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Issue 6



**MONARCH  
JOINT VENTURE**



**MonarchNet News  
A Citizen Science Newsletter**

### Upcoming Events

- [California Native Plant Society Conservation Conference](#) in San Jose CA, January 15-17. Celebrate and learn about California's native plants.
- [Citizen Science Association Conference](#) in San Jose CA, February 11-12. Registration is still open for this inaugural conference!



*Photo courtesy of Jean Greeley*

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## *Citizen Science Updates*

### Citizen Science Tuesdays

- The Nature Conservancy has a terrific blog devoted to conservation-related citizen science projects. Each Tuesday, the Citizen Science Tuesday blog introduces a citizen science project and describes how you can get involved. Recent topics have included bats, microplastics, and of course– monarchs! You can read the blog, along with many other interesting articles at Cool Green Science, the Science Blog of the Nature Conservancy: <http://blog.nature.org/science/>.

### Citizen scientists find new planet

- While some citizen scientists comb the skies for adult monarchs and milkweed patches for tiny eggs and larvae, others are looking for something much, much bigger. Citizen scientists with the Yale University's Planet Hunters volunteer their time to examine astronomical data, and they recently discovered an entirely new planet! You can read about the discovery at [www.techtimes.com](http://www.techtimes.com).

### Western Monarch Thanksgiving Count underway

- From November 15th to December 7th, citizen scientists along the California coast are counting monarchs in their overwintering sites as part of the annual effort to track the size of the Western monarch population. This crucial project has been surveying Western monarchs since 1997. With over 200 overwintering sites up and down the coast, it's quite an undertaking! To learn more about the project and to see data from previous years, visit <http://www.westernmonarchcount.org/>.



*Monarchs overwintering in Santa Barbara Co, CA. Photo courtesy of Carly Voight.*

**Do you want to  
advertise a butterfly  
citizen science event?  
Email us, and we can  
include it in the next  
newsletter.**

## *Monarch Fall Migration and Overwintering in the Florida Panhandle*

by Ilse Gebhard

### About the Author

Ilse Gebhard is a Monarch Watch Conservation Specialist, and has been a citizen science volunteer for over a decade, with both the Monarch Larva Monitoring Project (MLMP) and Monarch Health (MH). Gebhard wrote this report about monarch citizen science projects in Florida last fall. We are pleased to include it here, to encourage monarch citizen scientists in the southern US to send reports of monarchs that they observe - the MLMP, MH, and Journey North all collect reports of wintering monarchs.

### **I. Migration Tagging Projects:**

While some of the monarchs from southeastern Canada and northeastern US cross the Appalachian Mountains on their way to the overwintering sites in Mexico, others migrate in a southwesterly direction along the Atlantic coast. Some drop out of the migration along the coast of South Carolina and Georgia; others, when they reach Florida, head south to southern Florida; and some continue southwest until they reach the Gulf of Mexico.

### **A. St. Marks National Wildlife Refuge:**

St. Marks National Wildlife Refuge, at the east end of the Florida panhandle and right on the Gulf Coast, is an ideal spot to tag the monarchs heading southwest, starting in mid-October. Over 30,000 monarchs have been tagged since 1998<sup>1</sup>.

According to monarch researcher Dr. Karen Oberhauser “an important finding of this project is that very few monarchs migrating through this area make it to Mexico; only 0.03% of the monarchs tagged at the Refuge from 1988 to 2011 were found in Mexico, an order of magnitude below the overall Monarch Watch return rate.” So what happens to the monarchs that are tagged at St. Marks NWR but don’t make it to Mexico?

Do large numbers of monarchs change direction to the southeast and end up in south Florida? It’s not likely, as only a handful have been recovered there<sup>2</sup>. Do many change direction to the west and hug the Gulf Coast along the Florida panhandle, Alabama, Mississippi, Louisiana and only then turn southwest again in Texas? Again, only a handful have been recovered along the Gulf Coast<sup>3</sup>. A 3<sup>rd</sup> option is that some monarchs that reach St. Marks break diapause and become reproductively active in years of winters with no hard freezes, when the mild coastal climate allows for year-round survival of tropical milkweed (*Asclepias curassavica*) that people plant in their yards.

A 4<sup>th</sup> option to consider is that from St. Marks NWR the monarchs continue their southwesterly direction and try to cross the open water of the Gulf to reach Mexico, a distance of 700 miles of non-stop flying. Monarchs have landed on oilrig platforms, boats, and other structures in the Gulf, but it is not known if they “purposely” were trying to cross the Gulf or were blown out to sea by a storm. Regardless, few are likely to make that crossing safely. This possibility needs to be studied.

### **B. Apalachicola Reserve<sup>4</sup>:**

A more modest fall monarch migration tagging program has taken place since the year 2000 at Apalachicola Reserve, about 60 miles west of the tagging location at St. Marks NWR. It is conducted by the staff of the Apalachicola National Estuarine Research Reserve in cooperation with the Florida Fish and Wildlife Conservation Commission and St. Marks NWR. A total of 11,205 monarchs were tagged by this project in 12 years, with 4 recoveries in Mexico. This recovery rate is 0.035%, very similar to the 0.03% from St. Marks NWR tagging. Interestingly only one monarch caught at Apalachicola Reserve for tagging had been tagged at St. Marks NWR and only one had been tagged at Cape May, NJ.

*Continued on page 3.*

### Learn More

- Tropical milkweed (*A. curassavica*) is an exotic species that is found in many gardens. There is concern among scientists that the year-round presence of tropical milkweed in the southern US and parts of California could provide a reservoir for the monarch parasite *Ophryocystis elektroscirta* (OE) and encourage breeding out of season. A recent article in the New York Times highlights these concerns. You can read the article [here](#).
- A recent MJV update focused on the possibility of monarchs crossing the Gulf of Mexico and the importance of citizen scientists in tracking such movements. Check out the article [here](#).

<sup>1</sup>Do Monarch Butterflies Overwinter Along the Gulf Coast of Northern Florida? Final Report of the 2013 Monarch Overwintering Counts, Richard G. RuBino, August 2013.

<sup>2</sup>Ibid.

<sup>3</sup>Ibid.

<sup>4</sup>From as report “Apalachicola Reserve Monarch Tagging Activities (2000-2012) received from Lisa E. Bailey, Environmental Specialist at the Reserve.

<sup>5</sup>Monarch Tagging on St. Vincent Island National Wildlife Refuge, December 2011-January 2012, a report by Rae Ellen Syverson and Carl Wolfe.

## *Monarch Fall Migration and Overwintering in the Florida Panhandle continued*

### **II. Overwintering Citizen Science Projects:**

#### **A. St. Vincent Island National Wildlife Refuge<sup>5</sup>:**

Volunteers for the St. Vincent Island NWR tagged 361 monarchs on St. Vincent Island in December 2011-January 2012. By mid-January the number of monarchs declined, but some were observed mating. Two native milkweed species are documented for the island, but they die back in winter. To reproduce, monarchs would have to fly to the nearby mainland where they might encounter tropical milkweed (*Asclepias curassavica*) in residential areas.

#### **B. Survey of Overwintering Monarch Butterflies in the Florida Panhandle and Eastern Alabama Gulf Coast<sup>6</sup>:**

On March 2-15, 2012 my husband Russ Schipper and I conducted a survey for monarchs mainly within two miles of the coast of the Florida panhandle all the way to Alabama east of Mobile Bay. Of the 89 monarchs we counted, only 3 were found away from the coast. By far the greatest density was found on St. Vincent Island NWR, where we found 34 in just a few hours of driving and walking the island roads. Earlier in the winter 361 monarchs had been tagged there (see above).



Ilse Gebhard. Photo courtesy of Ilse Gebhard.

Despite considerable searching, we only found one almost leafless tropical milkweed (*Asclepias curassavica*) plant in a yard on which a late instar larva had been photographed in late December 2011, documenting reproduction in early winter.

#### **C. The Northern Florida Gulf Coast Monarch Overwintering Count<sup>7</sup>:**

In his report on the Northern Florida Gulf Coast Monarch Overwintering Count (GCMOC), Richard RuBino states that “for years monarchs have been seen along the northern coast of the Gulf of Mexico during January and February, but few attempts to document these sightings have been made. In recognition of this need, a count was undertaken in January and February 2013 to determine the degree of overwintering, if any, along the coast of the eastern end of the Florida Panhandle. The project focused on two questions: do monarch butterflies overwinter along the northern Gulf coast and does milkweed survive northern Gulf coast winters?... The study found both monarchs and milkweed across the entire length of a four-county coastal area...”; however, the survival and reproduction of monarchs in this area depends on people planting tropical milkweed (*Asclepias curassavica*) as native milkweeds die back in winter.

A total of 513 monarchs were documented by 53 volunteers in the GCMOC. All but one were found close to the coast, as expected. No clustering of adults was observed. Mating was observed and eggs, larvae, and pupae were found. Milkweeds were found at 7 locations, all on private property or tended public parks and except for one butterfly weed (*Asclepias tuberosa*) plant, all were tropical milkweed (*Asclepias curassavica*). This illustrates the role that tropical milkweed plays in winter breeding in the southern U.S.; to read about some concerns about winter breeding on continuously-available milkweed, see the New York Times article referenced in the box on page 2.

Coverage of the two easternmost counties (Wakulla and Franklin) was very good but only minimal in Gulf and Bay counties. Recruiting volunteers in the latter two counties will be a priority for the coming year. For information on participating in the GCMOC, contact Richard RuBino at [rrubino4@hotmail.com](mailto:rrubino4@hotmail.com).

<sup>6</sup>Poster Presentation at the Monarch Biology and Conservation Conference held at the University of Minnesota June 21-23, 2012 by Ilse Gebhard and Russ Schipper. <http://monarchjointventure.org/images/uploads/presentations/Gebhard.pdf>

<sup>7</sup>Do Monarch Butterflies Overwinter Along the Gulf Coast of Northern Florida? Final Report of the 2013 Monarch Overwintering Counts, Richard G. RuBino, August 2013.

## *We want to hear from you!*

Are you a butterfly citizen scientist with a story or a photo to share? Would you like to nominate a volunteer or program for recognition in the newsletter? Write to us at [monarchs@monarchjointventure.org](mailto:monarchs@monarchjointventure.org) with what you would like to see in the newsletter.

Help us spread the word. Send this newsletter to friends who may be interested, and encourage them to “Get Updates” under News & Events on the MJV website at [monarchjointventure.org/news-events/get-updates](http://monarchjointventure.org/news-events/get-updates).