's winter migration begins, several summer generations will have lived and died and it will be last year's migrators' great grandchildren that make the trip. Yet somehow these new generations know the way, and follow the same routes their ancestors took—sometimes even returning to the same tree.

Many scientists are concerned about the eastern population of monarchs, which summer east of the Rocky Mountains. This group is occurring in ever smaller numbers, and its survival may be threatened by a series of natural disasters in the Mexican wintering grounds, as well as by reduced acreage of milkweed plants in their summer home.

(http://animals.nationalgeographic.com/animals/bugs/monarch-butterfly.html)

Fall Migration (www.monarchwatch.org)

Unlike most other insects in temperate climates, Monarch butterflies cannot survive a long cold winter. Instead, they spend the winter in roosting spots. Monarchs west of the Rocky Mountains travel to small groves of trees along the California coast. Those east of the Rocky Mountains fly farther south to the forests high in the mountains of Mexico. The monarch's migration is driven by seasonal changes. Day length and temperature changes influence the movement of the Monarch.

In all the world, no butterflies migrate like the Monarchs of North America. They travel much farther than all other tropical butterflies, up to three thousand miles. They are the only butterflies to make such a long, two way migration every year. Amazingly, they fly in masses to the same winter roosts, often to the exact same trees. Their migration is more the type we expect from birds or whales. However, unlike birds and whales, individuals only make the round-trip once. It is their children's grandchildren that return south the following fall.

Some other species of Lepidoptera (butterflies and moths) travel long distances, but they generally go in one direction only, often following food. This one-way movement is properly called emigration. In tropical lands, butterflies do migrate back and forth as the seasons change. At the beginning of the dry season, the food plants shrivel and the butterflies leave to find a moister climate. When the rains arrive, the food plants grow back and the butterflies return.

When the late summer and early fall Monarchs emerge from their pupae, or chrysalides, they are biologically and behaviorally different from those emerging in the summer. The shorter days and cooler air of late summer trigger changes. In Minnesota this occurs around the end of August. Even though these butterflies look like summer adults, they won't mate or lay eggs until the following spring. Instead, their small bodies prepare for a strenuous flight. Otherwise solitary animals, they often cluster at night while moving ever southward. If they linger too long, they won't be able to make the journey; because they are cold-blooded, they are unable to fly in cold weather.

Fat, stored in the abdomen, is a critical element of their survival for the winter. This fat not only fuels their flight of one to three thousand miles, but must last until the next spring when they begin the flight back north. As they migrate southwards, Monarchs stop to nectar, and they actually gain weight during the trip! Some researchers think that Monarchs conserve their "fuel" in flight by gliding on air currents as they travel south. This is an area of great interest for researchers; there are many unanswered questions about how these small organisms are able to travel so far.

Another unsolved mystery is how Monarchs find the overwintering sites each year. Somehow they know their way, even though the butterflies returning to Mexico or California each fall are the great-great-grandchildren of the butterflies that left the previous spring. No one knows exactly how their homing system works; it is another of the many unanswered questions in the butterfly world.

Spring Migration (www.monarchwatch.org)

As winter ends and the days grow longer, the Monarchs become more active, beginning to mate and often moving to locations lower on the mountainsides. They leave their Mexican roosts during the second week of March, flying north and east looking for milkweed plants on which to lay their eggs. These Monarchs have already survived a long southward flight in the fall and winter's cold; they have escaped predatory birds and other hazards along the way, and are the only Monarchs left that can produce a new generation. If they return too early, before the milkweed is up in the spring, they will not be able to lay their eggs and continue the cycle.

The migrating females lay eggs on the milkweed plants they find as they fly, recolonizing the southern United States before they die. Soon the first spring caterpillars hatch and metamorphose into orange and black adults. It is these newly emerged Monarchs, the offspring of the butterflies that made the fall journey, that recolonize their parents' original homes. Summer Monarchs live a much briefer life than the overwintering generation; their adult lifespan is only three to five weeks compared with eight or nine months for the overwintering adults. Over the summer there are three or four generations of Monarch butterflies, depending on the length of the growing season. Since each female lays hundreds of eggs, the total number of Monarch butterflies increases throughout the summer. Before the summer ends, there are once again millions of Monarchs all over the U.S. and southern Canada.

Butterfly Gardening (www.monarchwatch.org)

Scientists, environmentalists, and politicians have brought habitat destruction and the cost that has for wildlife to the attention of people around the world. In response, many people have begun work to preserve the natural areas that still exist and to restore other areas that once served as home to wild animals and plants.

A beautiful and fun way to do that is to plant a butterfly garden. For people, like you, who are interested in monarchs, a butterfly garden is an easy way both to see more monarchs and to contribute towards their conservation. And if you plant a garden, you'll be able to watch not only monarchs but also many other butterfly species right in your backyard.

A butterfly gardener reaps many rewards. People usually enjoy the same colorful flowers butterflies prefer, so a butterfly garden can win compliments from you and your neighbors. If you plant a butterfly garden where there used to be lawn, there is also less grass to mow, which means less work with the lawn mower as well as less air and noise pollution if your mower runs on gas. Butterflies like lots of different plants, so creating a garden adds biological diversity to your yard. Diversity can reduce populations of pest insects by making it harder for them to find their host plants. Butterflies also often like native plants. Including those species in your garden usually means less maintenance, since those plants are used to the natural weather conditions in your area. Butterflies themselves are an important part of the ecosystem, and can pollinate many plants.

Butterflies are easy to watch, since they're active during the warm parts of the day. They also have many interesting behaviors. After rain, for example, you might see them "puddling," or sucking fluids from wet soil to obtain water and salts. On cool sunny mornings, they often bask on a rock to warm their muscles enough to power flight. Males are often territorial, chasing other males away and trying to attract females, and females often have elaborate routines for choosing where to lay their eggs. With a pair of binoculars, a good field guide, a variety of flowers in bloom, and a sunny calm day, you can sit in your yard and, with practice, identify many different butterfly species. Are you missing that one species you really want to see? Next year, include its favorite plant in your garden.

To get the most out of your garden, be sure to include both caterpillar food plants and butterfly nectaring plants. Having caterpillar plants in your garden means butterflies are more likely to linger and explore possible sites to lay eggs. It will also increase your chances of observing both mating and egg-laying behaviors, as well as the complete butterfly life cycle from egg to adult.

Your butterfly garden can be any size, from a window box to a portion of your landscaped yard to a wild untended area on your lot. You can include native plants, cultivated species, or both.

Creating a Butterfly Garden (www.monarchwatch.org)

The first step in creating a butterfly garden involves a little scouting and research. The goal is to find out what butterflies live around you so you can include the plants they need for food. The best way to start is to look for butterflies around your proposed garden. Look at who visits your neighbors' yards, or watch in nearby parks, natural areas, roadsides, or gardens and write down the species you see. You can also find out about the species in your region by looking in books about butterflies and their habitats, or by talking to lepidopterists or organizations interested in butterflies. These organizations include local extension offices, the Xerces Society, the North American Butterfly Association (NABA), and conservation organizations in your region. Some of their addresses are listed in the bibliography.

Butterflies feed on nectar, and good sources of this food will attract them to your garden. Include flowers that bloom at different times so that your garden provides nectar from spring through autumn. Garden shops, county extension offices, and books can help you figure out when a plant blooms, its color and size, and which butterflies like it (to help with planning, it is often useful to make a table of this information). When you plan your garden, place short species in front and tall ones in back, and clump them by species and color. As butterflies search for food, they will see large splashes of color more easily than the small points of individual flowers. Butterflies are particularly attracted to red, orange, yellow, and purple flowers. Avoid big showy flowers bred for their size; they are often poor nectar sources. Don't be disappointed if butterflies ignore some highly recommended plants. Watch the butterflies, record their preferences, and plant more of the popular species next year.

Butterflies require very specific plants as larvae, and females will lay their eggs only on these plants. For example, you will only get monarch larvae if your garden contains milkweed. Use information in books about butterflies to help you choose plants for butterfly larvae. But remember, the purpose of these plants is to serve as a food source for the caterpillars. You are planting them to be eaten by the caterpillars, and eaten leaves are good signs of your garden's health.

As you maintain your garden, **DO NOT USE ANY PESTICIDES OR INSECTICIDES** on or near your garden. Insecticides kill butterflies too. If you spray nearby areas, the insecticide may drift into your butterfly garden. Planting a diversity of species will keep pest levels down, but sometimes it's best just to tolerate a few pests. Avoiding insecticides also allows the populations of natural predators to increase, and these hunters will help reduce the number of unwanted pests.

Enjoy your garden. Butterflies pay less attention to people than do birds, so you can sit nearby and watch without disturbing them. If you wear bright colors, they may even mistake you for a nectar source and visit you up close!

Here are a few quick tips for creating your own butterfly paradise:

- Select an area in your garden that receives plenty of sunshine and is protected from the wind.
- Add rocks to your butterfly garden as they will provide a landing spot for butterflies to sit and warm their wings.
- Add a shallow watering spot with flat rocks to allow the butterflies to drink water.
- When selecting your plants remember to select plants that attract butterflies.
- Make sure something will be blooming in your garden from late spring through early fall.
- Butterflies prefer areas with moist soils.
- **Do not spray pesticides in your Butterfly Garden**. Some pesticides may injure or even kill the butterflies.
- Adding plants that caterpillars like to eat will also draw the female butterflies to lay their eggs in the garden.

The following lists from Monarch Watch present some plants that are good nectar sources and good host plants for the butterfly larvae or caterpillars. However, these lists are by no means exhaustive, but do present a starting point.

Two source guides:

"Great Lakes Butterflies & Moths" A Pocket Naturalist Guide by James Kavanagh, Waterford Press (ISBN-13 978-1-58355-370-1)

"Butterflies of Michigan" Field Guide by Jaret C. Daniels, Adventure Publications (ISBN 1-59193-098-7)

Both are available from the Muskegon Conservation District, Muskegon Conservation District, 940 N. Van Eyck Street, Muskegon, MI 49442
Tel: 231 – 773 – 0008