

# Nectar News



Official Newsletter of the  
**Southeast Michigan Butterfly Association**  
March 2014

## All About Monarchs

### Mission Statement:

*It is our mission to share our knowledge to educate people about Lepidoptera and their habitats, to instill and foster a passion for nature in others, and to establish and preserve the environment for butterflies, skippers and moths.*

### All About Monarchs

*Order: Lepidoptera  
Family: Brushfoots*

What are the *Brushfoot* Butterflies?

These are small to large butterflies. This family has more species than any other. All of this family has reduced forelegs that are covered with short hairs. They look like a bottle brush, hence the name, brushfoots. Most of the time, the chrysalis of this family hangs downward from a silk pad.

Males are quite often territorial and aggressive. Monarchs are in this Family.

Other *Brushfoots* are American Lady, Baltimore Checkerspot, Common Buckeye, Common Wood Nymph, Eastern Comma, Great Spangled Fritillary, Gulf Fritillary, Julia Heliconian, Mourning Cloak, Painted Lady, Pearl Crescent, Queen, Question Mark, Red Admiral, Red -Spotted Purple, Viceroy, Zebra Heliconian.

*Excerpt from 'Learn About Butterflies in the Garden', By Brenda Dziedzic*

### Fun Fact

Antarctica is the only continent on which no Lepidoptera have been found!

### 2014 Board Members

- **President:** Carolyn Sohoza
- **Vice President:** Brendon Weil
- **Secretary:** Diana McCormick
- **Treasurer:** Carolyn Sohoza
- **Communications Director:** Monica McCormick
- **Event Committee Chair:** Becky Paulson
- **Habitat Committee Chair:** Kathy Bey and Karen Jewell
- **Past President**—Brenda Dziedzic
- **Membership Committee Chair:** Karen Jewell

## In This Issue



### Brushfoots

### Mission Statement

### 2014 Board Updated

### Self-Medication in Monarchs

### Monarch Watch

### Reminders

### Monarch Colonies Graph





# Self Medication in Monarchs

By Diana McCormick

Our February meeting was a lecture on "Self-medication in Monarchs: plants as sources of medicines for foraging animals" by Mark Hunter, a Professor of Ecology and Evolutionary Biology at the University of Michigan. He studied at the University of Oxford, UK where he received his PhD in Community Ecology.

Professor Hunter discussed the ability of animals to self medicate through the medicinal properties of native plants. "What does he mean by self medicate" you might ask. How do the monarchs know they are infected. Well there is a parasite out there in the world called *Ophryocystis Elektroscirrha*, (O.E.) protozoan parasite. Its in a category similar to the malaria disease. The O.E. spores effect the life of a monarch. They can be found on the leaves of milkweed plants, eggs, and the butterfly itself.

Monarch moms know if they are infected with O.E. and increase their offspring's fitness by preferentially laying their eggs on high - cardenolide milkweed. Cardenolide is their medicine. This is a neurotoxin, a chemical that is toxic to the O.E. parasite. It can cause cardiac arrest in high amounts in humans and other animals (dogs/cats). So the newly hatched monarch caterpillar that has an O.E. parasite, survives because of the medicine (cardenolide) it eats in the milkweed.

The different types of 'milkweed' have varying amounts of cardeno-

lides in them. 'Tropical' milkweed has higher amounts then the 'Common' or 'Swamp' milkweed. An O.E. parasite -infected mother monarch will lay her eggs on the Tropical milkweed that will help protect her offspring from the disease if given a choice between Tropical and Common milkweed.

How does she know which milkweed has higher concentrations of the medicine she needs? This is what Professor Hunter is researching along with colleague Jacobus de Roode in a study published April 2013 in the Science Journal. "Self-Medication in Animals". Other examples he gave was how birds used a cigarette butt in their nests to keep mites away, and female fruit flies lay their eggs on 'fruit higher in alcohol' if a parasite is suspected.

Professor Hunter is studying animal medication that may lead the way in discovering new drugs for humans.

## Why The Decline in Monarchs

Key Contributing Factors:

**Loss of Habitat** – both breeding and overwintering.

**GMO Crops** – big concern.

**Climate Change** - increasing CO2 and other greenhouse gases, increasing temperatures, increasing moisture in the atmosphere, and more intermittent rainfall/frequent droughts.

Below is a list of the different types of milkweed with different amounts of Cardenolide in them from Mark Hunter's research.

species	Cardenolide (mg/g)		
tuberosa	0.004170147	Butterfly Weed	MI - native
fascicularis	0.018372852	Narrowleaf Milkweed	
verticillata	0.021662409	Whorled Milkweed	MI - native
purpurascens	0.04790275	Purple Milkweed	MI - native
incarnata	0.051820588	Swamp Milkweed	MI - native
speciosa	0.192794394	Showy Milkweed	MI - native
syriaca	0.370894586	Common Milkweed	MI - native
eriocarpa	0.695109063	Woollypod Milkweed	
curassavica	0.867703059	Tropical Milkweed	
sullivantii	1.048871333	Sullivant's Milkweed	MI - native
erosa	1.448095625	Desert Milkweed	
physocarpa	3.005173722	Balloonplant	





## Monarch Watch

### Monarch Waystation Certification Requirements:

Monarch Watch is a nonprofit educational outreach program based at the University of Kansas that focuses on the Monarch butterflies, its habitat, and its spectacular fall migration. If you would like to certify your monarch habitat and help support Monarch Watch's conservation efforts, there is a \$16 non-refundable application fee. Sign is \$17. Application and sign bundle is \$33 purchased all at once. Requirements:

**Size**— No minimum area requirement, however a truly effective Monarch Waystation will be at least 100 square feet. The total area may be split among several sites at your location.

**Exposure**— At least 6 hours of sun a day.

**Plants, Drainage, and Soil Type** are other interesting considerations for the Waystation.

More information at:

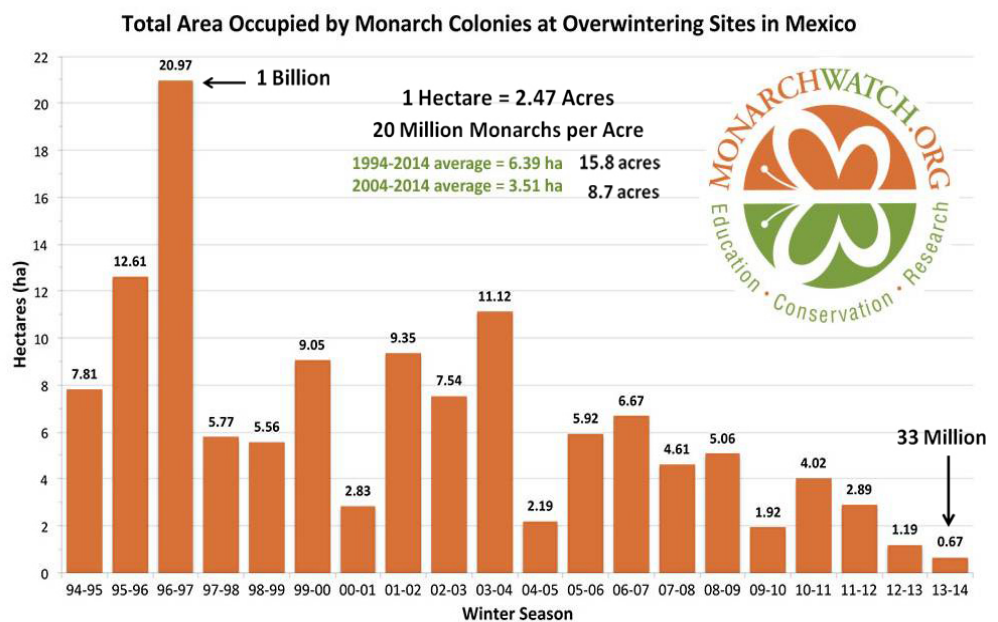
[Monarchwatch.org](http://Monarchwatch.org)



## Reminders

- Please email SEMBA by April 13, your **2013** number of butterflies raised and released. [semba@sembabutterfly.com](mailto:semba@sembabutterfly.com)
- Westland Library May 9th, Preschool reading and Brenda's Butterfly Skit /crafts.
- Wayne Library May 14th, 7p.m. John Blair: Butterfly Gardening.
- Butterfly Photography Contest for an upcoming new calendar for 2015 that SEMBA will be selling! Members will be able to submit pictures of butterflies for the contest! Details coming soon!
- April kicks off the 2014 SEMBA Rearing, Sighting and Nectar plant survey season. Look for more information at the beginning of each meeting, as well as via ongoing email distributions, website announcements and Facebook posts. We look forward to your participation. If you have questions, please contact Brendon Weil at [bweil04@yahoo.com](mailto:bweil04@yahoo.com)

Below is a graph showing the decline in Monarch numbers.



Data for 1994-2003 collected by personnel of the Monarch Butterfly Biosphere Reserve (MBBR) of the National Commission of Natural Protected Areas (CONANP) in Mexico. Data for 2003-2013 collected by World Wildlife Fund Mexico in coordination with the Directorate of the MBBR.

.67 hectares = 1.65 acres

An acre is roughly equal to an American Football field without the end zones.

# Calendar of Upcoming Events

## March 2014

### Award 5 Year Pins

*19th, Meeting, 7:00 p.m. Nankin Mills*  
 "The Fascinating Lives of Butterflies and Moths" by Brenda Dziedzic, Author and SEMBA Co-founder. Explore the lives of butterflies and moths as Brenda takes you on a journey of their life cycle. See some of the dangers they encounter and how to protect them by raising them inside.

Brendon Weil, Vice President will introduce the new SEMBA - Rearing, Sighting and Nectar plant surveys and survey process for 2014.

## April 2014

### Grant Awards Announced

*16th, Meeting, 7:00 p.m. Nankin Mills*  
 "Garden Design" with Carolyn Sohoza; SEMBA President. Carolyn will discuss ways to begin, expand, and enhance gardens to attract wildlife, especially butterflies to your garden.

Brendon Weil, Vice President will introduce the new SEMBA - Rearing, Sighting and Nectar plant surveys and survey process for 2014.

## April 2014

*19th, 1:00 p.m. Michigan Science Center*  
 Brenda Dziedzic will be speaking at the Monarch Butterfly Exhibit, "Attracting Butterflies to Your Garden". There is a fee to get into the MSC.

## May 2014

*21st, Meeting, 7:00 p.m. Nankin Mills*  
 "Good Bug, Bad Bug" with Kristine Hahn. Kristine will help you identify the good (beneficial) and the bad (detrimental) insects in your garden.

## June 2014

*18th, Meeting 7:00 p.m. Nankin Mills*  
 Native Plant Sale, with Chad Hughson from Hidden Savannah.



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SEMBA Membership is \$15  
 per person and \$.50 addi-  
 tional family members.

Mailing Address Label