

*The following article was in the First Presbyterian Church of Dunbar's October Newsletter and was penned by Joan Steven, Kanawha County Master Gardener and Master Naturalist.*



Several years ago while I was driving in the fall, through the upper peninsula of Michigan, I stopped along Lake Michigan, and saw several hundred monarch butterflies resting on tree branches. I asked about this and learned these butterflies were on a journey to migrate to Mexico for the winter. Mexico was over 2000 miles away and I wondered how this was possible. I began a quest to learn more about this phenomenon. I started observing Monarchs in Charleston and did not see them until mid August. Monarchs lay their eggs only on milkweed leaves. When the egg hatches the caterpillar begins eating the leaves and growing until it is the size to make a chrysalis. The chrysalis is the caterpillar protected home while it produces a hormone that causes it to change into a butterfly. It will take about two weeks to emerge from the chrysalis. After the wings dry off, the butterfly takes to the air. The caterpillar has absorbed toxins from the milkweed plant into their body, making them foul tasting to predators and then pass the toxin on to the butterfly.



The monarchs I see in August and September are on their way to Mexico. These butterflies that emerge from the chrysalis have sex glands do not mature for 7 months. Their bodies have prepared them for the long trip south. This is called diapause. They gather at a common point and fly on tail winds up to 60 miles a day. Along the way they may form nightly gatherings of hundreds or thousands dripping from a tree branch. The stops include sips of nectar from flowers, taking a month to 6 weeks for these fragile butterflies to make it to their wintering grounds in an Oyamel fir tree forest west of Mexico City. American scientists did not discover this site until 1974, although native

farmers in the area were aware of the butterflies. Traditionally the Monarch butterflies arrive on the "Day of the Dead", October 31, but last year they were 2 weeks late reaching the forest high in the mountains.

During the cold weather the monarchs cluster together, on the fir trees with their wings folded. If the day warms up, they open their wings giving the appearance of orange ribbons on the trees. The total area the butterflies occupied last year is just 2.8 acres, which is down from more than 40 acres twenty years ago. There are at least 10 million monarchs per acre.

Timbering, and grazing cattle have disturbed the Oyamel fir tree forest resulting in a reduction of forest cover that causes temperatures to be colder on clear winter nights. The Mexican government has tried to educate these people, but they are poor and need the resources of firewood and food. In addition colder weather and floods have made surviving difficult for the butterflies.

By the end of February the butterflies come out of diapause and mate. The males remain Mexico and the females begin flying north laying eggs on milkweed. They fly through Texas and into the mid-west. Each generation makes it further north until some arrive in Canada. In August their internal clock tells them it is time to head south. The monarchs appearing in Charleston are the last generation not migrating and will lay eggs for those migrating monarch in diapause.

Farm fields in the mid-west are sprayed to kill milkweed, making it difficult for the butterflies to find a place to lay their eggs. To increase the amount of milkweed available to monarchs many towns have begun planting highway medians with milkweed. Groups have begun encouraging citizens to plant milkweed, and report when they see monarchs. The web site Monarch Watch encourages these reports and post maps of the monarch arrival and departure.



I plant tropical milkweed, and am able to watch the monarchs arrive and the caterpillars eat leaves on the milkweed plant. It is possible to capture mature caterpillars and keep them in captivity with milkweed leaves to watch them create the chrysalis, and emerge a couple of weeks later as beautiful butterflies.