TEXAS MASTER GARDENER
TEXAS A&M AGRILIFE EXTENSION
Bastrop County

What's Growing On?

BASTROP COUNTY MASTER GARDENER ASSOCIATION

April 2024

Mountain Laurel Mirid

By Wizzie Brown

Mountain laurel mirids, *Lopidea major*, are relatively small insects that reach a little over ¼ inch as adults. Nymphs, or immatures, look like adults, but don't have fully developed wings and are smaller in size. These mirids are a type of plant bug that is red and black in color. Bodies and front part of the wings are red while the head, antennae, legs, and back part of the wings are black.

They have piercing-sucking mouthparts and use them to puncture foliage of plants. Feeding can lead to deformation of leaves, but doesn't cause long term damage to the tree, so treatment is optional.

An easy way to decrease populations is to spray the tree with a jet of water. It probably won't eradicate the population, but it can help to decrease it while conserving the beneficial insect population. If plant size allows, mirids can be hand-picked and either smashed or dropped in a bucket of soapy water or you can tap them into a jar with rubbing alcohol or soapy water. If you want to look at pesticidal options, look at insecticidal soap, horticultural oils, or botanicals. When using any pesticide product, be sure to read and follow all label instructions.

For more information or help with identification, contact Wizzie Brown, Texas A&M AgriLife Extension Service Program Specialist at ebrown@ag.tamu.edu.

This work is supported in part by the Crop Protection and Pest Management, Extension Implementation Program [award no. 2021- 70006-35347/project accession no. 1027036] from the United States Department of Agriculture (USDA) National Institute of Food and Agriculture.

TEXAS A&M AGRILIFE EXTENSION

Inside this issue:

Is the Monarch Population Decline Overstated?

By Howard Nemerov

[No matter what, we should still strive to enhance our gardens to help all pollinators.]

Monarch Watch recently published their updated graph showing the annual estimated Monarch winter population in Mexico, announcing a decline of almost 60% from 2023. There's some truth and some missing data.

Monarch Watch labels their graph "Total Area Occupied by Monarch Colonies at Overwintering Sites in Mexico."[1] Based on this survey, articles announce whether the Monarch population has grown or declined from year to year. For example, World Wildlife Fund, published an article entitled "Eastern migratory monarch butterfly populations decrease by 59% in 2024," using the survey as "a scientific indicator of their population status."[2]

But this annual survey only examines Monarchs within the Monarch Butterfly Biosphere Reserve (MBBR). In 2020, researchers reported:

> *"Although almost all monarch butterflies that overwinter in Mexico are contained within the limits of the MBBR, some overwintering monarchs have been found beyond the protected areas. Within the past ten years, new monarch butterfly colonies have been registered outside of the regular wintering distribution…"*[3]

This means not all over-wintering Monarch populations get included in the Monarch Watch graph, and there's no tracking to determine if these other colonies change in size over time, or if new colonies have formed. This casts some doubt on the validity of relying solely upon that graph as the final say in Monarch population stability: It remains a useful indicator, but not the *only* one.

Research published in 2023 shows that the Monarch population is stable. Researchers found "no evidence for a reduction in the effective population sizes of the monarchs or milkweed over the past 75 years" despite the onset of "industrial agriculture" in 1945.[4]

The Xerces Society began hosting Monarch butterfly counts in 1975, and the North American Butterfly Association took over the program in 1992, employing trained citizen science groups to count Monarch butterfly appearances per hour from sites across the country.[5] Accessing these counts, re-

(*Continued on page 3*)

New Website Features

Check out our website, which features project slideshows, a new photo gallery section, and an events calendar to check out upcoming activities. Find news articles and our newsletters. Thanks to Dave Posh for keeping the info timely for us https://txmg.org/bastropcounty/

(*Continued from page 2)*

searchers found that population fluctuations were common among Monarchs and other butterfly species. They also found that "weather perturbations" affect Monarchs by impacting the migration and reproductive success.[6]

Chip Taylor, founder of Monarch Watch, concurs:

> *"The ups and downs through these years [1994–2000] can all be attributed to weather and not loss of habitat. These and other examples, make it clear that monarch numbers are largely driven by weather irrespective of the amount of habitat available."*[7]

Remember that the migration flies through Texas in both spring and fall. Conditions that help the migration include sufficient rainfall and moderate temperatures. Exceptional heat and drought of the last two summers likewise reduced Monarch's success of making it to their overwintering sites by reducing nectar-producing forage to refuel on the way to Mexico.

Other research has also found that Monarch observation rates were lower prior to the early 1990s. While not exact matches in terms of methods, when paired with the Monarch Watch graph which reports Monarch areal coverage within one over-wintering site, it suggests the possibility that the early 1990s were exceptional years.[8]

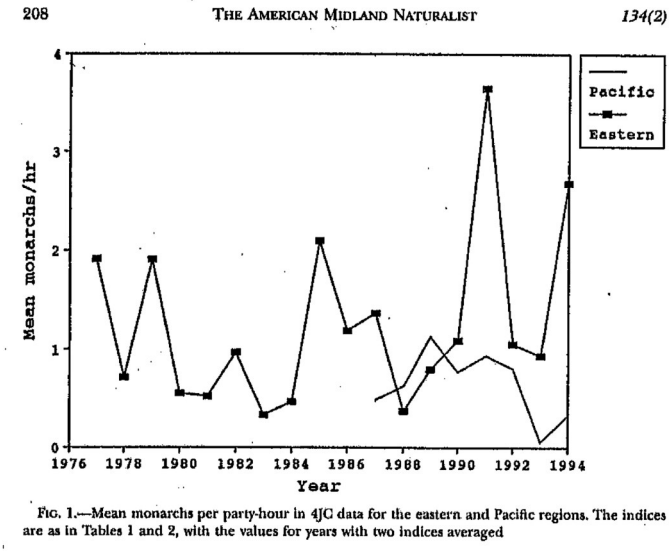
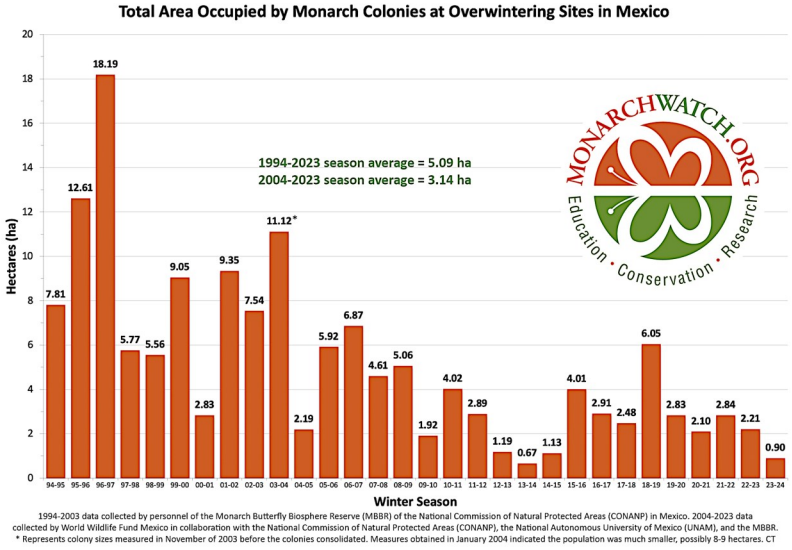


FIG. 1.—Mean monarchs per party-hour in 4JC data for the eastern and Pacific regions. The indices are as in Tables 1 and 2, with the values for years with two indices averaged



Other researchers examined historical North American Butterfly Association Monarch counts and found "an overall annual increase in monarch relative abundance of 1.36% per year" and concluded this data "is not showing strong evidence of widespread declines."

> *"These NABA data are broad in scope, collectively recording 135,705 monarchs at 403 sites across North America, over time periods of 10–26 years from 1993 to 2018."*[9]

(*Continued on page 4)*

Volunteering

Master Gardeners volunteer in the community to teach others about horticulture. We follow the research-based recommendations of Texas A&M AgriLife Extension. Members who complete 50 hours of volunteer service in the year after training earn the designation "Texas Master Gardener." We use our title only when engaged in Texas A&M AgriLife Extension activities.

(*Continued from page 3)*

All this being said, there are still many reasons to continue to "garden for Monarchs."

1) Central Texas is part of the migration flyway both spring and fall. Pollinator gardens that provide nectar to fuel the migration also help local pollinator species that are "Species of Greatest Conservation Need."[10]

2) Development has destroyed native foraging range including native milkweeds and nectar plants. Even if homeowners do nothing more than plant some nectar-producing flowers, they are still contributing to the restoration of the flyway's integrity.

3) Replacing lawn grass with pollinator gardens and pocket prairies reduces resource consumption and helps recharge aquifers while restoring native forage for all pollinators.

What's good for Monarchs is good for all of us!

Endnotes

[1] "Monarch Population Status." Monarch Watch, February 7, 2024. Accessed April 18, 2024. https://monarchwatch.org/blog/2024/02/07/monarch-population-status-52/
[2] "Eastern migratory monarch butterfly populations decrease by 59% in 2024." World Wildlife Fund, February 7, 2024. Accessed April 20, 2024. https://www.worldwildlife.org/stories/eastern-migratory-monarch-butterfly-populations-decrease-by-59-in-2024
[3] Pérez-Miranda, Ramiro; Arriola-Padilla, Victor Javier; and Romero-Sanchez, Martin Enrique. "Characterizing New Wintering Sites for Monarch Butterfly Colonies in Sierra Nevada, Mexico." *Insects*, 2020, Volume 11, Issue 6, June 21, 2020. https://www.mdpi.com/2075-4450/11/6/384
[4] Boyle JH, Strickler S et al. "Temporal matches between monarch butterfly and milkweed population changes over the past 25,000 years." *Current Biology*. 2023 Sep 11;33(17):3702-3710.e5. Accessed October 17, 2023. https://www.biorxiv.org/content/biorxiv/early/2022/02/28/2022.02.25.481796.full.pdf
[5] North American Butterfly Association. Accessed April 18, 2024. https://www.thebutterflynetwork.org/program/north-american-butterfly-association
[6] Swengel, Ann. "Population Fluctuations of the Monarch (Danaus plexippus) in the 4th of July Butterfly Count 1977-1994." *The American Midland Naturalist*, 134(2):205 (1995). https://www.researchgate.net/publication/270318136_Population_Fluctuations_of_the_Monarch_Danaus_plexippus_in_the_4th_of_July_Butterfly_Count_1977-1994
[7] Taylor, Chip. "Is the eastern monarch population continuing to decline?" Monarch Watch, March 29, 2024. Accessed April 16, 2024. https://monarchwatch.org/blog/2024/03/29/is-the-eastern-monarch-population-continuing-to-decline/
[8] "Monarch Population Status." Monarch Watch, February 7, 2024. Accessed April 18, 2024. https://monarchwatch.org/blog/2024/02/07/monarch-population-status-52/
[9] Crossley, Michael S. et al. "Opposing global change drivers counterbalance trends in breeding North American monarch butterflies." Global Change Biology, Volume 28, Issue 15, August 2022, pages 4726-4735. https://onlinelibrary.wiley.com/doi/10.1111/gcb.16282
[10] "Texas Monarch and Native Pollinator Conservation Plan." Texas Parks & Wildlife, April 2016. https://tpwd.texas.gov/publications/pwdpubs/media/pwd_rp_w7000_2070.pdf

TEXAS MASTER GARDENER
TEXAS A&M AGRILIFE EXTENSION
Bastrop County