

Loretta Shigo: Trailing the monarchs VI

The great migration

The setting sun, traveling in its autumnal path, drops below the southern horizon. Twilight, the blue hour, comes a minute or so earlier each day. Temperatures dip, as chlorophyll fades from the leaves, prompting spectacular colors. Milkweed, laden with seedpods, is brittle and yellow. Nectar plants - food sources, are dwindling. Instinctively tuned to these changes, this last generation of monarchs is no longer interested in mating. Instead, the urge to migrate takes over and millions of butterflies lift to the skies. The annual migration south has begun!

The monarchs are headed for the high altitude mountains of the Transverse Neovolcanic Belt of Mexico, 2,500 to 3,000 miles away - a place they have never been. Clustering in colonies, the butterflies blanket the branches and trunks of the Oyamel fir, *Abies religiosa*. These large old growth firs create a cool microclimate upon which the butterflies depend for their winter survival. The forest canopy allows mist and moist fog to filter through and provides shelter from snow and freezing rain. Living off stored caterpillar fat in their abdomen, the butterflies remain in the forests until spring in the Gulf States beckons and milkweed once again raises tender leaves to the sun.

Flying up to 80-90 miles per day, roosting in trees at night in places like Cape May, N.J., and Assateague Island, Va., migrating monarchs seek out nectar sources along the way to fuel their journey. Like other migratory animals, such as broad-wing and red-tailed hawks, monarchs take advantage of thermals and updrafts to conserve energy. Spotting a kettle of soaring hawks in an updraft is easier than spotting monarchs in an updraft, but hot air balloonists have seen these tiny flyers at altitudes between 1,000 - 7,000 feet above the earth! Imagine sharing the air with hundreds of monarchs while gliding over the earth in a hot-air balloon! Journey North, a nonprofit organization that tracks monarch and other animal migrations, has reported waves of monarchs in the mid Atlantic states. One can post monarch sightings to the Journey North website. This information helps the scientists who study migration patterns to learn more about the travels of the monarch.

Waves of butterflies start to arrive in



E. MOLLENHAUER

Monarchs in the air and clustering in Mexico.

Mexico about the first of November. Indigenous people of old and those of today celebrate the arrival of the monarch. It heralds the Mexican celebration called el Día de los Muertos, 'Day of the Dead'. The Aztecs believed that the souls of their ancestors were returning and prepared offerings: pan de muerto, 'bread of the dead'; Calaveras, 'sugar skulls'; tamales, incense, photographs, mementos, and in some regions, zempasuchil, 'marigolds'. Altars are prepared and candles are lit to lead the souls to them. The Aztecs believed that the papalotl, 'butterfly', guided the souls of the deceased to Tonatiuhicahn, 'the house of the sun' - a special heaven filled with nectar flowers that nourished the butterflies.

It was not until the 1970's that it became known that the southern Canadian and U.S. monarch population east of the Rockies migrated to Mexico. In 1937, Canadian scientist Dr. Fred Urquhart began tagging monarchs with the help of many volunteers. A directional pattern began to emerge. Searching for the overwintering sites, Urquhart and his wife, Nora Patterson, undertook a number of expeditions: from southern Canada down to the Gulf of Mexico and to California from the New England States. The mystery was finally solved on Jan. 2, 1975 when Urquhart received a phone call from amateur naturalist Ken Brugger of Mexico City. Brugger and his wife, Cathy, had found an overwintering

site.

Traveling to Mexico with Norah, Urquhart finally realized his dream and witnessed the spectacular display of millions of monarchs roosting in the Oyamel firs. Urquhart told the world of Brugger's discovery in the August 1976 issue of National Geographic. However, the true location of the overwintering colony - Cerro Peron, a high mountain west of Mexico City, was not revealed. Two other scientists, Dr. Lincoln Brower and Dr. William Calvert, studying clues from Urquhart's article, located Brugger's second discovery, a colony in Anganguo, about 240 km from Mexico City - today known as the Chincua colony.

Professor Emeritus Frederick Urquhart passed on Nov. 3, 2002, at the age of 90. Norah Urquhart passed on March 13, 2009, also at the age of 90. Professor Brower of Sweet Briar College, Va., and Dr. Calvert, roving reporter for Journey North, continue to study and follow the trail of the monarch.

Today, this amazing butterfly brings together three countries in a united effort to preserve fragile monarch habitat and overwintering sites.

Future articles will feature milkweed seed collecting and more! Until then - Be part of the journey - Plant milkweed. Visit monarchjourney.com for school program information and more. E-mail: info@monarchjourney.com. Phone: 267-614-3609.