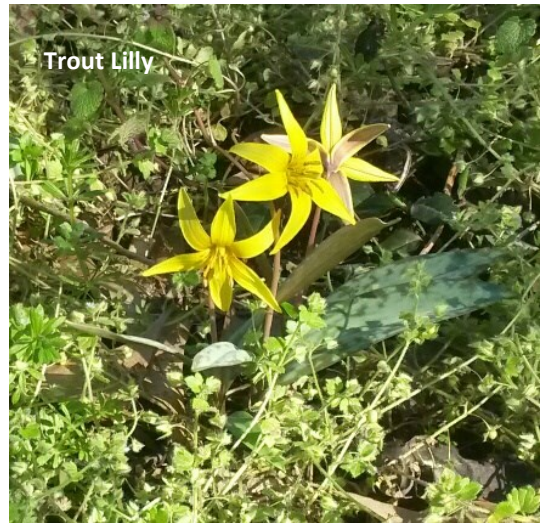


# On The Wing

*Newsletter of the Tennessee Valley Chapter  
North American Butterfly Association*

**May 2018      Volume 11, Number 3**

*Editor, Bill Haley, wgh@tnaqua.org*



## **BUTTERFLY COUNTS. COME PREPARED!**

While spring counts may be a bit chilly, summertime can be brutally hot! A wide-brimmed hat, sunblock, and maybe even lightweight long-sleeved shirts to keep the sun off are good on sunny days. Long pants are advised, even with hot temperatures. They keep your legs from getting scratched, and can be tucked into socks to help protect from chiggers, ticks and poison ivy. Bug spray might help too. Please wear comfortable close-toed shoes (not sandals or crocs), as we may walk through muddy areas, tall grasses, poison ivy and briars. Bring close focusing binoculars if you have them. It is helpful to have binoculars to see butterflies well enough to make identifications without crowding them. You may wish to bring a butterfly field guide if you have one.

Always bring a cooler with snacks/sandwiches that can be eaten during travel time from one area to another. Bring plenty of water or other drinks. One bottle of water is not enough for a full day in the field! Bring several. Staying hydrated is very important!

You do not have to stay the whole day, and are free to leave at any time. All participants must pay a \$3.00 fee, which goes to NABA to defray their publication expenses. This applies even if you can't go all day.

You can drive your own vehicle, especially if you plan to leave mid-day. You may also ride with other counters if you wish. This is recommended, as some of our stops do not have room for more than 3-4 cars to park.



*If you enjoy butterfly photography, you will have numerous opportunities on a NABA butterfly count. In this shot, Libby Wolfe was taking pictures of Monarch caterpillars on orange milkweed.*

## **May Butterfly Counts:**

### **Friday, May 4: Soddy-Daisy, TN**

**Meet: 10:00, Daisy United Methodist Church, 9508 Old Dayton Pike, Soddy-Daisy.**

**Leader: Bill Haley, (423) 326-9248, wgh@tnaqua.org**

**DIRECTIONS: From Chattanooga, take Hwy. 27 North and get off at the Harrison Lane exit, turn left and when Harrison Lane T's into Dayton Pike, turn right. Church is at top of next hill on the right.**

Will we succeed in finding the elusive Gorgone Checkerspot, a prairie butterfly with a disjunct population that we documented a few years ago on Soddy and Bakewell Mountains? We found them for several years, but the habitat changed and they have been absent the past few counts. This spring count was scheduled to coincide with the historical peak of the Gorgone's flight season in our area. Come help look for it.

### ***Rescheduled from April 14!!!***

### **Thursday, May 17:**

### **Lookout Mountain, GA**

**Meet: 10:00, International Towing and Recovery Museum on Broad Street. Take Broad Street south towards Lookout Mountain. Museum is on right.**

**Leader: Bill Haley, (see contact info above).**

This count was cancelled on April 14 due to weather forecasts of an 80-100% chance of showers and thunderstorms. Hopefully we'll experience much better weather this time around! We often find some really nice butterflies in this count circle, which includes areas in the valley, as well as atop Lookout Mountain. Plan to join us and don't worry if you aren't an expert at butterfly identification. Someone with you will be.



## Tennessee River Gorge Spring Count Totals

The Tennessee River Gorge spring count was conducted Thursday, April 5, which just happened to coincide with the arrival of “dogwood winter”. It was sunny, but a little chilly, with temperatures ranging from 45-65 degrees. Mike O’Brien, Libby Wolfe, Harold Birch, Tommie Rogers, Judee Spicer, Dave Spicer and Bill Haley put in a combined 15 hours of count effort and 3 miles walked. Butterfly diversity was low, but they managed to find 12 species and 187 individuals. Notable numbers of West Virginia White and Sleepy Duskywing! Look for photos from the count throughout the newsletter.

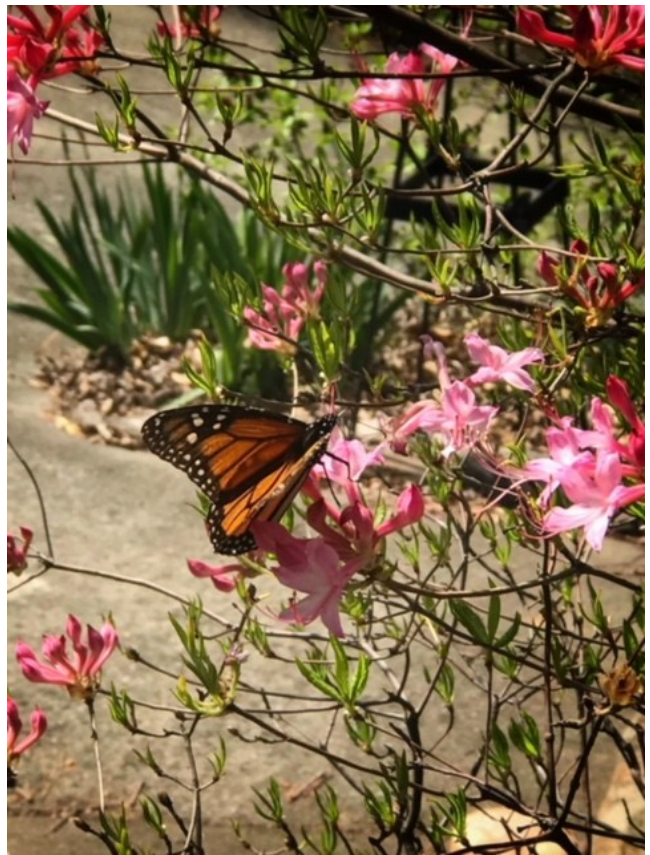
**Species and Individuals:** Zebra Swallowtail 4, E. Tiger Sw. 12, West Virginia White 17, Falcate Orangetip 1, Red-banded Hairstreak 2, E. Tailed-Blue 4, Spring Azure 4, Pearl Crescent 4, Red Admiral 3, Monarch 1, Sleepy Duskywing 9, Juvenal’s Duskywing 106, dark sw. sp. 2, duskywing sp. 20. **Total: 12 species, 187 individuals**

**Spring wildflowers,** like the blue phlox to the right, are always abundant in the Tennessee River Gorge. On April 5 counters were treated to lots of blooming phacelia, wild geranium, foam-flower, stonecrop, fire pink, spurred violet and more!

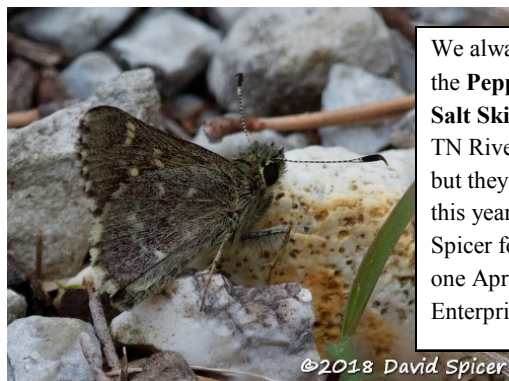


Photo by  
Mike  
O'Brien

**Hoodies and jackets tell the story.** It was *cool* during the Tennessee River Gorge count on April 5. Pictured left to right: Harold Birch, Libby Wolfe and Bill Haley on River Canyon Road in the gorge.



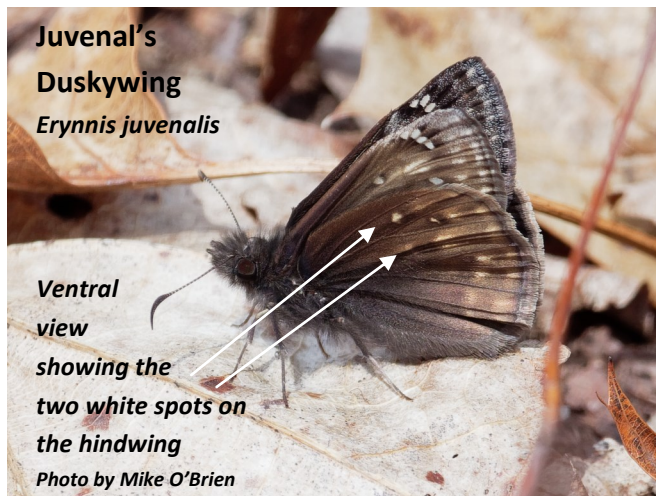
**Spring Migrant:** A few northward-bound **Monarchs**, *Danaus plexippus*, were seen in April. Tommie Rogers counted the first Monarch of the spring during the Tennessee River Gorge count on April 5 at the Tennessee River Gardens. She reported it was nectaring on dandelion blooms. The one above is utilizing native azalea blooms and it was photographed on April 12 by Mike O’Brien at his home in Valley Head, Alabama. David Spicer found one at Enterprise South on April 14, also nectaring on dandelion. Due to the unseasonably cool weather the first half of April, not many milkweed plants were up yet. Bill Haley spotted the first orange butterfly weed and common milkweed sprouts in his North Chattanooga yard on Sunday, April 15.



We always hope for the **Pepper and Salt Skipper** in the TN River Gorge, but they eluded us this year. Dave Spicer found this one April 14 at Enterprise South.

©2018 David Spicer





**Two duskywing species.** The distinctive field mark for Juvenal's is the two small spots on the hindwing. Most of the duskywings found on the River Gorge count were the spring-flying Juvenal's.



### 2018 Butterfly Counts

Thurs., April 5: TN River Gorge, TN (spring)  
 Sat., April 14: Lookout Mtn., GA (spring)  
 Fri., May 4: Soddy-Daisy, TN (spring)  
 Sat., June 2: TN River Gorge, TN (summer)  
 Sat., June 9: Soddy-Daisy, TN (summer)  
 Sat., June 16: Williamsburg, KY (summer)  
 Sat., June 30: Lookout Mtn., GA (summer)  
 Thurs., July 12: Stevenson, AL (summer)  
 Sat., Aug. 4: TN River Gorge, TN (fall)  
 Thurs., Aug. 16: Soddy-Daisy, TN (fall)  
 Sat., Aug. 25: Lookout Mountain, GA (fall)

Some of the dates (especially late summer) could change. If a change must be made, you'll be alerted in this newsletter well in advance.

## Join Us!

### North American Butterfly Association



The North American Butterfly Association, NABA, was started in 1994 to popularize the study of butterflies through observation and identification through use of field marks rather than collecting.

The Tennessee Valley NABA chapter was formed in 2008. The chapter's territory is centered around southeastern Tennessee, but also encompasses areas of northwestern Georgia and northeastern Alabama. Anyone who joins the national organization within a zip code area beginning with 374, 373, 307, 357 or 359 will automatically become a member of the chapter.

It is also possible for people living outside our zip code areas to become members of the Tennessee Valley chapter. When you join or renew your NABA membership, specify that you'd like to be affiliated with the Tennessee Valley NABA chapter.

Joining online is easy. Go to their website at <http://www.naba.org> and click on Membership. Individual \$35, Family \$45, Institution/Library \$60. There also other sponsorship levels if interested.

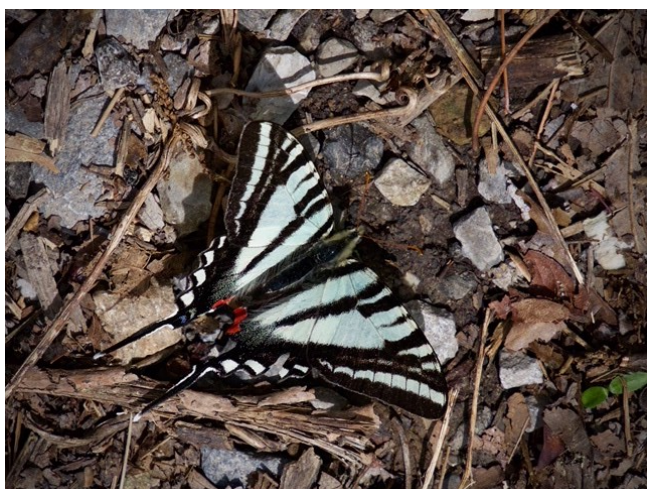
Members receive quarterly publications from NABA, "American Butterflies" and "Butterfly Gardener", as well as monthly "On the Wing" newsletters (March-Nov.) from the local Tennessee Valley NABA chapter.



## More shots from the Tennessee River Gorge count



Dave Spicer got a great dorsal view of this **Red Admiral**, *Vanessa atalanta*, and his wife Judee snapped the shot of the same butterfly, seen below. 3 were found on the count.



A **Zebra Swallowtail**, *Eurytides marcellus*, the Tennessee state butterfly, flew down and landed right at Mike O'Brien's feet, for a wonderful photo opportunity! Lots of Paw Paw, the larval host plant, in the TN River Gorge.



The **West Virginia White**, *Pieris virginiensis*, is a single-brooded spring butterfly. If you don't find one in April, you won't find one until next April. This is one reason we do early April counts. Mike O'Brien got this great shot of a West Virginia White nectaring on Broad-leaved Toothwort, which also happens to be the larval host plant of the species. We counted a surprising 16 along River Canyon Road in the Tennessee River Gorge and Tommie Rogers found one at the Tennessee River Gardens right across the river. Seventeen is probably our all-time high count!

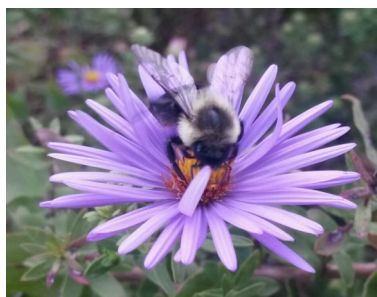


Thanks to Mike O'Brien for forwarding this lovely photo, taken by Dennis Bishop, a mutual acquaintance. It shows a **West Virginia White** nectaring at a yellow violet. I am happy to include this beautiful photo for your enjoyment. It shows super-crisp detail of both butterfly and flower. Mike tells me Dennis does a lot of hiking, and while he is mainly a flower and plant aficionado, he also notices butterflies. Come help with a count Dennis!





The **Gemmed Satyr**, *Cyllopsis gemma*, is so named because of the silvery metallic patch at the outer edge of its hindwing. There are several small dark eyespots within this silver patch, each of them with an iridescent silver spot within it. In this photograph that Dave Spicer took on April 14 at Enterprise South, the butterfly was not turned exactly right to really show off these features well. If you see one with the light striking it just right, these areas light up like gems. Learn more about how these markings get their metallic sheen in the article on this page about fossilized butterflies and moths from millions of years ago.



**Pollinator Festival on Lookout Mountain**  
**Sunday, May 20, 1:00-4:00**

**Bee City U.S.A.**

**The Festival will be held at the**  
**Lookout Mountain School**

**321 North Bragg Ave., Lookout Mountain, TN 37350**

*The Tennessee Valley NABA chapter will have a table set up to represent the butterflies. Plan to attend and learn what Lookout Mountain Tennessee /Georgia has done to become an official Bee City!*

## **New Insights into Metallic, Iridescent Colors Found on the Earliest Known Ancestors of Moths and Butterflies!**

In a research paper published April 11, 2018 in the leading science journal, *Science Advances*, an international team of researchers from the University of Exeter has discovered new evidence for color in Mesozoic fossils. They examined fossilized insect remains dating back to 180 million years old, some originating from the “Jurassic Coast”, a short distance from the university.

Using powerful electron microscopes, they found microscopic ridges and grooves in fossil insect wing scales, similar to today’s moth scales. These features, known as photonic structures, produced bronze to golden colors. These photonic structures scatter light to make iridescent colors. The team’s findings extend evidence for these structures by more than 130 million years.

The paper states, “Insects have evolved an amazing range of photonic structures that can produce iridescence, metallic colors and other flashy effects that are important for behavior and ecological functions.”

Lead author, Dr. Tim Starkey, part of Exeter’s Physics and Astronomy department, said, “The structural colors exhibited by butterflies and moths have been a longstanding research interest in Exeter, and have helped us develop biologically-inspired technologies for the present day.” The study was co-authored by Drs. Maria McNamara and Luke McDonald from UCC, in Ireland. McNamara added, “Remarkably, these fossils are among the oldest known representatives of butterflies and moths.”

The team didn’t expect to find wing scales, not to mention microscopic structures that provided color. They discovered that impression fossils (wing prints), are as capable as compression fossils at preserving the structure of scales in enough detail to see that color was important 180 million years ago.



*The dazzling, iridescent blue hind wing coloring of the **Pipevine Swallowtail**, *Battus philenor*, is the result of photonic structures in the scales. This species is probably the most familiar example of a butterfly with iridescence to butterfly watchers in the southeastern United States. Upper wings of some hairstreaks and silvery underwing spots on many fritillaries are also iridescent.*

## A Second Silent Spring?

Sadly, we've become a nation obsessed with "the perfect lawn and garden". Modern science has developed many gardening products and even plants that are toxic to insect pollinators. Every part of a neonicotinoid-enhanced plant is poisonous to insects. This would include plant-eating insects, such as the caterpillars which become butterflies and moths, as well as insects that help pollinate our food crops and depend on nectar and pollen. The following chemicals are killing bees: Acetamiprid, Clothianidin, Dinotefuran, Imidacloprid, Thiamethoxam, Malathion, Carbaryl 2, 4-D, and Bifenthrin. If you see these ingredients listed on products in your home or local garden center, do not use them! Our pollinators are responsible for pollinating many of the fruits and vegetables we eat. Insects are a vital link in the food chain which supports the higher forms of life, including us. The organization Friends of the Earth states, "*Bees are 'canaries in the coal mine', warning us of an imminent and frightening threat to our food.*"



Bumblebee with  
full "pollen basket"  
on hind leg

Photo by Bill Haley

Neonicotinoids hide in the popular brands of pesticides and weed killers listed in the next column. Become a smart consumer and say NO to neonicotinoids!

### Eastern Tailed-Blue (male)

*Everes comyntas*

Photo by Mike O'Brien



#### Don't Buy! Garden Pesticide Product Trademark Names:

Bayer Advanced 3-in-1 Insect, Disease & Mite Control  
 Bayer Advanced 12 Month Tree & Shrub Insect Control  
 Bayer Advanced 12 Month Tree & Shrub Protect & Feed  
 Bayer Advanced Fruit, Citrus & Vegetable Insect Control  
 Bayer Advanced All-in-One Rose & Flower Care concentrate  
 Bayer Advanced All-in-One Rose & Flower Care granules  
 DIY Treecare Products Multi-Insect Killer  
 Ferti-Lome 2-N-1 Systemic  
 Hi-Yield Systemic Insect Spray  
 Green Light Tree & Shrub Insect Control with Safari 2 G  
 Ortho Bug B Gon Year-Long Tree & Shrub Insect Control  
 Ortho MAX Tree & Shrub Insect Control  
 Ortho Flower, Fruit & Shrub Insect Killer  
 Ortho Rose & Flower Insect Killer  
 Ortho MAX Malathion Insect Spray Concentrate  
 Knockout Ready-To-Use Grub Killer  
 Lesco Bandit  
 Monterey Once a Year Insect Control II  
 Surrender Brand GrubZ Out  
 Green Light Grub Control with Arena  
 Flagship  
 Maxide Dual Action Insect Killer  
 Meridian, Safari, Transect, Marathon, Merit, Hunter  
 Zylam 20SG Systemic Turf Insecticide  
 Sevin Dust, Malathion

#### Weed Killers Toxic to Bees:

Ortho Weed B Gon  
 Scotts Lawn Pro  
 Bayer Advanced 2,4-D

- List supplied by Wild Ones, TN Valley Chapter