

MILBERT'S TORTOISESHELL



(1) Milbert's Tortoiseshell, *Nymphalis milberti*,
On *Buddleja davidii* 'Black Knight' © Dick Harlow

I have to apologize! This butterfly picture was taken in October, but I had already set up my October 'Nature Notes'. I was so excited to see and get a picture of one of these unusual, scarce to see butterflies in the Fall; I felt I had to take the chance my readers would enjoy the note, understanding that this fellow is not seen in November.

By looking at (1) the closed wings of this butterfly you wouldn't think it is the same butterfly as (2), but it is. This Milbert's Tortoiseshell, *Nymphalis milberti*, is fairly non-descript with its dark outer wing and a shaded lighter band. Watching it fly from flower to flower doesn't give any indications of its beauty, if beauty is visualized in the color of its outer wings. But color is obvious when this beauty opens its wings and you get to see (2) the beautiful oranges, yellows, blacks and browns that unfold before your eyes.

There are no similar species that could be confused with this beauty. It is relatively small, about the size of a Cabbage White or American Lady we see during the Summer and Fall. However, its dark coloration makes it look slightly smaller.

This fellow is a semi-northern butterfly that is extending its range. It was once thought to occur only between southern Maine to Virginia and north to the Berkshires of Massachusetts. But now we have this fellow in mid-Vermont, New York, parts of Canada south to the Carolinas.



(2) Milbert's Tortoiseshell, *Nymphalis milberti*,
On *Aster novae-angliae*, © Dick Harlow

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By Dick Harlow

We are fortunate to see this butterfly here at EastView because its habitat are fields and wet meadows near woods. As long as it can find Nettles, *Urtica* species, we should have its company for some time.

Looking through field guides you will see comments about flight periods. All I can say is that I have taken images of this species in June, September and October, so it is evident that this butterfly can be found in early summer to early fall.

AUTUMN COLOR

Remembering High School biology, all plants have color and most deciduous plants have the color green. During autumn this green color changes to shades of reds, oranges, yellows even to purple or magenta eventually turning to brown.



Young Oak Tree, *Quercus sp.*, red pigments, © Dick Harlow

The green color in leaves is called chlorophyll, a green pigment, that is responsible for absorbing sunlight. The sunlight energy then transforms carbon dioxide and water into food, such as carbohydrates and sugars and in the process releases oxygen. Thus, plants are self-sustaining and in the process provide us with oxygen that we vitally need.

However, plants also have other pigments in their leaves that are over-shadowed by chlorophyll. One wouldn't think that the color green could mask reds and yellows, but in fact it does.

As the day length shortens thus shortening the length of sunlight and the outside temperature decreases, chlorophyll in plants begins to stop making food. As this process continues, photosynthesis and the chlorophyll pigment breaks down, we begin to see color develop in the leaf. This chemical process happening before our eyes causes the xanthophyll (yellow), carotene (orange) and anthocyanin (red) pigments to materialize and throw various shades and brilliance to the plants they occupy and to our landscape.

There are some plants and trees that will only show yellow like Poplar trees as fall progresses. Others will show the deep reds of Red Maple, Oak and Sumac or the beauty of brilliant oranges that the leaves of Sugar Maple show. It is a beautiful time of year when autumn foliage is dependent on the climate and the weather fronts during that season.

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Sugar Maple, *Acer saccharum*. orange and red pigments © Dick Harlow

This October in Vermont was the warmest October on record! I think this is a very appropriate article for this time of year and feel my readers will find it interesting.

**CLIMATE WARNING
NORTHEAST TO WARM SOONER THAN THE REST OF THE UNITED STATES
EXCEPT ALASKA.**

By David Abel GLOBE STAFF JANUARY 13, 2017

Temperatures in Northeastern states are expected to increase 2°C (3.6°F) above pre-industrial levels sooner than the rest of the United States and the world.

New England is likely to experience significantly greater warming over the next decade, and beyond, than the rest of the planet, according to new findings by climate scientists at the University of Massachusetts Amherst.

The region's temperatures are projected to rise by an average of 3.6 degrees Fahrenheit above pre-industrial levels by 2025, according to the study, published this week in PLOS One, a journal published by the Public Library of Science.

The scientists found that the Northeast is warming more rapidly than any other part of the country except Alaska — and that the 3.6 degrees Fahrenheit rise in the region is likely to come two decades before the rest of the world gets to that point.

"I tell my students that they're going to be able to tell their children, 'I remember when it used to snow in Boston,'" said Ray Bradley, an author of the study and director of the Climate System Research Center at the University of Massachusetts. "We'll have occasional snow, but we won't have weeks and weeks of snow on the ground."

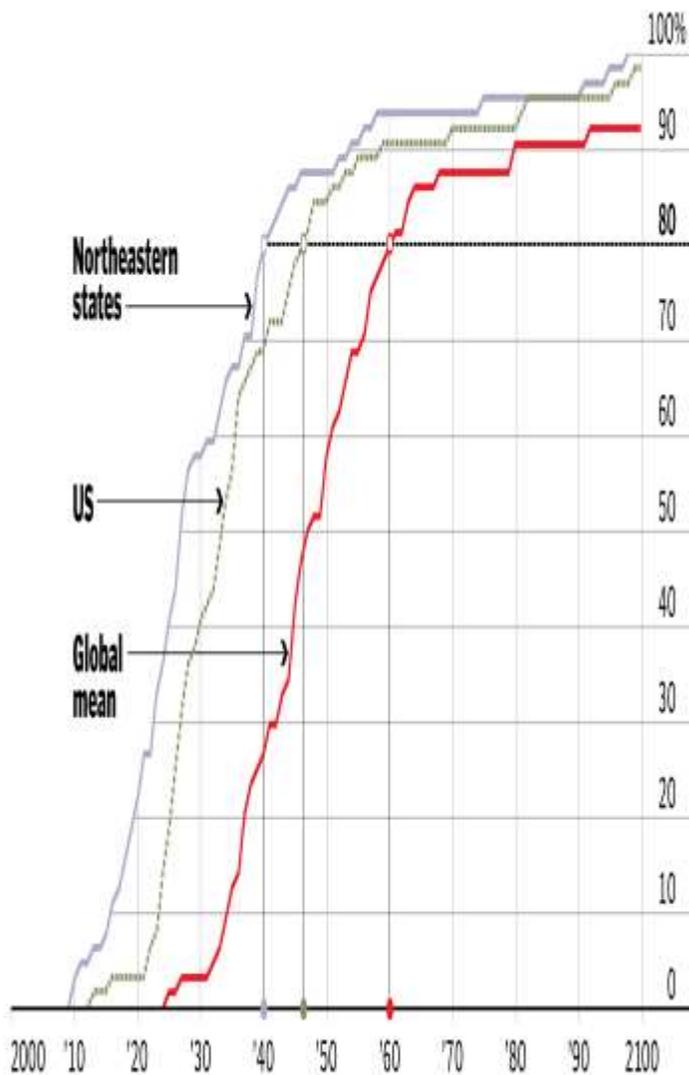
The authors' findings, based on 32 different computer models for how climate change will unfold, also show that the Northeast is likely to experience increasingly wet winters and more flooding,

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while the Great Plains and the Northwest will see drier summers and more prolonged droughts.

Scientists have called on policy makers around the world to reduce carbon emissions in hopes of limiting global warming to 3.6 degrees, or 2 degrees Celsius, a threshold considered critical to avoiding a catastrophic rise in sea levels and other major damage attributed to climate change.



SOURCE: Northeast Climate Science Center, UMass Amherst JAMES ABUNDIS / GLOBE STAFF

The above graph is an average of 32 Climate Model Simulations. 80 percent of all models indicate reaching 2°C in these years.

Temperatures in the Northeast have already risen faster than global averages. Since 1895, Massachusetts has warmed by an average of 1.3 degrees Celsius, compared with 1 degree globally. Global temperatures tend to be lower than specific temperatures on land, however, as they include ocean temperatures, which rise more slowly.

That disparity will rapidly accelerate in the coming years for a combination of reasons, including the region's relatively high latitude, its position relative to the prevailing winds that blow west across the United States, and the drastic rise in temperatures in the Gulf of Maine, which has warmed faster than nearly any other body of water on the planet, the authors concluded.

How quickly the region warms will depend on how fast carbon emissions are reduced, they said.

More drastic action to reduce the use of coal, oil, and other fossil fuels, as called for by the 2015 climate accord signed in Paris, could slow the pace.

In the study, the authors noted that the 2-degree Celsius threshold is an arbitrary means of assessing risk.

"There is no real scientific basis to why global warming of 2 degrees C should be considered 'safe,'" they wrote, noting that "it emerged as 'the least unattractive course of action' and has been used as an easily understood, politically useful marker to communicate the urgency of the climate change problem."

David Abel can be reached at dabel@globe.com. Follow him on Twitter @davabel.

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OBSERVATIONS

MAMMALS

Coyote – howling at night
Meadow Vole – one digging tunnels

Weather Tidbits

Month of NOVEMBER 1-14, 2017

[All Measurements taken at solar noon \(1230 EST\).](#)

PRECIPITATION

Total Precipitation: 19.2 mm or 0.76 inches

Overcast Days: 5