

# Northern Florida Gulf Coast Monarch Over- Wintering Count



By Roy DuVerger

The intent of this project — the Northern Florida Gulf Coast Monarch Overwintering Count — was to collect data essential to shedding some light on these six questions. Do fall migrating monarchs, which are late November or maybe even early December arrivals at the northern shore of the Gulf, stop there and attempt to survive the winter? Do they go into diapause? Or do they continue their warm weather life pattern, mate, and lay eggs to create another generation of monarchs? Can that new generation of monarchs survive January and February weather along the northern Gulf coast? Will there be milkweed plants to sustain a new generation or two of monarchs? And if so, where?

Data collection occurred during the months of January and February over a three year period starting in 2013. During the first year of the count 513 monarchs were seen with 91% being in excellent to good condition. During the next two years the number of sightings and conditions remained fairly stable with more than 600 sightings recorded in 2015, with 445 of those occurring in January. All of these sightings were on approximately 125 miles of coast along with some scattered inland sightings.

Also due to the amount of observed mating and the apparently fresh condition of most of the monarchs counted, it might be safe to assume that the overwintering monarchs were not in diapause.

This assumption was supported by personal observations such as the 5th Instar caterpillar we found feeding in January

Further supported by personal observations such as this female laying eggs in mid-February.



## Milkweed

What was somewhat surprising, however, is that milkweed was surviving the winter. As might be expected, the milkweed was *asclepias curassavica* (called tropical or scarlet milkweed), and in almost every instance it was found on private property or tended public gardens, not in the wild. The only exception to *A. curassavica* was one *A. tuberosa* (butterfly weed) plant. No other native milkweed varieties other than *A. tuberosa* were found in the coastal area during January and February. Relying on *A. curassavica* for overwintering raises the interesting, yet debatable issue of monarchs being dependent on mankind to survive winters along the coast of the Florida panhandle.

## Overview

Based on the data collected and personal observations during this three year period it was obvious that monarch butterflies were indeed overwintering along the Florida Gulf coast. Even during those times when the temperature dropped below freezing and we lost the larvae and chrysalides, the butterflies themselves did not seem to be affected as the numbers rebounded once the warmer weather returned.

It was also interesting to see that it appears these are not super monarchs that ordinarily fly to Mexico but had "changed their minds," due to the amount of mating, larvae and eggs found during our time in the field. This theory is further supported by the number of sightings that have been talked about years before this count was carried out.

Their dependence on milkweed and the lack of native milkweed brings to light another subject of importance. The current obsession with killing everything non-native without doing any form of research to see what the effects of that action may be. It is the root of the moral panic over exotics, that highlights humans' inability to move beyond treating other life forms with domination and contempt.

As with the migrating monarchs whose numbers have declined by more than 80 percent since the mid-1990s, if we were to remove all the *A. curassavica* from the Gulf coast it would result in the death of an unknown number of over-wintering monarchs and add to an already dangerous situation regarding their ability to avoid extinction.

Research by Jaap de Roode's lab at Emory University confirmed that butterflies infected by OE tend to prefer the tropical milkweed even more than usual. However, they also found tropical milkweed to be "medicinal" in terms

of improving parasite resistance, suggesting that they are self-medicating their offspring. In the final analysis they determined the effect is certainly real.

These findings by Japp de Roode's lab demand that we do further research in this area. Because if these findings are correct then we have been taking the wrong course of action regarding the removal of *A. curassavica* from our gardens, and may actually be making the parasite problem worse rather than better.

## Future

It is our hope to be able to organize another count in the same area to compare what has transpired over a soon to be 10 year period, to document the profound effects climate change is having on our monarch butterflies and their environment, and to see if we have been able to find a way to move toward fostering a relationship with our environment rooted in compassion and justice.

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The Northern Florida Gulf Coast Monarch Overwintering Count was the consequence of a coalescence of interest by three individuals: Richard G. RuBino (professor emeritus of regional planning at Florida State University and manager of the study), Karen Oberhauser (professor and director of Graduate Studies in Conservation Biology at the University of Minnesota) and Ilse Gebhard (a highly motivated monarch citizen-scientist from Michigan).

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