

MILKWEEDS & MONARCHS

By Shirley Froehlich, BSA

Milkweeds and monarchs go together just like winter and cross country skiing. We can't ski without snow and winter is enhanced greatly by the ability to get out and enjoy it on skis. Similarly, monarch butterfly caterpillars eat only milkweeds. Without milkweeds there are no monarchs. And milkweeds benefit from the presence of monarchs by having their flowers pollinated. The reason that monarch butterflies have evolved such a close relationship with milkweeds is simple: protection from predators. Monarchs will only lay their eggs on milkweed plants. This is because milkweeds contain alkaloids called cardiac glycosides which make the plant taste bad. This in turn makes the monarch caterpillars taste bad after a steady diet of milkweed leaves. This bad taste carries on to the adult butterfly so both stages are avoided by predators such as birds. The brightly coloured caterpillars and adult butterflies are distinctive and then easily avoided by birds. Milkweed flowers also produce lots of nectar so many butterflies and beneficial bugs are attracted to them for a source of food.

DESCRIPTION AND NATIVE HABITAT

There are a dozen milkweed species in Canada and of these seven grow in Manitoba:

- ❑ Whorled Milkweed *Asclepias verticillata*
- ❑ Showy Milkweed *A. speciosa*
- ❑ Hairy Milkweed *A. lanuginosa*
- ❑ Dwarf Milkweed *A. ovalifolia*
- ❑ Common Milkweed *A. syriaca*
- ❑ Green Milkweed *A. viridiflora*
- ❑ Swamp Milkweed *A. incarnata*

They get their name from the white, milky juice that seeps out of broken stems and leaves. Their flowers are very complex, highly evolved structures with a heavy, sweet perfume. The fruit is a large pod with numerous round, flat brown seeds. The seeds overlap each other like shingles on a roof and lie on a bed of white silk. Once ripe the pods split open and the seeds take flight in the breeze, each with their own silky parachute. I quickly learned when collecting seed that I had to remove the seeds from the damp, flat parachutes right away, otherwise they dried, expanded and floated around. During World War II milkweed fluff was collected and used as stuffing for lifejackets. In the past the juice was applied to warts, corns & calluses to remove them. Native people boiled the flower buds to make a sweet syrup and they were also added to dishes while cooking to sweeten them or cooked with meat as a tenderizer. The plant also had a number of medicinal uses.

Of the seven species that grow in Manitoba I am currently growing three, the Dwarf, Whorled and Swamp Milkweed. The Hairy and Green Milkweeds are rare. The Showy and Common species are considered agricultural weeds and are on the noxious weed list. Common Milkweed is not a good garden candidate anyway due to its aggressive root system. The three species that I grow are not on the weed list.

Whorled Milkweed *Asclepias verticillata* grows 20-50 cm tall (8-20"). In the wild it is found occasionally in Saskatchewan, Manitoba and Ontario. In Manitoba it is found mainly in the southeastern parklands. I discovered it growing in an abandoned lot in the city of Winnipeg. It also grows throughout the eastern U.S. It establishes fairly quickly and spreads by underground roots to fill an area with attractive fine textured foliage. The very narrow, linear leaves are borne in whorls of 2-4 up the stem. The fragrant, white flowers are produced in 2-5 cm clusters (1-2") in July and early August, followed by slender seedpods. A small grouping that I had perfumed the entire garden. It mixes well with other low to medium size plants. Even though it spreads by roots it doesn't crowd out other plants because the foliage is so fine textured.

Dwarf Milkweed *Asclepias ovalifolia* grows 20-50 cm tall (8-20") with ovate to lanceolate leaves. In the wild it is found occasionally throughout the parklands from Ontario to B.C. It grows in a few northern states in the U.S. as well. In Manitoba I have seen it growing at Bird's Hill Park and in the Pembina Hills. When planted in the garden it is somewhat slow to establish compared to others. It also produces white, fragrant flowers that are in clusters 5-8 cm across (2-3"). The July flowers are followed by fat seedpods which ripen in September.

Swamp Milkweed *Asclepias incarnata* grows 90-150 cm tall (3-5'). This is a beautiful plant with slender lance shaped leaves 5-10 cm long (2-4") and very showy, rosy pink flowers in 5-8 cm clusters (2-3") in July. It has long slender seedpods. In the wild it is primarily a wet tall grass prairie plant. It grows from Manitoba to the east coast and in Midwestern and eastern U.S. In Manitoba I first saw it growing in Highway 59 ditch near Bird's Hill Park and also in the park. In the past ten years it has become quite widely planted in gardens in Winnipeg both for its beauty and to attract butterflies.

Another milkweed that is sometimes found in garden centres is called Butterfly Weed *Asclepias tuberosa*. This is a low growing plant with brilliant orange flowers. It is not native to Manitoba. It is native to eastern Canada and the eastern and south western U.S. It prefers dry, well drained soils.

CULTURE

Full sun is the preferred growing location for these plants, however, Dwarf and Swamp Milkweed will tolerate part shade. You can set plants out in the garden anytime from spring to fall. If you are starting them from seed indoors, stratify the seed for 6 weeks before germination. The Dwarf and Whorled Milkweeds like bottom heat at 21 degrees C with heating cables or mats for best germination. They can also be put just above a hot air register until germination begins in 5-10 days. Swamp Milkweed germinates in 8-12 days with no heat. Plants started in mid March will be ready to set outside in June. Whorled Milkweed grows well in dry to medium to moist soil, Dwarf prefers medium to moist soil and Swamp Milkweed does well in medium to moist to wet soil. Once established all three of these species are late sprouters. They are always a few weeks later than other plants to send up new shoots in spring so be patient with them, they will grow.

MONARCHS

I have had lots of the eye catching black, white and yellow striped caterpillars visiting my milkweed plants over the years. The first year over 80 of them came just as the plants were beginning to bloom in July. They ate and ate and grew and grew until they were 5 cm long (2") after only two weeks. Then they crawled away to find a place to form their chrysalis. At this time I noticed the plants. They were stripped with only the bare stems left! About 10-12 days later a few adult monarchs began to appear every morning as their chrysalis split and the butterflies crawled out. Their bodies were plump and the wings only ¼ of normal size. They pumped their wings full of bodily fluid and then perched for a few hours in the sun until their wings dried. Once dry they flew away to find some nectar for breakfast. At the same time I noticed the bare milkweed stems had sprouted a whole new crop of fresh green leaves.

The second summer we had few monarchs visiting. This was probably due to the cool, rainy summer that we had. Butterflies are cold blooded insects and require sunshine and heat to warm their bodies so they can fly. The third summer we had lots of monarchs visiting again but it was a little later in the season. This time the seedpods were already formed before the caterpillars began chewing so I had lots of fragrant flowers and a good seed crop as well as lots of butterflies.

It has long been known that monarchs migrate south in winter but the place where they go was not discovered until 1975. They go by the millions from all over central and eastern North America to less than a dozen sites in the mountains of central Mexico. The mountains give just the right conditions: cold enough so the butterflies go dormant but steady enough so they rarely freeze. Here they hang in the trees all winter with only the occasional short flight for a drink of water.

Unfortunately, conflicting demands are endangering these over wintering sites in Mexico. The growing needs for wood and farmland threaten the trees where the monarchs roost. The federal and two state governments in Mexico have all legislated protection for the sites. Private groups such as World Wildlife Fund and the Mexican conservation group Monarca A.C. are also working to preserve and manage the sites.

There is a lot of work being done to help preserve the Mexican winter habitat and to educate the public about monarch migration and its habitat requirements. What can we do? There is one simple thing that all of us, who own a patch of ground, can do to help ensure survival of this marvel of nature. Plant Milkweeds! Their perfume is intoxicating and they allow us a fascinating glimpse into a monarch's life. Just think of the boost it would give to local monarch populations if everyone had a few milkweeds in their garden!

Shirley is the owner of Prairie Originals, a nursery specialising in wildflowers and native prairie grasses near Winnipeg, Manitoba, Canada. www.prairieoriginals.com